
LANGUAGE IN INDIA

Strength for Today and Bright Hope for Tomorrow

Volume 20:4 April 2020
ISSN 1930-2940

Editors:

Sam Mohanlal, Ph.D.

B. Mallikarjun, Ph.D.

A. R. Fatihi, Ph.D.

G. Baskaran, Ph.D.

T. Deivasigamani, Ph.D.

Pammi Pavan Kumar, Ph.D.

Soibam Rebika Devi, M.Sc., Ph.D.

Managing Editor & Publisher: M. S. Thirumalai, Ph.D.

Contents

Dr. C. Jothi	
Intermingling of Fantasy and Reality in the Novels of Paulo Coelho	1-14
Dr. S. Latha Venkateswari	
Using E-Assessment to Attain the Desired Learning Outcome in Higher Education	15-26
Dr. K. Sanmuganathan, Ph.D., M.Phil., M.A., PGD in Edu.	
An Attitudinal Study on the Role of Grammar in the Communicative Approach to Second Language Teaching	27-42
Dr. S. Sridevi	
Friedrich Hölderlin: Poets as Philosophers	43-55
R. Subramani, Ph.D.	
Origin and Progression of Social Movements and Their Manifestation in the History of Tamil Periodicals	56-64
Pages Deleted	65-77

Hafsa Riyaz, M.Phil., M.A. Linguistics, B.Ed. Error Analysis: A Study of Prepositional Errors among Kashmiri ESL Students	78-86
Sari Hamoud, Ph.D. Research Scholar Scientific Evidence Bias in Linguistic Theory	87-97
S. Hepsiba, M.A., M.Phil. J. K. Rowling's Harry Potter as a Protégé of the Soft Skills – A Critical Overview	98-103
Sawsan Mahmoud Qassim Ghallab Using Mobile Technology in the Classroom for Teaching Speaking Skill in Yemeni Universities	104-124
Suja. S., B.Sc., M.A., M.Phil., Ph.D. Scholar A Cognitive Linguistic Analysis of Broadcasting Language of Malayalam News	125-131
Ushaque Ahmed, MS Scholar, Dr. Najmonnisa Khan and Rabia Aslam, PhD Scholar Instructional Leadership Style of Secondary Schools' Head and Their Gender-wise Effect on Teachers' Job Performance	132-146
Vahid Norouzi Larsari (PhD) The Mediating Role of Learners' Feedback Seeking Behavior (FSB) in Writing Developments: Impact on Learners' Writing Developments and Implications for Teacher Development	147-156
Dr. Muna Shrestha <i>Lamia</i> : An Expression of Commerce, Ambiguous Character and Tragic Romance	157-170
<i>A TRANSFER GRAMMAR FOR ENGLISH-TAMIL MACHINE TRANSLATION - Monograph</i> Prof. Rajendran Sankaravelayuthan Dr. P. Kumaresan	1-292

Intermingling of Fantasy and Reality in the Novels of Paulo Coelho

Dr. C. Jothi

Assistant Professor of English

Kalasalingam Academy of Research and Education

jothic.phd@gmail.com

=====



Paulo Coelho

Courtesy: https://en.wikipedia.org/wiki/Paulo_Coelho

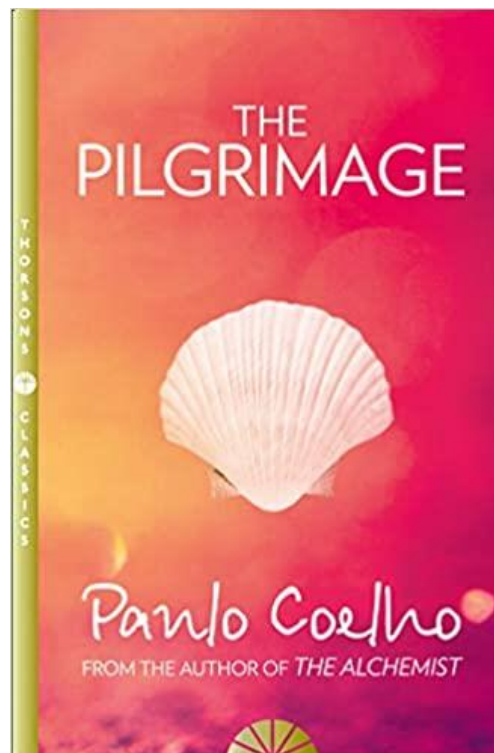
Abstract

Magical realism is often regarded as a regional trend, restricted to the Latin American writers who popularized it as a literary form. Magical realists Lois Parkinson, Zamora and Wendy B. Faris show magical realism to be an international movement with a wide ranging history and a significant influence among the literatures of the world. In *Essays On Texts* by writers as diverse as Toni Morrison, Gunter Grass, Salman Rushdie, Derek Welcott, Abe Kobo, Gabriel Garcia Marquez and many others, magical realism is examined as a worldwide phenomenon (*Magical Realism - Theory, History, Community* <http://www.uta.edu/English/wbfaris/MagicalRealism.html>). Magical realism takes the supernatural for granted and spends more of its space exploring the gamut of human reactions. Its most basic concern is the nature and limits of the knowable. The special feature of Paulo Coelho is his ornamented usage of magical realism which has only the slightest variation from mysticism. This paper aims at distinguishing magical realism which

is interwoven with mysticism. Among the novels of Paulo Coelho, magical realism features predominantly in three of his novels *The Pilgrimage*, *The Valkyries* and *Brida*.

Keywords: Paulo Coelho, *The Pilgrimage*, *The Valkyries*, *Brida*, magical realism features, magical realism as international movement.

Writers like Gabriel Garcia, Gunter Grass and John Fowles interweave, in an ever-shifting pattern, a sharply etched realism in representing ordinary events and descriptive details together with fantastic and dreamlike elements as well as with materials derived from myth and fairy tales.



Courtesy: <https://www.amazon.in/Pilgrimage-Paulo-Coelho/dp/8172235399>

In Paulo Coelho's *The Pilgrimage*, it is not the external or internal factors that chase the character. Instead the protagonist gets obsessed with certain thoughts or incidents on his own self in course of his spiritual quest. While in the road to Santiago, the protagonist is being taught about many things by his guide Petrus who is highly responsible for shaping the soul of the author – the protagonist to get his magical sword. Tolerance is one of the things that is being taught to him. When they enter the Roncesvalles village, Petrus walks in an exasperated slowness which is unbearable to the author. Losing patience, the author takes out his watch often. This sort of walking is to find pleasure in a speed that one is not used to. This enables the growth of a new person within him. So the author decides to take advantage of the situation. He tries to divert

=====

Language in India www.languageinindia.com ISSN 1930-2940 20:4 April 2020

Dr. C. Jothi

Intermingling of Fantasy and Reality in the Novels of Paulo Coelho

himself by breathing deeply, putting himself in a strange state, he begins to perceive the things around him. He starts creating a story about the village – on its formation, about the pilgrims who have crossed it etc. At a stage, he senses a strong, mysterious and all-knowing presence in the village. He inhabits the plain with knights and battles. Thus the village appears as a historical monument. The author with his fantastic dream populates the deserted village.

Such unreal happenings furnish the novels of Toni Morrison that ease the perception of the readers. In the novel *Beloved*, Toni Morrison writes about a young mother's struggle with reality and her past. Sethe has an inability to deal with her past history of slavery. She has been a victim for years of the white man's desires. She escapes from the world of slavery, yet she is still a prisoner of her repressed memories. Even though she has a good master, her life is not her own. Her fight for freedom comes at a high price, it costs her the life of her child and years of haunting memories. Toni Morrison uses magical realism to show that Sethe is held prisoner by forces of the past that make her face unresolved issues. Magical realism is commonly defined as a style of art or literature that depicts fantastic or mythological subjects in a realistic manner. *Beloved* as the agent of magical realism appears as an apparition, a symbol of Sethe's unresolved issues that she must face (*Beloved as the Agent of "Magical Realism"*) (<http://www.example essays.com/view paper/34182.html>). She uses magic, folk tales and the supernatural in her novels because that is the way the world was for her and for the black people she knows. In addition to the very shrewd, down-to-earth efficient way in which they did things and survived things, there was this other knowledge or perception always discredited but nevertheless there.

Selective magical details as well as reappearing fantastical themes weave themselves together with a realistic world to create a multitude of creative possibilities. One day Petrus takes the author to a monk, Father Jordi. Leaving Petrus, he takes the author to a small chapel which possesses a table, a book and a sword. Father Jordi sits on the table. He explains about the four routes. First one is the route of the Jacobean which is the Road of the Spades that will give him powers. Among the other three Roads, one is the Road to Jerusalem which is the Road of the Hearts that will endow him with the ability to do miracles. The other is the Road to Rome also known as the Road of the Clubs which will allow him to communicate with other worlds. The third one is a Secret Road. Placing the scallop shells on the table, Father Jordi begins to concentrate on it. Suddenly the shells start glowing. As the brightness grows, the author hears a mysterious voice emanating from Father Jordi. He utters the Biblical phrase "wherever your treasure is there will be your heart" (*The Pilgrimage* 43).

And wherever your heart is, there will be the cradle of the second coming of Christ; like these shells, the pilgrim is only an outer layer. When that layer, which is a stratum of life, is broken, life appears, and that life is comprised of agape. (43)

Dreams can also be brought under magical realism as they are stuffed with fantastical elements. Isabel Allende's opinion in this regard is that of a true humanist. She explains:

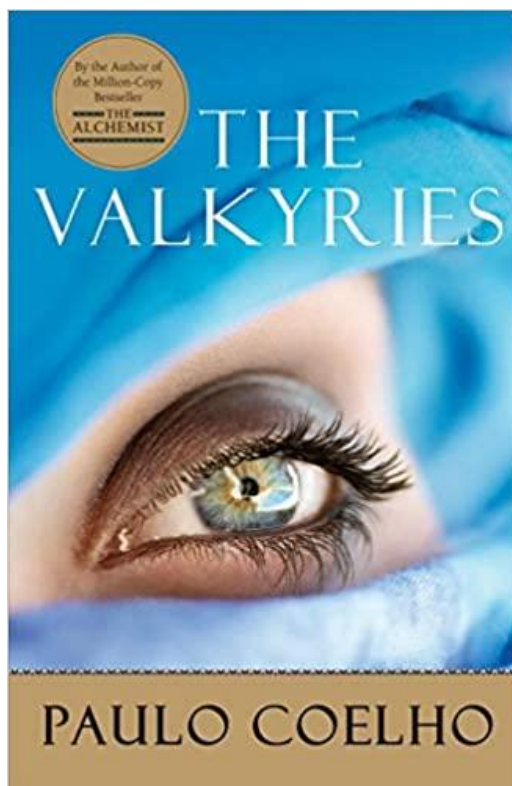
In Latin America, we value dreams, passions, obsessions, emotions and all that which is very important to our lives, has a place in literature – our sense of family, our sense of religion, of superstition too. That's magic realism – the emotions that everybody has, plus our reality. (*The House of the Spirits* <[http://www. example essays. com/view/paper/34182.html](http://www.example.essays.com/view/paper/34182.html)>)

Petrus teaches the author the Cruelty Exercise during their journey. The author is asked to focus at a point and the base of his neck is being pressed by Petrus. Then he starts talking about the Road of Power, about dreams which nourish one's soul, about the fight that is longed by one's heart. The author fixes his concentration on the cross which is erected on a church. Petrus, as he is speaking about the inter – relationship between dreams and fight, intensifies the pressure at the author's neck. When the pressure gets stronger, the cross appears to be a winged angel which disappears with a wink of the eyes. Petrus continues his talk on the first, second and the third symptoms of dreams in relation with fight. Again the tower of the church is transformed into an angel. But this time, the more the author widened his eyes, the stronger it remains. Petrus concludes his speech on the dead dream which leads a man to death. At that moment, the author really sees an angel which is also realized by Petrus. As soon as he stops talking, releasing his neck than the image of an angel remains for a few moments and it replaces the tower again. "The tower of the church kept changing; now it appeared to be an angel with its wings spread. The more I blinked the longer the figure remained" (*The Pilgrimage* 52).

Through this Cruelty Exercise, Petrus wishes to hold that though people have learned to accept the adventures and challenges that life provides, they deny it as extraordinary instances. "One should learn how to fight a good fight" (52).

Mysticism is a work towards spiritual fulfilment which is obvious to the intelligence beyond ordinary understanding. Similarly, talking about magical realism, the Mexican critic Luis Leal says, "If you can explain it, then it's not magical realism" (*Magical Realism-Theory, History, Community* (<http://www.Uta.edu/English/wbfaris/MagicalRealism.html>)). Thus mysticism and magical realism travel on the same plane with only a thin line segregating one from the other. The dog episode in *The Pilgrimage* has already been mentioned as an instance for spiritual quest. But the same instance infused with fantastical elements can also be referred to as realism embodied with magic. Dog is a concrete animal which barks at a stranger, but the dog here instigates the author to defeat his personal demon by infuriating him. Thus the animal seems to have some magical powers.

In short, *The Pilgrimage* is a fascinating parable that explores the need to find one's own path. Towards the end, we discover that the extraordinary is always found in the ordinary and simple ways of everyday people. In this novel, Paulo Coelho has employed magical realism through real characters possessing supernatural powers.



Courtesy: <https://www.amazon.com/Valkyries-Paulo-Coelho/dp/0062513346>

Magical realism mingles realistic portrayals of ordinary events and myth, creating a rich, frequently disquieting world that is at once familiar and dream like. *The Valkyries* is a story that is more biographical than fictional. It is a magical tale about forgiving our past and believing in our future. It is an adventurous journey undertaken by the author and his wife to meet his guardian angel. On their long treacherous journey, they meet the Valkyries and Valhalla. They are eight in number and the eldest one is called as Valhalla. Their countenance and their behaviours are entirely unreal. In magical realism, the ordinary is combined with fantasy in a way that invites reader to accept both, in trying to make sense of the text. It becomes difficult to distinguish between reality and fantasy in this style since neither is valued more in the presentation of events (*Magical Realism 'a glance'* (<http://www.encyclopedia.com/doc/html>)). Gentleness, sympathy and tenderness are the features present ultimately in women whereas the Valkyries are averse to this. They are rough women in black leather riding their powerful motorcycles. They are all ordinary human beings possessing profound mystical powers who symbolize both inebriation of courage and rest for the warrior, the adventure of love in battle.

=====

Language in India www.languageinindia.com ISSN 1930-2940 20:4 April 2020

Dr. C. Jothi

Intermingling of Fantasy and Reality in the Novels of Paulo Coelho

With a roar, the Valkyries swept into the gas station [...]. The women, on their powerful motorcycle, spun one way and then the other, dangerously close to one another, their machines shimmering in the hot air, their gloved hands toying skillfully with danger. The Valkyries dismounted, shaking the desert, from their bodies. They pounded the dust from their black leathers and removed the colourful bandanas that they wore over their faces like bandits to keep the desert out of their lungs. (*The Valkyries* l 92)

Magical realism is characterized by paradoxical events which are never fully explained by the author and these events are often accepted as perfectly normal and in fact usual by the characters or figures in the world of the artwork. For example, a ghost may manifest in a novel about magical realism and while the presence of the ghost might seem difficult for readers to accept, the characters seem to have no difficulty with the ghost's existence and actions. Often, very terrible things happen in magical realism. Acts of sadism, torture and murder may be committed by various characters and people often struggle with intensely brutal, sad or frustrating situation. The resolution of such situations may be imperfect, reflecting the reality of the world and readers and viewers are often disquieted and even disturbed after delving into this genre (*What is Magical Realism* (<http://www.wisegeek.com/whatisMagicalRealism.html>)). Similar is the transformation that takes place between Coelho and Rotha in *The Valkyries* during the ritual. In order to perform the accept forgiveness ritual, Valhalla takes them to death valley with other Valkyries. In the ritual, Coelho is accompanied by the youngest of the Valkyries – Rotha. At night, in the Golden Canyon, everyone including Rotha gathers at a tall rock named the sacred theatre for the ritual. Coelho is transformed into a warrior who battles with Rotha. Attaining victory, he punishes Rotha who is transformed into a prisoner. During this transformation, Coelho attacks Rotha vehemently with the belt of Valhalla to know from her the secret of meeting his angel. As far as Rotha is concerned, she pleads for mercy.

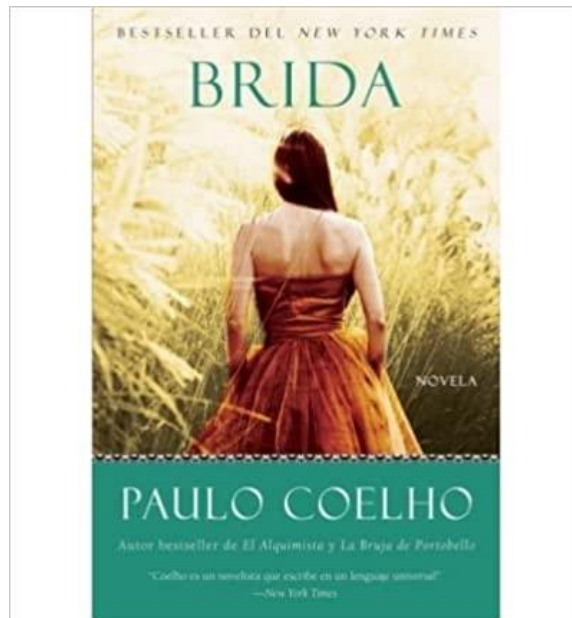
In his mind, Paulo created the walls of the castle [...]. He seized the girl violently. She fell awkwardly, cutting her chin and it bled. Paulo knelt at her side. In his hand, he clutched Valhalla's belt and it seemed to have an energy of its own. It frightened him, and for a few moments he left the imaginary walks of the castle and returned to the ravine. (170-71)

Perhaps these transformations are theoretically acceptable but practically unimaginable. Yet through the narrative technique of magical realism, Coelho makes the unreal happenings real.

Sometimes the sublime seems to have a definition of being inhuman, an image that cannot be named. The magical realism has the definition of being magical and unreal. Storytellers need the sublime so the stories may have the “sublime is the inhuman attitude”. Opinions of some are that there are no difference between the magical realism and the sublime. It seems that both are magical and that they may be somewhat inhuman (*A Magically, Realistic Author- Gabriel Garcia Marquez*). This opinion is strongly supported by Coelho in his novel *The Valkyries* where sublimity seems to be magical. In the climax of the novel while the protagonist makes a bet in order to meet his angel, his angel appears before him like a streak of light on the horizon. The voice that commands him to write some verses and the emerging of a golden arm from within the ground to imply something to him are to some extent beyond human perception though it has mystical traces.

“Look at the ground”, the voice insisted. He looked down at the area he had just swept clear. And that was when the golden arm as brilliant as the sun appeared and began to write in the sand. ‘This is my name’, the voice said. The fearful dizziness continued. His heart was beating even faster. (*The Valkyries* 227)

Thus, magical realism picturised by Coelho in *The Valkyries* opens new vistas to the readers through delightful imagery.



Courtesy: https://www.amazon.com/Brida-09-Coelho-Paulo-Paperback/dp/B005C8P8XY/ref=sr_1_2?dchild=1&keywords=Brida&qid=1586845304&s=books&sr=1-2

=====

Language in India www.languageinindia.com ISSN 1930-2940 20:4 April 2020

Dr. C. Jothi

Intermingling of Fantasy and Reality in the Novels of Paulo Coelho

Like most of his books, Paulo Coelho sprinkles the novel *Brida* with supernatural spin allowing love, mysticism and the search for answer to blend and co-exist in the same story. Brida is a young Irish girl who sets out to discover her purpose. Finding herself leaning towards magic and mysticism, she hopes to know the secrets of life. This story is a mixture of magic, enlightenment, reincarnation, self-purpose and the quest for love. Brida's search for spirituality and her soulmate leads her to a forest dwelling wizard named Magus who becomes her teacher. He teaches the Tradition of the Sun that is an initiation for her search. According to him, "magic is a bridge that allows one to walk from the visible world into the invisible world" (*Brida* 16).

In her private life, she has a boyfriend and she is sure he is the one that is made for her. But life takes her on a journey where reality and love put on different costumes. Magus introduces her to a woman named Wicca who takes Brida as her pupil and manages to see to it that with careful instructions, she too can be a witch.

Magical realism moves us to a strange world and somehow our rational mind is able to let go allowing us to just go with the flow. All rational thought gets temporarily suspended. (*Your Opinion on the Narrative Structure*
(<http://www.inthenews.w.uk/news/Brida.html>)

Wicca, the witch teaches her the Tradition of the Moon. In this pursuit, Wicca teaches Brida to learn from her surroundings. She is transported to a strange world as she is obsessed with the tarot cards. Wicca makes it possible by conversing with Brida on trivial things like her complaint about plumbers, caretakers and pensioners over phone. Finding no other way from listening to Wicca, Brida patiently listens to her teacher's unwanted talks, then and there giving a mumbled "yes" to her questions. As said by Wicca, "there are many things in magic which are not and will never be explained. God decided to do certain things in a certain way and why he did this is a secrete known only to Him" (37). All of a sudden, things start taking a different form "as if someone is entering a dream" (53). No longer the voice of Wicca is heard, the tarot cards begin to show fantastic scenes.

Men with bronzed, oiled bodies, wearing only thongs and some sporting masks like the giant heads of fish. Clouds raced across the sky as if everything were moving much faster than normal and the scene shifted abruptly to a square, surrounded by grand buildings where a few old men were urgently telling secrets to a group of young boys as if some form of very ancient knowledge were about to be lost forever. (53)

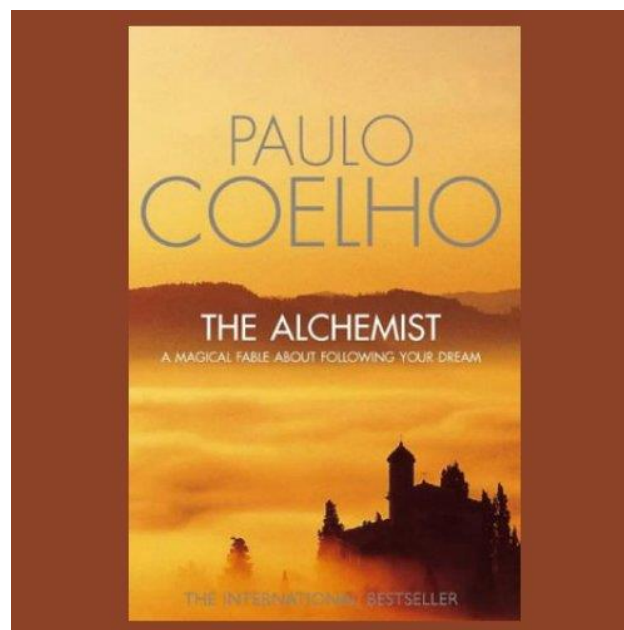
Brida's dream is decked with a boy who calls himself "the devil" (53) in medieval clothes, apt for a festa, says "add seven and eight and you'll have my number, I'm the devil and I signed the book" (53). Again there is a change of scene where she is close "to the sea, to reveal temples carved out of the rocks and the sky, covered by black clouds pierced by brilliant flashes of lightning" (54). Suddenly after sometime a heavy door like the one of an old castle appears before Brida who is tempted to open it just when the voice on the phone interrupts her to "come back" (54). This scene has been well interpreted by David K. Danow through his theory,

In confronting that small compendium of magical realist event, one would be hard pressed to deny the possibility even the likelihood, that at least some of what is related may well have a certain basis in reality- if not always literally, then in some sense, figuratively. (*The Spirit of Carnival: Magical realism and the Grotesque* 66)

Isabel Allende rightly opines that magical realism can effectively represent people's obsessions. Like Brida in this novel, Clara in Isabel Allende's novel *The House of the Spirits* is born with special powers and spiritual intuition. She can see the future events before they occur which will decide her fate and the decisions she makes. Whereas in *Brida*, though the protagonist possesses the gift of "discerning the spirits" (124), she is unaware of her special power. It is the teacher of the Tradition of the Moon who makes Brida realize it by taking her back in time and showing what the tradition had in store for her about her past incarnation. To enable her to learn her past, Brida is taken to a forest where Wicca with her magical voice hypnotizes her, and she acts as per her teacher's voice. Lying in the midst of the forest, she has been commanded to imagine as if she is in the centre of the universe, closer to the stars and the planets. Though in a new place Wicca's voice follows her and Brida feels protective. In the middle of the Universe, she sees a Gothic Cathedral, even conscious of the cold stone floor. While she is imagining things, the voice of Wicca seems to emerge from a person behind her. The enormous wrought-iron Cathedral door adorned with the scenes from the lives of the saints, the cold metal handle, "the pews, the side altars, the decorated columns and a few lit candles" (67) - all appear to be real. She enters into another door that leads to a library and its spiral staircase is lined with torches fixed to the wall. In the foot of the stairs, she finds Wicca whose presence makes her feel secure. This transcendental journey has been set off by Brida in search of her past lives in the present incarnation. Taking a person centuries back while living in another world is quite magical. Therefore, magic realism's alternative world works to correct the reality of established viewpoints like realism, naturalism and modernism (*D'haen, Thaw, "Magical realism and Postmodernism: decentering privileged centers" from MR: Theory, History, Community* (www.uta.edu/English/wbfaris/MagicalRealism.html)).

“Soulmate” is a magical term introduced by Coelho through Magus in the Tradition of the Sun. Finding one’s soulmate itself is entirely magical and extraordinary. Soulmate does not need to be one’s lover always. For even after falling in love with somebody else, one can find one’s soulmate and it could also be more than one in one’s lifetime. Brida approaches Magus who has magical powers, for the second time to learn how to find her soulmate. According to the Tradition of the Sun, a particular light in the eye of the person is the sign to identify that someone is one’s soulmate. Since this light in the eye differs from person to person, another sign has been mentioned in the Tradition of the Moon that is a point of light above the left shoulder. “A point of light”, he said. “A point of light above the left shoulder of your soulmate. That is how it is in the Tradition of the Moon” (113).

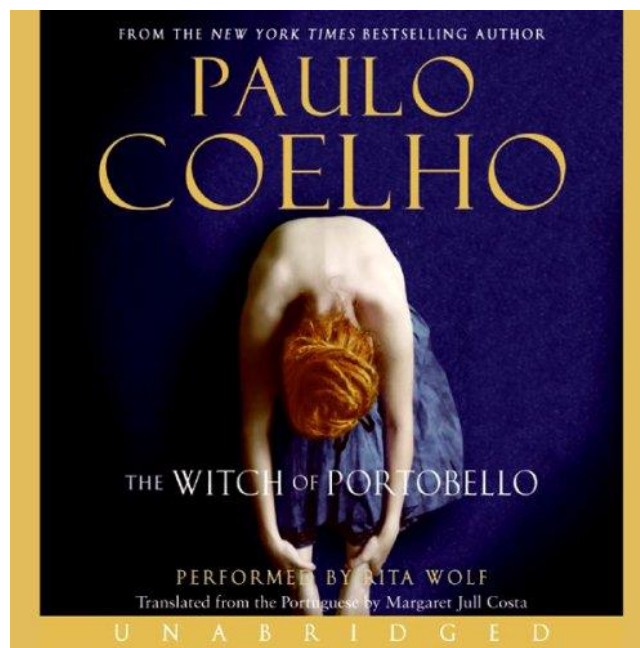
Soulmate and the light above the left shoulder are events that are beyond ready comprehension in a realistic, down-to-earth environment which are incomprehensible to ordinary readers. Even the frequent readers of Coelho find it hard to agree the soulmates theory. For instance, in one of the articles published on July 1, 2009 in *Brida on Your Opinion on the Narrative Structure*, Shefali from London disagrees that if the divided souls are the soulmates, then all are each other’s soulmates as we all have souls making up a single soul. Whereas in the same article yet another reader named Nayana Jagtap (Apr. 7, 2010) recommends that I got *Brida* “at the time I wanted [...] ‘At some point in our lives, we all find our soulmates and recognize him or her’... It is so true...” (<http://www.inthenews.co.Uk/news/Brida.html>).



Courtesy: https://www.amazon.com/Alchemist-Fable-About-Following-Dream/dp/B000BO2D3C/ref=sr_1_2?crd=3JA6KM9QRCRSX&dchild=1&keywords=the+alch

[emist&qid=1586847858&s=books&smid=A2TMTTMKNY2N1U&srefix=The+%2Caps%2C576&sr=1-2](http://www.amazon.com/dp/B000APR010?pf_rd_p=1586847858&s=books&smid=A2TMTTMKNY2N1U&srefix=The+%2Caps%2C576&sr=1-2)

There is also a tinge of magical undercurrent that runs faintly in other novels apart from the novels chosen specially for this analysis. For instance, Coelho introduces dreams which are meaningful and portentous, as one of the major themes in *The Alchemist*. The gypsy claims that dreams are a language used by the soul of the world to communicate with people. They are part of the fabric of a universal language that binds beings together. Through this description of dreams, and the events that unfold in the narrative, Coelho's magical, fairy tale style takes shape and comes to the fore. Melchizedek himself is a fantastical character, who knows a positively supernatural number of things about Santiago's personal life, has magical stones to offer, and claim to be able to turn himself into different things. Santiago turning into different things and his talks to the elements: the Desert, the Wind, the Sun and finally Soul of the World forms the climax of the narrative. A few aspects of this scene should be highlighted. First of all, Santiago's communication with these inanimate forces is the realization of the Alchemist's assertion that all things, even rock and animals have souls. In this way *The Alchemist* shows a certain amount of affinity with magical realism.



Magical realism is a narrative to create the ineffable in-between in order to break away from the universally agreed logic of things (*Magical Realism Transformations in the Witch of Portobello* (<http://www.flipkart.com/theWitchofportobello.html>)). Magical realist narrative technique allows the writer to narrate magic and real events at the same time. In *The Witch of Portobello*, Lukas, Athena's ex-husband, presents himself as a person who has followed his

=====

Language in India www.languageinindia.com ISSN 1930-2940 20:4 April 2020

Dr. C. Jothi

Intermingling of Fantasy and Reality in the Novels of Paulo Coelho

parents' rules which was to "obey his duty". The narrative tone supports Luka's neutral personality and Athena's influence creates the ineffable in-between. However, there is a strong indication that Lukas is wavering between rationality and mysticism. Also Heron, who works as a journalist for the BBC when he meets Athena, represents logic and objective truth. His trip to Transylvania is an attempt to demythologizes the vampire story. However, he soon realizes that the myth is used by the Romanians for touristic purposes and leaves the project. He describes Athena's dancing in the restaurant in Romania as "a goddess revealing herself in all her glory, a priestess invoking angels and demons" (130). The readers do not know where this inspirational dance has come from. The dance ritual can be seen as magical transformation of the narrative itself.

Towards the end of Athena's ecstatic dance, she communicates with someone or something supernatural. Philemon and Hagia Sophia are the supernatural spirits, Athena communicates with. Philemon is the silent guide of Athena because Athena does not listen to what her male spirit guide tells her, but still knows when he is present. When Athena decides to converse with Philemon, it seems initially that Hagia Sophia and Philemon will talk about love. It is Philemon (or Heron) who asks what love was, and it is Athena (or Hagia Sophia, or Sherine) who conveys the meaning of love and guides him. The concept love transforms in the ineffable in-between. The blank spaces that Athena is trying to fill in seem to relate to the absence of Athena's birthmother. As Athena moves on in her quest to completely fill in the blank spaces, she gets in touch with the Mother through the guidance of Deidre O'Neil. In the novel, Athena gets a vision of the mother in a mirror in Deidre's house. The mirror which represents a reflecting surface, changes into a magical tool for transformation and creation. Hence magical realism assumes a vital role in transforming the meanings of existing concepts in this novel.

Magical realism is an extremely productive way to develop stories. Very interesting and bizarre events are mixed with a typical reality to create a perfect blend. This narrative style captures the readers throughout the story. It also makes an exciting and interesting read. Magical realism employed in all these novels provides us with many new and overwhelming situations. Every novel differs in various aspects. In *The Pilgrimage* the reality takes a magical shape during the author's journey towards his magical sword and he comes into contact with those experiences with the help of his guide, Petrus. In *The Valkyries* incredible events occur when the author ventures into a forty day tour in Mojave desert with his wife Chris to meet his guardian angel. They are directed by Gene and later by the Valkyries who have special powers by nature. *Brida* totally varies in this respect.

In the former two novels, it is the author who himself experiences this, "seeming appearance" (*Postcolonial Literature – An introduction* 237) whereas here it is a third person named Brida who is basically interested in learning magic, comes into contact with utterly unexpected circumstances. It is vindicated that magical realism and mysticism are inseparable for

mystical experience has a touch of magical elements present in it; whereas supernatural or magical realism mystifies the readers. It has been best illustrated by Paulo Coelho through the novels specified in this chapter: An animal (dog) becoming the protagonist's personal demon and the protagonist acquiring extraordinary power from something unknown (*The Pilgrimage*); the protagonist predicting the diseases through the voices of others who are not alive and spreading the energy of love among the people (*The Witch*); conversation between the protagonist and inanimate forces (*The Alchemist*); the characters transforming into some other personalities (*The Valkyries*) and finding one's soulmate with a light on the left shoulder of a person (*Brida*) – are magical or supernatural occurrences that appear in reality. The readers in their pursuit find it hard to believe yet spiritual learning or mysticism demands such seeming appearances. The protagonists in their quest towards spiritual communication and learning with the superior energy witness many magical occurrences that motivate them to unveil the mystery that exists in their pursuit thereby making themselves wise. In short, this skillful technique focuses on the reality and leaves the readers to remain in mystery.

References

- Coelho, Paulo. *The Pilgrimage*, New Delhi; Harper Collins Publishers India Ltd, 1998. Print.
- Coelho, Paulo. *The Valkyries*, New Delhi; Harper Collins Publishers India Ltd, 1998. Print.
- Coelho, Paulo. *Brida*, New Delhi; Harper Collins Publishers India Ltd, 2008. Print
- Magical Realism - Theory, History, Community
<[http://www.uta.edu/English/wbfaris/Magical Realism. html](http://www.uta.edu/English/wbfaris/Magical%20Realism.html)>
- Beloved as the Agent of “Magical Realism”
<[http://www.example essays. com/view paper/34182. html](http://www.exampleessays.com/viewpaper/34182.html)>
- The House of the Spirits
<[http://www. example essays. com/view paper/34182 html](http://www.exampleessays.com/viewpaper/34182.html)>
- Magical Realism ‘a glance’
<[http://www. encyclopedia. com/doc/html](http://www.encyclopedia.com/doc/html)>
- What is Magical Realism
<[http://www. wisegeek. com/what is Magical Realism. html](http://www.wisegeek.com/what-is-Magical-Realism.html)>
- Your Opinion on the Narrative Structure
<[http://www. inthenews. w. uk/news/Brida - by - Paulo -Coelho - \\$ 1219142 html](http://www.inthenews.w.uk/news/Brida-by-Paulo-Coelho-1219142.html)>
- Magical Realism Transformations in the Witch of Portobello
[http://www. flipkart. com/the - Witch - of - portobello - paulo - coelho - book - 0007278594](http://www.flipkart.com/the-Witch-of-portobello-paulo-coelho-book-0007278594)



Dr. C. Jothi

Assistant Professor of English
Kalasalingam Academy of Research and Education
Krishnankoil, Srivilliputhur, Tamil Nadu 626128
jothic.phd@gmail.com

Using E-Assessment to Attain the Desired Learning Outcome in Higher Education

Dr. S. Latha Venkateswari

M.A., M.Phil., M.Ed., PGDTS, Ph.D.

Associate Professor of English

Government College of Technology

(Affiliated to Anna University, Chennai)

Coimbatore – 641013

drlathagct@gmail.com

=====

Abstract

Higher education aims to equip the students with higher order thinking; the ability to apply the theoretical concepts to their daily life situations and contribute their knowledge to develop the society. Naturally, teachers have to find out the ways to meet the demands of higher education. Semester system does not give sufficient time for realizing the goals of education. Teachers are pressurized to complete the syllabus, administer tests periodically before the semester examinations, evaluate the test papers, prepare the students for taking up the semester examinations and produce better results. Given this situation, teachers hardly find quality time to assess the entry level behavior of the students and teach accordingly. However, the advent of technology and the subsequent E-Assessment has been a boon both to the teachers and the students. While the teachers easily identify the area where the students lag behind, the latter get immediate feedback to their responses, which create interest among the learners to do better every time that paves way for the teachers and the learners to achieve the goals of higher education. This paper analyses how E-Assessment can help teachers achieve the desired learning outcome and make the process of teaching and learning interesting and effective.

Keywords: E-Assessment, Higher Education Classes, Computer-Assisted Assessment, Computer-Based Assessment, Diagnostic, Formative, Summative Assessments, Online, Offline Assessment, Evaluation, Google Classroom, Kahoot.

Introduction

Assessment plays a vital role in education as it measures students' learning. As a result, teachers and students struggle hard to make this process better. Yet, assessments in the forms of tests and exams subject students to mental trauma. But when teachers adopt E-Assessment as a tool for judging students' mastery of subjects, learning takes place at a faster rate. Since, today's younger generation spend their time more on technology, English language teachers can conduct

assessments through mobile devices using online tools like Google Classroom or Kahoot. In turn, learners become enthusiastic about taking tests and break the myths about assessments.

This paper highlights the types of assessment, introduction to E-Assessment, challenges and need for E-Assessment, types of assessments, types of tests used in E-Assessment, merits and demerits of E-Assessment, and the classroom experience of the author in E-Assessment.

Types of Assessment

Educators across the globe use various types of assessments to judge the progress of learners in mastering concepts. The objectives of this assessment are to evaluate the skills and knowledge acquired by the students through learning and how these help students achieve the learning objectives and the effectiveness of the educational program taken up by the students. Academicians across the globe use “Formative Assessment, Summative Assessment and Diagnostic Assessment...to evaluate one’s skills and abilities” (Sharma, 29).

Diagnostic Assessment

Teachers do this assessment at the beginning of the course to identify the entry level mastery of the students in a particular subject. This assessment helps teachers identify the problematic areas of the students; decide the number of hours to be dedicated to teaching certain concepts in detail; decide on the pedagogy to be used; and the types of assessments to be used.

Formative Assessment

Teachers use this assessment while teaching a particular subject and it is continuous in nature. Teachers check the understanding level of students periodically; judge their efficiency in teaching particular concepts; conduct tests from a particular unit and repeat the tests till the specific objective is obtained.

Summative Assessment

In this assessment, teachers set question papers to assess the end behavior of the learners at the completion of the courses. Assessment is done on the basis of the general learning outcomes and long term goals; assesses the performance of students based on the complete syllabus of the course; judges the suitability of the methods of instruction and the effectiveness of the methodology adopted.

E-Assessment

E-Assessment “is a medium by which we can assess one’s cognitive skills, practical abilities and knowledge with the help of information technology” (Sharma, 29). The advent of technology has made the process of teaching and learning interesting, beneficial, objective oriented as well. Entry of internet to the lives of people has opened the gates of knowledge to a wide range of subjects. Especially, E-books and E-learning have seen a paradigm shift from

teacher-centered approach to learner-centered one. Unlike the teacher-centered assessment, learner-centered assessment gives immediate feedback to the learners thereby making the learners understand how to present ideas precisely. In fact, E-Assessment helps teachers achieve the objectives of the prescribed syllabus.

Challenges and Need for E-Assessment

Since E-Assessment is an off-shoot of technology, there are few challenges in implementing it in higher education system, which believes in established conventional examination pattern. Firstly, institutional authorities expect the teachers to submit the assessments in hard copies for the purpose of inspecting or auditing. Secondly, it seems to be quite expensive as the institute has to invest money for setting up good infrastructure to meet the demands of this assessment. Thirdly, teachers do not have enough knowledge on using E-Assessment or its tools. Above all, teachers are reluctant to spend their time for making online assessments.

Considering the benefits of E-Assessments, it is quite essential to implement this type of assessment in higher education. Online assessments are more authentic than paper-based assessments, as the former gives submission date and time, which can be retrieved from the database at any time. Besides, individuals get personal attention from the teachers in the form of explanations for wrong answers once they submit their responses. As a result, learners are encouraged and motivated to give a better performance every time. While speaking about good infrastructure, teachers can give assessment tasks at any computer lab with internet connectivity. This assessment practice will be successful only when the teachers are given sufficient training in using this mode of assessment.

Having understood the need for using technology and other latest methodologies for imparting language skills, Tamil Nadu Government has been conducting training programmes for teachers working in Government and Private Engineering colleges to educate them about the new methodologies of teaching English to the students since 2019. Despite enhancing one's technical knowledge, teachers are hesitant to spend their time for devising online assessments, which generally consume time. Unless teachers understand the importance of online assessments and volunteer to spend their time for designing E-Assessment questions, teaching and learning process will not fulfill the learning objectives.

Types of E-assessment

E assessments are of different types based on the use of internet and the device used.

Online Assessment

In an online assessment, questions are set on electronic forms and the link is shared with the students. They have to write the test either at one place in the institute or can use their mobile

device to complete the task at any time before the due date. The main advantage of this assessment is that the learners can take up the test from a place of their choice, get immediate feedback and know their scores. Moreover, when online assessment has quality, it “develops a student voice, addressing the issues of passivity, and academic dishonesty” (Holtz, 289).

Generally, online assessments are used for summative evaluation. It is also used for diagnostic purposes. Nowadays, college entrance tests are also conducted online. Assessments for courses like NET, edX, Coursera, Blackboard, Moodle and MOOC also fall under this category.

Offline Assessment

Learners attend to the courses online and take up assessments through offline mode such as paper-based exams or students have to take up the assessment in a lab where the software installed administers the test and evaluates the responses. In paper-based exams, teachers evaluate the performance and upload the results online. This type focuses on summative, formative and diagnostic assessments. Offline assessments are of two types: Computer-Assisted and Computer-Based.

Computer-Assisted Assessment

CAA “is a common term for the use of computers in the assessment of student learning. The term encompasses the use of computers to deliver, mark and analyse assignments or examinations” (Bull, 4). In this type, learners get assessment questions like quiz, assignment and other activities to be completed through computers. People can use this type to assess objective, subjective, formative, summative, and diagnostic along with criterion based assessments. Alongside, it is considered “successful for assessing learning and providing timely and useful feedback to students.” (Armatas, 98)

Computer-Based Assessment

In this type, computers assign questions to the students. It has two types: Linear and Adaptive assessments.

1. Linear Assessment: In this type, computers assign questions from simple to difficult irrespective of the standard or performance of the students. It is like a full-length exam, which covers the entire subject.

2. Adaptive Assessment: In this assessment, computers give questions to the learners based on their performance level. Since, it is a personalized assessment of an individual, it is called adaptive assessment. Generally, this is used for formative and diagnostic assessments.

Types of Tests Used in E-Assessment

=====

Language in India www.languageinindia.com ISSN 1930-2940 20:4 April 2020

Dr. S. Latha Venkateswari

Using E-Assessment to Attain the Desired Learning Outcome in Higher Education

18

E-Assessments help teachers identify the difficult areas of students and track their progress while they are learning new concepts. Online teaching and learning platforms like Google Classroom and Kahoot offer various types of assessments such as Multiple-Choice Questions, Drop-down, Matching Exercises, Short Answers, Paragraph Questions, Check Box Questions, File Upload Questions, Linear Scale Questions, etc.

The author used E-Assessments to decide the teaching methodology and to cater to the needs of the heterogeneous group of the first year Mechanical and Electrical and Electronics Engineering students.

1. Multiple Choice Questions

Students' understanding is best judged through this assessment. Correct answers and distracters are given as multiple choices to test the understanding level of students. This test gives immediate feedback and releases the scores as soon as the students submit their answers.

Choose correct answers:

2. Scratch one's head means --- 1 points

☐ imagine

☒ get confused ✓

☐ irritate

☐ think

Feedback for correct answers ✎ 🗑
Good

Feedback for incorrect answers ✎ 🗑
In general, when people get confused, they'll be scratching their heads.

The author conducted this test at the beginning of the course to decide the standard of students, which helped her design different assessments for different groups without letting the students know of their standard.

2. Drop-Down Questions

In this test, answers are given one below the other and students have to choose the right answer from a list of ideas, in which every answer seems to be right. Unless, the student has thorough understanding of the concept, it will be difficult for them to find the correct answer.

☒ Choose correct answers:

1. ---- Is an activity in which a group of people discusses an issue to take a decision. 1 points

☐ Debate

☐ Review

☐ Role play

☒ Group Discussion ✓

Feedback for correct answers ✎ 🗑

Good.

Feedback for incorrect answers ✎ 🗑

Read the question carefully before selecting the answers.

This test was conducted soon after the completion of every concept to check whether the students have understood the concept or not.

3. Matching Exercises using Multiple Choice Grid

This test is given to see how students select the correct answer by connecting the meanings of one word with the other. This test aims at the analytical skills of the students.

the words opposite in meaning: Multiple choice grid

Rows		Columns	
1. Industrious	×	<input type="radio"/> Ignore	×
2. Hazard	×	<input type="radio"/> Lazy	×
3. Intricate	×	<input type="radio"/> Safe	×
4. Notify	×	<input type="radio"/> Simple	×
5. Add row		<input type="radio"/> Add column	

☒ Answer key (4 points) Require a response in each row ☐

Response given to the students' submission:

☒ Choose correct answers:

the words opposite in meaning:

	Ignore	Lazy	Safe	Simple	Points
Industrious	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	1
Hazard	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	1
Intricate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	1
Notify	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1

Done

This test was conducted to judge students' understanding of synonyms, antonyms, phrasal verbs and idioms. This test aimed at building students' vocabulary.

4. Check Box Questions

This test is conducted to judge students' ability to select the relevant ideas related to a concept leaving out irrelevant ideas. This test promotes precision in learning.

Process description includes ----- 5 points

- ☒ opening sentence ✓
- ☐ discourse markers
- ☒ closing sentence ✓
- ☐ present continuous tense
- ☒ present perfect tense ✓
- ☒ simple present tense ✓
- ☐ active voice
- ☒ impersonal passive voice ✓

Feedback for incorrect answers

Process description focusses on the steps involved in the process, which do not use present continuous tense and active voice.

Done

This test was conducted after completing concepts like Process Description, Visual Interpretation, Paraphrasing passages, Email writing etc. This test helped students remember important ideas related to the concepts, which enabled them to write proper answers.

5. File Upload Questions

Monotony peeps in at certain points of time and when the teachers engage their students in assessments like file upload, the “Netizens” show keen interest in culling the details from the fields, which the teachers have posted. It tests the creativity, imagination and confidence of the students. The teacher has the freedom to allow the types and maximum number of files to be uploaded.

Speak for 2 minutes on any one of the topics given here: 1. How do you spend your days during this lockdown period or 2. Suggest some methods to overcome corona. 3. Suggest some measures to help daily wage workers or small scale business

File upload

Allow only specific file types

Maximum number of files 1

Maximum file size 10 MB

This form can accept up to 1 GB of files. [Change](#)

☒ Answer key (15 points)

Required

This test was conducted to make students reflect on general topics, which helped them collect points needed for writing paragraphs and essays on general topics. Later, the materials submitted were posted on the Google Classroom page. This gave a chance for students to get an exposure to an array of topics.

6. Linear Scale Questions

E-Assessment not merely tests the understanding capacity of the students, but also acts as a tool for collecting the views of individuals. Besides, it is used for rating and survey.

State whether learning materials posted on Google Classroom are useful to you during this lockdown period. Select the choice as given here 1. Not at all 2. partially 3. useful 4. good 5. highly useful

1 2 3 4 5

Partially ☐ ☐ ☐ ☐ ☐ highly useful

The author regularly administered this test to know the difficulties of students both in the assessments and the teaching methodologies. For instance, students wanted to have more game based assessments and Kahoot was used to design tense activities.

7. Paragraph Questions

Teachers give paragraph questions to judge students' accuracy, brevity and clarity in presenting the ideas. Paper based assessment does not give a chance for analyzing these skills. But through E-Assessment, teachers can set word limit and other rubrics, which they want to test in the performance of the learners. When these questions are created through Google Documents and posted, teachers can easily open the word document of the answers, correct the language mistakes made by the students and return it to the students soon after assessing. Moreover, the corrections will be notified to the students, which help them understand how to avoid making mistakes in written tasks. This makes students good writers.

Describe the process of making tea using sentence connectors, opening, and closing sentences.

Paragraph

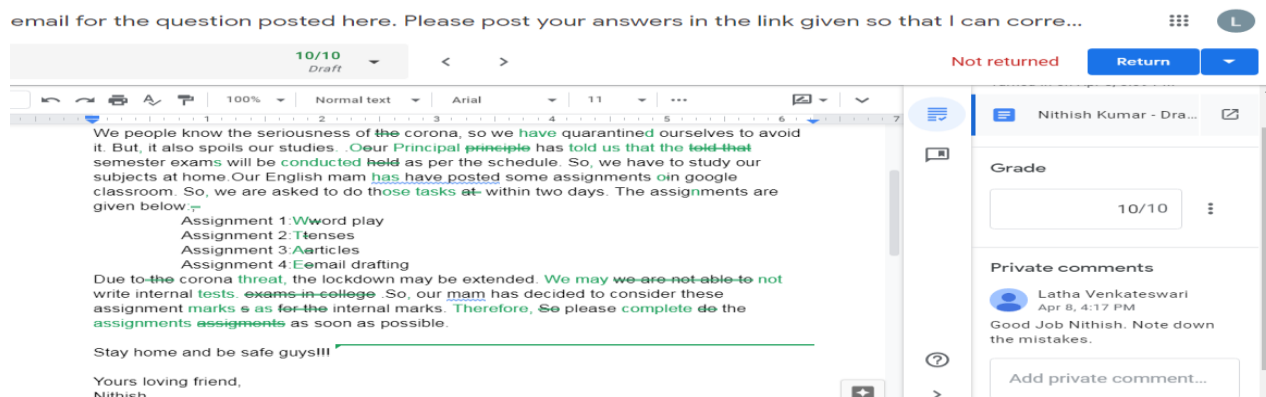
Description

Long answer text

Length Maximum character count 150 Custom error text

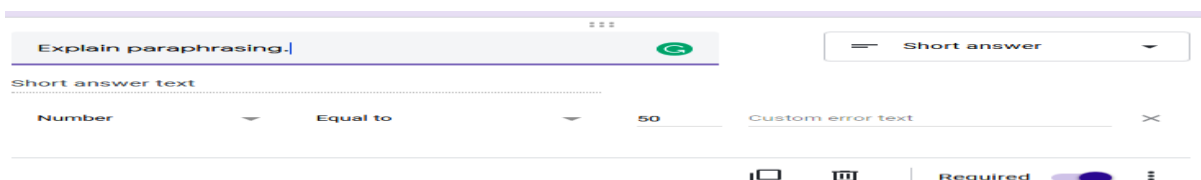
Required

Teacher's Response to the Students' Answers



8. Short Answer Questions

Such tests evaluate whether the students write apt content since the teacher sets the desired word limit needed for writing suitable answers. This makes the learners give relevant ideas alone to the questions. This test judges the students' appropriacy.



Merits and Demerits of E Assessment

E-Assessment has more benefits than demerits. To begin with, teachers and students experience accuracy in teaching and learning. Then, youngsters get fun filled activities through E-Assessment, which makes them enthusiastic about learning concepts. Besides, students are motivated to learn since they get prompt and regular feedback for all the tests that they take up. Moreover, E-Assessments simplify the endeavors of the teachers by evaluating the answers in seconds, prepares a report of the answers along with highlighting which aspect of the syllabus has to be given due importance as well. While students take up tests at anytime, anywhere with their mobile devices, teachers get freedom to post the tests at their convenience.

Teachers and students experience some problems related to E-Assessment. To start with, learners should have a smart phone, which is not an issue as most of the youngsters possess one in these days. Even otherwise, students can borrow their friends' device and complete the task. Then, students might not be serious about completing the tests. When teachers assign due dates for submitting tests along with the announcement that assessments will be considered for internal marking scheme, students take the tests seriously. Besides, teachers who hesitate to devote time for framing E-Assessment questions can collaborate with other teachers who prepare questions periodically for assessing students' performance.

Students' Experience of E-Assessment

=====

Language in India www.languageinindia.com ISSN 1930-2940 **20:4 April 2020**

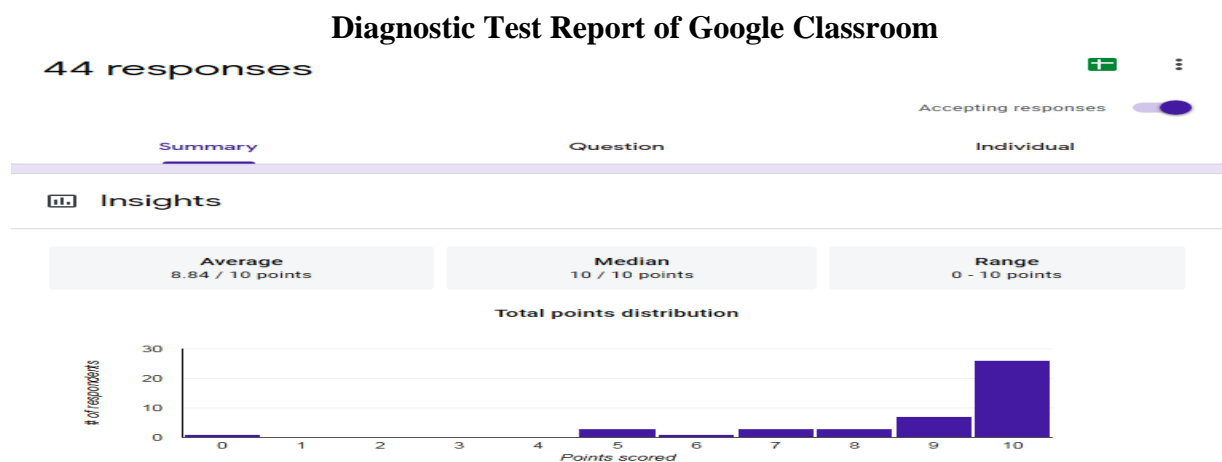
Dr. S. Latha Venkateswari

Using E-Assessment to Attain the Desired Learning Outcome in Higher Education

Having gained teaching and learning experience through conventional method all through the School Education system, students were quite uncomfortable with the introduction of E-Assessment as soon as they got into the first year studies of their engineering education. Initially, the author devoted few classes explaining the reasons and methods to be adopted for taking up E-Assessment. Initially, students had difficulties in submitting their answers. Google forms generate E-Assessment report only when students use “Turn in” option included in each assessment. Even after repeated instructions, students, oblivious of using the “Turn in” option went ahead with merely submitting their answers. This made google generate report where the students who submitted their answers were shown as “Assigned”, which means yet to complete the task. This resulted in confusion both to the students and the teacher. Subsequently, the teacher conducted mock E-Assessments, which later resolved the issues.

Authors’ Experience of E-Assessment

The author adopted E-Assessment only to free the students from undergoing the mental trauma of getting labeled as average, intermediate and advanced learners. Students’ mastery level in English was tested through MCQs at the beginning to assess their standard. Accordingly, students got customized assessment, which continued till the learners became thorough in their learning. E-Assessments dissolved the differences between the students and encouraged every individual to learn English with interest. Regular assessments after a month removed the differences between the groups and the teacher framed same set of questions to the entire class. The most interesting aspect of E-Assessment is that students learnt every concept at their own pace and got the urge to learn more with precision, which helped the author, do away with the differences between the grasping abilities of the students.



E-Assessments helped the author pay individual attention to the heterogeneous group of learners, keeping the students in the comfortable zone of learning and impart the knowledge required to each individual. Further, the teacher understood the progress of her students through the report generated for each assessment by online tools like Google classroom and Kahoot.

Sample Copy of Kahoot Report

	A	B	C	D	E	F	G	H	
1	Duplicate of Synonyms & Antonyms								
2	Played on		13 Feb 2020						
3	Hosted by		venkateswari						
4	Played with		27 players						
5	Played		20 of 20						
6									
7	Overall Performance								
8	Total correct answers (%)		86.30%						
9	Total incorrect answers (%)		13.70%						
10	Average score (points)		22469.37 points						
11									
12	Feedback								
13	Number of responses		0						
14	How fun was it? (out of 5)								
15	Did you learn something?		0.00% Yes			0.00% No			

Initially, the teacher had to convince the office of the Controller of Examinations regarding the submission of online copies of the students' assessments rather than the written copies. Yet, time and date of submission of answers coupled with feedback given to the individual student strengthened the authenticity of the procedure adopted.

E-Assessments carried out in the classroom and for internal assessments facilitated students gain sufficient knowledge in listening, speaking, reading and writing skills. The customized assessments based on the LSRW skills made students use English language with confidence. E-Assessment adopted by the teacher for internal assessments helped more than 50% students get grades like O, A+ and A in the end semester exams. Above all, E-Assessments created a bond between the teacher and the students as the latter observed consistently, the role played by the teacher for improving the standard of every individual in the class; co-operated with the teacher in completing the tasks on time and remained thankful to the teacher.

Summation

The learning objective of any syllabus is to make students gain knowledge through learning and apply it to their real life situations. Semester system does not give enough time to complete the syllabus, assess the students' assignments with utmost care and impart the right knowledge to the learners at the learners' pace. But technology has put an end to this problem by offering teachers and students an array of tools to meet the demands of learning objectives of any course. Hence, when higher education system adopts E-Assessment both for internal tests and external exams, it will benefit both the teachers and the students.

References

1. Armatas, Christine & Colbert, Bernard (2009). Ensuring Security and Integrity of Data for Online Assessment. In Spratt, Christine (Ed.), Learning Technologies and Evidence-Based Assessment Approaches. (pp.97-116) Information Science Reference, New York.

2. Bull, Joanna & Mckenna, Colleen. Blueprint for Computer Assisted Assessment. Routledge Farmer, New York, 2004.
 3. Holtz and Radner (2006). Assessment and College Progress: Capacity Building. In David D. Williams, Mary Hricko (Eds.), Online Assessment, Measurement, and Evaluation: Emerging Practices. (pp. 275-291) Information Science Publishing, USA
 4. Sharma, Devansh., Gupta, Kajal., Joshi, Anurag., Gupta, Anamika., (2019). Tools for E-Assessment Techniques in Education: A Review. In Azevedo, Ana & Jose Azevedo (Eds), Handbook of Research on E-Assessment in Higher Education (pp.28-52) Information Science Reference, USA.
- =====

An Attitudinal Study on the Role of Grammar in the Communicative Approach to Second Language Teaching

Dr. K. Sanmuganathan, Ph.D., M.Phil., M.A., PGD in Edu.

Senior Lecturer in ELT

Department of English Language Teaching

University of Jaffna, Sri Lanka 40000

saneltc@yahoo.com +94778759534

=====

Abstract

There have been arguments and counter arguments among the ELT practitioners regarding the role of grammar in teaching English as a second language with the aim of developing communicative competence of the second language learners. This paper investigates the attitudes towards the role of grammar in communicative language teaching which aims broadly to apply the theoretical perspective of the Communicative Approach by making communicative competence the goal of language teaching and by acknowledging the interdependence of language and communication. The objective of this study is to provide valuable insight to the ELT practitioners regarding the place of grammar in the communicative approach. Firstly, the theoretical aspects of Grammar, the communicative approach to second language teaching and communicative competence put forward by different scholars in the field of second language teaching are discussed in detail. Secondly, the research methodology discusses the research tools and the number of respondents to collect data for this study. Finally, the data were collected and analyzed. The findings have revealed that teaching grammar plays a vital role in developing communicative competence of the second language learners. At the same time, the study has pointed out that teaching grammar is not only the aspect of second language and the sole focus of second language teaching. Instead, it should be taught along with the language skills to achieve the communicative competence of the second language learners.

Keywords: Grammar, Communicative Language Teaching, Communicative Competence, Second language skills, Second language teaching, Sri Lanka.

1. Introduction

There have been theories with opposing views among the ELT practitioners with regard to the role of teaching grammar in second language teaching and learning.

However, it is felt that there is a link between teaching grammar and achieving communicative competence with students learning English as a second language. It is necessary to investigate the attitudes of the ESL practitioners and students towards the role of grammar in Communicative Approach which aims to develop communicative competence of the second language learners because there is a tendency found among the ESL practitioners and learners that teaching and learning ESL mean the learning of grammar of that language. In contrast to this idea, Communicative Approach which focuses on the four components of the communicative competence emphasizes the fluency of the language rather than focusing much on the accuracy of the language. As a result, this causes an issue in relation to the role of grammar in the communicative approach to ESL teaching and learning processes. It should be noted at this point, that grammar is not only the aspect of language to be taught and learnt and should not be sole focus of teaching English.

There are two main aims to this paper. Firstly, in the theoretical part, it attempts to explain the link between teaching grammar and achieving communicative competence, thus highlighting the importance of teaching and learning grammar. The terms grammar and communicative competence are considered from different perspectives. Additionally, a number of arguments for and against the teaching of grammar are presented and investigated. Secondly, in the empirical part, it aims to investigate the attitude of the ESL practitioners and their students towards teaching grammar, namely their awareness of the term communicative competence and of what it includes, as well as the perceived role of grammar in the process of English language teaching. Finally, effort is made to suggest possible ways of making grammar beneficial towards achieving communicative competence.

1.1. Fluency versus Accuracy in Sri Lankan Context

Communicative competence is often considered as a subset of fluency, but is in fact not the same. A term first coined by Hymes (1966), communicative competence which is an alternative to Chomsky's (1965) linguistic competence, refers to the ability to make use of words and rules, the appropriacy of language, cohesion and coherence and communicative strategies to be understood (Canale and Swaine, 1980). That is, it is the ability to choose the right words and structures appropriately to suit the situation and context so as to communicate what we need to say effectively. The focal point here is the speaker's intended message and how well they are able to get their interlocutors to understand this message. Accuracy is a focus on the correctness of one's use of grammar, vocabulary and pronunciation and important insofar as the message is not

miscommunicated. Fluency is important insofar as the speaker can be understood by their interlocutors.

Communicative competency is the correlation between fluency and accuracy and refers to the ability of a speaker to communicate effectively in the language; this ability is based on more than just grammatical knowledge and the concept is derived from the general desire of language learners to be able to communicate proficiently, not to use the language exactly.

To be able to communicate in the Target Language fluently means that the speaker is comfortable using the language and can be reasonably understood by other speakers of the Target Language. This does not necessarily mean that the speaker is free of errors in their communication, but that the errors they make do not obstruct the message. Accuracy refers to the correctness of the language being produced by the speaker. Just because a speaker focuses on accuracy does not mean they will be capable of producing effective communication.

In Sri Lanka, basically, accuracy is the ability to produce grammatically and lexically accurate English sentences, while fluency is the ability to produce language in a coherent, effortless way. In fact, a student who is more fluent than accurate can be more successful at communication than someone who is more accurate than fluent.

1.2.Role of Teaching Grammar

The role of grammar in the second language classroom is a heavily debated topic in the arena of second language teaching. Historically, there have been many shifts in the prevailing idea of grammar presentation from the history of methods of second language teaching. Traditionally, grammar played an essential role in second language teaching, often serving as the only activity in the second language classroom. In recent years, there has been a push for implicit grammar presentations focusing more heavily on the use of language for communication. A review of language-learning theories and current language acquisition research was performed to gain an awareness of how grammar should be taught. As it is understood that grammar plays an important role in expressing one's thoughts and ideas to others because grammar provides necessary structure patterns to form one's message in order to communicate meaningfully. One of the reasons to teach grammar is its capacity to make learners understand the existence of language, which intends to make linguistic production more practical to communicate very effectively.

1.3. Communicative Approach

Depending on the merits and demerits found in the succession of second language teaching methods such as Grammar Translation Method, Audio Lingual Method, Direct Method, etc. which failed to enable the learners to communicate in English for practical purposes, many second language practitioners have adopted the concept of Communicative Approach which focuses developing communicative competence of the learners. Communicative Approach originated in Britain in the 1960s in order to rectify the shortcomings of the earlier methods used for second language teaching. According to Widdowson (1990), he states that “Communicative Approach concentrates on getting learners to do things with language, to express concepts and to carry out communicative acts of various kinds. The content of a language course is now defined not in terms of forms, words and sentence patterns, but in terms of concepts, or notions, which such forms are used to express, and the communicative functions which they are used to perform, p. 159.”

Nunan (1991) introduces five features of Communicative Approach. They are:

- i. An emphasis on learning to communicate through interaction in the target language.
- ii. The introduction of authentic texts into the learning situation.
- iii. The provision of opportunities for learners to focus, not only on language but also on the learning process itself.
- iv. An enhancement of the learners’ own personal experiences as important contributing elements to classroom learning.
- v. An attempt to link classroom language learning with language activities outside the classroom.

According to Larsen-Freeman (2000), he observes the following points can be used to summarize Communicative Approach (p.129 – 134).

- i) The aim is to enable students to communicate in the language. To be able to do this, students need to possess the knowledge of the linguistic forms, as well as meanings and functions. This on its own, however, is insufficient. Learners also need to be aware of the social context and possible ways of negotiating the meaning with other speakers.
- ii) The teacher’s main role is that of the facilitator of communication through providing suitable situations in the classroom environment, and possibly a participant in a conversation, as well as an adviser.

- iii) The syllabus is mainly organized according to the functions of the language, as opposed to just grammatical items. Students are also introduced to the concepts of cohesion and coherence, thus catering for the discourse or suprasentential level of the language. Focus is on all four basic skills.
- iv) Typically used materials are authentic in order to provide meaningful resources to illustrate how language is used in real world. This increases the students' motivation, but it also requires careful planning as inadequately chosen material may have the opposite effect.

What is understood from the above views put forward by different scholars is that there is always a link between teaching language which must aim to make the learners act in the real language context in their day to day communication and teaching grammar through communicative approach focusing on the forms, meanings and functions of the language. The aim of language teaching must enable the learners to use the language in their various speech contexts and at the same time, grammar lays the foundation for generating utterances for effective communication.

1.4 Communicative Competence

The main conception of Communicative Approach is the idea of developing learners' communicative competence. The communicative competence here includes the knowledge of what to say and how to say it appropriately according to the situations, the interlocutors and their roles and purposes. As a result, Communicative Approach was promoted because of this kind of knowledge which was not included in the traditional grammatical and vocabulary teaching approaches. Hence, the rationale behind Communicative Approach is to develop learners' communicative competence in contrast to their grammatical competence.

The concept of communicative competence was originally developed in the early 1970s by the sociolinguist, Dell Hymes. It was further developed in the early 1980s by Canale and Swain. According to Canale (1983), communicative competence refers to "the underlying systems of knowledge and skill required for communication". Canale and Swain (1980) define communicative competence in terms of four components which link the linguistic system to the functional aspects of communication. They are as follows:

- i. grammatical competence – (ability to create grammatically correct utterances)

- ii. sociolinguistic competence -(ability to produce sociolinguistically appropriate utterances)
- iii. discourse competence – (ability to produce coherent and cohesive utterances)
- iv. strategic competence – (ability to solve communication problems as they arise).

2. Literature Review

Azar (2007) states that one of the reasons to teach grammar is its capacity to make learners understand the existence of language, which intends to make linguistic production more practical.

Savage (2010) states that Grammar teaching has various effects and functions. Grammar, the function of which is seen as a skill, needs to be considered in three ways: “grammar as an enabling skill, grammar as motivator, and grammar as a means to self-efficacy” In terms of enabling skills, learning correct structures in grammar helps the learners develop reading, writing, communication, and other skills. Without understanding correct grammatical structures, people are unable to communicate, convey meaning or understand through the pieces that they write, read, speak or listen. Learning the grammatical structures of a specific language may be acknowledged as a motivator and key to speaking and understanding that language.

Fotos (2001) defines that when grammar is taught as a method of achieving self-efficacy, it is obviously seen that grammar instruction may make learners aware of structures and notice the differences in those structures as learning takes place over time.

In addition to these ideas, Rutherford (1987) states that teaching grammar has been understood same as foreign language teaching and he demonstrates the effectiveness of grammar in language learning. This priority is re-emphasized by Radilova (1997) who notes that “Knowledge of grammar is the central area of the language system around which the other areas resolve; however important the other components of language may be in themselves, they are connected to each other through grammar.”

According to Ellis (2006), “Grammar teaching involves any instructional technique that draws learners’ attention to some specific grammatical form in such a way that it helps them either to understand it metalinguistically and / or process it in comprehension and / or production so that they can internalize it.” Therefore, in a way,

grammar teaching helps learners understand structures better and communicate in the target language effectively.

Richards and Rodgers (2001) emphasize that ‘the communicative language teaching focuses on the process of communication rather than mastery of language forms and leads to different role for learners from those found in more traditional second language classrooms’(p.166). Learners are thought to be active participants in the language classroom.

Larsen Freeman (2001) puts forwards his conventional and contemporary views on teaching grammar. Grammar is seen as a means of expressing meanings. It is not sufficient to define grammar only at morphological and syntactic levels, not even the meanings of sentences in isolation. Grammar is also influenced by pragmatic principles; it fulfills a certain role in conveying messages.

She further states that in grammar teaching, the “focus on forms” approach begins with teaching activities focused on structure and practice. Developmental skill activities follow the instruction of the target framework. However, in the focus on forms approach, the important thing for the learners is to know the grammatical rule for a specific formation. That is why most researchers are opposed to focus on forms instruction. Although a learner may know the grammatical rule very well, s/he may have difficulties in production (Larsen-Freeman, 2009).

Marianne Celce-Murcia and Sharon Hilles (in Larsen-Freeman 2000, p. 8) explain the link between grammar and one of three other aspects of language: social factors, semantic factors and discourse factors. Social factors take into account the speakers’ roles, their mutual relationship and the purpose of the communication. Semantic factors are linked to the meaning. while discourse factors concern topic continuity, word order, and the sequencing of new and old information.

It is pointed out that these three factors are in harmony within any language used naturally and therefore teaching any individual grammar point should be accompanied by matching it with one or more of the above aspects of language (social, semantic or discourse). In achieving to do so, the lessons will be more purposeful for the students.

From the above mentioned facts, it can be concluded that in foreign language teaching and learning, grammar and communicative competence do not and should not

exclude each other. Still, there are some possible myths about the relevance of teaching grammar to foreign language students.

A well-known figure in language teaching, Stephen Krashen (1982) distinguishes between learning and acquisition, the former being a conscious process, while the latter represents unconscious absorption of new information. His hypothesis is based on the fact that people learn their mother tongue without any formal grammar tuition and that the same should be applied to second and foreign language acquisition. He perceives grammar teaching in terms of focus on the forms of language as having little or no effect on language acquisition. It can be argued, though, that while learning/teaching and acquisition are not always simultaneous, it is indeed possible to achieve this.

3. Research Question

On the basis of different theoretical as well as empirical studies on the role of grammar in Communicative Approach to second language teaching, the following research question gets attention for the investigation of the role of grammar in CA. What is the attitude of the ESL practitioners and their students towards teaching grammar in the ESL classes in the University of Jaffna, Sri Lanka and teaching grammar with a view of developing communicative competence?

3.1 Methodology

In order to carry out this study, the mixed method was used to collect data for the investigation of the role of grammar in CA. In order to collect data, a questionnaire which reflects the demography of the participants, the experience of ESL practitioners in teaching ESL using CA and of learners in learning ESL, the attitudinal views of ESL practitioners and the students on their level of English, views on developing communicative competence and perception of items to be learnt in developing communicative competence through teaching and learning grammar in ESL classes respectively, was prepared for the ESL practitioners and the students separately and distributed to them to collect data for the investigation of the research question.

The respondents of the study were the ESL practitioners and the undergraduates of the University of Jaffna. Twenty ESL practitioners and fifty students were included in this study.

3.2 Data Collection

The questionnaire was distributed to ESL practitioners and the undergraduates. They all keenly participated in the study and responded to the questions included in the

questionnaire. Therefore when considering the participation of the respondents, the response from them was 100%.

3.3 Data Analysis and Findings

While considering the demographical facts, the age of ESL practitioners fall within the range of 25 to 30 and over 30 years. The undergraduates were between the age of 21 to 25 years. The researcher maintained the gender balance in this study by distributing the questionnaire proportionately.

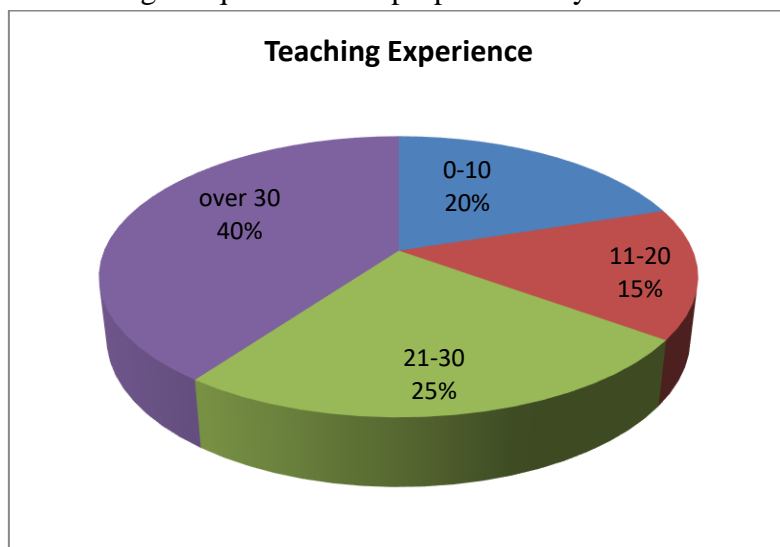


Fig. 1. Teaching experience of ESL practitioners

As it is seen in fig. 1, the teaching experience of the respondents varies on the number of years they taught English as a second language. The majority of the respondents fall within the range of over 30 years which is the 40%. Therefore their experience in ESL teaching can contribute to the present study in deciding the role of grammar. As they were familiar with the various teaching methods used in the past and being used in the present, they are found to be well aware about the communicative approach which demands the fluency rather than accuracy of the language.

Learning Experience of Undergraduates

All the undergraduates in this study has been learning ESL at primary, secondary and tertiary level for more than 13 years. It is the 100%. As a result, They are very familiar with the main objective of the language learning through Communicative Approach which is being implemented in teaching ESL at various educational institutions and the text books are designed based on this approach which focus developing the competency of ESL learners in day to day communication. Their

exposure in learning ESL has reflected their level of English which they achieved through out the years. It is shown in fig. 2.

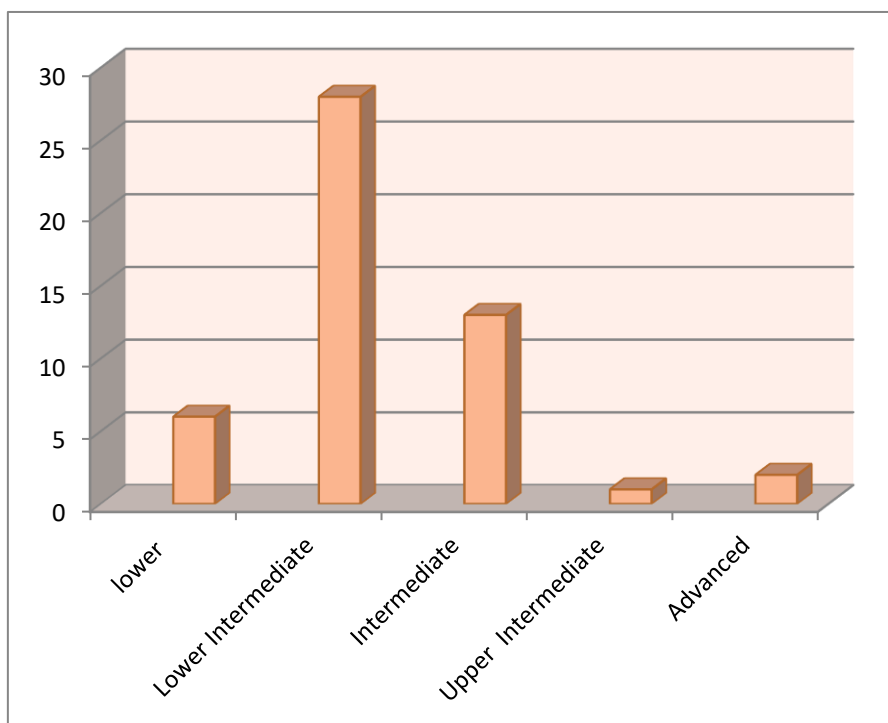


Fig. 2. The undergraduates' level of English

According to fig. 2, the undergraduates who are the respondents of this study are found to be in lower intermediate level. It should be noted that these respondents have learnt ESL in the classes where Communicative Approach was used by the ESL practitioners more than 13 years. But they could not achieve the expected level. This was proved from the discussion with the respondents who struggled to utter a single sentence in English. The discussion with the respondents revealed that they are aware of the communicative competence which demands the authentic communication in the social context and lack of grammatical knowledge to produce utterances, which are grammatically correct to convey the exact meaning of the utterance, is found to be the barrier in speaking as well as writing in the day to day communication.

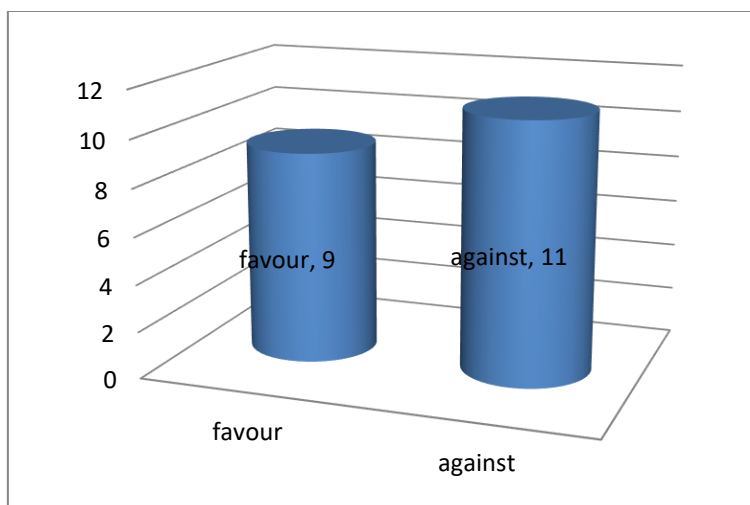


Fig. 3 The agreement with CA in ESL classes

The figure 3 shows the different views of the ESL practitioners with regard to the Communicative Approach which aims at the mastery of communicative competence. 9% of the respondents expressed their views in favour of Communicative Approach. They said that this approach provides enough room to practice ESL in the real life situation and focus on the fluency of the learners irrespective of their accuracy of the utterances. Learners can actively involve in the interactional environment. At the same time, 11% of the respondents are found to be against Communicative Approach. They said that the learners whom they taught are found to struggle with ESL especially in speaking and writing which demand more grammatical competence, as there is not much focus for teaching grammar. They further pointed out that the methods used in the past gave prominent place for grammar and as a result, the students were able to produce grammatically correct sentences and they lacked the fluency as a result of limited exposure available in the social context in which they live. The undergraduates under study also have expressed the same views their difficulty in achieving the competency in ESL.

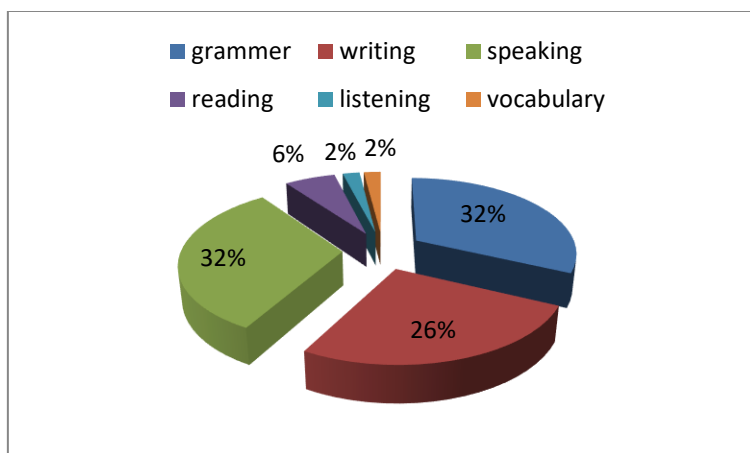


Fig. 4 Perception of undergraduates on the most important items of teaching which contribute to the communicative competence

The figure 4 shows the connection between the most important items which they like to learn to communicate effectively and the above discussions with ESL practitioners and undergraduates in the previous sections. 32% of the respondents reveal that the weightage for learning grammar should be given in ESL classes. They feel that this can lead to speaking and writing which demand the grammatical competence to a meaningful communication.

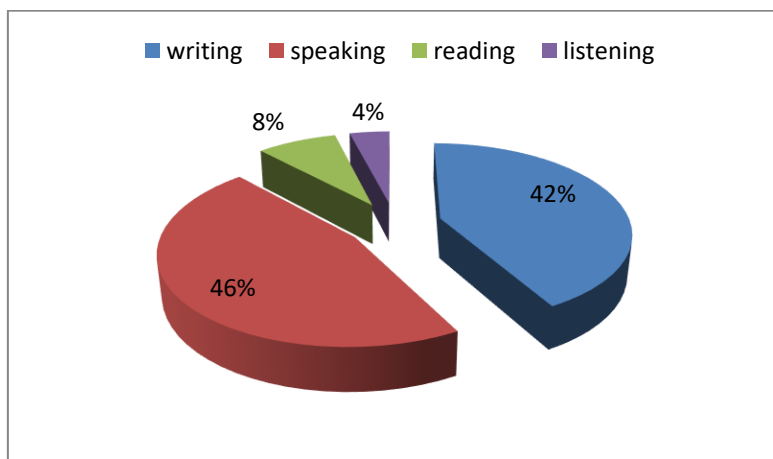


Fig. 5 The importance of grammar in language skills

In this section, the respondents were asked to rate the importance of grammar in language skills called as Listening, Speaking, Reading and Writing. The figure 5 confirms the importance of grammar with the previous discussion. Speaking and writing skills demand the grammatical knowledge which can contribute to the mastery of

utterances to convey the message to the listener meaningfully. It can also pave the way to form different sentence patterns which has different meaning in a social context.

4. Conclusion

The investigation of attitudes towards the role grammar in the Communicative Approach in teaching English as a second language has revealed valuable insights into the second language practitioners and ESL learners. This paper examined the attitudinal aspects of the ESL practitioners and the undergraduates under study in teaching grammar in the ESL classes along with other skills in an authentic context which paves the way to the mastery of communicative competence of the second language learners.

As far as the teaching experience of the ESL practitioners under study is concerned, they are found to be well aware of the various methods being used from the past to the present and to make comparisons of these methods used to teach ESL learners in the past and present. They agree that the learners taught using Communicative Approach which focuses much on fluency, are found to struggle with the mastery of utterances because of the less attention paid to teach grammatical components of the language. They also pointed out the limited exposure available to the English language in their social arena. As a result, they are unable to achieve the expected results from teaching through Communicative Approach. Classroom practices are inadequate because of the time factor.

At the same time, there is consensus found among the ESL practitioners and learners that teaching grammar might help to produce the utterances which are grammatically correct, and the communicative competence of the learners means the use of language in various contexts for meaningful communication. Teaching the productive skills such as speaking and writing, demands the grammatical competence of the learners. Both expressed their positive attitude towards teaching grammatical items along with other skills.

It should be noted that the undergraduates of this study are found to be in the lower intermediate level (see fig. 2) though they have been taught English for more than 13 years in a CLT context. They are unable to communicate in English because they lack the grammatical competence which is necessary for generating utterances. This raises the issue on the validity of Communicative Approach to second language teaching and provides foods for thought regarding the appropriateness Communicative Approach. They perceive that teaching grammar in the language classes is very much felt important.

At the same time, based on the findings revealed in this study, it could be claimed that teaching grammar in ESL classes is found to be inevitable because the communicative competence emphasizes the grammatical competence in order to generate utterances which are grammatically correct with the view of actual meaningful communication. Unlike the conventional views of methods which gave priority to teaching grammar in ESL classes, the ELT practitioners have to think of teaching grammar considering the form, meaning and use. This would enable the second language learners to achieve the communicative competence which the Communicative Approach demands.

5. Recommendations

Communicative Approach focuses on producing competent users of the language who can do things using the language. It is always the main objective of teaching ESL to the learners. However the appropriateness of this approach in the language classes which has learners with individual differences, raises an issue in making the learners speak the language fluently. This approach may be appropriate to the learners who come from the language background and have acquired certain amount of language with grammatical awareness due to the exposure available to them. But this cannot be for the learners who come from zero language background or never have exposure to second language. This causes problems to the ESL practitioners who employ Communicative Approach to teach ESL in the classes.

Having considered the above issues and the findings of the study, there is always a positive attitude towards teaching grammar in the language classes among the ESL practitioners and learners as well. They feel that a fair amount of grammatical competence is a prerequisite for the mastery of that language. Though the said approach emphasizes the fluency of the speakers of the language, it aims to develop the communicative competence of the learners who learn the language. Therefore teaching grammar can cause positive results in the language classes. The following recommendations are made by the researcher from this study.

1. Teaching grammar is not only the aspect of second language and the sole focus of second language teaching. Instead, it should be taught along with the language skills to achieve the communicative competence of the second language learners.
2. The results of some previous studies reveal that inductive grammar teaching seems more effective in terms of interaction and student feelings, there are also various findings supporting deductive teaching.

3. Considering the individual differences among the learners in a language class, ESL practitioners can make use of different methods and approaches familiar to them to take forward effective teaching and learning processes.
4. Teaching grammar must be done focusing form, meaning and functions of the language.
5. There is always a connection between teaching grammar and achieving communicative competence with learners learning English as a second language. Therefore teaching grammar along with other skills is inevitable and it can help the learners generate utterances appropriate to the speech context.

References

- Azar, B. (2007). *Grammar-based teaching: A practitioner's perspective*. *TESL-EJ*, 11(2).
- Canale, M., & Swain, M. (1980). *Theoretical bases of communicative approaches to second language teaching and testing*. *Applied Linguistics*, 1, 1-47.
- Celce-Murcia, M., and Hilles, S. (1988) *Techniques and Resources in Teaching Grammar*. OUP, CUP.
- Chomsky, Noam (1965). *Aspects of the theory of syntax*. Cambridge: M.I.T. Press.
- Ellis, R. (2006). *Current issues in the teaching of grammar: An SLA perspective*. *Tesol Quarterly*, 40(1), 83-107.
- Fotos, S. (2001). "Cognitive Approaches to Grammar Instruction." In M. Celce-Murcia (Ed.), *Teaching English as a Second or Foreign Language*, Third Edition. Boston: Heinle & Heinle.
- Hymes, D. H. (1966). 'Two types of linguistic relativity' In Bright, W. *Sociolinguistics*. The Hague: Mouton. pp. 114–158.
- Hymes, D. H. (1971): *On Communicative Competence*. Philadelphia: University of Pennsylvania.
- Hymes, D. H. (1972): *On Communicative Competence*. In J. B. Pride and J. Holmes (eds.), *Sociolinguistics*. Harmondsworth: Penguin. 269-293.
- Krashen, S., (1982) *Principles and Practice in Second Language Acquisition*. [Online] [cit. 2009 – 07 - 20]. Dostupný z WWW: <www.sdkrashen.com>
- Larsen-Freeman, D. (2000) *Techniques and Principles in Language Teaching*. OUP.
- Larsen-Freeman, D. (2001). *Teaching grammar*. *Teaching English as a second or foreign language*, 2, 279-296. In M. Celce-Murcia (Ed.), *Teaching English as a Second or Foreign Language (3rd ed.)*. Boston: Heinle & Heinle.
- N. Ellis. (2008). *Knowledge creation diffusion utilization*. *Springer*, 6 (20), 1-13.
- Nunan, D. (1989) *Designing Tasks for the Communicative Classroom*.

Nunan, D. (2005). *Practical English language teaching: grammar*. Mc Graw-Hill ESL/ELT.

Richards, J C., & Rodgers, T.S. (2001). *Approaches and methods in language teaching - A description and analysis*. Cambridge: Cambridge University Press.

Rutherford (1987 *Second language grammar: learning and teaching*, London; New York: Longman,

Savage, K.L., Bitterline, G., Price, D., (2010). *Grammar Matters*. New York: Cambridge University Press.

Widdowson, H. G. (1990) *Aspects of Language Teaching*. OUP.

=====

Friedrich Hölderlin: Poets as Philosophers

Dr. S. Sridevi

Associate Professor of English

CTTE College

Chennai 600011

Tamilnadu, India

sridevisaral@gmail.com

=====

Abstract

Johann Christian Friedrich Hölderlin (1770-1843) was a German poet-philosopher who is viewed by scholars as a writer who naturalized the forms of classical Greek verse in German and in melding Christian and classical themes. Nietzsche is supposed to have been influenced by Hölderlin. Martin Heidegger interpreted Hölderlin's poem "Ister" from a philosophical perspective and delivered important lectures and takes Hölderlin's poems as illustrations to interpret his philosophical discourses. This paper aims at studying the predominant themes of the poems of Hölderlin that view the world from the position of a European scholar of the eighteenth century who understands the limitations of time and space and emphasizes on the fluidity of life.

Keywords: Hölderlin, Poets, Philosophers, Nietzsche, Heidegger

Johann Christian Friedrich Hölderlin (1770-1843) was one of the greatest poets of Germany. Schelling and Hegel acknowledged him as their equal. Hölderlin's philosophical fragments were first published in 1961. Many scholars are now studying his influence on German idealism. He is also considered to be a major influence on Hegel. Friedrich Nietzsche (1844-1900) referred to him as the "glorious Hölderlin." Themes from Hölderlin are found abundantly in Nietzsche's works. Another philosopher who was highly influenced was Wilhelm Dilthey (Forster in his "Foreword" 1-3.) We have to remember that the English poet Wordsworth was also born in 1770. Therefore, it is possible to interpret the poems of Hölderlin as an eighteenth century philosopher-poet who might have witnessed the fruits of Renaissance, French Revolution, and German academia's Oriental Studies.

Hölderlin is supposed to have naturalized the forms of classical Greek verse in German and in melding Christian and classical themes. He gained little recognition during his lifetime and was almost totally forgotten for nearly 100 years. In the early years of the 20th century he was rediscovered in Germany and his reputation as one of the outstanding lyric poets in the German language has been established in Europe. Today he is ranked among the greatest of

German poets and admired for his expressive style. He spoke about “the return of the gods.” (Witte)

Heidegger celebrated Hölderlin as a prophetic poet and developed philosophical discourses from the poems of Hölderlin. In the essay “What Calls for Thinking?” Heidegger says, “We must learn thinking” (381) and takes Hölderlin’s draft for the poem “Mnemosyne” for analysis and quotes: “We are a sign that is not read / We feel no pain, we almost have / Lost our tongue in foreign lands.” That is, Heidegger says, “We are an uninterpreted sign” and remain “uncomprehended,” and “on our way toward thinking, we hear a word of poesy. But the question to what end with what right, upon what ground and within what limits, our attempt to think allows itself to get involved in a dialogue with poesy, let alone the poetry of this poet” can be taken up after an analysis of the concept of thinking (Heidegger 382).

Every human being becomes a sign system with a particular meaning and this meaning will be lost in a strange land, as in those places these signs may be interpreted differently, Hölderlin says in his draft for the poem “Mnemosyne.” If we extend the meaning of these lines, they will mean that a human being has to locate himself and understand himself and remember that he is a product of his period, location or history.

In another essay “The Way to Language” Heidegger quotes lines from another poem by Hölderlin “The Celebration of Peace:” “Much, from morning onward / Since we became a conversation and hear from one another / Have human beings undergone; but soon (we) will be song” (Heidegger 424). Human experiences will become stories and songs, and will become conversations that will be written down as systems of thought. Live occurrences will become texts later.

Hölderlin’s poem “The Journey” is used as an end note in Heidegger’s essay “The Origin of the Work of Art.” Heidegger launches his definition of the content of art. He says, “Art, as founding, is essentially historical,” and further develops the idea and declares “Art lets truth originate” (Heidegger 202). Truth, as perceived by the later generations, is created by art.

It is here Hölderlin’s line from the poem “The Journey” is brought in: “that which dwells near its origin abandons the site.” The question is, whether “art can be an origin,” and then “forward” its idea to be “carried along as a routine cultural phenomenon” (Heidegger 203). Art begins in a certain time and space and keeps travelling, and finally it becomes difficult to trace its origin.

Hölderlin, as a German scholar from theological seminary with Greek scholarship and Protestant spirituality, became a tutor, and as an academic, remembers the past civilizations,

recollects their contents, and moralizes on the experiences and attempts to liberate the self from being attached to any singular identity or self, and constructs an ethics as a poet.

European scholars refer to Hölderlin as a poet who revived Greek poetic forms –“the Horatian ode, the elegy, and the Pindaric ode—in German literature and to fuse his love for his native land with the longing for ancient Greece” (*Britannica*).

Hölderlin’s poems can be viewed as artistic-philosophic works born out of eighteenth century scholarship – in a Heideggerian perspective that art is born in a particular history and can further influence society. “People’s historical existence is art,” says Heidegger. The location of art is a reflection and it is indispensable for the birth of art. Heidegger puts across a few important questions: “Are we in our existence historically at the origin? Do we know, which means, do we give heed to, the essence of the origin? Or, in our relation to art, do we still merely make appeal to a cultivated acquaintance with the past?” (Heidegger 203) How do we relate to our past?

How do we realize our origin? How did systems and institutions begin? Does the acquaintance with past culture guarantee that we understand its beginning? These are the same questions Hölderlin too poses in his poems.

The poem “Ages of Life” by Hölderlin approaches life as a phenomenon that contains various ages or civilizations with gods and stories, and negotiates between the past of Asia and the present Germany, recollecting and re-understanding the past and constructing a present of morality shaped by the past. The poem follows:

Euphrates' cities and
Palmyra's streets and you
Forests of columns in the level desert
What are you now?
Your crowns, because
You crossed the boundary
Of breath,
Were taken off
In Heaven's smoke and flame;
But I sit under clouds (each one
Of which has peace) among
The ordered oaks, upon
The deer's heath, and strange
And dead the ghosts of the blessed ones

The poem is reflective about a past age that has gone out of human memory: the reference is to Tigris-Euphrates river system of southwestern Asia that runs through the heart of the Middle East. The lower portion of the region or Mesopotamia means “Land between the Rivers” - one of the cradles of civilization. Tigris-Euphrates river system of southwestern Asia comprises the Tigris and Euphrates rivers, which follow parallel courses through the Middle East. The lower portion of the region is known as Mesopotamia in Greek which meant “Land between the Rivers.” The two rivers have their sources in Turkey and travel through Syria and Iraq to the Persian Gulf (Owen et al).

Hölderlin analyses how the cities built on both the sides of the great river Euphrates and the fertile lands around them have disappeared from mainstream and is thinking now that there are moral lessons to be learnt from them.

The poet transcends reality and becomes metaphysical and ruminates: “But I sit” ... among / The ordered oaks.” The smoke of the past is contrasted with peace of the present. Each cloud becomes a symbol of peace and this peace is lived amidst oak trees that are planted in a regular and systematic manner. The tall oak trees might look as if they are closer to the clouds. And this brings yet another contrast – the past is unordered while the present is ordered and symmetrical. The geopolitical meaning locates the poem in the eighteenth century European oriental studies.

Oriental Studies was established in Germany in 1728 in the University of Leipzig. Professors August Schlegel and Friedrich Schlegel were the leading German orientalisists. In 1821 Franz Bopp became a Professor of Sanskrit and Comparative Linguistics (Choudary).

In ancient Greece oak was venerated. The Christianized Europe preferred the palm tree and Christianity considered Greek sacred trees as profane. As a symbol it was re-discovered during the renaissance. Petrarch celebrated it. It was used as a symbol by poets like Gottfried August Burger (1747-94), Matthias Caludius (1740-1815) and Christian Friedrich Schubert (1739-91). The oak wreath came to be regarded as a political statement in the German empire (Kampmann). Hölderlin locates himself in a land of oaks and recollects the past as historic research has taught him. “The ordered oaks” become the symbol of Eighteenth century Prussia.

In 1720 Prussian government ordered the forest department to plant oaks. Explicit rules were given for growing and transplanting – following the Manteuffel method of planting in mounds (Fernow). Hölderlin is responding to Mesopotamia from this position of time – a German perspective, where forestry had become a science.

Lowood studies the system of scientific forestry in the eighteenth century Prussia. Private forestry schools, books and journals flourished in Prussia during 1760s. Officials were trained in the new cameral science, the science of forestry. Forests began to be defined precisely and studied objectively (318). Books demonstrated how forests should be designed mathematically (322). Officials decided the number of trees to be planted (323).

Even today Germany has private forest owners just as most of the European countries. 49.6 percent of European forest is privately owned. More than 80 percent of private forest in Europe is held by individuals or families, followed by private institutions and forest industries. (Hirsch et al 23).

Hence, it is possible to interpret “ordered oaks” as a symbol of Prussian or European way of life that is presented as systematic that it even brings order and symmetry into forests. Living in such an ordered society that looked at natural forests from a scientific and systematic point of view, one might forget the past civilizations and they may go out of memory, and Hölderlin is calling out for the Asian cities that have gone out of mankind’s mind and have stopping influencing people. World’s earliest system of codes in the ancient Babylon and its conquering of the Jews and its domination are remembered by Hölderlin. “What are you now?” – The poet is asking as he moralizes that their crowns were removed by heavens as they enslaved Jews. Heaven has taken them of in smoke and flame as a kind of punishment for their behavior. These lines carry European and Christian thought and the meaning of European superiority as a land of order pitted against the other different civilizations of the Orient.

Hölderlin reminisces about the loss of Eastern religiosity which resonates with the demand to reconnect with German culture, presented with ideas of a “mystical and mysterious Orient” (Twist 40).

In the wealthy and mighty Babylon enriched with the waters of Euphrates 3,770 years ago, King Hammurabi developed laws, “erected massive walls, built opulent temples and united all of Mesopotamia, the land between the rivers,” and later “Nebuchadnezzar II conquered Jerusalem in 597 B.C. and marched the Jews into captivity which is recorded in the Holy Bible’s 137th Psalm as “By the rivers of Babylon / There we sat down and wept / When we remembered Zion.” Nebuchadnezzar built the famous Hanging Gardens - “tiered, lavishly watered terraces regarded as one of the Seven Wonders of the Ancient World” and the Greek historian Herodotus wrote that Babylon was a magnificent city (Hammer).

“It is generally accepted that biblical tales such as the Fall of Man and the Flood of Noah” originated in Mesopotamian lore, as they first appear in Mesopotamian works such as *The Myth of Adapa* and the *Epic of Gilgamesh*,” perceived as the oldest written stories in the world.

“The Mesopotamians believed that they were co-workers with the gods and that the land was infused with spirits” (Mark).

Mesopotamians believed that the beginning of the world was a triumph of the gods who won over disorder, and rites worshipping divine beings, conducting correct memorial services to the dead people and other important social works would bring a balance in regular life. Respecting and worshipping elders and paying proper respects to them during and after life were an important part of their culture. The people believed that the gods were in attendance always and hence “in the planning and execution of any building project” very specific prayers were “recited in a set order” to deities which were “considered of utmost importance in the success of the project and the prosperity of the occupants of the home” (Mark).

Hölderlin is perhaps referring to these gods and spirits of Mesopotamia as “strange and dead the ghosts of the blessed ones.” Hölderlin is remembering all these historical facts and he understands the ages of the earth and its various cycles of life and analyses how one cycle is born, lives for a period and is forgotten slowly.

With the blooming of Enlightenment philosophies in the eighteenth century came the first inland explorations and multi-disciplinary scientific expeditions. The first of these to reach Mesopotamia was the Danish expedition of 1761-1767, to which Carsten Niebuhr was connected as mathematician, though the organized study of the Near East through expeditions is often symbolically benchmarked by the large-scale Egyptian expedition of Napoleon at the close of the century. During this period, a negative view of the ancient civilizations that once resided in this region and that had featured so negatively in the Old Testament slowly began to give way to an appreciation of their potential accomplishments. (Ooghe 52)

Kalmar says that Hegel and Hölderlin turned to the Orient with an agenda – to “reinvent Protestant Christianity in the face of the challenge posed to it by the discovery of oriental scriptures” as showed by the scholar Emily Shaffer. They constructed the Germanic world (Kalmar 80-81). The construction of the civilized Europe in art seems to be one of the meanings of this poem.

But the poem crosses the limitations of geopolitics with the last lines: “the ghosts of the blessed ones / Appear to me.” Hölderlin is able to see the blessed gods of Asia in his mind’s eye. To him the eastern gods are blessed. He approves their godliness. Also he seems to sanctify these Mesopotamian elders and gods, implying that instead of a god, multiple gods too may have a possibility of sanctity. We are reminded of Zarathustra who appears later and says: “Greater

ones, verily, have there been, and higher-born ones, than those whom the people call Saviours, those rapturous blusterers!” (Nietzsche 86)

This vein of thought is found in another poem by Hölderlin: “As on a Holiday:”

Thus poets stand in favorable weather:
Those whom no master, but rather Nature,
Mighty and beautiful in its divinity, wonderfully
And universally present, educates with gentle embrace.
And when Nature appears to sleep at some seasons,
Either in the sky or among plants or nations,
So the aspect of poets is also mournful.
They seem to be alone, but their foreknowledge continues.
For Nature itself is prescient, as it rests.

Now it is day! I waited to see it come,
And what I saw — my words bespeak holiness!
For Nature, who is older than time,
Standing above the gods of the Occident and Orient,
Has awakened to the sounds of arms.
All-creating Nature feels the enthusiasm anew,
From Aether down to the abyss,
As when she was born of holy Chaos,
According to the established law. (Poemhunter.com)

Nature has to be the guiding spirit for poets. It has the power of god and is divine. The holiness in nature is in the poet too. Nature is “mighty and beautiful in its divinity” and the poet declares: “my words bespeak holiness.” It is superior to anything constructed by ideologies of mankind.

Nature is older than the concept of time or calendar systems as created by civilizations. Poets have visions: “the aspect of poets is also mournful. / They seem to be alone, but their foreknowledge continues.” Like nature and its varied seasons, poets have quiet periods when their visionary qualities become prominent. They have to think deeper and go beyond any thinking processes. Poets have to rise above any type of ideologies tying them down to a particular culture, religion born out of a particular region and history. Hence, their words “bespeak holiness.”

We can hear Zarathustra saying something similar:

Language in India www.languageinindia.com ISSN 1930-2940 20:4 April 2020

Dr. S. Sridevi

Friedrich Hölderlin: Poets as Philosophers

Remain true to the earth, my brethren, with the power of your virtue! Let your bestowing love and your knowledge be devoted to be the meaning of the earth!... Not only the rationality of millennia – also their madness breaketh out in us. Dangerous is it to be an heir...A thousand paths are there which have never been trodden, a thousand salubrities and hidden islands of life. (Nietzsche 69)

Hölderlin, and later Nietzsche are suggesting that intellectuals have to invent new ways of thinking and not be caught in earlier traditions. When we inherit values and patterns of thought from earlier socio-religious institutions and ideologies, we also would be inheriting certain adverse elements. It is not idyllic to be a mere follower of the Establishment. Poets have to be loyal to nature or earth and approach life in a fresh manner with new insights. They have to understand the meaning of life without being influenced by preconceived ideologies. Nature is “standing above the gods of the Occident and Orient,” and still has lessons to teach young minds that are ready to learn from her. Earth creates gods of many types, and poets have to learn to disassociate from one particular religious, social and political dogma.

For example, we can take the description of Thucydides of the origin of Greece. His book became a classic, and the later historians just continued writing about Greece from where he left. Thucydides’ definitions are now frozen and are accepted as correct. Till the twentieth century, his historical descriptions were accepted as objective. From the perspective of Hölderlin, we can read the prejudices in the writings of Thucydides as he presents Asians as barbarians and rich. Thucydides says that Homer did not use the word “barbarian” (4); barbarians in Asia practiced wrestling not properly dressed (5); Pelops brought vast wealth from Asia (6); Persians, the barbarians, brought huge armament to subjugate Greece (10); a joint effort drove away the barbarians (11).

A poet cannot think like a historian projecting his country, Hölderlin might suggest. As a thinker, a poet has to rise above subjective thoughts that arise from geopolitical location of oneself. Thus, a poet belongs to the universe, and not to one country with its special customs, languages and religion. He has to be true to earth – the period before the birth of religions and even culture or nations.

Hölderlin’s poem “As On A Holiday” continues:

And as fire shines in a man's eye
When he plans something great,
So a fire is kindled again in the minds
Of poets, by the signs and deeds of the world.
What happened before, scarcely sensed,

Becomes apparent now for the first time.
And those who plowed our fields
In the form of smiling laborers
Are now recognized as the all-living
Forces of the gods. (Poemhunter.com)

Nature kindles fire in the minds of the intellectual poet – Hölderlin's poet has to be an intellectual or scholar, as a poet is given the responsibility to go beyond contemporary institutions and re-understand life. "Fire is kindled again in the minds / Of poets, by the signs and deeds of the world," and not by written books or codes. A poet has to study the deeds of the world, its activities and its other signs, instead of merely following written myths, and other scripts. He is a liberated being, a philosopher who has the power to see beyond things. Nietzsche captures this quest and says:

I became weary of the poets, of the old and of the new, superficial are they all unto me, and shallow seas. They did not think sufficiently into the depth, therefore their feeling did not reach to the bottom.... Ah, I cast indeed my net into their sea, and meant to catch good fish; but always did I draw up the head of some ancient God. (Nietzsche 122-123)

Nietzsche finds poets to be superficial as he continues the outlook of Hölderlin – expecting a poet to be an original thinker and philosopher. Poets are caught in institutionalized ideologies and are not free to express their original ideas. They sing songs of gods or some religion, and what they write is soaked in their religious beliefs. They become echoes of established concepts, not creating any fresh outlook.

Hölderlin analyses further: "What happened before, scarcely sensed, / Becomes apparent now for the first time" – when we get used to familiar things, we do not sense the way they would have happened in the beginning or the reasons for their existence. Hence, we have to re-understand things as if we have seen them happening for the first time. For a poet-philosopher, this understanding of the early period of life - before languages, culture and religions were created – is very important. He has to understand the period before the beginning of civilization when agriculture began and understand "those who plowed our fields / In the form of smiling labourers / Are now recognized as the all-living / Forces of the gods." This pre-civilization period must have been the time where the origin of art, culture, economy, and religion can be located. Once a poet-philosopher understands this period, he will be able to explain the reasons for the continuation of the present ideological systems – how and when they were formed and why they have been created.

Hölderlin says further:

Would you question them? Their spirit moves in song,
Grown from the sun of day and the warm earth,
And from storms, those of the air, and others
Originating farther within the depths of time,
More perceptible and meaningful to us,
Drifting between heaven and earth, and among nations.
They are thoughts of the common spirit,
Quietly ending in the mind of the poet,

Which, long familiar with the infinite,
Is struck quickly and shakes with the memory.
Set on fire by the holy radiance,
It creates a song — the fruit born of love,
The work of gods and man,
Bearing witness to both.
Thus lightning fell on Semele's house,
As poets relate, since she wanted to see
A god in person. Struck by the god,
She gave birth to holy Bacchus,
The fruit of the storm. (Poemhunter.com)

Religions are written down in poetry and songs reflecting the geographical conditions in various lands. They reflect the spirit of the common man which is recorded by the poets of that period in their works. These words of the poets become a permanent part of the people's memory. Legends and epics are thus constructed by the lives of gods and men. The poet with his holy radiance creates a song of these legends. Art originates in a location for a particular purpose. In Greek mythology, Semele is the mother of Dionysus or Bacchus. Poets relate this already existing, legendary story of Zeus and Semele. Hölderlin continues:

Thus the sons of earth now drink in
The fire of heaven without danger.
And it is our duty, poets, to stand
Bare-headed under the storms of God,
Grasping with our own hand
The Father's beam itself,
And to offer the gift of heaven,
Wrapped in song, to the people.

If our hearts are pure, like children,
And our hands are guiltless,
The Father's pure radiance won't sear;
And the deeply shaken heart, sharing
The suffering of the stronger god,
Will endure the raging storms when he approaches. (Poemhunter.com)

The poets have a duty now – they have to re-interpret this legend once again and not ignore its traditions without understanding it directly. The father, Zeus, has to be grasped by poets personally – poets have to steep themselves in Greek religions and become familiar with their gods. Poets have to keep pure hearts like children, and they will not be hurt by the radiance of Zeus. They have to dip themselves in Greek culture and traditions, apart from their practicing religion of Christianity. Hölderlin wonders if he will be accepted and ends the poem as a fragment:

But alas, if from - - - - -
Alas!
And if I now say - - - - -
I had come to see the gods,
They themselves cast me down to the living,
Me, the false priest, down to darkness,
That I sing a song of warning to those able to learn.
There - - (Poemhunter.com)

Doubt enters the heart of Hölderlin, as he wonders if people will call him a false priest. He calls this a warning song for people who are willing to learn – how to handle contemporary and earlier religions. Scholars try to interpret this zeal of Hölderlin to rise above the shackles of a contemporary culture and its accepted religion.

Friedrich Hölderlin was disillusioned with the French revolution and the poems he wrote in response to it seek to bring a sense of revolutionary élan and hope which it promised into his oeuvre. “He did this by returning to the classical tradition and a reworking of ancient Greece which, instead of the usual promotion of a static understanding of the way history works, he emphasized the old Heraclitean adage that everything is in flux” (Thompson).

We understand why Nietzsche and Heidegger kept going back to Hölderlin’s creative texts for inspiration – Hölderlin has defined the scope of philosopher-poet. He has sown the seeds for Nietzschean philosophy of life – that attempts to rise above contemporary religious institutions.

Interpreting the hymns of Hölderlin poses challenges to scholars, as they are rigorously philosophical in nature. Heinrich analyses Hölderlin's poem "Remembrance" and says that the challenge in interpreting comes from the mythical significations present in the poems. Another challenge is to find unity of poetic and philosophical ideas (Heinrich 145).

Hölderlin's conception of a poet as a philosopher who is not tied down to any geo-political systems of thought is indeed a Greek view, Socratic in nature. Though we expect such rigorous framework for philosophy, Hölderlin demands that poets too learn to keep away from the narrow walls of race and identity.

References

- "German Literature." *Encyclopedia Britannica*. <<https://www.britannica.com/art/German-literature/The-18th-century>>. Web. November 25, 2019.
- Choudary, Maitreyee. "From Oriental Studies to Asian Studies: the Metamorphosis of the Western Mind." *Framing Asian Studies*. Ed. Albert Tzeng. Flipside Digital Content Company, 2018. <https://books.google.co.in/books>. Web. April 5, 2020.
- Fernow, B.E. *A Brief History of Forestry: In Europe, the United States and other Countries*. Good Press, 2019. <https://books.google.co.in/books>. Web. April 5, 2020.
- Hammer, Joshua. *Smithsonian Magazine*. December 2017. Smithsonian.com. <<https://www.smithsonianmag.com/history/what-does-future-euphrates-spell-middle-east-180967224/>>. Web. November 25, 2019.
- Heidegger, Martin. *Basic Writings*. Edited by David Farrel Krell. Harper Perennial, 2008.
- Henrich, Dieter. *The Course of Remembrance and Other Essays on Hölderlin*. Edited by Echart Forster with a "Foreward." Stanford University Press, 1997.
- Hirsch F., A. Korotkov and M. Wilnhammer. "Private Forest Ownership in Europe." *Unasylva* 228, Vol. 58, 2007. <http://www.fao.org/tempref/docrep/fao/010/a1346e/a1346e06.pdf>. Web. April 21, 2020.
- Hölderlin, Friedrich. *Poem Hunter.Com*. <<https://www.poemhunter.com/friedrich-Hölderlin/>>. Web. August 15, 2019.
- Hölderlin, Friedrich. *Poems of Friedrich Hölderlin: The Fire of the Gods Drives Us to Set Forth by Day and by Night*. Ithuriel's Spear, 2004.
- Kampmann, Ursula. "German Oaks and National Sentiments." *Coins Weekly*. October 14, 2009. <https://coinsweekly.com/german-oaks-and-national-sentiments/>. Web. April 5, 2020.
- Lowood, Henry E. "The Calculating Forester: Quantification, Cameral Science, and the Emergence of Scientific Forestry Management in Germany." Frangsmyr, Tore, J. L. Heilbron, and Robin E. Rider, editors. *The Quantifying Spirit in the Eighteenth Century*. Berkeley: University of California Press, 1990. <http://ark.cdlib.org/ark:/13030/ft6d5nb455/>. Web. April 5, 2020.

- Mark, Joshua J. "Mesopotamia." *Ancient History Encyclopedia*. March 14, 2018.
 <<https://www.ancient.eu/Mesopotamia/>>. Web. December 2, 2019.
- Nietzsche, Friedrich. *Thus Spake Zarathustra*. New Delhi: Robin Books, 2007
- Ooghe, Bart. "Mesopotamian Archaeology and Travel Literature: Shifting Relationships." Ghent University. *Isimu* 10 (2007): 49-63.
 <https://repositorio.uam.es/bitstream/handle/10486/12876/61875_4.pdf?sequence=1&isAllowed=y>. Web. December 15, 2019.
- Owen, Lewis. McGuire Gibson, Seton H.F. Lloyd. "Tigris-Euphrates River System."
<https://www.britannica.com/place/Tigris-Euphrates-river-system>. Web. April 5, 2020.
- Seymour, Michael. "Babylon." *Cities of God*. Ed. David Gange, Michael Ledger-Lomas. Cambridge University Press, 2013.
- Thompson, Peter. "Friedrich Hölderlin." *The Guardian*. May, 2010.
<https://www.theguardian.com/commentisfree/belief/2010/may/01/friedrich-holderlin-religion-christianity>. Web. April 5, 2020.
- Thucydides. *The Peloponnesian War*. A New Translation by Martin Hammond. Oxford World Classics. OUP, 2009.
- Twist, Joseph. *Mystical Islam and Cosmopolitanism in Contemporary German Literature: Openness to Alterity*. Camden House. Boydell & Brewer, 2018.
- Walker, Campbell. *Reports on Forest Management in Germany, Austria and Great Britain*. Printed by George E. Eyre and William Spottiswoode. London, 1873.
- Witte, William. "Friedrich Hölderlin." November 2019. *Encyclopedia Britannica*.
 <<https://www.britannica.com/biography/Friedrich-Holderlin>>. Web. September 17, 2019.
- =====

Origin and Progression of Social Movements and Their Manifestation in the History of Tamil Periodicals

R. Subramani, Ph.D.

Assistant Professor, Department of Journalism and Mass Communication
Periyar University, Salem-636011, Tamil Nadu, India
erasubramani@gmail.com

=====

Abstract

Around the world, scholarly study of the history of Journalism has gained momentum. Many research institutions promote their scholars to carry out studies on the effect of institutional, social, political, economic and cultural lineage of Journalism from its genesis. Amidst many narrative structures, Textual narrations that appeared in the periodicals have redefined the history of several countries. The pre-independence epoch social history of Tamil periodicals has an enormous impetus to excavate the socio-political history of Tamil Nadu and India as well. The existing chronological history of Tamil Journalism offers basic information on the timeliness of this regional distribution of news and information. Especially, pre-independence periodicals have played a crucial role in reconstructing social organization and the way Indian independence was achieved. To materialize the objective of the study the researcher envisioned to trace the social history of pre-independence Tamil periodicals by employing a Historical Research Approach as a research method. The study ascertains the affiliation between the origin and sustenance of social movements and the social history of Tamil periodicals.

Keywords: Tamil, Journalism, Social History, Social Movements, Periodicals.

Introduction

History is not the anthology of the order of events; rather it is the manifestation of the day-to-day activities of human life. Mass Media is a powerful tool to unearth the socio, cultural, political and biological rudiments of people of ancient times. Mass media has been a reliable and trustworthy treasure of archives in preserving the events of the past. Media contents have been the primary and important resource of information for studying and investigating history. The social history of any country is known only through the media that existed from its primitive stages of a country's growth. The history of Indian mass media is less than three hundred years old. This history is found only in chronological order and it did not accumulate the social background, cultural, political development of India. Thus, there is a need to investigate the historical background of periodicals in the light of Journalism in India.

Books and journals are the yardsticks of measuring human growth and social development in a society. Media is the horologe to apprehend the overall dimension of the

people of a particular epoch. Media is the vital source of information for the researchers to comprehend the periodical changes that took place in the due course of time. Media reflects the socio-economic and cultural changes that shape the society from time to time. Thus, if one attempts to study the media of a particular time, one can entirely understand the people of that time, their characteristics and their living conditions.

The Famous Historians Joseph, Brian and Janda Richard (2003) elucidate the term *history* as an 'inquiry, knowledge acquired by investigation'. History is the analysis and interpretation of the human past that enables us to study the continuity and change over time. It is an act of both investigation and imagination that seeks to explain how people have changed over time. The historian Peter N. Stearns (1998) codified the benefit of studying history and ascertains that 'History helps us to understand people and societies; History helps us to understand change and how the society we live in came to be'.

The history of media ought to be viewed based on the aforesaid descriptions. The study of media history is a very fundamental part of the history. Without an understanding of the past, the present era doesn't make much sense. The study of media history also gives us an understanding of our identity. As mentioned earlier media history is also crucial in examining identity. The research paper on *Why study media history* (1998) enlightens us: 'Journalism is important to historians because it can give us a window on to the past. It can tell us what people were thinking and saying at various important times in the past. It is for this reason that Journalism is sometimes called the 'first draft of history'.

Review of Research and Development in the Subject

The historical research in Journalism is not so visible in the academic arena. The researcher Karmen Erjavec (2008) has reiterated the status of historical research in the media realm.

How to study the history of Journalism research paper states that 'In Slovenia, as in other Eastern and Western European countries and the USA, the study of the history of Journalism remains more or less insignificant. For example, a course called 'History of Journalism' is one of the least popular topics in the curriculum offered by the only Department for Journalism in Slovenia University. Furthermore, only a small number of research projects were carried out (the last one was finished in the 1980s), and only a few books were written on this theme'. Further, he explains the reason for the lack of research in the field of history of Journalism. He argues that 'the reasons are very diverse and various. One of them is that citizens' interests and responses to all history, not just the history of Journalism, have been in decline. In particular, because of our post-socialist condition, there is a common belief that history, in general, is socially unproductive and that we all must look toward the future only. On the other side, there is a huge interest in interpreting the history of Journalism and history in general by right-wing politicians, media and journalists. Almost every day we see how these politicians try to re-interpret history (especially, Second World War and socialism history) and use it for their own current political goals'.

Another scholar added new dimensions to the subject. According to Researcher Carey (2007), “Journalists generally do not know much about the history of their craft. Thus, we have a particular type of a paradox here: on one side, there is little interest in the history of Journalism (education and research) by students and scholars. On the other hand, there is a huge interest in the use of the history of Journalism (political practice) by some politicians and journalists.”

But the researcher Alt wood’s (1978) views are different from other scholars. In his research he articulates that “The reasons for this contradictory interest in the history of Journalism are various. One of them is a lack of critical reflection on the dimension and direction of Journalism historiography and a historical and uncritical practice by Journalism historians themselves.”

There are many ways to go about writing media history. The most common approach in the Nordic countries as elsewhere is to trace the histories of media organizations, whether individual Newspapers or radio and television companies. This approach is often referred to as 'institutional histories' (Bondebjerg, 2002). Media historians often shift their focus on the social history of the Journalism. Michael Schudson’s (1978) *Discovering the News: A Social History of American Newspapers* (1978) and Scannell and Cardiff (1991) *Social history of British broadcasting* are important in the arena of Journalism history. More interestingly, researchers advocate the cultural approach of Journalism history, as it was one method to study the communication of a society. Instead of studying one particular form of mass communications, Journalism historians should examine the passageway of the media through society.

Although Carey's challenge began the movement towards a cultural approach in Journalism history, he was not the first to advocate it. Sidney Kobre (1945) first advanced the notion of studying the *relationships between the Newspaper and society* in 1945 and expanded on that idea in 1969. The problem with the study of media history is that “media history tends not to illuminate the links between media development and wider trends in society because it is often narrowly focused on the content or organization of the media' and the reason for this is that it is preoccupied with 'institutional development” (Curran, 2002).

Method of Study

The study on the social history of pre-independence periodicals has been carried out in an in-depth way to understand the relationship between the genesis of social movements and the origin of the periodicals. In this study, the researcher employs a Historical Research Approach to study the correlation between the genesis of Social Movements and the origin of Tamil periodicals in Tamil Nadu.

Genesis and Progress of Social Movements in Tamil Nadu

Indian society has been identified as a caste-based society for centuries. Though there were changes in social structure during the reigns of various rulers, there was some transformation in the practice of caste system in India. It can be traced in the olden period of

Tamil Nadu that the people structured their lifestyle based on their profession. Many researchers have time and again pointed out the fact that no single profession has been carried out by the same generation in society. Many traditions coexisted in India such as the Sangam stage, Vedic period, Shaivism era, Vaishnavism era, and then the Buddhism and Jainism. In the 14th century when Jainism and Buddhism were suppressed by Shaivism and Vaishnavism, Siddhars emerged and they sermonized and fought against those practices. Even though religious movements were dominant during these times, the doctrine and ideologies of Siddhars were found in them.

Though the *Advaita Vedanta* of AdiShankara, *VishishtAdvaita* of Ramanuja, *Advaita Vedanta* of Madhavacharya were identified as notable philosophies of Hinduism, they were also growing as individual movements. Among them, Ramanujar (1017-1137) focused on social reformation and with the contribution of spreading Vaishnavism. He called the people belonging to the low caste as *Thirukullathar*. Following this initiative, to bring reform in *Vaishnavism*, and make it into a people's movement an attempt was by Mahatma Gandhi who called the subaltern people as *Harijans*.

Arunan (2004) in his research pointed out the fact that caste practice was followed even by the Christian missionaries who came to Madras in the 18th century. The Protestant priests have accepted the caste system and they also agreed to the system of having separate seating for the low and high caste people. But there was no distinction shown while giving Holy Communion to the people belonging to both castes.

But the Christian religious movements after the 1850s started to change their standpoint on the caste system. The South India Missionary Conference held in 1858 raised the need for fighting against the caste system and they determined to voice against the caste system. Further Arunan also points out that the social renaissance movements during the 19th century were religion centric. Vaikundha Samy and Ramalinga Adigal were known for their religious reforms in Hinduism.

Brahma Samaj and Theosophical Society were examples of bringing about a reformation in Hinduism and they fought for the rights of the people belonging to the subaltern sphere. Temple entry movements are examples of such initiatives. In the same manner, social activists like Ayothidasa Pandithar and Rettaimalai Srinivasan wanted to make use of British government for social reformation. One part of the Indian freedom movement was the social reform movements initiated by various leaders.

Ayothidasa Pandithar occupies a significant position in the field of social reformation. He fought against the caste system widely prevalent in Indian society and voiced for the basic education of the downtrodden people. Some of the fundamental requirements for the eradication of caste systems such as inter-caste marriage, education, reservation in government sectors and land reforms were not the agendas of the leaders fought for the social reforms in the 19th century.

The 19th century was only the initial period for propagating social issues. The study of Tamil history of the 19th century throws light on the untouchability and Varna system which were deep-rooted in the history of Tamils. Social issues such as child marriage, widow remarriage, education to women and freedom to women were still not reached by the people of the 19th century. Discrimination was deep-rooted among all the segments of the society in the name of untouchability and caste system.

The Indian Slavery Act, 1843, was an act passed in British India under East India Company rule, which outlawed many economical transactions associated with slavery and the enactment of Indian Penal Code, 1860 became the protectors of people's rights. These laws paved the way for the way of freedom, but still, they failed to bring about drastic social change in society. The beginning of the 19th century witnessed various segments of issues. The growth of the caste system into various forms, and sub-castes, male chauvinism, British imperialism, capitalism, conversion by Christian missionaries, etc.

The common schooling system didn't find its place at the beginning of the 19th century. Education was confined to only Brahmins, Vaishyas, and Kshatriyas and the teachers were also from the same community. It is the Christian missionaries who brought about the changes in the education system. Even though the motto of the Christian missionaries was conversion, one can notice that they provided modern European education to all segments of society in India.

It is observed that after 1830, social transformation movements started to be established everywhere. Studies have shown that the *Hindu Literacy Society* was started in 1830 keeping in mind to bring social reformation by taking over the advantage of British education expertise and its ruling in India. After this, *Chaturvedi Sidhananada Sabha* was started to protest against the spread of Christianity. The first organization in the Madras Presidency to vent for the rights of Indians was the *Madras Native Association* which was established by Gazulu. In 1852 the *Hindu Progressing Improvement Association* and *Hindu Debating Society* were started. In 1873, the *Hindu Widow Remarriage Association* was established in Nagercoil. To engage political and societal problems *Sudandara Indian Association* was started.

In 1864 *Triplicane Native Library Society* was started, and then in 1874 it was renamed as *Triplicane Victory Society*. In 1857 *Adi Dravida Mahajan Sabha* was established to voice the issues of Adi Dravidar and in the same manner, *Panchamar Maha Sabha* was also created. Though many social reforms movements emerged from 1830 to 1874, they failed to take their principles to the people, says Mani (2009), Tamil periodical researcher. Therefore, until 1874, no periodicals were propagating the ideologies of social movements.

It was only during the second phase of Tamil periodicals from 1882 to 1941 that several periodicals from different ideological movements came into existence. *Hindu Free Thought Union Movement* (1882), *Knowledge Propagation Sabha* (1883), *The Hindu Religion Hindu Track Society* (1887), *South India Tamil Association* (1890), *Hindu Social Reform*

=====

Language in India www.languageinindia.com ISSN 1930-2940 20:4 April 2020

R. Subramani, Ph.D.

Origin and Progression of Social Movements and Their Manifestation in the History of Tamil Periodicals

Association (1892), *Dravida Bhasha Association* (1909), *Chennai Dravida Pathrika Sabha* (1885), *The Madras Non-Brahmin Association* (1909), *Madras Dravidian Association* (1912), and *South Indian Liberal Federation* (1916) were some of the social movements which predominantly engaged the socio political activities in Tamil Nadu. Following this trend, *South Indian Welfare Association*, *Justice Party*, *Dravidian parties* were established. These political and social movements brought out many Newspapers and periodicals to disseminate their ideologies to the mass.

Reflection of the Ideology of the Social Movement in the History of Tamil Journalism

Tamil Nadu is the only place in India where many movements were started based on social reformative philosophies. These movements envisioned to propagate their ideologies to the people by utilizing the artistic approach of drama, music and print publications. Particularly periodicals were fairly used for their propagation. In India, public schools were started during the British era only after 1835. During this period, across Tamil Nadu, there were *Christian organizations*, *Vaikuntasaami Association* in the South, *Brahma Samaj* in the North, *ArutPrakasaVallalar Ramalinga Adigalar Samarasa Vedantha Sanmarga Sangam* (1865), among others, were actively engaged in reformist activities in Tamil Nadu. During these times, only the upper-class people received education in religions such as Hinduism, Islam, and Christianity. During this period *Thathuva Visarini* (1878), *Sathiyabhimani* (1880), *Thathuva Vivesini* (1882), *Sathiyabhimaani* (1882), *Sathiyavedakodi* (1882), *Muslim Nation* (1882), *Arya Janapriyan* (1882), *Brahmo Public Opinion* (1882), *Naalayira Dhivya Prabhandham* (1882), *Dinodhaya Varthamani* (1882), *Bhagawat Vishayam* (1883), *Kadavul* (1883), *Hindu Matha Seerthiruthi* (1883), *Arya Prakashini* (1884), *Hindu Saasanam* (1884), *Shaivabhimani* (1884), *Dravida Varthamani* (1884), *Hindu Janapoosini* (1884), *Dravida Mithran* (1885), *Siddhantha Rathnaakara Archadheepam* (1885), *Vinodha Manohari* (1885), *Swadeshabhimani* (1885), *VidyaVinodhini* (1885), *Brahma Vidya* (1886) were some of the notable periodicals which received the attention of the people. These periodicals wanted to take their Shaiva, Vaishnava, Brahma Gnana, Islamic, Christian ideologies to people, specifically to counter the claims made against their religions. We see that though Christian periodicals were the first to emerge, others too were quick enough to plunge into the field to propagate or put forth their ideas.

After the conceptualization of religions in Tamil society, the ideologies that emerged transformed into one that talked about development for oppressed people. *Advaita Sabhai* (1870), *Parayar Mahajana Sabha* (1892), *Dravida Pandiyan Sangam* (1885), *Parayar Mahajana Sangam* (1892), *Poorva Tamil Abhimana Sangam*, *Madras SamugaSevai League* were some of the organizations that worked for the liberation of oppressed people. In this backdrop, around 42 periodicals including *Suryodhayam*, *Panchaman*, *Maha Vikata Thoodhan*, *Oru Paisa Tamilan*, *Parayan* were vociferously circulated and these registered the voices of the oppressed and fought for their rights.

The presence of people predominantly from Brahmin caste was high in British government jobs and Congress party. Taking note of the meagre number of non-brahmins in the government jobs, those from the communities strove to claim their rights. To add to this,

=====

Language in India www.languageinindia.com ISSN 1930-2940 20:4 April 2020

R. Subramani, Ph.D.

Origin and Progression of Social Movements and Their Manifestation in the History of Tamil Periodicals

Chennai Dravida Pathrika Sabai (1885), *Hindu Darala Sindhanaiaalar Sangam* (1875), *Non-Brahmin Sangam* (1909), *Madras United League* came into existence. Later this organization in 1913 was renamed *Dravidar Sangam* to denote non-brahmins. *South Indian Welfare Association* that was started in the year 1916 by T. M. Nayar and Thiyagarayar was called *Neethi Katchi* (Justice Party) and later *Neethikatchi* became *Dravidar Kazhagam*. Contents of these periodicals were based on a common thread called *Dravidian* and strived to take the idea to people. Compared to other states, Tamil Nadu witnessed the emergence of several associations that wanted to bring in social reforms. It is found that these Dravidian periodicals functioned as a tool to propagate the ideas of these associations.

All these periodicals in the name of propagating the ideologies and principles were following the tactics of Journalism in taking the message to the people. Periodicals that were propagating their movement's ideologies have started to speak for social reformative issues to the people. It can be observed from the history of Tamil periodicals that Dravidian movement periodicals which were completely based on their principles have started attracting more attention to the people in Tamil Nadu. The history of Tamil periodicals observes that since 1916 when Dravidian movements started to until now, there are about 300 periodicals published. Dravidian periodicals stressed the principles such as Dravidian country is only for Dravidian, that is, they should be either anti-Brahmanism or anti-God. In addition to that, there was also promulgation about rationality, self-respect, equality in these periodicals. Thanthai Periyar started a periodical named *Kudiyarasu* on 2nd May 1925 keeping the basic principles such as eradication of superstitious belief, promotion of atheism, annihilation of caste, women liberation, social justice and equality. Despite various laws, repressions, confiscation, imprisonment, penalties, and lawsuits that have followed in publishing his periodicals, Periyar never lost hope and he continued to run the periodicals. *Kudi Arasu*, *Revolt*, *Pagutharivu*, *Viduthalai*, *Justice*, *Unmai*, *Thinker* and *the Modern Rationalist* were few other publications that was flag shipped by Periyar.

After Periyar began to attract a large number of readers to his principles and ideologies, his descendants were running many periodicals. *Kuthoosi*, *Arivu Paathai*, *Arivu Kodi*, *Kilarchi*, *Ina Muzhakkum*, *Murasoli*, *Ina Murasu*, *Erottu Padhai*, *Mandram*, *Tamil Mandram*, *Thambi*, *Thozhan*, *Thennadu*, *Kaanji*, *Thaniyarasu*, *Pudhuvai Murasu*, *Puthu Ulagam*, *Naraga Thoothan*, *Ponni*, *Marumannam*, *Maravan Madal*, *Velli Veethi*, *Maalai Mani*, *Vetri Murasu*, *Kuralneri*, *Munnetram*, *Munnani*, *Mullaisaram*, *Poorvaal*. *Muppaal*, *Oli*, *ThaniNaadu*, *Thaaiman*, *Sandamaarutham*, *Samadharmam*, *Kolgai Murasu*, and *Suya Mariyadhai* were some of the titles of periodicals which widely received the attention of the readers.

The impact of social movements found in the history of Tamils periodicals particularly by Dravidian parties in Tamil Nadu is very significant. If one has to analyse the movements and the contents of Tamil periodicals originated in Tamil Nadu, it can be found that they didn't have any commercial motive behind it and they concentrated only on the contents of the periodicals. The richness of the content, relevant information, social awareness, and propaganda were the crux of all the periodicals that were started by the early

social movements in Tamil Nadu. The content of the Dravidian movement periodicals and its journalistic strategies followed by it always throws surprises. The way the contents were organized such as the writing style, form of satire, literary form and the dialogue form receives appreciation. The principles and ideologies of the movements were discussed through the periodicals. The origins of all the periodicals were only centred on the motivation for which they stood for. Periodicals were published in support of freedom movements, eradication of caste system, anti-conversion, widows' remarriage, atheism and the growth of education, etc.

The periodical *Kudi Arasu* published in 1925 throws light that periodicals were started to take the principles and ideologies to the common man. This periodical proclaims that our country should excel in all fields like politics, economy, sociology, and ethics. 'We will strive hard for the physical, intellectual, art and language excellence of the people of our country. This periodical does not promote the development of a particular segment of people in the country, instead, all the people should be filled with steadfast love and self-respect and equality should always be high in the society' (*Kudi Arasu*, 1925).

The periodical *Pagutharrivu* follows suit. It records the following statement as the motto for publishing the periodical. "The periodical *Pagutharrivu* will try to propagate the scientific principles among the people. It will explain in detail about the science and technological developments. Furthermore, it will also explain the rare invention of scientists from other western countries. This periodical is out and out against the superstitious beliefs and will bring into light the fraudulent acts of priests. Practice and promotion of the caste system should be eliminated, and our periodical will fight for it". In brief, *Pagutharivu* periodical was against anything that is beyond comprehension and it finds pleasure in serving the Tamil people by imparting knowledge and information. Thus, most of the periodicals published in the earlier period aimed at bestowing political and social reformative ideologies to the people.

Conclusion

History of Journalism has always reflected the art, culture, social belief, ideology, beliefs among various other aspects of contemporary human society. But, outlook of periodicals is judged only based on the contents and functions of the periodical. The research has approached development in historic point of view and studied the social reasons for outlook of periodicals that has always reacted in favour or against the changes happening in the society. We can understand that Tamil society has seen various ideological battles in favour of and against religion, Vedas, British rule, northern language/s among other issues as nowhere in other parts of the country. This social movement has created impact on social, cultural, political and economic fields including arts (movies, dramas, etc.) and fine arts. *Social History of Pre-Independence Tamil Periodicals* study says that this battle has also been reflected on the history of Tamil Journalism. A periodical brought out those days has expressed development, outlook, and upheaval among others of social movements. We can notice that because of these periodicals, these movements and its ideas were taken to a wider audience.

History of Tamil Journalism cannot just be seen in isolation, but the Tamil periodicals of those early days can be seen as evidence of social movements that were created due to developmental hierarchies that existed. Periodicals existed for various reasons such as for propagating ideologies, spreading knowledge among people, creating awareness on social issues, fighting for the rights of people among others. We can see that the art of Journalism was used only for the welfare of the nation, society, restoration of rights among others.

References

- Alt Wood, R. (1978). New Directions for Journalism Historiography, *Journal of Communication Inquiry*, 4(1).
- Arunan (2004). *Thamilagaithil Samuga Seertirutham IrunoortanduVaralaru*, Vaigai Publications, Madurai.
- Carey, J. (1974/1997). The Problem of The history of Journalism, pp. 86-94. As in E. S. Munson and C. A. Warren (eds.) *James Carey: A Critical Reader*. Minneapolis: University of Minnesota Press.
- Curran, J. (2002). *Media and Power*, London: Routledge. As in Marcel Broersma, *From Press History to the History of Journalism*, m&z3/2011.
- Irayanar, A. (2005). *Ithalalar Periyar*, International Institute of Tamil Studies, Chennai
- Joseph, Brian & Richard Janda (Ed.) (2003). *The Handbook of Historical Linguistics*. Blackwell Publishing. USA
- Karmen Erjavec. (2008). *How to Study the History of Journalism? Critical Reflection on the Directions of the History of Journalism*, Medij. Istraz.
- Kobre, S. (1945). The Sociological Approach in Research in Newspaper History, *Journalism Quarterly*, 22(1), 12–22.
- Mani, P.S. (2009). *Pesu.Mani Aayvu Katturaigal*, Poongodi Publication, Chennai
- Michael Schudson (1978). Discovering the news: a social history of American Newspapers, *Journal of American History*, Volume 66, Issue 2, USA.
- Paddy Scannell and David Cardiff (1991) *A Social History of British Broadcasting*, Cambridge, Massachusetts: Basil Blackwell Ltd.
- Peter N. Stearns, (1998). *Why Study History*, As in Karmen Erjavec(2008) *How to Study the History of Journalism? Critical Reflection on the Directions of the History of Journalism*, Medij. Istraz.
- Sundaramurthi, E., Arasu, Ma.Ra. Arasu (2011). *Tamilil Ithaliyal*, International Institute of Tamil Studies, Chennai.

Pages Deleted

65-77

=====

Error Analysis: A Study of Prepositional Errors among Kashmiri ESL Students

Hafsa Riyaz

M.Phil., M.A. Linguistics, B.Ed.

Net and Set Qualified

Shamim House, Bhagat Barzulla, Srinagar, Kashmir, 190005

Department of Linguistics

University of Kashmir, Srinagar, India

190006

hafsakachkar@gmail.com

9797864933

=====

Abstract

The present study will be an attempt to investigate the errors committed in the written English by secondary school students of Kashmir valley. For this purpose questionnaires were prepared for the students to test their writing ability. The test included writing summary of a given passage and a picture based story questions. The sample of the study consisted of 300 students selected randomly from various schools of Kashmir valley. The present study will be discussing errors in prepositions. The findings revealed that these errors are mainly due to first language (Kashmiri/Urdu) negative transfer. This study is important for teachers and educators who should become aware of the types of linguistic errors that their target language learners make.

Keywords: Kashmiri ESL Students, English writing, error analysis, prepositions

1.Introduction

It is a widely accepted fact that English has acquired the status of a world language and it holds its sway in different domains of life. English, though a foreign language, occupies a unique position in the educational system of India. The situation in Jammu and Kashmir is not much different from rest of the Indian union. English has been a dominant language of Jammu and Kashmir and serves as the medium of education in government and private schools.

Learning English requires mastering the four language skills: listening, speaking, reading and writing. However writing is considered the most complex skill because it requires thinking and cognitive processes to reach its final product. Despite its complexity, writing is very important for communication. It is the fact that people communicate either orally or in writing.

“In spoken conversations with others, they make sense of the dialogue in a complex back-and-forth process of negotiation of meaning between speakers. In written texts, this back-and-forth negotiation is not possible. There is no possibility of negotiating meaning of written documents, the problems of misunderstandings are severely increased” (Penman, 1998). Hence, it is evident that writing is an intricate and complex task. In Kashmir, students barely get acquainted with the nature of writing process and teachers also hardly make any conscious effort in this regard. Consequently, students start committing errors and mistakes in writing and these errors/mistakes are not rectified by the teachers. Finally, these errors and mistakes become permanent feature of their writing.

2. Error Analysis

Errors are natural and basic to human beings. Richards (1974:100) claims, “It is matter of common observation that even the most intelligent, motivated learners do make errors even when learning under the best possible conditions. Researchers are interested in errors because it is believed that it contains valuable information on the strategies that learners use to acquire a language (Richards, 1974; Taylor, 1975; Dulay and Burt, 1974). Hence, an error analysis is the best tool for describing and explaining errors made by speakers of other languages in order to know the sources of these errors and the reasons behind their occurrence.

Corder (1967) in his article entitled ‘The Significance of Learner Errors’ contended that errors are ‘important in and of themselves. According to Corder (1974), error analysis has two objectives: one theoretical and another applied. The theoretical objective serves to “elucidate what and how a learner learns when he studies a second language.” And the applied object serves to enable the learner “to learn more efficiently by exploiting our knowledge of his dialect for pedagogical purposes”. The investigation of errors can be at the same time diagnostic and prognostic. It is diagnostic because it can present us the learner’s state of the language (Corder, 1967) at a given point during the learning process and prognostic because it can inform course organizers to reorient language learning materials on the basis of the learners’ current problems. Error analysis (EA) thus became a preferred tool of studying second language learning. It is seen as one of the best types of linguistic studies that focuses on the learners' errors.

Error analysis (EA) thus became a preferred tool of studying second language learning. It is seen as one of the best types of linguistic studies that focuses on the learners' errors. Perhaps, one of the first and most important studies conducted in the field of Error Analysis was the one done by Richards (1971). His study involved learners from different language background (Japanese, Chinese, Burmese, French, Czech, Polish, Tagalog, Maori, Maltese, and Indian and West African Languages) and showed the different types of errors relating to production and distribution of verb groups, prepositions, articles, and the use of questions. Based on this, he distinguished three sources of errors:

1. Interference errors: errors resulting from the use of elements from one language while speaking/writing another,
2. Intralingual errors: errors reflecting general characteristics of the rule learning such as faulty generalization, incomplete application of rules and failure to learn conditions under which rules apply, and
3. Developmental errors: errors occurring when learners attempt to build up hypothesis about the target language on the basis of limited experiences.

3. Methodology

The sample for this study covered students of Kashmir valley who were selected randomly from government, private and missionary secondary schools. The sample included five districts of Kashmir valley: Srinagar, Anantnag, Baramulla, Pulwama and Ganderbal. It comprised of a total number of 300 students of 9th & 10th classes respectively. For the present study equal number of male and female respondents were taken. In order to achieve the set goal of this study, questionnaires were given to students which tested their writing ability in English language. The test included writing summary of a given passage and a picture based story questions.

4. Data Elicitation

The respondents were contacted in their respective classrooms and information about the purpose of study was provided to them. After obtaining their consent, the research questionnaire was administered to them. They were asked to write a paragraph on given topic and to attempt a picture based story. The time allocated for writing was 90 minutes. The participants were further asked to write on their own without discussing with friends.

The present study is both qualitative and quantitative in nature. The student's written essays are qualitative instrument from which we read, analyze and describe the nature and the source of prepositional errors. And at the same time, it is quantitative because the number of prepositions which were erroneous are presented through statistical procedures such as tables, figures, pie charts and percentages. Then, each graphic and statistical presentation of data are explained in a qualitative way with detailed interpretations.

All the writing samples were coded with numbers instead of student names to maintain the confidentiality of the learners. After collecting the data from a survey instrument, it was transferred to an Excel spreadsheet for quantification. The quantified data was used for findings and results.

5. Results and Findings

The findings and the results of the research work is presented within the framework of the research questions, supported by tables and figures to illustrate the results clearly. Since the main objective of the present study was an attempt to investigate the prepositional errors committed in the written English by secondary school students in Kashmir valley. The study also attempted to give plausible explanations to the causes of these errors. The present work also talked about the student's frequency of errors in terms of schooling and the districts they belonged to.

5.(a) Discussion

The detailed interpretation and discussion of the errors are given below. The results are explained and presented in tables and figures.

5(b) Preposition Errors

Prepositions are words that are placed before a noun or pronoun to effectively show relationships between them and actions in sentences. It links nouns, pronouns and phrases to other words in a sentence.

However Prepositions contribute great difficulty for 2nd language learner. Amar Kant Jha (1991) in his paper stated 'The prepositions in English are very limited but they have to serve a variety of relational meanings'. As a result, when students are not sure which preposition to use in a certain sentence, they often compare that sentence with its Urdu/ Kashmiri equivalence,(as Kashmiri being mother tongue and Urdu being first/official language of Kashmir valley) giving a literal translation of that preposition in English. Kashmiri students have access to both Kashmiri and Urdu languages. Another problem of incorrect use of prepositions is that second language learners confuse their meaning by using one preposition instead of another (Fitikides,2002). A good no. researchers in the field of English language teaching generally agree that second language learners are confused about when and how to use prepositions (Zughoul, 1979).

	Anantnag	Baramulla	Srinagar	Pulwama	Ganderbal	Total
Government	33	29	30	43	44	179
Private	10	12	9	13	27	71
Missionary	12	10	6	12	21	61
Total	55	51	45	68	92	311

Table 1: No. of preposition Errors with reference to Schools and Districts

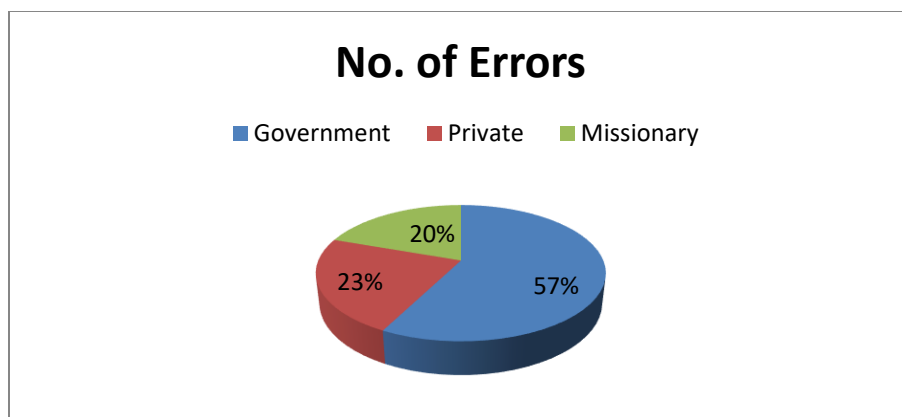


Figure 1

The total no. of prepositional errors was found to be 311(see table 1). The above figure shows that majority of errors are committed by government school students (see table 1). And there is not much considerable difference between Private and Missionary schools.

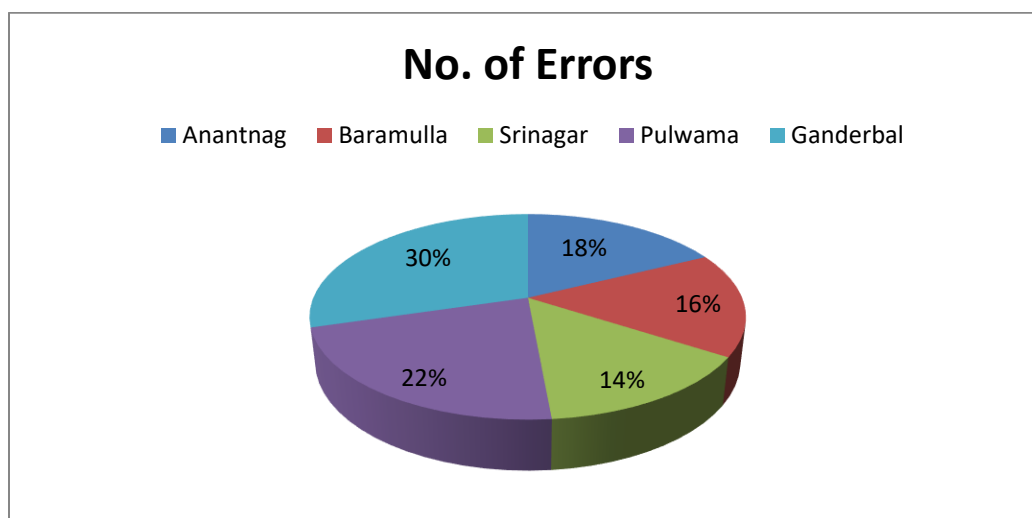


Figure 2

Figure 2 shows district-wise breakage of prepositional errors with Ganderbal district on top (30%) (in terms of errors) and then followed by Pulwama(22%).Districts Anantnag, Baramulla and Srinagar show errors in preposition with percentage 18%, 16% and 14% respectively. There was no significant difference in the number of errors in districts Anantnag, Baramulla and Srinagar.

5.(b. 0) Error Classification

Prepositional errors have been classified into 3 categories: substitution, addition and omission (Dulay, Burt and Krashen 1982 p.150-163). Substitution error means using wrong preposition instead of what is required. Error of addition refers to unnecessary insertion of an

item which is not required. Error of omission are described as absence of preposition in a sentence.

Type of errors	Number of errors	Examples
Substitution	146	I am thankful of God. He sat in the side of the river.
Addition	96	He helped to Sham. There was a pond which was nearby of their house.
Omission	69	She listens ? our problems. She is ? 9 th class.

Table 3

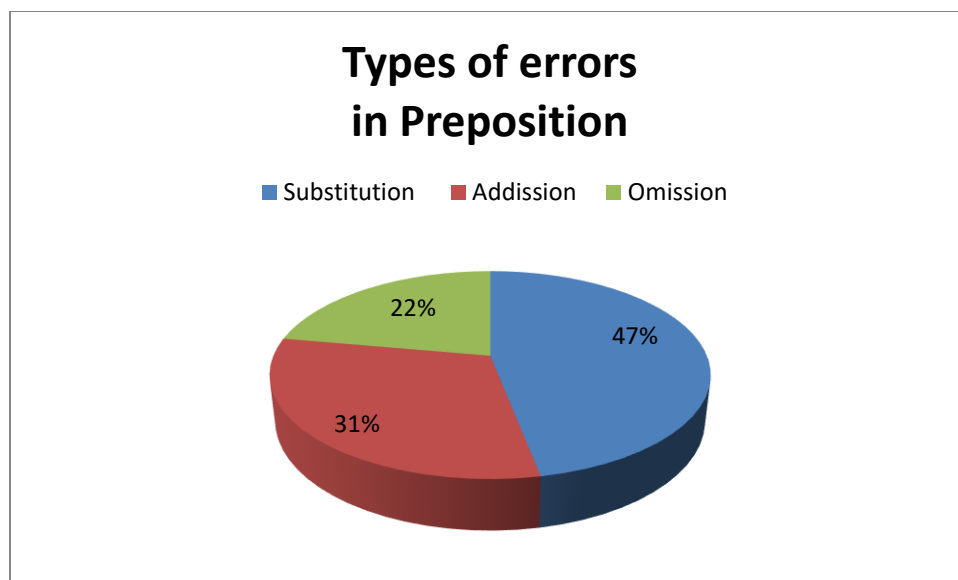


Figure 3

The above figure shows the percentage in terms of frequency of errors with regard to type of error. The figure clearly revealed that the substitution errors(47%) are the most predominant among the three followed by addition(31%) and then finally omission(22%).

5.(b.1) Explanation of Errors

=====

Language in India www.languageinindia.com ISSN 1930-2940 20:4 April 2020

Hafsa Riyaz, M.Phil., M.A. Linguistics, B.Ed.

Error Analysis: A Study of Prepositional Errors among Kashmiri ESL Students

It is not easy to specify the sources of errors. Sometimes errors are so complex and ambiguous that it becomes difficult to explain the source or origin of error. It is equally strenuous to regard one particular source as responsible for that error. However it is essential to explore the source of learner's errors for arriving at some conclusion in order to eradicate them.

5.(b.2) Substitution Errors

The above sentence 'I am thankful of* God' is due to lack of knowledge of grammar and confusion regarding the use of prepositions. The learner in this case also seems to have limited exposure and limited experience of using prepositions in target language. In this particular sentence instead of 'to' preposition 'of' is used. This type of error is attributed to the respondent's lack of knowledge in the use of preposition. In process of learning a target language, the learner adopts a strategy to simplify the system of target language by mingling two or three rules into one and forming an overgeneralization.

In another example 'He sat in* the side of the river' when the learner uses wrong preposition after verb. The source of error seems to be mainly of L1 as the learner translates the whole sentence into his/her first language (Kashmiri). The above construction after literal translation should be 'He sat on* the side of the river'. But again learner has limited prepositional knowledge in the target language and Instead of using 'by' the learner gets confused between 'in' and 'on'.

Another possible explanation for the occurrence of this error can be literal translation from L1(i.e. Urdu which holds a position of first language in Kashmiri society) to L2. This transfer of Urdu postpositional knowledge to English also failed to use the correct preposition.

5.(b.3) Addition Errors

In the sentence 'He helped to* Sham' revealed that addition of a preposition is due to the Urdu interference. The preposition "to" in the above sentence is a literal translation of L1 into L2. The above sentence shows that the preposition 'to' was inserted unnecessarily in a position where it is not required. Native users of the language are familiar with zero prepositions, whereas here the error is caused due to the translation method used by second language learners. This particular error took place in the form of literal translation from L1 to L2.

In example 'There was a pond which was nearby of* their house'. The error is due to confusion brought out by the use of addition while framing this construction. The response elicited from this sentence gives a clear picture that the respondents have written unnecessary preposition in their writing. As the learner had already used a preposition 'nearby' in the sentence, preposition 'of' was not required. However, the error seems that neither the learners L1

influence, nor the influence of the target language is responsible. But it clearly indicates learners' lack of attention and carelessness may be the reason to produce such flawed constructions.

5.(b.4) Omission Errors

The above sentence 'She *listens* ? our problems', the appropriate preposition 'to' is obligatory, but the respondent fails to use the preposition. The above construction revealed the omission of prepositions that seemed to be caused by the respondent's first language (Kashmiri/Urdu). The learner's error occurs because the verb 'listen', always requires the prepositional phrase introduced by 'to', cannot be immediately followed by a noun. The above example clearly shows the spoken form of Urdu practiced in schools has given rise to this kind of particular error. Thus while translating such constructions, the learner usually drops a preposition.

The next sentence '*She is* ? 9th class' is clear cut example of mother tongue interference. In Kashmiri while speaking, this type of construction doesn't need a preposition. Another reason can be that there is no one-to-one correspondence between Kashmiri postposition and English preposition. Moreover, the respondents find difficulty not knowing when to use a preposition and when to omit in a particular context.

6. Conclusion

- The main finding of this study revealed that substitution errors are most common among Kashmiri students. Learners usually find difficulty in choosing the appropriate preposition.
- The present study depicted that the source of majority of prepositional errors are interlingual than intralingual. The findings of the study revealed that students tend to transfer their intended meanings of prepositions in English in the same way they are expressed in Kashmiri/Urdu. There are very few errors in present study which are attributed to target language interference.
- The study also showed that least number of errors are committed by learners studying in missionary and private schools. While as Government school students commit errors on larger scale.
- Among districts, Ganderbal and Pulwama districts showed highest no. of errors in prepositions.

References

- Brown, H.D. (1980). *Principles of Language Learning and Teaching*. Englewood Cliffs, N.J.: Prentice Hall.
- Corder, S. P. (1986). *Error Analysis and Interlanguage*. Oxford: OUP.

- Corder, S. P. (1974). *Error Analysis: Perspectives on Second Language Acquisition*. London: Longman.
- Davidson, G. (2009). *New Methods of Teaching English*. Delhi, IVY Publishing House.
- Dulay, H., M. Burt, & S. Krashen. (1982). *Language Two*. New York: Oxford University Press.
- Edge, J. (1989). *Mistakes and Correction*. New York: Longman Group.
- Erdogan, (2005). *Contribution of error analysis to foreign language teaching*. Mersin University Journal of the Faculty of Education, 1(2), 261-270.
- James, C. (1998). *Errors in Language Learning and Use: Exploring Error Analysis*. New York: Addison Wesley Longman Inc.
- Norrish, J. (1987). *Language Learners and their Errors*. London: Macmillan Publishers Ltd.
- Richards, J.C. (ed.) (1974). *Error Analysis: Perspectives on Second Language Acquisition*. London: Longman.
- Richards, J.C. and Sampson, P (1974). *The Study of Learner English*. In J.C. Richards (ed.) *Error Analysis. Perspectives on Second Language Acquisition*. (Ed) Essex: Longman Group Limited, pp. 172-188.
- Pittman, G. A. (1966). *Activating the use of prepositions*. London: Longman.
- Mahmoodzadeh, M. (2012). *A Cross-linguistic Study of Prepositions in Persian and English: The Effect of Transfer*. Theory and Practice in Language Studies, Vol. 2, No. 4, pp. 734-740,
- Saeed, A., Hussain, S. & Fatima, S. (2015). *Prepositional Errors in the Writings of Pakistan ESL Students*. International Journal of English Linguistics; Vol. 5, No. 3. url<https://www.ccsenet.org/journal/index.php/ijel/article/view/46210-170291-1-PB.pdf>
- Viloria, I. P., Ruiz, E.A. & Sanchez, G, T. (2017) *Prepositional Error Analysis in EFL Students' Written Compositions*. Corporacion Universitaria Minuto De Dios. Bagota, Colombia.url <http://hdl.handle.net/10656/5904>
- =====

Scientific Evidence Bias in Linguistic Theory

Sari Hamoud, M.A.
Ph.D. Research Scholar
Center for Linguistics
Jawaharlal Nehru University
New Delhi, India
sarihamoud@gmail.com

=====

Abstract

Linguistic theory is taught at centers and departments of linguistics throughout the world with little or no attention to the Eurocentric and logocentric aspects of its evidence and examples. This apparent yet unescapable scientific bias is discussed from two points within the philosophy of science. First, general scientific evidence bias is discussed. Then, the difference between Internal versus External linguistic evidence is presented. The paper highlights the role of integrationist approaches within linguistic theory and how their input adds generalizability to linguistic models when certain standards are met.

Keywords: Linguistics, Eurocentric and logocentric aspects, philosophy of science, integrationist approaches, lesser-studied languages.

1. Introduction

It is assumed that modern scientific theories are objective and falsifiable (in comparison to unquestionable subjective beliefs), and they are designed specifically to explain phenomena based on unbiased reproducible evidence. However, this is not entirely accurate. In this paper, I will examine this assumption by taking examples from linguistic theory focusing mainly on the conflict that exists between external and internal evidence vis-à-vis the functional and formal approaches to language, and I will attempt to characterize its impact on the field of language study.

2. Is Science Biased?

Kuhn (1970) explains that science development does not happen in upward linear progression, and that its development is not always fully objective nor rational. He gives illustrative examples that show progress happening through revolutions. Scientists topple old theories in favor of new ones. This change keeps reoccurring in a cyclical fashion whereby science goes from normal status into crisis mode, and eventually a new paradigm replaces the older one.

That fact of the matter is that science is normally full of dead-end theories, false starts and unpublishable failed trials/experiments. That is, progress is not necessarily incremental. Kuhn (1970) mentions that “normal science” has to be practiced in the manner of problem solving with a limited degree of creativity under *unquestioned* assumptions. That is, the dominant paradigm within the concerned discipline sets the rules for allowed vs ignored questions, acceptable statistical p values and experimental designs, and it also creates the standard for the interpretation of results of various research experiments (Field, 2013).

However, anomalies do inevitably start showing in the results of research that contradict a popular paradigm. Thus, works that are unable to explain new data are either developed or more likely dropped for the lack of publishable power. At this stage, the anomalies could be attributed to human errors in conducting experimentation. In this proposed scenario, nevertheless, anomalies will continue to re-occur and accumulate leading to what Kuhn (1970) describes as “crisis science” and scientists start debating publicly the inadequacy of the paradigm. They will not, however, throw out a falsification-challenged paradigm until they have a better one, which is opposed to what Popper (1959) suggests. It might even take hundreds of years for a new paradigm to be adopted by the community within crisis science. For example, the shift between Newtonian physics and Einstein’s took more than 200 years. That’s when scientific revolution lead to what could be described as a paradigm shift (DiSalle, 2006).

Despite their balanced foundation, rationalism and evidence do not play an integral role in how a new paradigm is adopted by the scientific community. Kuhn (1970) uses the term “conversion” as if revolutionary scientific change is more like a political or religious sudden change in comparison to a rational progressive persuasion process in which evidence dominates. In fact, he mentions that “the competition between paradigms is not the sort of battle that can be resolved by proofs” (160). However, both Popper (1959) and Kuhn (1970) acknowledge that scientists who engage in dogmatic normal science where basic assumptions are never questioned are not going in the right direction.

On the other hand, a certain level of fixed assumptions is needed for science to progress. For instance, during a period of normal science, scientists have a set of beliefs that do not change by scholarly criticism, especially when it comes from the new practitioners in the field. There is a rational reason for this; If one is fully open to criticism, one cannot make any progress within the paradigm nor refine their own research thrust within it. Without this, no one will have time at all to focus on their work, spending all of it on disproving the onslaught of objections or reevaluating the basics of the paradigm.

The view of how science progresses that was illustrated by Kuhn (1970) can be explained by parallel examples from the field of linguistics. For instance, the earliest recorded scientific work on language was done by Pāṇini in India back in the 4th century BCE. Bod (2013) mentions that he is considered to be the father of linguistics. Indeed, Pāṇini has done extensive work on Sanskrit grammar, and his use of formal generative rules practically paved the way into their integration in the discipline on various levels. That is, his work is not limited to syntax. In fact, it encompasses phonology, morphology, and semantics.

Linguistics, however, did not progress in Pāṇini's research paradigm. The reason is purely historical; up until the 20th century, most of the work that was done in the discipline in Europe was under the umbrella of philology which mainly focused on comparing different languages and investigated the historical perspective of language development. The work of Pāṇini reached the European continent at a later stage. For instance, European scholars were introduced to Indian linguistics through the comparative work of Franz Bopp in the eighteenth century. However, it could be argued that Pāṇini's work was influential in the paradigm shift after Ferdinand de Saussure who seems to have been influenced by him in the late nineteenth century. Saussure's structuralist account of how language works sets the standard for modern linguistics and was a natural evolution of the work that was done by Pāṇini. However, this has not always been the case.

During the twentieth century, language was considered by psychologists and anthropologists as a form of behavior as evident in Skinner (1957). However, this paradigm was questioned since Chomsky (1959) criticizes viewing language development as a form of conditioned behavior. Chomsky's review of "Verbal Behavior" led to a revolution in the discipline and inaugurated the cognitive movement in linguistics and other fields. At the time, Chomsky was a young ardent defender of language innateness paradigm who logically seems to have won many arguments whenever his view was questioned, while Skinner never acknowledged Chomsky nor formally responded to his review with a formal defense.

This has led to the strong adaptation of the Chomskyan paradigm in the discipline within a relatively short period of time. Moreover, Chomsky's work on Universal Grammar and Transformational Grammar, and later on, the Minimalist Program utilized a nativist approach to language and specifically examined the internal aspect of language rationally using a formal approach to the degree that some started accusing him of excluding external evidence from the picture and dividing the field into functionalists and formalists.

However, it can be argued that Chomsky's main contribution to the field is that he was able to introduce a paradigm-changing theory that adheres to the standards of Popper (1959) in terms of being concise, specific, and above all, falsifiable. In the 1970s, Pateman (1987) indicated that

the field was haunted by the influence of crisis science which led some to even question whether linguistics was scientific at all.

Therefore, Chomsky's division of labor between Internal and External language should not be seen as a biased attempt to ignore the role of meaning and extralinguistic elements of context. In fact, if one examines his work closely, one will find that he does not deny the role of language use within context nor the importance of meaning. Moreover, Chomsky keeps updating and changing his views on language which is the natural course of science albeit certain assumptions are maintained in terms of the paradigm basics and the type of evidence to be used in examining questions that are allowed under Universal Grammar and the Internalist nativist approach to language.

Therefore, we cannot claim that science nor Chomsky as an example from linguistics is biased per say. There is, however, a certain degree of selectivity within the discipline in terms of data that is regarded as exemplary of what language aspect that is under the scope of investigation. The assumptions and the selective nature of the scientific approach is inbuilt to it and only functions to maintain its progress as was mention above.

The following section attempts to illustrate the difference between external and Internal evidence in language study while trying to explore further the possibility of justifying bias in scientific selectivity.

4. Internal versus External Evidence in Linguistics

Zwicky (1980:598) mentions that within the discipline of linguistics there exists a generally accepted distinction between external and internal evidence. He starts by pointing out that what is "usually classified as internal are data on the cooccurrence and alternation of linguistic elements in some language, as well as such systemic considerations as formal simplicity, economy, and the like." On the other hand, he maintains that external evidence encompasses the data that comes from use of language, its patterns of acquisition, different dialects, and how it is affected by historical change or language pathology.

Furthermore, Zwicky (1989) mentions that the division first began as a result of the need for demarcation of linguistics from other disciplines that study language structure and use such as psychology and sociology. Thus, evidence of language use in society might be interesting to the linguist, but variability of language does not actually help explain how language works in the mind across the species.

On the other hand, the generativists themselves do not fully agree on what evidence should be used when it comes to language study as an entity. For some, language, as Zwicky (1989) explains, is independent of its speakers, contextual culture and even use. He describes this as a “strongly antireductionist, autonomistic **bias** that defines external data as outside the class of data to be explained by linguists” (599). However, this point of view is not very popular. What is common among linguists is that a good language analysis must always take into consideration that language is psychologically real and is internalized in the minds of the speakers (600). It does not mean that we can do without external evidence. Zwicky (1989) cites an example from English: the formation of plural nouns in its morphology. He explains that the base plural morpheme cannot be assigned unless we look at how English has developed historically, and we also need input from how children begin to formulate plurals as they are acquiring the language. He also points out that arguments from external evidence alone are not enough. However, he mentions that phonology in comparison to syntax favors external evidence. He cites two reasons. One is the finite domain of phonology that is phonemes and words. The second is the clearly demarked domain that exhausts internal evidence and explanations and invites more data to support an assumption. On the other hand, he argues that syntax with its infinite number of sentences has a generative bias that requires focus on further developing our understanding of the realm of internal evidence and does not leave space for alternative analyses and the use of external evidence.

In brief, Zwicky (1989) is calling for the utilization of both types of evidence towards the improvement of the working paradigm. However, as we shall see in the next section. The two types of evidence are utilized in a biased fashion by the scholars in the field which has cemented the divided between functionalists and formalists.

Before moving to the next section, however, I would like to further mention one more aspects which explain why bias exists when it comes to linguistic evidence. It is simply a matter of choosing examples from the written language most of the time: the bias towards written language versus the spoken one. Derrida (1976) calls this bias a logocentric approach that assigns to writing more attention than it should. Linell (2004) argues that despite acknowledging the primacy of speech over writing, most linguists have approached language analysis using theories and methods that are designed specifically to examine *written* language. In his book, he presents a number of reasons for the biased study of written language and the over-generalization into spoken. For example, he points that the cultural stereotype gives a high status to written, whereas spoken language is not considered real language (10). He also gives an interesting alternative to the common practice paving the way to an integrationist approach to language study that highlights the examination of language as an interface between the speakers’ cognitive ability and the people’s experience when it comes to its use in their lives.

Moreover, Linell (2004) is not the only voice of dissent in the field who is arguing for an integrationalist approach as can be seen below in (Pateman, 1987; Itkonen, 2005; and Newmeyer, 2010, among others) who seem to support it. However, before we examine their views on this matter, we will continue looking at different types of bias in language study.

5. Different Types of Bias in Linguistics

Another type of bias is between observational versus experimental data. It emanates from the fact that much research in linguistics aims at what Bhaskar (2013) calls as “exceptionless generalization” that have no exceptions which are difficult to arrive at even under highly controlled laboratory experiments (233). Although experimentation in this context helps to isolate the underlying mechanism that generates language structure, it seems obvious that such approach is incomplete by itself, since it ignores any element outside the laboratory such as observational data which are considered either irrelevant or mere confounding variables. Hence, the lack of ecological validity.

Furthermore, Pateman (1987) stresses the need for developing an approach that utilizes both experimental and observational evidence in linguistics. He maintains that in real life scenarios, speakers tend to behave much more freely in comparison to laboratory conditions. For instance, they might ignore grammatical errors and concentrate on meaning which is dependent on context and not on the structure of language. He also indicates that one should take into consideration other factors such as memory and psychological state of the speaker, which are considered external. This approach can be considered to be part of realist vis-à-vis positivist approach that insists on isolation of objects of study and setting certain predictions of how their underlying mechanisms operate producing language as we know it. He, therefore, emphasizes the need to consider “naturally occurring experiments” (9).

Moreover, Itkonen (2005) pushes for a synthesis between what he calls Intuition-based study of norms and observation-based study of corpora. He explains that the “variation-eliminating idealization of a more or less homogeneous langue is indeed a practical necessity” (358). He also mentions that if variability in language was taken into consideration, then the only comprehensive description of language will be a statistical one. However, we know that traditional grammarians or syntacticians rarely use statistics when they describe or prescribe language. That is, they avoid describing the actual linguistic variable *behavior* and tend to focus almost entirely on the structure of the system of language. On the other hand, Itkonen (2005) indicates that the distinction between these two levels of description can be termed categorical as opposed to the statistical one, and the history of linguistics is without a doubt unfairly divided when it comes to this aspect. Moreover, this distinction also opens the door to examining the relation between intuition based norms and observation of actual utterances in corpora. He also maintains that the whole matter of linguistic

bias is a degree of selective difference between qualitative data and quantitative data. Nevertheless, Itkonen (2005:306) also shows that in order to capture the true nature of language, we should not be dealing with the two types of evidence as “absolute black-or-white dichotomies”. He adds that the Internalist non-empirical rational analysis of language based on intuitions must be complemented by empirical considerations that account for behavioral variability and external evidence that encompasses language use. However, he also confirms that intuition is sufficient on its own when the linguist is dealing with a clear case. This point, however, could also be put into question, for it reduces the degree of objectivity of his stance. If the analysis is based on the so-called intuition, then how can bias and subjectivity be controlled?

Itkonen (2005: 306) maintains that some linguists exaggerate the importance of laboratory data to the degree of misusing it. He indicates that this happens when some consider that the methodology of natural science “must at any cost be imported into grammar”. He, therefore, warns from the disastrous over-use of inessential corpora which does a disservice to the analysis. He argues that balance should be maintained between two levels of knowledge: norm and action. It is just another way to describe what Chomsky refers to as linguistic competence and performance. Itkonen (2005) agrees with Chomsky that competence is higher in terms of priority than performance. However, he accuses positivists of denying this two-level nature of linguistics. He also maintains that there is an undeniable Darwinian influence on the field of language study that emanated from how some feel “hopelessly inferior to the representatives of ‘hard sciences’” (366). He makes a very good point. For long, the discipline of language study has been beset on all sides by the lack of uniform methodology that adheres to scientific naturalism making its status weaker. However, the object under study in linguistics cannot be compared to physics. Their objects are well defined and invariable in comparison to the immense variability of language and its users. Here again, Chomsky’s Internalist approach plays an integral role in establishing linguistics as a field of science because by limiting the scope of the discipline to the invariable I-language, it regains the status of respectable branch within, we should remember, the current “normal science” paradigm. In fact, Pateman (1987) defends Chomsky’s actions by arguing that his contribution to the field established the generative, and therefore, scientific nature of the discipline. Moreover, the Chomskyan abstractions, Pateman continues, were perfect for describing the psychological reality of language and, therefore, avoids falling in the traps of empiricism. However, again one would argue that Chomsky’s exclusion of language use angered many in the field such as Linell (2013), and especially the within the field of semiology as explained by Harris (1995).

Itkonen (2005) makes an interesting point in his integrationalist approach. He posits that the distinction between rules of grammar or theoretical aspect on the one hand, and the sentences-rules or the atheoretical on the other, should be understood under the notion that the theoretical and atheoretical are merely in a continuum. He stresses, however, that rule-sentences do not lend

themselves directly to the notion of falsifiability due to their prescriptivist normative nature. The following section is concerned with how functionalist and formalist views differ and why we need a true integrationist approach in the study of language.

6. The Formalist, Functionalist, Integrationist Future

Newmeyer (2010) explains the difference between formal and functionalist explanations of language and attempts to bridge the gap between them by insisting that they are complementary to one another. He calls the divide between the two camps as the “greatest rhetorical conflict” (1). He first explains that the terms “formal” and “functional” are themselves used inconsistently within the two approaches. For instance, some consider an approach to be formal IFF it adheres to the paradigm of mainstream syntactic theory that excludes data from discourse. However, other approaches, such as Head Driven Phrase Grammar, considers an explanation formal if it gives a detailed unambiguous account that is formalized. For functionalists, meaning is central to the explanation of linguistic phenomena which is an alternative approach to formal linguistics. Newmeyer (2010) writes:

- 1) An explanation is *formal* if it derives properties of language structure from a set of principles formula in a vocabulary of nonsemantic structural primitives.
- 2) An explanation is *functional* if it derives properties of language structure from human attributes that are not specific to language (2).

Newmeyer (2010) continues to illustrate the nature of formal explanation by giving examples of how ungrammaticality of a sentence is accounted for by UG principles and parameters. However, he also indicates that the constant use of deductive nomological mode leads formalists into trouble if none-standard dialects are subject to the same analysis. That is, what is ungrammatical in the standard might be perfectly allowed in the dialect. For example, in Ebonics, the principles of agreement between the subject and verb do not behave like in Standard English, so the question, “You workin?” is a perfect paraphrase of the Standard “Are you working?”. Newmeyer (2010) mentions that “it might be the case that the grammar of this particular dialect contains a covert movement operation that leads to the *Wh*- Criterion being satisfied, despite appearances to the contrary (4). He does not deny that other external factors might also justify why such sentence is produced even though it is not generated by the rules of the grammar of the language under question. I should point here that there seems to be a kind of hidden bias towards the standard languages, especially European ones like English. Indeed, much of the work that has been done on generative linguistics has centralized every model around the examples that illustrate the structure of English. This does not mean that formal approach has not given any insights to other languages. For instance, Newmeyer (2010) gives an example from negation across

languages. He explains that although one cannot establish the claim of the existence of a standard processing procedure for semantics and discourse that works across the board among different languages, when negation takes place, we can generally fall back on the formal explanation to understand what is happening to the structure.

7. Conclusion

Is linguistics Biased? Well, its development has not always been fully objective nor rational, yet within each paradigm inside the cyclical movement, there is consistency. However, when a new paradigm takes over, it removes much of the foundations of its predecessor. For instance, Chomsky led the campaign for a paradigm shift at a time when linguistics was going through a dark period of behavioral positivist empiricism that was full of anomalies. His exclusion of the role of meaning and language use was seen biased by many, and this led to the division of the field between formalists and functionalists. However, the Chomskyan bias could be seen as a justified move in the favor of the discipline as a whole. The division of labor was a must to reach a stage of scientific standard that adheres to the norms of the scientific community. The division within linguists themselves, however, is not justifiable. The divide resulted in two camps that had a negative bias toward the type of data and evidence to be used to answer language most pertinent questions. We saw in this paper that the word bias in certain contexts could either bear a positive meaning and a fair use as in “selective to fulfill certain paradigm requirements” such as the example of Chomsky above, or it could have a negative meaning in which it conveys “unjustified prejudice”. There are many examples of unfair bias. One was the focus on writing and assigning more importance to it than to speech as indicated by Linell (2004). Another example is the competition between paradigms during the phase of crisis science where bias and non-scientific factors play a role in adopting a new paradigm. Several voices (Pateman, 1987; Zwicky, 1989; Itkonen, 2005; and Newmeyer, 2010, among others) in the field called for an integrationist approach where both external and internal evidence are taken into considerations when investigating Internalized Language. Furthermore, bias in linguistics can be seen towards experimental vis-à-vis observational data. Although Pateman (1987) does not mention it, the section that is concerned with the hierarchy of the linguistic method alludes to the state of bias in terms of linguistic hierarchy in the discipline itself. That is, the hierarchy that exists in the linguistic society that puts syntacticians at the top of the pyramid and places applied areas such as sociolinguists and language teaching at the bottom, which is another example of unfair bias. The solution to the problem could begin by recognizing the special nature of language itself as being an object which does not lend itself easily to natural science method of analysis and to acknowledge the role of every field within linguistics as being equally important and contributive to the explanation. Hence, a good approach should assume that every stratum of formalist and functionalist research formulates a continuum that has to be utilized as a whole if true progress is to be made in this field.

References

- Bhaskar, R. (2013). *A realist theory of science*. Routledge.
- Bod, R. (2013). *A new history of the humanities: The search for principles and patterns from antiquity to the present*. Oxford University Press.
- Chomsky, N. (1959). A review of BF Skinner's Verbal Behavior. *Language*, 35(1), 26-58.
- Derrida, J. (1976). *Of grammatology* (GC Spivak, trans.).
- DiSalle, R. (2006). *Understanding space-time: The philosophical development of physics from Newton to Einstein*. Cambridge University Press.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage Publications.
- Harris, R. A. (1995). *The linguistic wars*. Oxford University Press.
- Itkonen, E. (2005). Concerning the synthesis between intuition-based study of norms and observation-based study of corpora. *SKY journal of linguistics*, 18, 357-377.
- Kuhn, T. S. (1970). BOOK AND FILM REVIEWS: Revolutionary View of the History of Science: The Structure of Scientific Revolutions. *The Physics Teacher*, 8(2), 96-98.
- Linell, P. (2004). *The written language bias in linguistics: Its nature, origins and transformations*. Routledge.
- _____. (2013). *Chomskyanism—from innovation to irrelevance*.
- Newmeyer, F. J. (2010). Formal and Functional Explanation. *University of Washington, University of British Colombia, University of Fraser University (manuscript)*, 1-25.
- Pateman, T. (1987). *Language in mind and language in society: Studies in linguistic reproduction*. Clarendon Press.
- Popper, K. R. (1959). *The logic of scientific discovery*. Hutchinson.

Skinner, B. F. (1957). "Chapter 1: A Functional Analysis of Verbal Behavior". *Verbal Behavior*.
Acton, MA: Copley Publishing Group.

Zwicky, A. M. (1980, January). " Internal" and" External" Evidence in Linguistics. In *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association* (Vol. 1980, No. 2, pp. 598-604). Philosophy of Science Association.

=====

Mastery of Soft Skills by J. K. Rowling's Harry Potter

S. Hepsiba, M.A., M.Phil.

Assistant Professor

Department of English

Kalasalingam Academy of Research and Education

Krishnan Kovil, Srivilliputhur, Tamil Nadu 626128

hepsibamanick@gmail.com

=====

Abstract

Soft skills are basically known as people skills or behavioural skills which enable one to behave well in personal and professional situations. Soft skills are partly present by birth and later acquired over a period with proper training. Literature being the reflection of human life has incorporated all the soft skills in it plays a vital role in every sphere of the human lives. Reading literature enables a person to bring out the soft skills within him not only through words but also in action for Soft skills not expressed will have no values. Harry Potter's personality seems to be the embodiment of all these traits. This research paper aims to analyse J. K. Rowling's celebrated character Harry Potter as a protégé of soft skills such as Perseverance, Leadership Skills, Teamwork, Communication Skills, Problem Solving Skills, Work Ethic, Flexibility/Adaptability, Interpersonal Skills, friendship, Sympathy, Empathy, etc.

Keywords: Harry Potter, Soft skills, Behavioural skills

Introduction

Soft skills are basically known as people skills or behavioural skills which enable one to behave well in personal and professional situations. Soft skills are a much in need commodity required by the employment market. While reading or watching Harry Potter, it is evident how the qualities of his personality helped him to be successful in winning over the Antagonist Voldemort.

Soft Skills – Definition and Significance

Soft skills are generally defined as people skills or behavioural skills. These skills are nontechnical personal skills which enable one to behave well in personal and professional situations. Soft skills include personality traits, social graces, and facility with language, personal habits, friendliness, responsibility, confidence, self-control, honesty, team building, management skill, negotiating talent, customer satisfaction, working with cultural diversity and also possessing or developing qualities such as optimism and assertiveness that distinguishes people.

Soft skills are mandatory for today's corporate employees who are facing a lot of challenges in managing varied circumstances. Not only for the success of employees but also for the employers and institutions to be distinguished from the rest soft skills imperative. In order to survive and thrive in the highly competitive environment, organisations require employees who are quick to adapt, creative at problem solving and good at relation building. An employee with ample soft skills is considered an asset as he/she creates a conducive work atmosphere.

Pervasiveness of Soft Skills in Literature

Literature, being the reflection of life, has incorporated all the soft skills necessary for one to be successful in the characters and situations present. Reading literature enables a person to realize soft skills within himself and exhibit them effectively not only in words but also in action because if actions do not articulate soft skills, words will never communicate effectively. Since literature is the collective body of literary productions, it has enormous knowledge and fancy preserved in writing. As C.S Lewis described "Literature adds to reality, it does not simply describe it. It enriches the necessary competencies that daily life requires and provides and in this respect, it irrigates the desert that our lives have already become".

From Chaucer to Twenty first century literary works, each literary works got its own characters filled with personality traits allowed them to become successful. Even renowned writers like Francis Bacon and William Shakespeare derive out the purpose of life and character through their writings. Bacon claimed that any moral action is the action of the human will, which is governed by belief and spurred on by the passions. Not to mention the protagonists of the plays. For instance, if one looks at Chaucer's *The Canterbury Tales*, Chaucer describes about the Knight in his general preface that the Knight represents the ideal medieval Christian man at arms. The Knight has participated in no less than fifteen of the great crusades of his era. The narrator deeply admires him for the banner he holds and the character he explores and those heroic qualities are recognized as unique characteristics in olden days and it is termed as soft skills in the present scenario. Shakespeare's famous soliloquy presented by Mark Antony denotes the effectiveness of communications.

Literature has examples of the other kind and immeasurable destructions caused when failed in soft skills. For example, Shakespeare's *Hamlet* is the best example of the character's inability in decision making. In Jane Austen's *Pride and Prejudice* Darcy was denounce by people in the beginning despite his wealth is due to his lack of soft skills.

George Bernard Shaw's *Pygmalion* is a better example of how certain personality traits can be ingrained to people and refine their life. Good habit is what aids men in directing their will towards the good. In Sonnet 116, the narrator tells the "young man" that it is in the capacity of humans to adapt to the force of time according to the seasons of human life. (Manoah, JJS,

2011) Literature has always been the store house of soft skills. The works and characters portray how each protagonist become the winners at the end of the work with the aid of their personality skills.

Soft Skills in Harry Potter

J. K. Rowling had to go through a lot of difficulties making Harry Potter from a spark at King's station to a successful story. It was not a journey down the hill for her to get the book for publication after being rejected by about 11 publishers. She has turned her determination into the characters. She didn't give up during those dark times, when she felt clinical depression and even thoughts of suicide. She later funneled that emotion into the dementors – the soul sucking creatures in Harry Potter. So, it begins from the author and prevails in the characters of Harry Potter series, especially in Harry Potter. He from a passive boy turns into a determined personality with his innate personality and mentoring received by various characters present in the novel.

Perseverance of Harry Potter

J. K. Rowling's Resiliency is one of the primary skills seen in Harry's personality. From his determination not to be part of Slytherin in the Sorcerers' stone till his determination to meet Voldemort alone in the woods in the Deathly Hallows, Harry Potter's determination is his aid that made him the celebrated hero.

"Listen to me, Harry. You happen to have many qualities Salazar Slytherin prized in his hand-picked students. His own very rare gift, Parseltongue — resourcefulness — determination — a certain disregard for rules," he added, his mustache quivering again. "Yet the Sorting Hat placed you in Gryffindor. You know why that was. Think." "It only put me in Gryffindor," said Harry in a defeated voice, "because I asked not to go in Slytherin..." "Exactly," said Dumbledore, beaming once more. "Which makes you very different from Tom Riddle. It is our choices, Harry, that show what we truly are, far more than our abilities." (TCS, pg 351)

Leadership Skill of Harry Potter

Leadership is major skill that requires a lot of other skills. In the Harry Potter series Harry proved himself to be an effective leader. Truth and transparency is major requisite of a leader which Harry's character well equipped with. Though truth may not be easy, it is in treating it with caution and respect that allows everyone around to hold themselves accountable for results.

Cultivating an environment where others feel their voice is heard and where progress leads to the success of leadership. Dobby, the house elf, and Luna Lovegood, the one who wears odd jewelry and rattles on about far-fetched topics despite being treated meanly or indifferently

by others are treated good by Harry. This quality of him brought him their support at the desperate situation. Harry steadfastly treats them as equals. He listens to them and genuinely considers their input. As in the words of Dumbledore he has the leadership thrust upon him.

"Those who, like you [Harry], have leadership thrust upon them, and take up the mantle because they must, and find to their own surprise that they wear it well." (TDH, pg. 586)

Experience, practice, and consistent learning help develop a strong leadership style and effectively become great leaders. Getting everyone on board and directing them towards a goal and result is no easy feat. Harry, Ron and Hermione trio from the beginning and Order of the Phoenix, and Dumbledore's Army proved the effectiveness of teamwork. Harry has proven excellence in channelizing the power in the right direction. Though he had to put up with Ron's insensibility in certain situation, he never holds grudges amongst friends, which also includes Malfoy and Snape. He saves the life of Malfoy and works with Snape despite his dislike for him when Dumbuldore instruct him to learn with Snape for breaking the mental bond with Voldemort.

Sympathy and Empathy in Harry Potter

Harry had to go through a lot of painful experience in his early childhood until the day Hagrid comes to deliver the letter from Hogwarts about his commencement of classes as a wizard. He was bullied by his niece and treated badly for acts happened without his knowledge that he is a wizard. This experience could have been the reason why he is the most compassionate character in the novel.

Neville Longbottom, who emerges as a key hero in the later part, shares the same fate prophesied on the chosen is portrayed as someone Physically clumsy and lacking confidence and being bullied by other students at school. In one class, he ends up suspended from a chandelier. In the Book one Harry puts aside Neville's Remembrall from Malfoy. Malfoy throws Neville's Remembrall in the sky challenging Harry to catch if he is capable of. Harry rushes boldly and flies high without minding the danger and catches the Remembrall just in time before it falls down.

Harry Potter has many reasons to hate Severus Snape, who constantly makes disparaging remarks about the young wizard. But in the end, Potter gets new information that reshapes his thinking. Harry names his second child Albus Severus Potter in the ultimate public reversal of sentiment.

Dobby, the house elf, comes to Harry in the chamber of secrets to dissuade him from going to Hogwarts and flabbergasted at his politeness when he asks Dobby to sit down which is

not practice among the magic world. And, towards the end of the book he gets Dobby his freedom too. This is a result of his empathy and sympathy.

Communication Skills of Harry Potter

Effective communication is the better way out of many difficult situations. Throughout the seven-part series, Harry confronts challenges, obstacles and enemies when it would have been easier to duck, surrender or not show up at all, but he face them boldly and conquer the situation and people with his communication skills. In the first book, *The Sorcerer's Stone*, Harry, though terrified of Hagrid, readily admits that he is Harry Potter, confronting the perceived threat, rather than dodging it.

In *The Prisoner of Azkaban*, to approach the Hippogriff 'Buckbeak' Harry had to use a deep and respectful bow to communicate to the Hippogriff, which shows how in certain situation body language is essential and one has to use the language understood by others to communicate effectively.

The character also shows us why it is needed to convey things clearly in communication. In the Chamber of secrets when Harry attempts to use the Flo powder for the first time to commute. He mispronounces the word as 'D-Dia-gon-Alley' which results himself be dropped at a shop in Knockturn Alley. (TCS, Pg 56) With the proper pronunciation, pause and cadence, Harry would be magically transported to the intended destination since he mispronounces the spell, ends up in a dodgy alley full of unsavory wizards and the like, which is no place for a proper wizard like Harry Potter.

Flexibility/Adaptability of Harry Potter

Harry accustoms himself to situation all through the novel. From his submissive nature to the Dursely's to his smartness at school to him assertiveness in conquering Voldemort, he proved that he could adapt to situations.

The first part of novel 'Harry Potter and the Philosopher's Stone/Sorcerer's Stone' unfolds the situation where Harry learns to be passive to his Aunt's family and in his school. He allows himself to be bullied by his cousin Dudley and his friends. The same Harry at school stands up to Neville when Malfoy bullies him. Also he takes flight in the Broomstick without second thought to catch the Remembrall thrown by Malfoy in the air.

In the same book, when the day comes for Harry to go to school, Uncle Vernon leaves him alone in the station and bids good-bye with a malicious smile for in the ticket it is mentioned as Platform 9 3/4. Harry though hesitant at the beginning when he hears Ms. Molly utter the word muggles' follow suit and immediately make friends of the Weasley family.

Harry could go on at school with assertive attitude and behaves smartly. He involves himself enthusiastically in the magical lessons and games, builds friends and argues boldly against Mr. Snape when he teases him purposely in his class.

Conclusion

Virtue rewarded can very well be rephrased as soft skills rewarded as we see through the reasons behind Harry's success. Thus, incorporating a variety of behavioural skills, "Harry Potter" achieves his goals. Also his skills are refined by people like Dumbledore, Lupin, Snape, and Sirius Black. It can be rightly said that the exclusive characteristics which are called as soft skills are prevalent in Literature.

Abbreviations

The Philosopher's Stone - TPS

The Chamber of Secrets –TCS

The Deathly Hallows - TDH

References

- [1] Rowling, J.K. The Philosopher's Stone. Pottermore Publishing. Kindle Ed.
- [2] Rowling, J.K. The Chamber of Secrets. Pottermore Publishing. Kindle Ed.
- [3] Rowling, J.K. The Deathly Hallows. Pottermore Publishing. Kindle Ed.
- [4] "The 7 Soft Skills You Need to Be Successful." Omnia, 23 Mar. 2020, www.omniagroup.com/the-7-soft-skills-you-need-to-be-successful/.
- [5] R, Saravana Selvan and David Arputha Raj V. A Handbook on Softskills for Better Employability. Department of English, Bharathiar University, 2016.
- [6] Panos. "A Definition of Soft Skills." A Definition Of, 1 Jan. 1970, soft-skill. blogspot.com/2008/02/definition-of-soft-skills.html. [Accessed 22 March 2020].
- [7] leadchangegroup.com, leadchangegroup.com/10-management-lessons-from-harry-potter. [Accessed 22 March 2020].
- [8] Elizabeth E. Heilman, Editor, 'Critical Perspectives on Harry Potter', Abingdon, Routledge Publishers. 2003 [Accessed 22 March 2020].
- [9] Holmer, Paul L. C.S. Lewis: the Shape of His Faith and Thought. Sheldon Press, 1977.
- [10] Manoah, JSS. 2020. Evolution Of Soft Skills For Technical Students Through Literature. <http://jjsmanoah.blogspot.com/2011/04/evolution-of-soft-skills-for-technical.html> [Accessed 22 March 2020].

Using Mobile Technology in the Classroom for Teaching Speaking Skill in Yemeni Universities

Sawsan Mahmoud Qassim Ghallab

Lecturer, English Department, Faculty of Education, Hodeidah University, Yemen
(PhD Scholar, Faculty of Education, Sana'a University, Yemen)

sawsan22218@yahoo.com

=====

Abstract

There is no question that technology affects the learning atmosphere and perception. Mobile devices are gaining tremendous popularity among masses because they are lightweight, smart, compact and easy to use. Mobile technology is the most significant, most common and quickest contact media. The present paper aims to explore whether mobile telephones can support teacher-speaking pupils, how Yemeni EFL teachers utilize this device in their classrooms and, ultimately, to find out the challenges and issues that are likely to hinder their usage in the Classroom. The study employed a descriptive survey research design to selected Yemeni teachers. Findings showed that mobile learning allows students to develop their language skills in general and in particular their language skills. Secondly, mobile devices can promote individual and interactive learning opportunities in the Classroom. It also encourages students to practice hard and develop poor places. Undoubtedly, high or at least modest usage by teachers of mobile telephones will draw interest to students and allow them to increase their self-esteem and self-confidence. Hence, the position of teachers in the introduction and application of this technology in English is very critical as it is part of their lives.

Keywords: Mobile Phone, Mobile Learning(M-Learning), Mobile Technology, Technology Acceptance Model.

1. Introduction

Technology changes the way we interact, socialize, exercise, do business and manage company. The usage of smart cell phones for schooling has gained prominence in recent years. The social networking movement often allows the planet a virtual community and offers citizens the chance to be autonomous students rather than only instructors. Such latest structural developments are placing strain on mainstream language acquisition and education structures such as education in structured classrooms. They also question us in redesigning our way of teaching and studying English. The ubiquitous usage of cell phones is a new aspect of our lives today. The growing usage of smart phones implies that educators will consider ways to incorporate the modern teaching phenomenon. EFL teachers may gain in or outside their classes from incorporating this technology, in particular, to make it more accessible for students to utilize cell telephones so that they can have more flexibility and energy. Also, the convenient

access of students to the Web through their phones enables them to leverage learning resources which in the past have been inaccessible.

2. Statement of the Problem

The condition in Yemen is not acceptable in English. A great deal has been achieved to boost it. The level of English developed by Yemeni students in general and in particular in all language skills is often below expectations. The conventional methods employed by teachers and insufficient strategies and tools utilized in teaching and learning systems may be potential explanations.

Many researches have shown that mobile technology is essential in improving student language skills, including speech abilities (Al-Ahdal & Nooritawati,, 2012; Al-Ahdal & Alqasham, 2020; Al-Ahdal, & Shariq, 2019; Al-Ahdal et al., 2014; Al-Ahdal et al, 2015; Magulod, 2018; Magulod, 2019). Her multiple educational advantages include giving students the ability to communicate, encouraging students to engage in collaborative activities such as capturing their words, talking and sharing subjects, listening to native speakers and videoing during speech and debate.

The role of EFL teachers in Yemeni Universities in the learning of English in general and in the growth of speech skills seems to be unclear. This thesis is an effort to increase instructor understanding of the potential of the technologies to improve speech skills by introducing modern methods of teaching in their classrooms.

3. Purpose of the Study

This research seeks to investigate the use of mobile technologies in the Yemeni EFL classroom. Specifically, it aims to: (1) determine the benefits of using mobile technology in developing learners' speaking skill from Yemeni EFL teachers; (2) ascertain whether teachers use mobile technology in their classrooms to build their students' speaking skill; (3) identify the obstacles and difficulties that are likely to hinder mobile utilization in classroom teaching and learning process.

4. Significance of the Study

The relevance of this thesis is focused on the idea that our environment is evolving and that technology impacts all about us. In fact, the digital boom and pervasive usage of social networking undoubtedly have influenced many facets of our lives today. Curricula and instructional approaches are not outside of the influence of this shift. Today's usage of cellular phones impacts our lives as most, if not all, young people have their telephones. The dissemination of this practical method has without a doubt implications and impacts on student lives. This study provides several ideas for enhancing English literacy and teaching in Yemeni universities with the use of digital platforms, which are successful means of teaching and learning.

5. Limitations

The study was only limited to 30 teachers from different Yemeni universities. It was limited to the second semester of the academic year 2018-2019.

6. Population of the Study

The research was comprised of English teachers in Yemeni universities teaching in the academic year of 2018-2019.

7. Sample of the Study

The research was undertaken to 30 Yemeni teachers in the Department of Basic English from various Yemeni universities such as Sana'a University, Hodeidah University, Amran University, Dhamar University and Al-Andalus University. With respect to education, most participants have been teaching English for over ten years.

8. Research Instrument

A study questionnaire was the main instrument used in the analysis. There were 26 objects spread in a school utilizing mobile telephones, instructor introduction in the Classroom with mobile telephones, and electronic use of learning barriers in the Classroom.

9. Theoretical Background

EFL teachers seeking to develop productive learning experience many challenges, including broad numbers and inadequate funding and technological support in the Classroom. Another concern is that students who fail to attend classes are not inspired. Harmer (2001) notes that uncooperative and unmotivated students are a big problem and may quickly interrupt the teaching process. Routine work structured around workshops and classroom exercises can often contribute to a lack of motivation. Mobile learning alleviates this issue by enabling students to take part in a variety of fun and pleasant events on a daily basis and by fostering engagement and encouragement.

Many EFL teachers have started over the past decade to integrate technology into their teaching, and has rendered this technologies part of education in a number of ways. Reinders (2010) has sought to focus on the usage of cell telephones in international language instruction. Phone apps such as SMS, GPS, video, access, Ethernet, Wi-Fi, etc. can be used for a broad range of educational uses in most commercially accessible handheld devices. The SMS program can be used to assist students in studying international languages, Cuing and Wang (2008) say, and teachers can even use SMS to connect with one student or even one group of students. Reinders et al. (2010) stress that cell telephones should be used to perform a range of things in the Classroom such as video imaging, voice memory recorder monitoring to document interactions in the school, mobile device used for social networking, students' comprehension, and input.

Abbasi and Hashemi (2013) carried out a research investigating the effect of cell phone usage on intermediate speech retention and gender effects on language retention in mobile telephone usage. The research indicates that the use of EFL students 'cell phones has a significant influence on consolidation of vocabulary. Al-Aamri (2011) recommended more work to investigate the use of mobile phones for English learning by the students of Sultan Qaboos University. The study sheds light on the behavior, behaviors and challenges Omani students face when using their cell phones during their learning processes. The results from the study reveal that the usage of mobile phones in Classroom is still restricted because teachers are banning students from using their phones, even though students are welcome.

9.1. The Concept of Mobile Learning(M-Learning) and Mobile Technology

Sharples (2007) and Bachore (2015) defines the mobile device as 'a portable laptop with a touch panel or a simple text keyboard entry. Readers for cell phones, notebooks, tablets and e-books, PDA and other similar gadgets are all identified as mobile devices. 'mobile devices. In the other side, a number of researchers differently define modern media and emerging technologies. Initially, Trifonova and Ronchetti (2003), as reported in Al-Aamri (2011), define mobile learning and mobile technology as e-learning through mobile computer devices. All electronic applications such as PDA, portable cellular phone and IPOD are introduced "through mobile technology. These tools are lightweight, self-sufficient and discreet enough to assist us any time in our everyday lives and can be used as learning aids.

Mobile learning is described by Kukulska-Hulme (2013) as "the use of mobile technology in language learning, particularly in circumstances where portability provides unique information." Mobile gaming covers MP3/MP4 recordings, cell phones and e-book devices, as well as tablet and notebook computers. To certain pupils, social learning is "a method of thinking, through interactions between individuals and individuals in various environments utilizing immersive technology and context-oriented emphasis (Sharples et al., 2007).' This system covers all forms of portable electronic apps such as cell watches, wireless personal assistants, laptops, pads and pods. All in all, from the above-mentioned meanings, it can be assumed that mobile learning provides an immersive learning experience of various contexts utilizing different styles of applications installed on the smartphone.

9.2. The Nature of Mobile Language Learning

Digital language learning is a growing topic and an increasing amount of research has been created to illustrate how smartphone applications can be used in language learning. Analysis has, for the most part, demonstrated the importance of the mobile function devices could play. Around the same time, however, some areas have already been suggested which definitely deserve attention in their implementation. Accessibility, immediacy, interactivity and circumstances in schooling are the key characteristics in mobile learning (Ogata & Yano, 2005). Accessibility applies to how much each student owes a cell phone. Nowadays, nearly all students have the equipment irrespective of where they reside. Furthermore, with the infrastructure in most places accessible, excluding remote regions, learners can be linked and

expanded to know immediately. Students may communicate frequently in remote locations with other citizens or with their peers and specialists utilizing a mobile device with different apps. The directions would be realistic in the curriculum. Mobile learning thus creates insights into the consistency of the connection.

9.3. M-Learning and Participation of Teachers and Students

M-learning provides a huge resource for students and teachers. The capacity to use cell phones in education has grown slowly over recent decades, along with other technological instruments. Teachers' position is very significant for the introduction and application of innovations, such as the usage of mobile telephones in English teaching. From the outset, English teachers will study the new IT-driven technologies and develop critical skills in the use of technologies in their regular teaching courses. Teachers will also inspire students to use technologies in college. Through the wise use of mobile devices, teachers will encourage English lessons and allow students to learn English effectively. Training takes place on school days or holidays during every point of the day. The art of studying is therefore "mobile" in terms of place and time. On the other side, students will establish strong machine literacy and engage actively in studying technology. They will also be educated and cared for with their cell phones to know all the choices. M-learning will enhance learning by bringing students into a specific environment and making the learning experience more engaging, inspiring and meaningful. Students may improve their knowledge and abilities development and manage their resources. Students can use English lessons online on mobile phones with appropriate instruction and can even take online exams. Students should be granted ample knowledge and instructional content, such as listening guides, videos or books, to store on their cell phones.

9.4. Mobile Devices and Speaking Skill

Motteram (2013) notes that common approaches used to improve expression abilities for elderly students include the usage of music, lectures and debates, for example. The usage of handheld apps connecting to the internet would be a rich source of oral skills for learners. Posted videos, lectures, online books, podcasts and video clips are accessible on several websites where the students hear the comment. Such platforms will also offer help to teachers who do not have their own language skills. When learners have a handheld app, such as a phone, they should record and listen to it, allowing them to recognise their inaccuracy of speech and thus promoting their self-improvement. Cavus and Ibrahim (2016) have researched how apps on a mobile computer would boost the teacher's learning skills without the help of the instructor. We reported that their findings revealed that the experimental community using the mobile apps has progressed in all skills, including listening, vocabulary, comprehension and particularly pronunciation.

9.5. Mobile Assisted Language Learning (MALL)

The classification of M-Learning and Computer-Assisted Language Learning (CALL) is mobile-assisted language instruction. Beatty (2010) cited at Gangaianmaran & Pasupathi (2017) describes CALL as a concept used in technology selection, especially through social

=====

Language in India www.languageinindia.com **ISSN 1930-2940 20:4 April 2020**

Sawsan Mahmoud Qassim Ghallab

Using Mobile Technology in the Classroom for Teaching Speaking Skill in Yemeni Universities

networking, to enhance innovation and collaboration. The growing use of mobile apps in the last years culminated in a MALL abbreviation that varies from CALL in the use of compact, specific tools, allowing new learning opportunities, stressing the flexibility or spontaneity of the connection in various user contexts. Mobile devices are currently used to educate such people as smartphones, pocket Digital dictionaries, PDAs, MP3 players and tablet PCs, as they require EFL training in different learning contexts.

9.5.1. Advantages of MALL

Multimedia Ability: The opportunity to easily catch and play a student's voice and balance it with the voice of a native speaker is a perfect way to learn the language. In reality, recording and playing video is another form of learning a language. Listening to music and posting of images are also very popular to students. The ability to create and listen to podcasts is another benefit for language learning.

Internet Access: Internet access enables students to search and receive information on any topic. The IMDB quest offers information on films and characters. YouTube helps students to access and hear music videos and movie clips. Online dictionaries and other methods for collecting information are commonly used by students in language courses.

Social Networking: Using social networking platforms like Facebook and Twitter can be a successful way of exchanging knowledge, views and ideas on a range of topics. Many students who are reserved in the Classroom will perform even better in a scenario of social networking.

Immediate Feedback: Interactive tools may give their peers or teachers instant input. A poll, a class project, a quiz or a exam will allow students to answer questions.

9.5.2. Disadvantages of MALL

Distractions: Although students can use dictionaries and other online material to instruct in the Classroom, the same use during a contest is not enough. In contrast, watching videos which do not correlate to the lecture, playing online games and utilizing social networks to interact with friends, but not in their target language, are inappropriate classes and may cause disruptions for the curriculum.

Cheating: looking at dictionaries or reading answers during tests or interviews is a serious learning offense that needs to be dealt with appropriately.

Disconnecting: Some pedagogues argue that students spend so long on immersive devices that can alienate students from their Classroom. They accept that students should invest time in communities that lead to social engagement in a classroom.

Technical Problems: teachers have to invest substantial time scheduling classes, testing equipment before class starts, and spend some time after class distributing and returning their devices after studying in their classrooms. Technical issues: It is also a difficult task to waste time in a class and teach the pupil how to use the devices. In fact, some technical difficulties can arise during courses, such as network failures and equipment issues for each student, helping the instructor to fix problems and training each student how to deal with problems.

9.6. Mobile Phones -- Benefits and Drawbacks

Technological advances also play a significant role in promoting learning in different contexts. Training by such technical tools allows students to study at home remotely or offline in a non-classroom setting in front of their personal computers. However, studying by mobile phones allows students the opportunity to know while performing their part-time job in the school, outdoors or at university. In reality, any time and wherever they are they will know. The benefits of mobile language education are extracted from the portability and usability of the smartphone device, which are two key advantages. In terms of networking, the computer system framework must be able to be connected to the learning environment via the mobile network of the user, including the short messaging service (SMS) and mobile email. Portability helps students to pass and distribute educational services to their computers. It may be shipped to many locations because of its small size and weight. Social interactivity is the other reason for portability: handheld apps need data exchange and collaboration with other learners. In addition, the importance precision for data on mobile devices may be obtained and only responded to the real location and time. Connectivity includes the possibility for mobile devices to connect to certain smartphones, data collection applications or a general network through creating virtual networks. This is a potential benefit for several programs to handle different stimuli. In comparison, certain voice learning limitations or constraints are common for voice language instruction. Most cell telephones are not equipped for school. In other terms, it is challenging for the students to use them for the teachers' job. It is partly because of the initial configuration of such apps, and partly because these smart phones do not exist. However, tools ideal for different learning activities are too costly to purchase for most students. Teachers will also be conscious of what sorts of devices students have and select or modify materials that are consistent with these methods. Certain limitations include tiny displays, restricted graphical display, and network dependency that does not often provide very large transmitting efficiency and may be prone to different kinds of disruptions.

The performance of mobile devices has been examined as useful instruments for L2 learning and teaching by academics, EFL instructors, foreign language education officials, ELT curriculum designers, ELT materials manufacturers, instructional technology and computer programmers. Researchers have started to research the beneficial impact on language instruction utilizing cell telephones. Most L2 researchers explored the effects of cell telephones as a foreign language for teaching English. Mehta (2012) has, for example, described the advantages of cell phones as: (1) personalization of the student environment; (2) offering

learning experience beyond the school environment; (3) rendering language learning enjoyable by recording; (4) no longer required to use PC as the only connectivity tool.

A research was carried out by Yunus (2012) to analyze the beneficial impact of EFL Teachers utilizing popular social networking and instant messaging platforms (e.g. What s App, Viber, Tango, Twitter, SMS). His study demonstrates that incorporating social networking tools into the ESL / EFL writing classroom will help students increase their awareness, optimize inspiration, and develop confidence in L2 writing, introduce learning experience, improve learning through enrolling, arranging, disclosing the advantages of informal learning, and raise the moral.

Atwell (2012) has researched English as a foreign language on cell telephones. To prove that mobile phones are a scam and a threat of coercion and diversion. Atwell points out. The drawbacks in using cell telephones in the Classroom include taking photos in exams and forwarding them on to others, email responses to others, etc. Chartrand, (2016) illustrates such smart network drawbacks as: (1) Limited display panel; (2) Small amount of memory; (3) Small keypads; (4) Battery life short; (5) High cost; (6) Possibility of misplacing or lost or fraudulent electronic devices; (7) Difficulty in loud conditions to use handheld apps; (8) failure in coordination owing to weak network connections.

10. Methodology

10.1. Data Collection

Data required for this study was gathered by conducting a questionnaire. The questionnaire included twenty-six items divided into three parts; 1) Benefits of Using Mobile Phones for Developing Speaking Skill from Teachers' Point of view, 2) Implementation of Mobile Technology in Classroom and 3) Obstacles Hampering the Use of Mobile Phones in Classroom.

10.2. Design of the Study

The design of this study was descriptive quantitative. It consisted of collecting quantitative data to help explain and elaborate on the quantities results. Like descriptive research, it involved the collection of quantitative information that can be tabulated along a continuum in numerical form.

10.3. The Questionnaire

A questionnaire was developed to produce the views of the survey as the latest data collection method. The questionnaire was closed-ended. It was planned not only to ask for teachers 'views on the benefits of utilizing mobile phones in the Classroom for learners to chat but also to figure out whether teachers use the device at the same time as teaching. Application objects were split into three segments. In the first component, there were nine items and answers relevant to the benefits of utilizing cell phones to improve the speaking ability of university students. The second portion consisted of nine items discussing the usage of mobile

phones by the teachers in their teaching. Finally, the third component consisted of eight items describing such challenges and issues that could impede cell phone usage in the teaching and learning phase.

10.4. Coding the Data of the Questionnaire

The data was coded and keypunched for computer analysis in order to interpret the results of subjects' responses as follows:

1) Benefits of Using Mobile Phone to Develop Students' Speaking Skill

- | | | |
|----------------------|-------------------|---|
| 1. Strongly agree | with the value of | 5 |
| 2. Agree | with the value of | 4 |
| 3. Undecided | with the value of | 3 |
| 4. Disagree | with the value of | 2 |
| 5. Strongly disagree | with the value of | 1 |

2) Implementation of Mobile Phone in Classroom

- | | | |
|--------------|-------------------|---|
| 1. Always | with the value of | 4 |
| 2. Sometimes | with the value of | 3 |
| 3. Rarely | with the value of | 2 |
| 4. Never | with the value of | 1 |

3) Obstacles of Using Mobile Phones in Classrooms

- | | | |
|-------------|-------------------|---|
| 1. Agree | with the value of | 2 |
| 2. Disagree | with the value of | 1 |

10.5. Analysis of the Data of Questionnaire

As mentioned in this study, the goal is primarily(1) to identify the advantages of using mobile technology to improve student language skills from a Yemeni EFL teaching point of view(2) whether EFL teachers in schools use mobile technology to improve their language skills and(3) identify barriers which prevent mobile use in the school. The data obtained via the questionnaire is evaluated using the Methodological Kit for Social Studies (SPSS), in terms of methodology and standard deviations.

11. Findings and Results Discussion

PART ONE

The aim of this segment was to discuss the advantages of using mobile devices to improve language skills for learners from the viewpoint of Yemeni EFL teachers. The responses were evaluated, average scores were measured, standard deviations were measured and the predicted (significance) importance of each result was decided on the basis of the responses. If the answer is firmly accepted, the scale from 1 to 5 is highly disagreeable with the definitions from. The findings are presented in Table (1) below.

Table (1): Mean Scores and Standard Deviations of Benefits of Using Mobile Technology in Descriptive Statistics

Using mobile phones in Classroom	N	Min	Max	Mean Scores	Std. Dev.	significance
1. facilitates teaching speaking .	30	2	5	4.03	0.964	High
2. supports the traditional ways of teaching speaking .	30	2	5	3.63	1.245	Moderate
3. helps students improve their speaking skill in a convenient atmosphere.	30	2	5	3.83	1.020	moderate
4. decreases the heavy load imposed on teachers while teaching large classes.	30	2	5	4.10	0.845	High
5. provides students with chances to practice speaking independently.	30	3	5	4.13	0.681	High
6. provides students with opportunities to listen to native speakers.	30	4	5	4.40	0.498	High
7. makes learning more enjoyable.	30	2	5	4.23	0.679	High
8. helps students improve their accent and speed .	30	2	5	4.13	0.819	High
9. helps students improve their intonation, stress, pronunciation..etc.	30	2	5	4.17	0.874	High
Total Mean	30	2.89	5.00	4.0741	0.60951	High
Valid N	30					

Developing Learners' Speaking Skill

The data in Table (1) indicate that participants in this study clearly consent on the usage of the mobile telephone in class in order to learn English as it has significant benefits in improving the communication skills of learners. This part's cumulative mean value is (4,074) out of (5). This score is called good since it is small. The lowest grade (1-2,4) is (2,5-4) and

the strongest classification (4,1-5) is. Table (1) also demonstrates how "Use Classroom's mobile telephone gives a opportunity for students to hear native speakers '(M= 4.40),' whereas" Use Classroom's mobile computer allows students develop their speech abilities in an environment of comfort (M=3.7) and encourages conventional educational methods (M= 3.63). The disruptions students could face while using cell phones in broad crowded classes may be related to a potential explanation for these poor responses.

PART TWO

The aim of the second part was to identify whether teachers implement mobile technology in their classrooms to develop students' speaking skill. The expected values depend on the responses of the participants. If the response is always, it gets 4 points; sometimes, 3 points; rarely, 2 points; and never, 1 point. Table (2) below shows the sample's responses.

Descriptive Statistics						
As an English teacher, do you	N	Min	Max	Mean Scores	Std. Dev.	significance
1. design speaking activities for your students using your mobile phone?	30	1	4	2.20	1.186	Moderate
2. encourage your students to use the Internet application of their mobile phones to listen to how native speakers speak English?	30	1	4	2.77	1.223	Moderate
3. play audio conversations for your students in the Classroom using your mobile?	30	1	4	2.67	1.093	Moderate
4. encourage your students to use the video camera of their mobile phones to videotape themselves while speaking in English?	29	1	4	1.97	1.117	weak
5. encourage your students to use the video camera of their mobile phones to videotape themselves while conversing with their classmates in English?	30	1	4	1.97	1.217	weak
6. display videos that help in developing students' pronunciation , intonation, stress?	30	1	4	2.30	1.179	Moderate
7. assess your students' speaking skill using mobile phone?	30	1	4	1.90	1.062	weak
8. assign speaking tasks for students to do on their mobile phones?	30	1	4	1.87	1.008	weak
9. provide students with audio tracks to help them improve their accent and speed ?	30	1	4	2.63	1.159	Moderate

Mean	30	1.00	4.00	2.2505	0.79909	Moderate
Valid N	29					

Table (2): Mean Scores and Standard Deviations of Teachers' Implementation of Mobile phones in Classroom

Table (2) data indicates that teachers use their mobile phones reasonably in the Classroom to teach English, as the average total ranking for this segment is 2.25 and is in the moderated category (2.25 out of 4). The maximum moderate mean score was (2.77) when questioned (2). Most respondents said they allowed their students to use their cell phone's Internet service to listen to native speakers talking English. Moreover, Table (2) questions (1), (3), (6) and (9) are rated as mild, since the average scores are (2.20), (2.67), (2.30) and (2.63) respectively. The mean vulnerabilities differ. Question 8 (Do you delegate speaking assignments for cell phone students?) is addressed (1.87) when question 7 is questioned (Do you test your telephone talking skills?) (1.97). Question 4 (Do you allow students to use their cell phone video cameras to film them in English) and question 5 (Do you enable your pupils to videotape the video recorder on their mobile phones while talking to their classmates in English?) have the same sense, namely (1.90).

PART THREE

This part consisted of eight items that were composed to point out the obstacles that are likely to impede mobile utilization in classroom teaching and learning process. The expected values are '2 points' for the response "agree" and '1 point' for the response "disagree".

Descriptive Statistics						
The use of Mobile Phone in Classroom is difficult due to :	N	Min	Max	Mean Scores	Std. Dev.	Significance
1. The poor internet infrastructure in educational institutions which often gets overwhelmed / overloaded when accessed by so many devices at the same time .	29	1	2	1.86	0.351	High
2. Interrupted electricity.	30	1	2	1.93	0.254	High
3. The slow speed of internet which could waste time, de-motivate students , lead to a lot of noise and create boredom among students.	30	1	2	1.90	0.305	High
4. Battery life(charge) which may finish at any moment .	30	1	2	1.83	0.379	High
5. High costs associated with devices/ equipment connection to internet .	30	1	2	1.83	0.379	High

6. Some students are not skilled in internet accessibility and mobile technology .	3 0	1	2	1.87	0.346	High
7. Difficulty of assessing students' speaking skill using mobile phone.	3 0	1	2	1.70	0.466	High
8. Crowded classrooms, lack of facilities and great efforts in preparing and gathering materials make using mobile in classrooms a tough task for both teachers and students.	3 0	1	2	1.87	0.346	High
Mean	3 0	1. 00	2.00	1.8488	0.169 52	High
Valid N	2 9					

Table (3): Mean Scores and Standard Deviations of Obstacles that Hinder Mobile Utilization in Classroom

As seen in Table (3), this section's average total result is (1.84), which ranks high. In comparison, both objects earn strong mean ratings from (1.93) to (1.70). This extremely important finding demonstrates that any of the above can be viewed as big hurdles to use a cell phone in the Classroom.

According to the subjects, these are not the only reasons that make using mobile technology in the Classroom difficult and challenging. Besides what is mentioned in Table (3), they added the following points: (1) Some students are careless; (2) Students' lack of awareness; (3) Some students do not possess phones by which they can access the internet; (4) Some students have vision problems; (5) Some activities might be boring; (6) Weak desire of both teachers and students; (7) Teachers' lack of qualification; (8) Absence of strategies for mobile use; and (9) Some environmental problems may emerge while using mobile.

12. Conclusion and Suggestions

Mobile technology has played a significant part in the learning environment. First, mobile learning allows students to develop their language skills in general and also specific skills in the language they are learning. Secondly, mobile devices can promote individual and interactive learning opportunities in the Classroom. It also encourages students to practice hard and develop poor places. Undoubtedly, high or at least modest usage by teachers of mobile phones will draw interest to students and allow them to increase their self-esteem and self-confidence.

From the above results, we can make the following recommendations. Furthermore, teachers should be conscious of the advantages of cell device instruction and should call attention to the value of utilizing this new application to study English attentively, because it

is an immersive contact network that can be used by all of us today. This is now well established that ICTs affect the pedagogical cycle greatly. Al-Ahdal (2019) and Mehta (2012) support this idea that students and teachers should be better aware regarding this topic as these tools are deemed successful in teaching and learning. Teachers should often be open-minded and can aspire to change their traditional teaching by instructing students to use them while they are their mobile phones that help them achieve progress. Teachers do not ban their usage of mobile phones but should utilize them wisely and under control; they should provide appropriate lessons to support their expectations in utilizing this technology and to trust in their students' abilities to be good teachers. In reality, smartphone applications will give students an alternative platform that helps develop their vocabulary, knowledge and results. Teachers are also motivated to make this usage of mobile telephones by students to help them find a way to understand. This should allow students to be independent and eventually effective as teachers have a mission to create a generation that has the resources to succeed

=====

References

- Abbasi, M. & Hashemi, M. (2013). The impact/s of Using Mobile Phone on English Language Vocabulary Retention. *International Research Journal of Applied and Basic Sciences*. 4 (3), 541-547.
- Al- Aamri, K. (2011). The Use of Mobile Phones in Learning English Language by Sultan Qaboos University Students: Practices, Attitudes and Challenges. *Canadian Journal on Scientific & Industrial Research* Vol. 2, No. 3.(P-P 143-152)
- Al-Ahdal, M. E., & Nooritawati, M. T. (2012, March). Review in sign language recognition systems. In *2012 IEEE Symposium on Computers & Informatics (ISCI)* (pp. 52-57). IEEE.
- Al-Ahdal, A. A. M. H., Alfallaj, F., Al-Awaied, S., & Al-Hattami, A. A. (2014). A comparative study of proficiency in speaking and writing among EFL learners in Saudi Arabia. *American International Journal of Contemporary Research*, 4(2), 141-149.
- Al-Ahdal, H., Mohammed, A. A., Al-Hattami, A. A., Al-Awaied, S. A. A., & Al-Mashaqba, N. J. A. H. (2015). Pronunciation for the Arab Learners of EFL: Planning for Better Outcomes. *English Language Teaching*, 8(10), 100-106.
- Al-Ahdal, A. A. M. H., & Shariq, M. (2019). MALL: Resorting to Mobiles in the EFL Classroom. *The Journal of Social Sciences Research*, 90-96.
- Al-Ahdal, A. A. M. H., & Alqasham, F. H. . (2020). WhatsApp in language classroom: Gauging Saudi EFL teachers' roles and experiences. *Opcion*, Ano 36, 1667-1680.
- Atwell, G. (2012). 25 Practical ideas for using mobile phones in the Classroom. Retrieved October 15, 2015 from <http://www.pontydysgu.org/2009/11/25-practical-ideas-for-using-mobile-phones-in-the-classroom>.
- Bachore, M. (2015). Language Learning through Mobile Technologies: An Opportunity for Language Learners and Teachers. *Journal of Education and Practice*. Hawassa University, Hawassa, Ethiopia. Vol.6, No.31.P-P.50-5.
- Beatty, K. (2010). "Teaching and Researching Computer-Assisted Language Learning," Harlow: Pearson/Longman 2nd Ed. In Gangaianaran, R & Pasupathi, M. (2017). Review on Use of Mobile Apps for Language Learning. *International Journal of Applied Engineering Research*, India. Volume 12, Number 21 (2017) pp. 11242-11251
- Cavus, N., & Ibrahim, D. (2016). M-learning: An experiment in using SMS to support learning new English language words. *British Journal of Educational Technology*, 40(1), P-P. 78–91.
- Chartrand, R. (2016). Advantages and Disadvantages of Using Mobile Devices in a University Language Classroom. Retrieved from:
- Cuing, G., & Wang, S. (2008). Adoption cell phones in EFL teaching and learning.
- Gangaianaran, R & Pasupathi, M (2017). Review on Use of Mobile Apps for Language Learning. *International Journal of Applied Engineering Research*, India. Volume 12, Number 21 (2017) pp. 11242-11251
- Harmer, J. (2001). The practice of English language teaching. 3rd ed. Harlow, England: Longman.
- IMDB. Internet Movie Database. Retrieved from <http://imdb.com>
- Kukulska-Hulme, A. (2013). Mobile-assisted language learning. In C. Chapelle (Ed.), *The encyclopedia of applied linguistics* (pp. 3701-3709). New York: Wiley.

- Magulod Jr, G. C. (2018). Innovative learning tasks in enhancing the literary appreciation skills of students. *SAGE Open*, 8(4), 2158244018820382.
- Magulod Jr, G. C. (2019). Learning Styles, Study Habits and Academic Performance of Filipino University Students in Applied Science Courses: Implications for Instruction. *Journal of Technology and Science Education*, 9(2), 184-198.
- Mehta, N.K. (2012). Mobile phone technology in English teaching: Causes & concerns. Retrieved August 25, 2015 from <http://site.iugaza.edu.ps/nmasri/files/2010/09/Mobile-PhoneTechnology.pdf>.
- Motteram, G. (2013). Introduction. In Motteram, G (Ed.), *Innovations in learning technologies for English language teaching* (5-14). London: British Council. Retrieved from: http://englishagenda.britishcouncil.org/sites/default/files/attachments/british_council_innovations_in_learning_technologies_for_elt.pdf
- Mtega, P. (2012). Using Mobile Phones for Teaching and Learning Purposes in Higher Learning Institutions: The Case of Sokoine University of Agriculture in Tanzania, p-p. (118-129)
- Ogata, H., & Yano, Y. (2005). Knowledge awareness for computer-assisted language learning using handhelds. *International Journal of Learning Technology*, 5(1), P-P 435-449.
- Reinders, H. (2010). Twenty ideas for using mobile phones in the Classroom. *English Teaching Forum*, No. 3. Retrieved July 10, 2015 from http://exchanges.state.gov/englishteaching/forum/archives/docs/forum-10-03/48_3_4_reinders.pdf.
- Sharples, M. (2007). A theory of learning for the mobile age. In Bachore, M.(2015). *Language Learning through Mobile Technologies: An Opportunity for Language Learners and Teachers*. Journal of Education and Practice. Hawassa University, Hawassa, Ethiopia. Vol.6, No.31.P-P.50-5.
- Trifonova, A. & Ronchetti, M. (2003). Where is Mobile Learning Going? In Al- Aamri, K. (2011). *The Use of Mobile Phones in Learning English Language by Sultan Qaboos University Students: Practices, Attitudes and Challenges*. Canadian Journal on Scientific & Industrial Research Vol. 2, No. 3.(P-P 143-152)
- Yunus, M. (2012). Integrating social networking tools into ESL writing classroom: Strengths and weaknesses. *English language teaching*, 5(8), 42-48
- =====



Department of English
College of Education
Sana'a University
Ph D Program

Appendix A

Questionnaire

Dear Teacher,

This research paper is conducted as a part of ELT requirement course. It is entitled "*Using Mobile Technology in Classroom for Teaching Speaking Skill in Yemeni Universities*". It aims at investigating the benefits of using mobile technology in developing students' speaking skill, finding out whether Yemeni teachers implement this technology in their classrooms while teaching English and possible obstacles hindering its use in classroom teaching.

You are kindly requested to answer the items of this questionnaire assuring you that your responses would be confidentially used for the research purposes..

Thanks for your cooperation

Name :

University/College:

Years of Teaching Experience:

Part One

Benefits of Mobile Phones in Developing Learners' Speaking Skill						
Using mobile phones in Classroom		Strongly agree	Agree	Undecided	Disagree	Strongly disagree
1	facilitates teaching speaking .					
2	supportsthe traditional ways of teaching speaking .					
3	helps students improve their speaking skill in a convenient atmosphere .					
4	decreases the heavy load imposed on teachers while teaching large classes.					
5	provides students with chances to practice speaking independently.					
6	provides students with opportunities to listen to native speakers.					
7	makes learning more enjoyable.					
8	helps students improve their accent and speed .					
9	helps students improve their intonation, stress , pronunciation..etc.					

Part Two

Teachers' Implementation of Mobile phones in Classroom					
	As an English teacher, do you	Alwa ys	Sometim es	Rar ely	Nev er
1	design speaking activities for your students using your mobile phone?				
2	encourage your students to use the Internet application of their mobile phones to listen to how native speakers speak English?				
3	play audio conversations for your students in the Classroom using your mobile?				
4	encourage your students to use the video camera of their mobile phones to videotape themselves while speaking in English?				
5	encourage your students to use the video camera of their mobile phones to videotape themselves while conversing with their classmates in English?				
6	display videos that help in developing students' pronunciation , intonation, stress?				
7	assess your students' speaking skill using mobile phone?				
8	Assign speaking tasks for students to do on their mobile phones?				
9	provide students with audio tracks to help them improve their accent and speed ?				

Part Three

Other Obstacles, please specify.

Obstacles /Barriers Hampering the Use of Mobile Technology in Classroom			
Using Mobile Phone in Classroom is difficult due to :		Agr ee	Disagr ee
1	The poor internet infrastructure in educational institutions which often gets overwhelmed / overloaded when accessed by so many devices at the same time .		
2	Interrupted electricity.		
3	The slow speed of internet which could waste time, demotivate students , lead to a lot of noise and create boredom among students.		
4	Battery life(charge) which may finish any moment .		
5	High costs associated with devices/ equipment connection to internet.		
6	Some students are not skilled in internet accessibility and mobile technology .		
7	Difficulty of assessing students' speaking skill using mobile phone.		
8	Crowded classrooms, lack of facilities and great efforts in preparing and gathering materials make using mobile in classrooms a tough task for both teachers and students.		

.....

 =====

A Cognitive Linguistic Analysis of Broadcasting Language of Malayalam News

Suja. S., B.Sc., M.A., M.Phil., Ph.D. Scholar

Department of Malayalam

University of Madras

Ph. 9544250733

suja.savidham@gmail.com

=====

Abstract

This paper explores the principal features of the broadcasting language in Malayalam News from a cognitive linguistic view. This study integrates cognitive linguistic analysis with media study and argues that the language of broadcasting is a specific genre. Broadcasting news discourse is understood as a strategic deployment of cognitive factors such as metaphors and metonymies to foreground the socio- political reality within limited time. A qualitative analysis of sample from a corpus of different news bulletins from All India Radio stations in Kerala is conducted to illustrate such cognitive linguistic study. In the course of the analysis it is demonstrated how linguistic factors works in cognition of broadcasting language.

Keywords: Malayalam News, Broadcasting language, Cognitive linguistics, Conceptual metaphor, Metonymy

Introduction

Cognitive linguistics is a powerful and novel approach to study language, conceptual system, human cognition, and general meaning construction. It observes that the language is governed by general cognitive principles such as memory, perception, attention and categorization and so on, rather than by a special- purpose language module, as conceived by the generative grammarians.

Cognitive Linguists never regards the ability to learn and use one's mother tongue as a unique innate module but a skill just as other general cognitive abilities. Metaphor and metonymy are two important cognitive processes. A language without metaphor and metonymy is inconceivable. This paper uses these two tools of cognitive linguistics for analyzing the sample data Malayalam news from All India Radio (News from AIR channels AIR Thiruvananthapuram and Kozhikode).

News is information about current events which may include war, government, politics, education, health, the environment, economy, business, as well as athletic events, quirky or unusual events. Broadcasting news is considered as one of the popular news media.

Introduction of new media such as television news channels and online newspapers never affected popularity of radio news. Radio news is the only news medium which uses only audio for presenting news. Pictures or any videos are not being used to explain the matter.

Broadcasting time is limited and fixed. Listeners cannot reread or hear repeat if any news is not clear. In short, the broadcasting language is a complex language which involves the processes of writing, speaking and listening. This paper tries to prove that all these responsibilities in broadcasting language are carried out by enormous presence of this metaphor and metonymy. Cognitive analysis of broadcasting language helps not only to understand this media but the way in which society perceive language.

The present paper is divided into two parts. The first part focuses on the conceptual metaphor theory and the second part analyses the sample data followed by the conclusion.

Conceptual Metaphors

According to the conceptual view of metaphor, “metaphor is a cognitive process that allows one domain of experience, the *target domain*, to be reasoned about in terms of another, the *source domain*” (Lakoff & Johnson 1980), This mapping (between source and target domains) has two sorts of correspondences: ontological and epistemic.

Ontological correspondences

Source: Radio Broadcasting	Target: Non-stop talk
Radio	Human
Broadcasting Time	Talking Time
Continuous Broadcasting	Continuous talk
Agitation of Boredom	Experienced boredom
Limit of listener’s listening capacity	limit of person’s ability to listen talk
Switching off of Radio	Forceful stopping of talk

Epistemic correspondences

Radio broadcasting is continuous	The talk of this person is spontaneous.
No automatic switch off the radio in radio.	No automatic stopping of talk
Radio broadcasting is one sided.	Talk is monologue.
Effective listening can occur when programmes are broadcasted as listener’s choice.	Effective talk can only occur when all have equal participation and interest in talk.

It means, metaphors are conceptual structures, and are not merely linguistically in nature, although, they are normally realized linguistically. For example:

- i. Your argument just added fuel to the fire. (Anger is fire.)

- ii. You're wasting my time (Time is money).

It shows that metaphor is not a particular word or expression. It is the ontological mapping across conceptual domains, from the source domain of 'broadcasting' to the target domain of 'talk.' In other words, the metaphor is not just a matter of language, but of thought and reason, hence, the language is secondary.

Metonymy

Metonymy is a figure of speech that replaces the name of a thing with the name of something else with which it is closely associated. Metonymy involves speaking about a salient reference point which allows us to access another conceptual entity, the target. In the processing the PART FOR WHOLE metonymy, for example, the people reject CAA suggested by Parliament. We mentally access a whole population via a salient part people. We also find the reverse situation of a WHOLE FOR PART metonymy, in which a whole serves as a reference point for accessing one of its parts. For instance, *maṇḍalaṁpāḍā* won the cup. Here, *maṇḍalaṁpāḍā* refers to Tamil Nadu IPL team. *maṇḍalaṁpāḍā* is a conceptually salient reference point in that it is a color of jersey of Tamil Nadu. Metonymy concepts are obviously systematic which can be identified in the following metonymic models.

- i. The part for the whole.
- ii. Institution for people responsible e.g. Court disclosed the statement again.
- iii. The place for the event e.g. Remember Germany.

Based on this theoretical framework, the following part focuses on the relevance of the Cognitive Linguistic study of Malayalam news broadcasting.

Radio news brings two more elements into framework of spoken – written paradigm. It is not a spoken language either. But a language to read, a language to listen. Dr. K. Parameswaran (2012:53) coined this reading as the “cognitive process of understanding a Linguistic message” Listening to a news script is different from the way in which a person communicates with another and it uses only audio for passing news. So they cannot use pictures or any videos to explain the matter. Broadcasting time is limited and fixed. Listeners cannot reread or hear repeat if any news is not clear. In short, the broadcasting language is a complex language which involves the processes of writing, speaking, listening.

Sample Data: Broadcasting Language of Malayalam News

Conceptual Metaphors

The conceptual metaphors are extensively used in the News discourse. The conceptual metaphors in Malayalam broadcasting language are classified on the basis of source domain.

I. Travel Metaphor

Travel is one of the basic human characters. There is a set of conventionalized expression used to narrate ‘travel’ in the present discourse.

News Broadcasting starts with

1. *raṇṭāmat kēraḷa –rajyyānantara vanītā calachitrōlsavam ārambhikkum.*
(Kerala Second International women film festival starts tomorrow)
Here source domain is journey and target domain film festival.
2. *niyamasabhasammēḷanam niṭiveccu.*
(Legislative assembly adjourned for a short period)
By using the word *niṭiveccu* which means adjourned which reflects some journey which designed for a destination has been stopped due to some reasons. Here source domain is Journey and target domain legislative assembly.
3. *ai līg fūtbōlil gōkulam kēraḷa eḥ si – manipūr eḥ si matsaram samanilayil pirīṇu.*
(Gokulam Kerala FC – Manipur managed to finish draw in its I league football.)
Word meaning of *pirinjo* in English is apart. Journey to some destination by these two football team, that is to the victory in game is referred to adjourned here. Here source domain is journey and target domain is end result of the football match.
4. *Suprīm kōdatiyude vṇpatanga bharanaghadana beṇc innu vādam ārambhikum.*
(A nine - judge bench will examine essential matters in Supreme Court today).
The process of hearing by nine membered judges is metaphorically stated as journey. Here source domain is Journey and target domain court procedures.

II. War Metaphors

Metaphors whose source domain is war or fight are referred as War Metaphors.

5. *puruṣavibhāgam fainalil novōk jōvikum dominik themum ēttomutum.*
Novak Djokovic and Dominic Thiem will encounter each other in men’s final. Here by using the word *ēttomutum* gives meaning that they are going to engage in conflict with each other. In this news headline its neither referred that it’s about Australian Open title tennis tournament. Metonymically by referring round and players name, Name and title of the game are included.
6. *Intya srīlankaye ēzu vikatiṇa takartu.*
(India defeated Sri Lanka by seven wickets)
As example mentioned above both Metaphor and Metonymy is in this news also. The word takartu is coined with War/ Destruction. Here India – Srilanka cricket match is mentioned as a war between two countries.

III. Container Metaphors

A container metaphor is an ontological metaphor in which some concept is represented as: having an inside, outside and peripheral area capable of holding something else. Such kind of metaphors is used in plenty in broadcasting language. Examples:

7. *Niyamasabha yude natatalattilirangi mudrāvākyangal muḥaki.*
(Entered the central hall of legislative assembly and shouted slogans)
Says legislative assembly leaders stands inside some specific place to show their disagreement to some laws. The seats they are supposed to sit are considered as outside of some container and where they stand as inside part of container. Container metaphor is used here in which source domain is container and target domain central hall of legislative assembly.

Metonymy

I. Institution for people responsible

8. *onpatanga bharanakhadanabencil pariganikenda kāryaṇal ṣopri:m kōdati innu tīrumānikum.*
(Supreme Court will examine essential matters to be studied by nine membered judge) .

Here decision of Supreme Court judge is referred as decision of institution. The metonymy institution for people responsible was used. “the Supreme Court judge” is the one who decides. Therefore, the office ‘Supreme Court’ was used to stand for the person ‘the supreme court judge.’ Based on this explanation, it could be seen as an example of metonymy INSTITUTION FOR PEOPLE RESPONSIBLE.

9. *ē māsam 22nu vaḍha sikṣa nadappākān Delli kōtati utharavittu.*
(Delhi Court issues death warrants for hanging on 22nd of January)

Order by Delhi High Court judge is referred as order by Delhi Court. Therefore, the office ‘Delhi Court’ was used to stand for the person ‘the Delhi Court judge.’ Based on this explanation, it could be seen as an example of metonymy GOVERNMENT OFFICE FOR PEOPLE RESPONSIBLE.

10. *āru varṣamāyi aḍimati rahitavum sutāryavumāya bharaṇam kaḥcavaikān gavernmentinu kaḥiḥḥatāyi kēndramantri.*
(Home Minister says, government provided transparent and correction free governance for the last six years)

Here metonymy ‘POST FOR PEOPLE RESPONSIBLE’ is illustrated.

11. *rājyate traid yūniyanukalute samyukta samarasamiti āhvānam ceyta panimutaku tudāṇi.*

(The National wide strike called by Central trade union begins)

Here strike is announced by some leaders of Central trade union. Therefore, the organization central trade union was used to stand for the group members of the trade union.' Based on this explanation, it could be seen as an example of metonymy Organization for people responsible.

II. The place for the event

12. *Kaviyūr kēsil si bi ai samarpicca riport kōtati talli*

(The report on Kaviyoor case submitted by CBI was dismissed by court)

Here rape attempt of father against his daughter reported at place Kaviyoor is mentioned as Kaviyoor case. Here PLACE is mentioned for the cruel INCIDENT. The metonymy CBI for being Central bureau of investigation was used. In other words, acronym CBI stands for 'the whole investigation office team.' Based on this explanation, this news can be taken as an example of the metonymy PART FOR WHOLE. The other Metonymy in this single sentence is Government office name is used for people responsible. The office 'Court' was used to stand for the person 'the Court judge.' Based on this explanation, it could be seen as an example of metonymy Government office for people responsible.

13. *Delhi kēsil nālu pratikalte vadhaśikṣa ī māsam natappilākkān kōtati uttaaravittu*
(court ordered death punishment for the defendants in Delhi case)

Two types of metonymy are there in this sentence Place for incident and Institute for people responsible.

Group rape crime reported at Delhi is mentioned as Delhi case. **Place is mentioned for the cruel event.** Order by some particular judge is referred as court order. **Institution is mentioned for people responsible.**

Conclusion

This paper argues that conceptual metaphors and metonymy are used spontaneously in the language of broadcasting. In conceptual metaphors, journey metaphors are the most used metaphor. In addition to this, war metaphors could also be seen in the news especially for narrating sports as well as politics. It means, All India Radio Malayalam news covertly expresses their ideological positions through the metaphors. News reported on rape cases in Malayalam Broadcasting News, neither victim name nor incident is mentioned. This is the common practice. Humanity and concern for the victims may be the reason for that. All metaphors and metonymy used in Malayalam Broadcasting News are 'human centered'. It

shows that the prime concern here is human since language is not just a way of expressing ideas. Future studies are encouraged to further explore broadcasting language of other programs which are not included in the current study.

References

1. Girish P.M. 2012. Arivum Bhaashayum- Dhaishanika Bhaashaashaasthrathinor amukham. Thiruvananthapuram: Kerala Bhasha Institute.
2. Girish P.M. 2016. George Lakoff – Bhaashayude Raashtreeya Manasu. Thiruvananthapuram: Chintha Publishers.
3. Girish P.M. 2018. Bhaashaashaasthram Chomskikkumappuram. Thiruvananthapuram: Kerala Bhasha Institute.
4. Lakoff, George. & Mark Johnson. 1980/2003. Metaphors We Live By. Chicago: University of Chicago Press.
5. Lakoff, George. 1987/1999 Women, Fire and Dangerous things: What categories Reveal about the Mind, Chicago: The University of Chicago Press.
6. Parameswaran, K. 2012. Radio Broadcasting – A Reader's Guide. New Delhi: Authors Press.
7. Broadcasting News from All India Radio channel Thiruvananthapuram, Kozhikode.



S. Suja, Research Scholar
Department of Malayalam
University of Madras, Marina Campus
Chennai- 600 005
Tamilnadu, India
suja.savidham@gmail.com

Instructional Leadership Style of Secondary Schools' Head and Their Gender-wise Effect on Teachers' Job Performance

Ushaque Ahmed, MS Scholar

Education Dept., Shaheed Zulfiqar Ali Bhutto Institute of Science & Technology,
Karachi, Pakistan

saniushaque@gmail.com

Cell: +923362746022

Najmonnisa Khan, Associate Professor

Education Dept., Shaheed Zulfiqar Ali Bhutto Institute of Science & Technology,
Karachi, Pakistan

dr.najmonnisa@szabist.edu.pk

Rabia Aslam, PhD Scholar

Education Dept., Shaheed Zulfiqar Ali Bhutto Institute of Science & Technology,
Karachi, Pakistan

rabee_malik@hotmail.com

=====

Abstract

Transformational leadership theory was used for the present study to inspect the relationship of teachers' performance in jobs with instructional leadership style of secondary public schools' heads. Descriptive research design under the quantitative approach was used. This study was conducted by using stratified random sampling technique with the sample of 160 teachers, teaching in secondary public schools of district Larkana. Two tools were used to collect data for the present study. "Instructional Leadership Questionnaire (ILQ)" was used to measure the instructional leadership styles of the head of the institute, while teachers' job performance was measured by using "Teachers' Job Performance Scale (TJPS)". Positive and moderate significant correlation was found between instructional leadership styles of head teachers with the TJP. Result showed that 28% teachers' performance is explained by the institutional heads' instructional leadership style. Panel discussion seminar and conferences at elementary and secondary level are highly recommended.

Keywords: Instructional Leadership Style, Transformational Leadership, Teachers' Job Performance, Pakistan.

1 Introduction

1.1 Background of Study

Schwartz (2017) expressed, “if a school is performing well enough in every aspect, it will be just owing to the instructional leadership of the principal” (p.103). Head of institute who possess the instructional leadership qualities is foremost source of improvement of the teacher’s capability (Kwinda, 2019). Their actions influence the achievement and performance of instructors in multiple modes through their leadership, both gender try their level best to sharpen and improve the teachers’ performance and resultant, school perform well enough as well as better environment is developed in that school, that makes a difference to realize points of education (Larkin, Brantley-Dias, & Lokey-Vaga, 2016).

Evidence has shown that teachers who are more passionate and dedicated in their job performance they become more satisfied with their professions and hardly they leave or opt for another career field (Larkin et al., 2016). Scores of elements that will ensure the quality of teachers’ work performance, including working environment conditions, pay, staff connections, student behavior, parenting, and strong administration (Saleem et al., 2019). A few researchers inspected the association among teacher performance and strong supervision control (Schwartz, 2017) and believe that when instructors feel empowered, they never ever think to quit this prophetic profession. Whereas there is study to sustenance teacher work capacity or effectiveness hinged on students’ accomplishment in relation to job performance, there is relatively slight information in connection to how teachers regarded their principal’s leadership actions as related to job satisfaction (Larkin et al., 2016; Schwartz, 2017). In any case, with all the accessible research on the subject of teacher performance, there is an exceptional need for research that is accessible on how certain factors influence job performance for instructors, to be specific on how the leadership styles of central influence reported job satisfaction. The data included extra stratum to grasp that what factors bound to them to be pleased in this profession and the readiness to opt this field as priority for career selection (Larkin et al., 2016; Schwartz, 2017).

1.2 Problem Statement

Since all the diverse research studies accessible on teacher work fulfillment, the issue remains that a significant feature has not been examined, particularly the association among teacher work satisfaction and principal’s leadership styles. A few researchers investigated the relationship between leadership styles and college staff members’ work fulfillment (Schwartz, 2017); however, relatively small experimental research has been conducted on the relationship between teachers’ job satisfaction and leadership styles at the high school, middle school, or elementary school level (Saleem et al., 2019). Indeed so, it is by and large on same page that when teachers are fully supported and encouraged from directors, they become more comfortable in completion of any task (Maqbool et al., 2019). Within the territory of Sindh due to lack of quality and performance, Education segment is at verge of destruction because the

efforts been taken for the betterment of education so far could not give best results due this there is restlessness in people (Siddique et al., 2019). This situation presents different facets of problem to in charge of school. The successful head of institute produce a fruitful results in improving the teachers' effectiveness. Thus, student become eager to learn and face any hurdle which comes to their way (Schwartz, 2017). Successful school leaders may have an ability to get done best by subordinate (Saleem et al., 2019). A question hits the researcher's intellect that, as an instructional manager, high-quality teaching and training is profoundly concerned with the feasibility of secondary school principals in determining the motivation of the teachers to carry out their work. Besides the issues there was no prior published research work available particularly on this area and population regarding principals' instructional leadership style and teachers' job performance in public sector in this region at the time of this study. As a result, there was indigence or chasm in knowledge on this leadership and job performance subject matter in the view of secondary schools in public sector in Larkana district.

Thus, there was an acute need to fill this gap in knowledge. To our knowledge, therefore, it was first study which gives insightful view that instructional leadership style were the most conducive to the job performance in secondary schools in public sector particularly in Larkana district-Sindh, Pakistan.

1.3 Research Objectives

Following objectives were formulated for the present study:

1. To find out the relationship between Secondary school heads' instructional leadership style and teachers' job performance at Secondary public schools District Larkana Pakistan.
2. To find out the effects of Secondary school heads' instructional leadership style on teachers' job performance at Secondary public schools District Larkana Pakistan.
3. To examine the differences among the instructional leadership styles on the basis of male and female Secondary school heads.

1.4 Significance of the Study

The outcomes of this investigation might be pleasing in bracing the instructional administration of Secondary school heads inside Larkana region, Sindh. The investigation may offer help the strategy producers to detail plans for educators in upgrading their capacities regarding instructional authority. The results may offer systems to the principals who expect to be progressively dynamic. The examination may give chance the head of foundations to look at their duty to upgrade bearings in schools so as to discover choices for the best proficient headway of their educators. The investigation may likewise be useful for the instructive specialists to set models for school heads as instructional pioneer and the satisfactory degree of execution for instructors.

2 Literature Review

2.1 Transformational Leadership Style

The theoretical framework for this study requires an understanding of the commonly accepted styles of leadership that are transformative, transactional and laissez-faire. A score of researches from a multiple educational backgrounds and locales studied the conceptual abstract of diverse styles of leadership (Dutta, & Sahney, 2016; Schwartz, 2017) and found that leaders are probably to come in mentioned three types. Leadership style leave impression on the attitudes of subordinates (House, & Aditya, 1997) and the quality of the leader is often measured by the climate and context of the institute he holds reins (Schwartz, 2017). According to Amin, Shah, & Talha (2013), the personal attributes, potential of the leader typically regulate a definite style for the leader, which portray up to the mark image of the leader all in his followers.

Head who use a transformational leadership style stimulate followers to get upper standards of achievement, indorse modern methodologies to problem-solving, and embolden amendment and make sure that the group retains a shared vision (Bass & Avolio, 2018). Main ingredients to transformative leadership is the usage of enthusiasm and reinforcement. According to this assumption, followers probably do their best in doing any concerned task when they are being appreciated or esteemed. Followers thus obey the demands of rulers on the basis of an underlying element of personal motivation (Schwartz, 2017).

2.2 Instructional Leadership's Function

Certain aspects of instructional leadership are common across different models; the present study focuses on such components. In examining the early models of instructional leadership proposed by Hallinger and Murphy (1985; 2013), researcher noted four common components. These include vision and mission, management of the program, positive environment, and staffing and resources. While these components are named and explored differently within various instructional leadership practices, their core attributes remain consistent. Researcher use the components of instructional leadership to explore how principals think about and act on their work as instructional leaders. Each of the components above is discussed in their section below, and each is further divided into four subsections: understanding (which looks at how principals understand instructional leadership about the mentioned component), supports, strategies, and challenges. To begin, Leithwood et al. (2004) contend that the creation of vision and mission is essential to the success of leadership.

2.3 Attributes of a Competent Teacher

According to Ahmed (2004), "An ideal teacher is one who induces a willingness in his pupils to focus whole-heartedly on learning a new thing" (p.28). However, teachers' task starts when the students enter in the institute and complete its certification at the end of the day. Teacher is the one who determine the educational achievements along with the development

of intellectual abilities in the individual students (Saleem et al., 2019). Effective teachers are prepared to teach students. Darling-Hammond (1997) stated that “teachers who are fully prepared and certified in both their discipline and in education are more highly-rated and are more successful with students than are teachers without preparation, and those with greater training in learning, child development, teaching methods, and curriculum are found to be more effective than those with less” (p.10). An effective teacher prepares to teach by earning the necessary credentials to teach. An effective teacher is very knowledgeable in the subject matter he or she teaches and strives to be a life-long learner (Morgan, 2015).

Classroom management is often referred to as classroom discipline (Harriott, 2019). Classroom management defines the activities that teachers have to perform to teach properly their pupils, this may involve keeping a classroom disciplined, deliver lessons without disturbance, and engaged pupils in different task. Evertson and Weinstein (2006) provided an outline on classroom management. According to them, there are two purposes of classroom management: a) it establishes and maintains a organized environment and b) it strengthens students’ social and moral development.

The review of literature revealed several other characteristics of effective teachers including instructional delivery and regularity. The use of direct and individualized instruction is common in effective teachers (Stronge et al., 2011). Kinchin (2003) asserted that the foundation of effective teaching is built on preparedness of the teacher. Preparedness includes knowledge of the curriculum and information of the students’ prior knowledge of the content. The more the teacher knows about the content and student, the more effective the teaching will be (Qureshi, 2013).

Interpersonal dynamics may include speaking skills, communication, and clarity of rules, discussions, listening, and more. Charles (1999) emphasized this quality by stating that the foundation of establishing relationships is based on an individual’s communicational skills and thus, the effectiveness of the teachers can be decided by the way they communicate. Mackinnon-Ashby (2007) insisted that teachers must learn communicational skills as they are vital in creating positive student-teacher relationships.

2.4 Heads’ Instructional Leadership Style and Teachers’ Job Performance Relation

Leadership styles have a significant effect on the work environment of any organization and thus on the job performance of teachers (Kiboss & Jemiryott, 2014). In some research, the job satisfaction of teachers is influenced by the school environment and the style of leadership (Saleem et al., 2019). Job satisfaction in various areas of literary studies receives considerable attention (Saleem et al., 2019).

In 2018, Imhangbe et al. studied the relationship between "leadership styles in Edo Central Senatorial district, Nigeria, as well as job performance by teachers at secondary schools in the public sector." It has been correlational studied by nature and two survey instruments have been modified to collect data in the population of 69 directors and 397 teachers of the secondary school, named "Principals ' Leadership Style Questionnaire" (PLESQUE), and the "teacher's work performance questionnaire" (TEJOPAQ) have been excluded from evaluation as a result of inaccurate study fillings. Thus, the study analyzed 376 copies of the instruments. The hypotheses were tested with the use of multiple regression analysis, product-moment correlation analysis and percentage at 0.05 significant level. Based on surveys, the results show that 68.3% of teacher performance differences are attributed together to democratic leadership and laissez-fair. Democratic and laissez-faire governance have a positive impact on teachers ' results. Therefore, Nigeria's members of the Edo Central Senate District should be encouraged to cope with the style of democratic leadership, among other issues. This thesis is also the main incentive and direction for this current research.

"The leadership styles and the job performance of faculty in high schools in Ondo State, Nigeria" were brought to light by Adeyemi (2018). For this investigation, the descriptive research design has been adopted. Of the 281 population for state secondary schools, 240 high schools were chosen as research samples. The system for stratified random sampling used 1800 professors and 240 directors to be chosen as analyst groups. Two questionnaires "*The Principals' Leadership Style Questionnaire (PLSQ)*" and "*Teachers' Job Performance Questionnaire (TJPQ)*" were used to collect the data. The data collected was analyzed using the Pearson Product Moment Correlation. A correlation coefficient of 0.81 value is showing the reliability of instruments. Pearson, t-test, percentages and frequency tests were used for analysis while alpha of 0.05 value was used to test the hypotheses. It has been noted that democratic leadership style was often used by principals. In comparison to the democratic and equal leadership styles, the quality of teachers was stronger while under autocratic leadership. The combination of autocratic and democratic styles of leadership, among other suggestions, has been suggested to boost the work performance of teachers while retaining an equal style of leadership.

Figure 1 shows the conceptual framework for the study derived from the literature. Instructional leadership with its five functions used as an independent variable while teachers' performance in job is dependent variable whereas, gender is used a moderate variable.

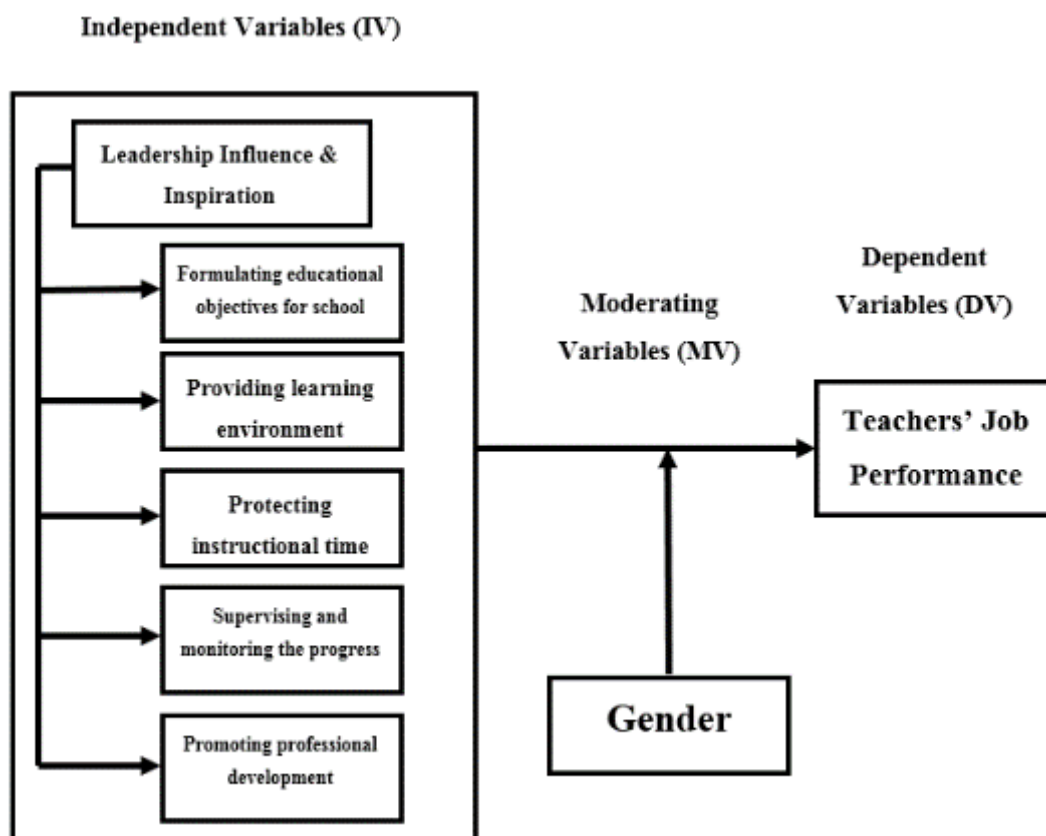


FIGURE 1: Conceptual Framework of the study.

2.5 Hypotheses

Following hypotheses were formed for the present study:

1. Instructional leadership style of head of the institute and teachers' job performance has significant relationship with each other.
2. Institutional head's Instructional leadership style has significant effects on teachers' job performance.
3. Institutional head gender is not significantly different in their Instructional leadership style.

3 Research Methodology

Quantitative approach with descriptive research design was used by the researcher for the present study. **Population of this study** were all teachers of public secondary schools, located in district Larkana Sindh, in the year 2019-2020. 160 secondary school teachers from the district Larkana, Sindh, were the sample group. In the first step, the selection of schools was the main focused of the author. For this purpose, sampling frame of Public Secondary schools located in Larkana district was collected by department of Education. School locations

and address was taken by the Education District Officer of District Larkana. In the next stage, stratified random sampling technique was enforced and four schools (with two female principals and two male principals) were selected from each Taluka. Hence, the total numbers of schools selected for this study was 16. From each school, 10 teachers were selected randomly. So, overall sample was comprised of 160 secondary school teachers.

Researcher used two tools to gather data for the present research. “*Instructional Leadership Questionnaire (ILQ)*” adapted from Khan (2012) with prior permission and was used to measure the instructional leadership styles of the head of the institute as observed by their teachers. While “*Teachers’ Job Performance Scale (TJPS)*” was used to measure teachers’ performance, which is adapted with prior permission from Hanif (2004) and used by Khan (2012) in their studies. The results of the surveys reported by the use of descriptive and inferential statistics. The validity of the instrument used was pilot tested for their validity. The content and face validity of both the instrument was validated independently by the expert of the field. Reliability of the data from the surveys was established by calculating the alpha reliability for the whole questionnaire. The questionnaire had overall 40 items and had a Likert scale. The five-point Likert scale survey was measured for reliability using a Cronbach alpha which yielded a reliability rate 0.864. All participants were informed that their participation in the study is voluntary. All data collected in this study was kept confidential to protect the identity of participant. Risk and benefits factor were also told. Participant was assured that they can withdraw at any point of research.

4 Data Analysis

4.1 Null Hypothesis 01. Instructional leadership style of head of the institute and teachers’ job performance has significant relation with each other.

Relationship between instructional leadership style of head of the institute and teachers’ job performance was shown in Table 1 at 0.01 level of significance. Significant strong (Cohen, 1992) correlation ($r = .530$) was found in between institutional heads’ instructional leadership style and teachers’ job performance. Likewise, all the functions of instructional leadership are also found significantly correlated with all the constructs of teachers’ performance i.e. teaching skills, management skills, discipline/ regularity and interpersonal skills. The moderate significant correlation (Cohen, 1992) was found in between institutional heads’ instructional leadership style and teachers’ teaching skills ($r = .386$), institutional heads’ instructional leadership style and teachers’ management skills ($r = .482$), institutional heads’ instructional leadership style and teachers’ regularity ($r = .399$), and institutional heads’ instructional leadership style and teachers’ interpersonal skills ($r = .414$).

TABLE 1: Relationship between instructional leadership style of head teachers and teachers' job performance.

Constructs	Pearson Value	Teaching Attributes	Management Attributes	Regularity /Discipline	Interpersonal Attributes	Total (TJPS)
Formulating educational objectives	r	.520**	.156**	.448**	.080**	.386**
Providing learning environment	r	.438**	.224**	.583**	.200**	.482**
Protecting Instructional Time	r	.329**	.210**	.415**	.912**	.399**
Monitoring & supervising progress	r	.293**	.210**	.333**	.279**	.393**
Providing Professional development	r	.382**	.180**	.462**	.231**	.414**
Instructional Leadership	r	.507**	.250**	.576**	.246**	.530**

**. Correlation is significant at the 0.01 level (2-tailed).

First construct of instructional leadership i.e. “Formulated Educational Objectives” shows significant strong correlation with “teaching skills” ($r = .520$), significant moderate correlation with “Regularity” ($r = .448$), and weak significant correlation with other two constructs of teachers performance i.e. “Management skills” ($r = .156$) and “Interpersonal skills” ($r = .080$). (Ref. Table 1)

Second construct of instructional leadership i.e. “Providing Learning Environment” shows significant strong correlation with “teachers’ discipline” ($r = .583$), significant moderate correlation with “teaching skills” ($r = .438$), and weak significant correlation with other two constructs of teachers performance i.e. “Management skills” ($r = .224$) and “Interpersonal skills” ($r = .200$). (Ref. Table 1)

Third construct of instructional leadership i.e. “Protecting Instructional Time” shows very strong (Cohen, 1992) significant correlation with “teachers’ interpersonal skills” ($r = .912$), significant moderate correlation with “teachers’ regularity” and “teaching skills” ($r =$

.415 & .329 respectively), and weak significant correlation with other constructs of teachers performance i.e. “Management skills” ($r = .210$). (Ref. Table 1)

Fourth construct of instructional leadership i.e. “Supervising & Monitoring” displays a significant moderate relation with “teachers’ regularity” ($r = .333$) and weak significant correlation with other three constructs of teachers performance i.e. “Management skills” ($r = .210$), “teaching skills” ($r = .293$), and “Interpersonal skills” ($r = .279$). (Ref. Table 1)

Fifth construct of instructional leadership that is “Providing Professional development” shows significant moderate correlation with “teachers’ regularity” ($r = .333$) and “teaching skills” ($r = .382$) and weak significant correlation with other two constructs of teachers performance i.e. “Management skills” ($r = .250$), and “Interpersonal skills” ($r = .246$). (Ref. Table 1)

4.2 Null Hypothesis 02. Instructional leadership style of head of the institute has significant effect on teachers’ job performance.

Result of linear regression analysis of institutional head’ instructional leadership style with teachers’ job performance is shown in Table 2. Secondary school heads’ instructional leadership style as observed by their teachers working in the same school was a significant effect ($R^2 = .281$, $P < .05$) on teachers’ job performance. Instructional leadership style of institutional head explained 28% change in teachers’ job performance. Positive regression coefficient “B” value in Table 8 indicates TJP and ILQ both are directly related with each other, as the style of institutional head will change, performance of teacher in their job will also be changed.

TABLE 2: Linear Regression analysis of instructional leadership style of head teachers and teachers’ job performance.

Model	R	R ²	Unstandardized Coefficient B	Std. Error	Standardized Coefficient Beta	t	sig
(Constant)	.530 ^a	.281	2.355	.215		10.974	.000
Instructional Leadership			.430	.055	.530	7.858	.000

a. Dependent Variable: Teachers' Job Performance

* $p < .05$

4.3 Null Hypothesis 03. Institutional head gender is not significantly different in their Instructional leadership style.

TABLE 3: Gender Discrimination in Instructional leadership style

Gender	N	Mean	SD	t- value	df	Sig.(2-tailed)	Mean Difference
Male	80	3.92	0.636	.944	158	.034	1.00
Female	80	3.82	0.702				

By observing Table 3, it was found that $t(158) = .944$, $p=0.034$ is less than significant value ($p < 0.05$) therefore null hypothesis is rejected and it is concluded that, there is a significant difference between male and female institutional head in their instructional leadership style. According to the teachers, their male head teachers' ($M = 3.92$) have better leadership style than their counterpart female head teachers ($M = 3.82$).

5 Finding & Discussion

Finding of the study on the effect of instructional leadership style of secondary schools' head of Larkana district on teachers' performance in the same school was discussed in this section.

The first research question was: What is the relationship of Secondary school heads' instructional leadership style and teachers' job performance at Secondary public schools? Pearson correlation coefficient was used to answer this questions and found the relationship between ILQ and TJP scale and also positive significant correlation was found in between each constructs of ILQ and TJPS. Analysis shows positive strong significant correlation ($r = .530$, $p < .01$) in between instructional leadership style of institutional head and teachers' performance in their job. Analysis also shows a positive significant correlation between the five constructs of instructional leadership style and four constructs of teachers' performance in their job (Table-1). Enueme and Egwunyenga (2018) also suggested that leadership style of principal and teachers' performance are correlated with each other, and to carried out routine work activities and also to focus in our work, it is essential to understand the style of the leader (i.e. the head teacher). According to Bredeson & Johanson (2016), it is a principal duty to ensure the effective teaching by providing proper guidance and support, but not only this it is also a duty of a principal to face the problems. He also discussed that the principal is the one who bring change in teachers' teaching practice.

The second research question was: What is the effect of Secondary school heads' instructional leadership style on teachers' job performance at Secondary public schools?, and to answer this, regression analysis was done by using teachers' job performance as dependent variable and instructional leadership style of institutional head as independent variable. According to the result shown in Table 2, instructional leadership style of institutional head is a significant predictor of teachers' performance in their shop. Regression coefficient "B" shows

a positive value that means dependent and independent variable has positive effect on each other that means, as the leadership style of the head teacher improves, the performance of teachers will also be increased. This result is similar with the previous study which shows the establishment of direct relationship between the leadership style and teachers' job performance (Adeyemi, 2018). Sayre (2017) also found the similar result that teachers' ability to perform in class is significantly influenced by the leadership style of principals. Predictive linear relationship was also found in between the independent variable i.e. leadership style of principal and dependent variable i.e. teachers' capacity to perform in teaching in his study. Teachers' perception about principals' leadership style and their attitude towards bring change in organization has a positive, significant moderate level of relation in between leadership style and teachers' behaviour (Kursunoglu & Tanriogen, 2019). The finding of this research question is also matched with the finding of (Matthews, 2017). He conducted the research to find answer of the question that is there any effect of head teachers' leadership style on teachers' performance and also on students' academic achievements. Finding of the Matthews (2017) study are closely relate with the present study that head teachers' leadership style has a positive effect on both the teachers' and students' performance.

The third research question was: Is there any significant differences among the instructional leadership style based on gender among Secondary school head teachers? Independent t-test was applied to answer this question. The finding of the gender difference in leadership style as observed by the teachers working under the same head teachers, shows that male teachers' shows better leadership style as compared to female head teachers. This finding about the male head teachers are better as compared to female is similar with the finding of (Saleem et al., 2019).

5.1 Recommendations

1. Finding obtained from this study may be used to train head teachers of the secondary school. Properly designed in-service training program may be very effective and help to improve the effectiveness of leaders in the secondary school. This program may be arranged in the vacation of summer or winter to utilize the time effectively.
2. Different platform such as workshop, seminar, and panel discussion should be arranged for the head teachers and the teachers, so they may get opportunity to discuss their issues regarding to their performance which cause hindrances in their improvement.
3. Institutional head should encourage teachers when teachers shows improvement in their teaching. Institutional head should also be available when teachers need any type of help regarding their job.
4. Institutional head should also create friendly environment for the teachers so that they can work comfortably.
5. Present study used quantitative approach and provide empirical data, for the future it is suggested to use qualitative method and observe teachers in their teaching for better

finding of teachers' performance. Along with the observation, Students results may also compare in the future research to see the effectiveness of leadership style on teachers' performance.

6. Experimental design may also be used in the same study like by providing training to leaders and then check its impact on teachers' performance by proper monitoring process.

References

- Adeyemi, T. O. (2018). Principals leadership styles and teachers job performance in senior secondary schools in Ondo State, Nigeria. *International Journal of Educational Administration and Policy Studies*, 2(6), 83-91.
- Ahmed, S. U. (2004). *Quality Education: A challenge to developing nations* (2nd ed.). Islamabad: Agha Jee Printers.
- Amin, M., Shah, S., & Tatlah, I. A. (2013). Impact of Principals/Directors' Leadership Styles on Job Satisfaction of the Faculty Members: Perceptions of the Faculty Members in a Public University of Punjab, Pakistan. *Journal of Research & Reflections in Education (JRRE)*, 7(2).
- Asaari, A. H., & Hasmi, M. (2012). *Academic leadership and work-related attitude* (Doctoral dissertation, University of Hull).
- Bass, B. M., & Avolio, B. J. (2018). *Platoon readiness as a function of leadership, platoon, and company cultures*. STATE UNIV OF NEW YORK AT BINGHAMTON.
- Bredeson, P. A., & Johanson, O. (2016). The School Principal's Role in Teacher Professional Development. *Journal of In Service Education*, 26(2), 385-401.
- Charles, C.M. (1999). *Building classroom discipline* (6th ed). New York: Addison, Wesley, and Longman.
- Cohen, J. (1992). A power primer. *Psychological bulletin*, 112(1), 155.
- Darling-Hammond, L. (1997). *Doing what matters most: Investing in quality teaching*. National Commission on Teaching & America's Future, Kutztown Distribution Center, 15076 Kutztown Road, PO Box 326, Kutztown, PA 19530-0326.
- Dutta, V. & Sahney, S. (2016). School leadership and its impact on student achievement: The mediating role of school climate and teacher job satisfaction. *International Journal of Educational Management*, 30(6), 941-958.
- Enueme, C. P., & Egwunyenga, E. J. (2018). Principals' instructional leadership roles and effect on teachers' job performance: A case study of secondary schools in Asaba Metropolis, Delta State, Nigeria. *Journal of Social Sciences*, 16(1), 13-17.
- Evertson, C.M., & Weinstein, C. S. (2006). *Handbook of classroom management: Research, practice, and contemporary issues*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Fullwood, R., Rowley, J., & Delbridge, R. (2013). Knowledge sharing amongst academics in UK universities. *Journal of knowledge management*, 17(1), 123-136.

- Ghavifekr, S., & Ibrahim, M. S. (2014). Head of departments' instructional supervisory role and teachers' job performance: Teachers' perceptions. *Asian Journal of Social Sciences and Management Studies*, 1(2), 45-56.
- Gill, L. J. (2018). *Understanding New Principals' Transition to Instructional Leadership* (Doctoral dissertation, The George Washington University).
- Hallinger, P., & Murphy, J. (1985). Assessing the Instructional Management Behavior of Principals. *The Elementary School Journal*, 86(2), 217-247.
- Hanif, R. (2004). Teacher Stress Job Performance and Self efficacy of Women School Teachers. Islamabad: Ph.D thesis, Institute of Psychology, Quaid-i-Azam University.
- Harriott, W. A. (2019). Creating a Positive Climate in the Classroom. *Supervision Modules to Support Educators in Collaborative Teaching: Helping to Support & Maintain Consistent Practice in the Field*, 97.
- Horng, E., & Loeb, S. (2010). New thinking about instructional leadership. *Phi Delta Kappan*, 92(3), 66.
- Imhangbe, O., Okecha, R., & Obozuwa, J. (2018). Principals' leadership styles and teachers' job performance: Evidence from Edo State, Nigeria. *Educational Management Administration & Leadership*, 1741143218764178.
- Iqbal, M. (2005). *A comparative study of organizational structure, leadership style and physical facilities of public and private secondary schools in Punjab and their effect on school effectiveness* (Doctoral dissertation, UNIVERSITY OF PUNJAB).
- Khan, Z. (2012). Relationship Between Instructional Leadership and Teachers' Job Performance in Secondary Schools in the Province of Khyber Pakhtunkhwa, Pakistan (Doctoral Dissertation, Gomal University Dera Ismail Khan Khyber Pkhtoonkhwa-Pakistan).
- Kiboss, J. K., & Jemiryott, H. K. S. (2014). Relationship between principals' leadership styles and secondary school teachers' job satisfaction in Nandi South district, Kenya. *Journal of education human development*, 3(2), 493-509.
- Kinchin, I.M. (2003). Effective teacher student dialogue: A model from biological education. *Journal of Biological Education*, 37(3), 110-113.
- Kursunoglu, A., & Tanriogen, A. (2019). The relationship between teachers' perceptions towards instructional leadership behaviors of their principals and teachers' attitudes towards change. *Procedia-Social and Behavioral Sciences*, 1(1), 252-258.
- Kwinda, N. A. (2019). The Instructional leadership Role of the School Principals in Thohoyandou. Master of Education Thesis, University of South Africa.
- Larkin, I. M., Brantley-Dias, L., & Lokey-Vega, A. (2016). Job satisfaction, organizational commitment, and turnover intention of online teachers in the K-12 setting. *Online Learning*, 20(3), 26 – 51.
- Leithwood, K., Jantzi, D., & Steinbach, R. (1999). *Changing leadership for changing times*. McGraw-Hill Education (UK).

- Mackinnon-Ashby, T.A. (2007). *Students' perceptions of qualities of an effective teacher*. Retrieved from ProQuest Dissertation and Theses. (304761006)
- Mansoor, Z. (2015). The Paradigm Shift: Leadership Challenges in the Public Sector Schools in Pakistan. *Journal of Education and Practice*, 6(19), 203-211.
- Maqbool, S., Ismail, S. A. M. B. M., Maqbool, S., & Zubair, M. (2019). Principals' Behaviour and Teachers' Performance at Secondary Schools in Rural Area of Pakistan. *INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS AND SOCIAL SCIENCES*, 9(1).
- Matthews, K. W. (2017). *The relationships among middle level teachers' assessment practices, instructional leadership, and student achievement* (Doctoral dissertation, University of Missouri--Columbia).
- Morgan, J. (2015). *Self-Perceived Personality Characteristics of Award-Winning Career Technical Education Teachers and Award-Winning Core Subject Area Teachers Throughout the United States of America* (Doctoral dissertation).
- Murphy, J., Elliott, S.N., Goldring, E., & Porter, A.C. (2006). *Learning-centered leadership: A conceptual foundation*. New York: The Wallace Foundation.
- Qureshi, M. Z. (2013). *The Good Teacher: A Qualitative Analysis of Perceptions of Asian American Parents*.
- Saleem, Atif; Aslam, Sarfraz; Rafiq, Junaaid; Rao, Prof. Congman (2019): Principal Leadership Style and Teacher Job Performance: Evidence from Pakistan. Sage Submissions. Preprint. <https://doi.org/10.31124/advance.7927259.v3>
- Sayre, C. W. (2017). *The superintendent's maintenance and influence on classroom instructional capacity: a mixed method study* (Doctoral dissertation, University of Missouri--Columbia).
- Schwartz, G. J. (2017). *The Relationship between Teacher Job Satisfaction and Principal Leadership Styles. A dissertation Presented to The Faculty of the Education Department Carson-Newman University*.
- Sheikh, M. A., & Zainab, G. (2006). Principles as instructional leaders in improving classroom teaching quality in education teaching and leadership in challenging times. In *International Conference at Aga Khan University, Institute for Educational Development, Karachi, February* (pp. 21-23).
- Siddique, M. A., Tagar, A. A., Khoso, Z. A., & Tagar, H. K. (2019). Role of Infrastructure to improve quantity and enhance quality of School Education in Sindh Province of Pakistan. *Advances in Social Sciences Research Journal*, 6(3).
- Stronge, J.H., Ward, T.J., & Grant, L.W. (2011). What makes good teachers good? A cross-case analysis of the connection between teacher effectiveness and student achievement. *Journal of Teacher Education*, 62(4), 399-355.

The Mediating Role of Learners' Feedback Seeking Behavior (FSB) in Writing Developments: Impact on Learners' Writing Developments and Implications for Teacher Development

Vahid Norouzi Larsari (PhD)

PhD Candidate in Education Program, Faculty of Education

Department of Pre-Primary and Primary Education

Charles University, Prague

vahid.norouzi@pedf.cuni.cz Tel: +420 775032824

=====

Abstract

The present study explored the mediating role of learners' feedback seeking behavior (FSB) in writing developments. The study sought to gain a better understanding of the extent to which feedback seeking behaviour affects their writing developments. In order to conduct the present study and collect the required data, the researcher selected 60 learners from the faculties of English Language Teaching at University, Iran. The selected participants were all from the intermediate category. A writing test (i.e. Longman Complete Course TOEFL Test) was administered to the 60 selected students. Both groups were given the same two topics to choose one of them to write in 70 minutes and the tests were scored by 2 raters which were corrected analytically. The test of feedback seeking behaviour was given to the students the same day. The participants were supposed to answer the test in 90 minutes. The results were calculated in SPSS version 22 and then analyzed and reported. The findings of the study demonstrated that feedback seeking behaviour has a statistically significant effect on learners' writing developments.

Keywords: Feedback Seeking Behaviour, Feedback, Motivation, Writing

1.1 Introduction

Written corrective feedback (WCF) has been considered as an important issue of empirical and theoretical interest in the scope of writing performance among second language (L2) writing students over the last two decades (e.g., Chandler, 2003; Ferris, 1999, 2010; Krashen, 1984; Truscott, 1996). Research has provided various evidence for the relative effectiveness of WCF in improving second language writing performance (Kang & Han, 2015; Russell & Spada, 2006). Generally speaking, research have shown that WCF is viewed as a useful process when it is explicit (e.g., Ferris, 2006), direct (e.g., Bitchener & Knoch, 2010; Manchón, 2011), and focused on specific linguistic features (e.g., Bitchener & Knoch, 2009; Sheen, 2007).

However, research on WCF remains inconclusive and controversies over the topic linger to date (e.g., Liu & Brown, 2015; Truscott & Hsu, 2008). Because of inconsistent findings in the literature, scholars have attributed them to methodological problems (Hyland & Hyland, 2006; Liu & Brown, 2015) or mediating factors such as second language proficiency or the genre of writing (Kang & Han, 2015). Nevertheless, there is another remarkable issue which might have contributed equally, if not more strongly, to the current state of research on WCF. This gap is the lack of careful consideration of individual learner characteristics as they perceive, process, and apply WCF (Ferris, Liu, Sinha, & Senna, 2013). Shortage of attention to the learner's role in the feedback process in second language writing can be devoted to researchers' preoccupation with investigating how teachers' application of various kinds of WCF (e.g., direct vs. indirect; explicit vs. implicit) affects the accuracy of written products. This key concept of WCF as a teaching resource has overshadowed research in this area at the expense of attention to learners' engagement in the feedback process, casting second language writers as passive recipients of various kinds of feedback in terms of proactive agents in learners' learning (Bitchener, 2017; Ferris, 2010; Ferris et al., 2013; Hyland, 2011; Kormos, 2012). In order to bridge this significant gap in our comprehending of the process of feedback, a basic change in perspective is required. Such a shift would recast feedback as a learning resource, the value of which is driven by its instrumentality in learners' pursuit of their goals. Therefore, the aim of the study is to explore the relationship between second language writers' feedback seeking behavior (FSB) and students' writing ability. The following research question was posed:

RQ1: Is there any statistically significant relationship between Learners' Feedback Seeking Behavior (FSB) and writing developments?

2. Review of Related Literature

2.1 Definition of Corrective Feedback

According to Schachter's (1991), the most common terms for feedback are corrective feedback, negative evidence, and negative feedback. Schachter (1991) maintains that corrective feedback is the term most often used instead of feedback in the scope of second language teaching and learning. It is broadly defined as "information following an error produced by the learner and is part of the learnability problem of language acquisition" (p.25). Lightbown and Spada (1999) considered CF as any indication to the learners which their use of target language is incorrect. It includes different responses which the learners receive after making errors. As Ellis (2006) notes, CF involves an attempt to supply negative evidence which draws the learner's attention to the errors they have made.

Ur (1996) supports this claim and believes that correction is one of the two main components of corrective feedback, another main component is assessment by which the learner

is simply informed how well or badly he or she has performed and by means of it some specific information is provided on various dimensions of the learner's performance via explanation, provision of better or other alternatives or through elicitation of them from the learner.

According to Ross-Feldman (2007), there are two main reasons why the researchers in SLA are interested in CF. The first reason is that there is an obvious need for it. Many English teachers are under wide pressure to correct learners' errors with the tacit assumption which the correction will be informed by the learner and subsequently make a difference in the learner's language competence. The second reason, in his words, is the renewed interests in error analysis (EA) in SLA research.

2.1.1 Written Corrective Feedback (WCF)

Written corrective feedback (WCF) can be defined as written feedback given by the teacher on a student paper with the purpose of developing grammatical accuracy (including spelling, capitalization, and punctuation) and written feedback on idiomatic usage such as word order and word choice. Written Corrective Feedback (WCF), which is also called error correction or grammar correction, refers to the "correction of grammatical errors for the purpose of improving a student's ability to write accurately" (Truscott, 1996, p. 329).

WCF has been regarded as a normal way of improving students' writing accuracy and a necessary part of the writing curriculum (Hendrickson, 1978, 1980; Truscott, 1996). It originated from the field of second language acquisition (SLA).

2.2 The Concept of Feedback-Seeking Behavior

Ashford and Cummings (1983) defined feedback-seeking behavior as the conscious contribution of endeavour toward determining the correctness and adequacy of actions for obtaining valued end states. Previous research has considered FSB as a useful resource in different fields including job performance (Ashford & Tsui, 1991), learning (Yanagizawa, 2008), and creativity (De Stobbeleir, Ashford, & Buyens, 2011), but has only recently been investigated in the field of second language acquisition (Papi, et al. 2019).

Ashford and Cummings (1983) introduced the concept of FSB as "the conscious devotion of effort toward determining the correctness and adequacy of behaviors for attaining valued end states" (Ashford, 1986, p. 466). Applied to second language writing, FSB can be defined as learners' intentional, calculated, and strategic attempts to collect feedback information on their second language writing performance. It is worth noting that changing the attention from the quality and quantity of WCF itself to the learner's FSB can draw the long-needed attention to the

learners' engagement in the feedback process, which is an important element in the success or failure of L2 writing instruction.

Ashford (1983) also believes that when an individual obtains feedback, s/he can decide to devote additional efforts towards the objectives which may earn him or her the greatest probable gains or the goals which seem to be only achievable with an extra effort. Feedback seeking behavior at an early age helps learners to become feedback seekers at the workplace. Feedback seeking students and workers normally performed higher compared to non-feedback seekers. After an assortment of evidence from different researchers that delved into researching about the current topic.

A controversial relationship exists between feedback-seeking behavior (FSB) and writing performance for language learners. Feedback seeking behavior is a useful tool not only in the learning process but also in workplaces. Students who develop feedback-seeking behavior early in their education processes end up becoming high efficacy employees who use different strategies to seek feedback from not only their educators but also their supervisors (Tayfur, 2012). Therefore, the aim of the present study is to investigate the relationship between feedback seeking behavior and writing performance among writing students.

2.3 Related Studies

Papi et al. (2019) examined feedback seeking behavior (FSB) in second language writing: motivational mechanisms. They collected questionnaire data from 128 foreign language writers from a major public university in the United States. Multiple regression and mediation findings demonstrated that a development language mindset predicted the value of feedback, which, in turn, was a positive predictor of both feedback monitoring and feedback inquiry. A fixed language mindset, on the other hand, predicted the cost of feedback seeking, which, in turn, negatively predicted feedback monitoring. The findings of the results provide new venues for language writing research and teaching.

Papi et al. (2019) covered a learning situation in which international learners enrolled for foreign language courses at a university in the United States. 287 students taking courses in foreign languages like Spanish (107), French (113), and Arabic (67) at Florida State University participated in the study (Papi et al., 2019). The questionnaire data from the 287 students studying different languages revealed that learners could make calculated decisions concerning whether to seek feedback and the strategy that they intend to use in seeking feedback, as well as the source of their feedback. Their perceptions about the values and costs associated with different feedback-seeking strategies affect their decisions most (Papi et al., 2019).

3. Methodology

=====

Language in India www.languageinindia.com ISSN 1930-2940 20:4 April 2020

Vahid Norouzi Larsari (PhD)

The Mediating Role of Learners' Feedback Seeking Behavior (FSB) in Writing Developments:
Impact on Learners' Writing Developments and Implications for Teacher Development

3.1 Participants

The participants of this study were 60 learners from the faculties of Education at Charles University, Prague, Czech Republic. They were only males with the age range between 19 to 25 and were chosen based on non-random sampling. The students enrolled in second writing courses participated in the present study.

3.3 Instrumentations

3.3.1 Feedback Seeking Behaviour Scale

The scale developed by Tuckey et al. (2002) was used to measure the motives for feedback seeking. This scale is composed of four subscales each measuring different motives that may affect the feedback seeking behaviors of people. More specifically, the subscales are related to desire for useful information, desire to protect one's ego, assertive impression management, and defensive impression management motives, and all items were rated on a 6-point scale (1 = Extremely true, 6 = Extremely untrue).

3.3.2 Writing Scale

It includes two topics which were taken from TOEFL CBT book (2006) and administered to the students. They were required to choose one of the topics and start to write. The writing of students should not be less than 250 words, based on the instructions given and it should be clear, concise and well organized. 70 minutes were given to the students to write the writing.

3.4 Data Collection Procedures

Before administering the questionnaires, permission was obtained by professors to use their class time for the purpose of data collection. Also, before administering the questionnaires, participants were informed that filling the tests are completely optional and were convinced that the purpose, and process of completing the two questionnaires, namely Writing test and feedback seeking Scale, respectively. Then, ambiguities and misunderstanding about the questions were cleared by the researcher, if there was any. Therefore, In order to conduct the present study and collect the required data, the researcher selected 60 learners from the faculties of Education at Charles University, Prague. The participants were selected non-randomly. The selected participants were all from the intermediate category. A writing test (Longman Complete Course TOEFL Test) was administered to the 60 selected students. Both groups were given the same two topics to choose one of them to write in 70 minutes and the tests were scored by 2 raters which were corrected analytically. The test of feedback seeking behaviour was given to the students the same day. The participants were supposed to answer the test in 90 minutes. The results were calculated in SPSS version 22 and then analyzed and reported.

3.4 Design

=====

Language in India www.languageinindia.com ISSN 1930-2940 20:4 April 2020

Vahid Norouzi Larsari (PhD)

The Mediating Role of Learners' Feedback Seeking Behavior (FSB) in Writing Developments:
Impact on Learners' Writing Developments and Implications for Teacher Development

The design of the present research was Ex Post Facto design. In this design the researcher appears on the scene after all the events have occurred. In other words, the researcher has no control over the events. The variables are not manipulated, controlled, or modified (Mackey & Gass, 2005). In the present study, the researcher had no control over whatever the students had learned, and they answered the feedback seeking behaviour tests based on their prior knowledge.

3.5 Data Analysis

The Pearson product correlation was conducted to investigate the performances of two groups in writing ability and feedback seeking behaviour tests. The participants' age was not considered significant in the study, though. All the subjects and their teachers were also informed that the tests were going to be administered.

4 Results and Discussion

This study aimed at exploring the relationship between second language writers' feedback seeking behavior (FSB) and students' writing developments. The data collection procedure was carefully run and the raw data was entered into SPSS (version 22) to compute the required statistical analyses and deal with the research question and hypothesis of the present study.

4.1. Analysis of the Research Question

In order to answer this null-hypothesis, two independent sample t-tests were conducted on both pre-test and post-test. Before presenting the results of the first t-test, the related descriptive statistics are given in Table 1.

4.1: Descriptive Statistics

4.1: Descriptive Statistics

	Mean	Std. Deviation	N
FSB	73.05	18.407	60
Writing	60.74	13.245	60

As it can be seen, table 1 shows the results of variables of FSB and Writing ability, respectively. The mean and standard deviation of FSB are 73.05 and 18.407, respectively. Also, another variable; the mean and standard deviation of Writing are 60.74 and 13.245, respectively. Therefore, it should be noted that the difference between these two variables was not significant at the beginning of the term. In order to find the difference, the researcher conducted Pearson Correlation Test between these two variables.

Table 2: Pearson Correlation Test between FSB and Writing

		tarjomeh	TA
FSB	Pearson Correlation	1	.327*
	Sig. (2-tailed)		.035
	N	60	60
Writing	Pearson Correlation	.327*	1
	Sig. (2-tailed)	.035	
	N	60	60

*. Correlation is significant at the 0.05 level (2-tailed).

The above table indicates Pearson Correlation Test between these two variables. In fact, in the above table Pearson Correlation Test between these two variables are given. The correlation coefficient may range from -1 to 1 , where -1 or 1 indicates a “perfect” relationship. The further the coefficient is from 0 , regardless of whether it is positive or negative, the stronger the relationship between the two variables. For example, a coefficient of $.453$ is exactly as strong as a coefficient of $-.453$. Positive coefficients tell us there is a direct relationship: when one variable increases, the other increases. Negative coefficients also tell us that there is an inverse relationship: when one variable increases, the other one decreases. Therefore, as the table shows, the level of significance is $.035$ and less than 0.05 . Therefore, the Pearson coefficient for the relationship between FSB and Writing is $.327^*$, and it is positive. This tells us that, just as we predicted, as FSB increases, Writing increases. FSB appears to be an important predictor of Writing. The correlation matrix also gives the probability of being wrong if we assume that the relationship we find in our sample accurately reflects the relationship between education and occupational prestige that exists in the total population from which the sample was drawn (labeled as Sig. (2-tailed)). The probability value is $.327^*$, which is well below the conventional threshold of $p < .05$. Thus, our hypothesis is supported. There is a relationship (the coefficient is not 0), it is in the predicted direction (positive), and we can generalize the results to the population ($p < .05$).

5. Conclusion

In summary, from theoretical and practical perspectives, the results of this study shed new light on the scope of feedback seeking behaviour and writing ability. The researcher can assume that the mean difference is significant, and the learners have developed in their

performance. In other words, the null hypothesis to this research question is rejected. That is to say, feedback seeking behaviour (FSB) has a significant effect on the enhancement of the writing ability by learners. As a teaching resource, feedback is seen as corrective messages that are transmitted to a recipient concerning his or her linguistic knowledge or skills. Perceived as a learning resource, feedback is personally-relevant information that students seek in any information environment, inside or outside the instructional settings, to meet their valued second language writing goals. Such feedback can include referent information about what goals are valuable and appraisal information about how learners are progressing toward achieving those goals. This change in perspective opens a wide range of research venues and extends the attention from teachers and the type of feedback they provide to the process of feedback and learners' involvement in that process, that is their FSB. It also highlights the importance of exploring ways to promote such behavior through different personal and contextual adaptations such as goal setting, improving classroom relationships, task requirements, and evaluation standards to decrease the perceived cost of feedback seeking and increase its associated value. This view of feedback can complement the mainstream WCF research by investigating how FSB can lead to the success or failure of the feedback process.

5.1 Pedagogical Implications

Improving a development second language learning goals can develop the value and decrease the cost of feedback seeking, thereby contributing to learners' FSB. Research has shown that teachers can improve learning goals in their classes through setting learning rather than performance standards of progress, make the process of writing development rather than product of writing the focal point of their teaching, treat errors as signs of development rather than symptoms of weakness, establish an atmosphere of collaborative learning, minimize the sense of competition and social comparison, and evaluate learners with respect to their intra-individual instead of normative progress.

Improving FSB's value and declining its cost can be done via different means including but not confined with producing feedback seeking behaviours (e.g., Williams, Miller, Steelman, & Levy, 1999), improving the feedback seeker–source relationships (e.g., Levy, Cober, & Miller, 2002; VandeWalle et al., 2000), and producing a FSB-friendly setting via promoting intellectual stimulation, critical thinking, and problem-solving skills among students (Anseel et al., 2015).

References

Ashford, S. J., & Cummings, L. L. (1983). Feedback as an individual resource: Personal strategies of creating information. *Organizational behavior and human performance*, 32(3), 370-398.

Language in India www.languageinindia.com ISSN 1930-2940 20:4 April 2020

Vahid Norouzi Larsari (PhD)

The Mediating Role of Learners' Feedback Seeking Behavior (FSB) in Writing Developments:
Impact on Learners' Writing Developments and Implications for Teacher Development

- Ashford, S. J., Blatt, R., & VandeWalle, D. (2003). Reflections on the looking glass: A review of research on feedback-seeking behavior in organizations. *Journal of management*, 29(6), 773-799.
- Ashford, S. J., & Tsui, A. S. (1991). Self-regulation for managerial effectiveness: The role of active feedback seeking. *Academy of Management journal*, 34(2), 251-280.
- Bitchener, J., Young, S., & Cameron, D. (2005). The effect of different types of corrective feedback on ESL student writing. *Journal of second language writing*, 14(3), 191-205.
- Bitchener, J. (2008). Evidence in support of written corrective feedback. *Journal of Second Language Writing*, 17(2), 102-118.
- Bitchener, J., & Knoch, U. (2010). The Contribution of Written Corrective Feedback to Language Development: A Ten Month Investigation. *Applied Linguistics*, 31(2), 193-214
- Bitchener, J. (2017). To what extent has the published written CF research aided our understanding of its potential for L2 development? *ITL-International Journal of Applied Linguistics*, 167(2), 111-131.
- Chandler, J. (2003). The efficacy of various kinds of error feedback for improvement in the accuracy and fluency of L2 student writing. *Journal of Second Language Writing*, 12, 267-296.
- Ferris, D. R., & Helt, M. (2000). Was Truscott right? New evidence on the effects of error correction in L2 writing classes. Paper presented at the American Association of Applied Linguistics Conference, Vancouver, B. C
- Ferris, D. R., Liu, H., Sinha, A., & Senna, M. (2013). Written corrective feedback for individual L2 writers. *Journal of Second Language Writing*, 22, 307-329.
- Ferris, D. R., Liu, H., Sinha, A., & Senna, M. (2013). Written corrective feedback for individual L2 writers. *Journal of Second Language Writing*, 22, 307-329.
- Sheen, Y., Wright, D., & Moldawa, A. (2009). Differential effects of focused and unfocused written correction on the accurate use of grammatical forms by adult ESL learners. *System*, 37, 556-569.
- Sheen, Y. (2007). The effect of focused written corrective feedback and language aptitude on ESL learners' acquisition of articles. *TESOL Quarterly*, 41, 225- 283.
- Papi, M., Rios, A., Pelt, H., & Ozdemir, E. (2019). Feedback-seeking behavior in language learning: basic components and motivational antecedents. *The Modern Language Journal*, 103(1), 205-226. doi:10.1111/modl.12538
- Tayfur, O. Z. G. E. (2012). Antecedents of feedback seeking behaviors: Review of the feedback seeking literature. *American International Journal of Contemporary Research*, 2(6), 92-101.
- Truscott, J. (1996). The case against grammar correction in writing classes. *Language Learning*, 46(2): 327-369.
- Truscott, J., & Hsu, A. Y. P. (2008). Error correction, revision, and learning. *Journal of Second Language Writing*, 17(4), 292-305.
- Ur, P. (1996). *A course in language teaching: Practice and theory*. Cambridge: Cambridge University Press

Yanagizawa, S. (2008). Effect of goal difficulty and feedback seeking on goal attainment and learning1. Japanese Psychological Research, 50(3), 137-144. doi: 10.1111/j.1468-5884.2008.00370.x

=====

Acknowledgment

I thank Mr. **Philip Selbie** for assistance with language quality, methodology, and for his comments that greatly improved the manuscript.

=====



Vahid Norouzi Larsari. PhD Candidate
Department of Pre-primary and Primary Education
University of Charles, Czech Republic, Prague

=====

=====

Language in India www.languageinindia.com ISSN 1930-2940 **20:4 April 2020**

Vahid Norouzi Larsari (PhD)

The Mediating Role of Learners' Feedback Seeking Behavior (FSB) in Writing Developments:
Impact on Learners' Writing Developments and Implications for Teacher Development

Lamia:
**An Expression of Commerce, Ambiguous Character and
Tragic Romance**

Dr. Muna Shrestha
Asst. Professor
Tribhuvan University, Nepal
Mahendra Multiple Campus, Nepalgunj
muna.shrestha123@gmail.com



Courtesy: https://www.amazon.com/s?k=Keats+lamia&i=stripbooks&ref=nb_sb_noss

Abstract

Lamia is John Keats's last narrative poem and during its composition, his anxiety over money vibrates throughout the poem. His representations of money in the poems relate to the larger debate about the effects of trade and commerce on the social, economic and political condition of England. In this longer poem, Keats portrays Lamia as an ambiguous figure of innocence with the power to attack other people's dreams. He takes the image of the serpent-woman who devours men and gives her a face and a voice. She is associated both with the demon and the innocent maiden. *Lamia* is also centred on female experience and based on a woman's feelings about love. Keats's cultured characterization of *Lamia* indicates his shifting

feelings about love. She gives up her physical existence and hides her true identity, but her beloved sees her mere an object to fulfill his desires. His romantic love is egotistical with selfish desires which show they have the different feeling. If love is silliness, then one should dismiss love. But one is suffering by it instead and faces the tragic ending.

Keywords: John Keats, *Lamia*, ambiguous, sympathy, commerce, romance, tragedy

1. Introduction

John Keats, a Romantic poet, was known for his emphasis on nature as an imaginative knowledge of external objects. He believed that imagination was the coincidence and fusion of the expressed and unspeakable. He had a unique perspective of the imagination in comparison to his fellow Romantics. His power to apply imagination to every aspect of life played the vital role behind his poetry. His poetry exposes the unreal fantasies which create our reality that lingers in uncertainty beyond its aesthetic potential. Through his works such as *Lamia*, *Endymion*, *Isabella*, *The Eve of St. Agnes*, *Hyperion*, and the Odes of 1819, Keats immersed himself into an imaginative dream world. His theory of imagination is defined by his expression of the connection between the conscious and unconscious creative mind through his representation of conflict between thought and feeling and reason and consciousness.

In *Lamia*, Keats shows a very much greater sense of proportion and power of selection than in his earlier work. There is more light and shade. He expresses the conflict between the challenge presented by the incorporation of the feminine in poetic practice and the pressure exerted by the patriarchal community to reject the feminine as anything but a mirror of masculine desire. Keats's poetry reveals the limits patriarchal discourse imposes on the masculine, something unappreciated by twentieth-century Keats critics. *Lamia* exposes the misconception about the patriarchal discourse which is based upon the concept that the feminine is able to be controlled and chosen. She is innocent and needs and desires of masculine authority and dominance. She is setting herself up to be rescued and seduced, even as she is described as a saint. If the female is not the mirror of masculine desire, if she is not obedient, she is designated negative Other, or "disturbing power" (Zhang, 40).

According to Jack Stillinger, *Lamia* was written in late August, and perhaps on September 1819, with further revisions in March 1820 (*Keats's Complete Poems*, 474). Accordingly, *Lamia* was written over a year after Keats's poetic intellect had turned against the typical Romance genre, approximately a year and a half after the writing of *Isabella*, almost six months after drafting *The Eve of St. Agnes*, and some three months after composing *La Belle Dame sans Merci* (441, 453, 463). Thus, by the time that he began to compose *Lamia*, Keats had had sufficient time to experiment with the Romance genre.

Lamia was written after he was going to Rome and learning about his illness. He was intimately acquainted with disease and experienced a large amount of death in his short life. This gave him an intimacy with death and disease that he put to use in a medical career. He chose to pursue a medical career before he decided to be a poet. This gave him a superior knowledge about health and illness. And he wrote his later poems such as *Lamia*. It was a typically lyrical poem of the romantic era, and an outpouring of the grief and anger that he experienced when his family members died of Tuberculosis.

In 1820, Keats published his last volume of poetry and wrote to a friend that he considered this volume to “be [his] last trial” and that if it failed he would “try what [he could] do in the Apothecary line” (Keats as quoted in Cox 409). At that time, he was seriously ill and thinking a trip to Italy for his health but he behaved as though he was not ill and was merely considering a change in career path. He had done well as a poet but had failed to become wildly successful in his time. At the age of 25, the last volume to be written was the poem called *Lamia*. While this did not turn out to be the last poem he ever wrote, it was the last poem that he completed.

1.2 Story of *Lamia*

One day, the God Hermes is in the forest looking for a nymph. The nymph, he is searching for is said to be the most beautiful in the land, and he wants nothing more than to make her his own. He deeply falls in love with a nymph who hides herself from him. Then he hears a complaining voice of a beautiful serpent who has been cursed into the form of a snake. She tells Hermes if he changes her to woman's body and puts her near where the man she loves known as Lycius, she will make the nymph visible to him. Hermes gladly agrees and the exchange is made. The transformation for Lamia is violent and painful, but once she is transformed, she is strikingly and enchantingly beautiful. Then the nymph becomes visible to Hermes and the serpent disappears.

When Lamia, the serpent-turned-woman was in her serpent state, she had the power to send her spirit wherever she wished. On one of her spirit journeys she had seen a Corinthian youth, Lycius. Now, as woman, she stands at the side of a road along waiting Lycius. When he arrives, she asks him if he will leave her all alone where she is. Lycius falls violently in love with her at first glance. They walk together to Corinth and make their abode in a mansion which she leads him to. There they live together as man and wife, avoiding the company of others.

Lycius and Lamia live happily in their love then Lycius decides they ought to marry and invite all of their friends to the marriage festival. First Lamia strongly opposes his plan, but she agrees on the condition that Lycius will not invite the philosopher Apollonius to the marriage feast. While Lycius is absent inviting all his kinsfolk to the wedding, Lamia, with her magic

powers, orders invisible servants to decorate the banquet room and furnish it with rich foods of every kind. When Lycius' guests arrive, they wonder at the splendor of the mansion. None of them had known that there was such a magnificent palace in Corinth. Apollonius also comes there without invitation.

At the height of the wedding feast, Apollonius sees what Lamia really is, something not human. He begins to stare fixedly at Lamia. Lamia feels discomfort and grows pale but doesn't give any answer of Lycius' questions. The feasting and the music come to a stop. Lycius turns to Apollonius and commands him to stop staring at Lamia. Apollonius answers "Fool, how I can see you to be a serpent's prey. Looking at Lamia again, he utters two words: "A serpent!" After that word, Lamia vanishes. At the moment of her disappearance, Lycius dies.

2. Symbolism of Commerce

In *Lamia*, Keats shows a very much greater sense of proportion and power of selection than in his earlier work. There is more light and shade. Just before he wrote *Lamia*, he had a brain hemorrhage, so he knew that he was dying. His brother Tom had also just died, and another brother George was in financial difficulty. George stole money and went gambling much of the time. When George asked John for money, John had *Lamia* published to provide the money.

Keats and his contemporaries debated on the socio-political issues to find out whether commerce was beneficial to society and the majority of its members. The traditionally 'benign' view of economic endeavour as a civilising activity had been rejected by enlightened thinkers in the mid-eighteenth century in favour of a more systematic and scientific analysis of individual rights, free trade and the satisfaction of wants (Fermanis, *John Keats and the Ideas of the Enlightenment*, 98). The shift from an old 'moral economy' to a new 'political economy' aware that the profit motive of commercial societies could undermine older qualities of independence and communal responsibility. According to Adam Smith, commerce encouraged liberty because each man was governed by self-interest, the division of labour could prove harmful to community and citizenship (98).

Lamia represents an attack on luxury in which Keats portrays the object of testing or temptation and the tempter. In this context, the nymph and Lycius are objects of temptation or disobedience to which Hermes and Lamia submission. Lamia herself is both a victim and an agent of temptation. She surrenders to the temptation of Lycius and facilitates the seduction of the nymph. Her role as the symbolic incarnation of luxury and excess – 'Lamia is the fetish – gold, commodity, money, Pythagorean number' – is somewhat complicated by Keats's sympathy for her desire for humanity. Lamia's transformation by Hermes into female form is also recounted in terms of the gold, silver and precious stones. The references to Lamia's 'silver mail, and golden brede', 'sapphires, greens, and amethyst' and 'rubious-argent' (*Lamia*, I, 158, 162,

163) all allude to objects commonly associated in the eighteenth century with eastern luxury and display (Fermanis, 111).

According to Kelvin Everest, substantial criticism on *Lamia* posits that the poem is observed that this poem is “concerned with money” and that “Keats’s own anxiety over money during the composition of *Lamia* vibrates throughout the poem” (Fermains, 99) but Keats represents his view about money in this way that it relays the large debate about the effects of trade and commerce on the social, economic and political condition of England. Marjorie Levinson, who follows Marxist and Freudian principles of fetishism, commodity exchange and symbolic capital, seems curious to know about the mechanisms due to which love and money, pleasure and power, consumption and production are related in the contemporary life. But despite her brilliantly revolutionary answers which are grounded in those principles, she, herself fails to relate those principles to then contemporary understandings of economic exchange.

Similarly, it has been taken from Watkins’s *Politics of the Imagination* that Levinson has described the poem’s movement as a transition from nature to culture or “from a naturally democratic community to a hierarchical, institutionally articulated formulation; and, from easy, universal prosperity to the image form and its corresponding political structure” (Watkins, 1989, p. 110). She defines the poem as a symbol of evolution of the world from a state of harmony and unity to a modern commercial one where wealth and display play the dominant role.

This poem deals separate but basically related issues of early nineteenth-century political economy: the larger social values of luxury and widespread consumerism. In *Lamia*, Keats rejects the progressive commercialism because of its consequences which works at the expense of public humanist values but gives the result of excessive privatization of human interests (Fermanis, 2009, p. 100). He has taken this thought from his friend Leigh Hunt’s *Examiner*. In his article, “Relief of the National Distresses”, Hunt suggests thinking of collecting over-possession is like a disease that has not only permeated the whole nation but also polluted the character and nature of the English soul which increase the distresses of the poor people.

The transformation of *Lamia* also represents excess through the classical association of luxury with women. *Lamia* is symbolized as the commercial elements that destroy the social stability of Crete. Due to her capability, she facilitates Hermes’ possession of the nymph and persuades him to change her form into a mortal woman by challenging the natural law. On one side, *Lamia* is presented as an agent of corruption or temptation in a peaceful world and on the other side, her allegorically serpentine nature is given as the reason of the fall of myth. But due to the connections between her characterization and representations of trade and luxury, it is necessary to supervise the contemporary political and historical controversy (Fermanis, 2009, p. 114).

In this way, luxury which comes in the earlier paragraph as over-possession informs the narrative of *Lamia*. Related to the luxury motif is the nymph who is instrumental to the dramatization of the theme of temptation. However, Keats' sympathy for her desire for humanity complicates the nymph's role as the symbolic incarnation of luxury and excess. At the opening lines of the poem, Hermes sees love with selfish eyes. 'The ever-smitten Hermes' (1: line 7) is described as someone who constantly determines on some 'amorous theft' (1: line 8). He falls in love with nymph and her immeasurable treasure. It is the nymph's economic value which Hermes appreciates and desires and not necessarily the nymph herself. His dealings with Lamia remove the emotional element associated with love. Hermes seems to be so consumed by his desires to obtain the nymph's riches that he neglects to take her wishes into consideration: for him the nymph is a mere valued product to be owned (Schulkins, *Keats, Modesty and Masturbation*, 131).

In *John Keats and the Ideas of the Enlightenment*, the second part of *Lamia* is linked to the luxury motif and even to commerce (116). In this reading, Lamia's palace is shocking, and visitors are amazed at the "ministring slaves", "silken couches", "gorgeous dyes" and "baskets of bright osier'd gold" (*Lamia*, II, 193, 197, 205, 217). Keats here connects Lamia's luxury and possessions from the east and also America, including silk, dyes, gold and exotic trees: "Fresh carved cedar, mimicking a glade / Of palm and plantain" (I, 125-6). Here luxury means as eastern and effeminate, both of which are the overriding qualities of Keats's representation of Lamia, whose dominion is similarly confined to "a palace" (II, 3) where Lycius is tempted into the "dull shade / Of deep sleep" (II, 104-5), completely ignore with the affairs of "the noisy world almost forsworn" (II, 33). According to Jack Stillinger, Keats wanted to make *Lamia* a popular poem and thus he could make money out of it. In this regard, he seems to modify *Lamia* to the taste of reader. His favourable view on *Lamia* can reflect his intention. He considers that, as discussed, *Lamia* has a 'sort of fire' and it will engage the reader (Stillinger, p. 474).

3. Lamia as an Ambiguous Character

Keats represents Lamia both as a woman trapped in a serpent's form and a serpent trapped in a woman's physique. He deliberately portrays Lamia as mysterious and vague. She is good and evil, inhuman and human, a lover and a destroyer. She is associated both with the demon and the innocent maiden. She represents the "Other" here in the third-person perspective. The narrative begins with 'Upon a time' (*Lamia*, I, 1) is a traditional beginning of a fairy tale and it offers an omniscient third-person point of view. Such a view does not change until the reader comes to the line, 'Ah, what a world of love was at her feet!' (I, 21) Then the reader is aware that the story shifts from the un-participating third-person narrating stance to the one which offers the narrator's personal view. Yet the shift happens subtly and in a fluid way. 'Her head but ah, bitter-sweet! / She had a woman's mouth with all its pearls complete' (I, 59-60). The description 'bitter-sweet' bear out the narrator's opposing feelings about Lamia.

According to Rachel, some critics view Lamia as a demon, “an evil embodiment of the wasting power of love, a *belle dame sans merci*” (Keats, *Modesty and Masturbation*, 127). Keats’ complex and sympathetic translation of Lamia’s character and journey through the poem has often been overlooked by critics who tend to associate Lamia’s sexuality with evil. Lamia is actually deprived of her humanity by Lycius’ limited and subjective understanding of her instead of Keats who in reality humanizes his serpent-woman by giving her a voice to express her predicament. She has the power to attack other people’s dreams. On one of her endeavors, she joined Lycius’s dream of finding the perfect bride who will offer him the domestic bliss he is yearning for. In order to become Lycius’s image of perfection, Lamia feels she must renounce her physical existence and hide her true identity (Schulkins, 129).

The poem does not let us forget that Lamia is both a female and a serpent, innocent and sensuously attractive. Even though Lamia’s feminine desires are expressed by her womanly and human voice, Hermes simply sees her as a mere ‘smooth-lipp’d serpent’ (1: line 83). He views Lamia as a slick-tongued serpent, with the ability to persuade others with specious words. Lamia uses attractive and flattering words to manipulate him to accept her deal of unveiling the nymph for the price of getting a human form. Her bargain transforms her into a woman denotes that she is not depicted as a helpless victim of love, but rather as a strong character that pursues her desires with no regard for others. Her actions do not necessarily come to mislead or harm Lycius, but they rather reveal the desperation of a woman in love (135).

In this allegorical poem, Keats refers to women, as ambiguous. By repeating a key image used in the portrayal of Lamia as serpent, Keats indicates that she recollects her essentially demonic nature. She can evoke the feeling of bitterness as she is a serpent, but she can also be as sweet as a woman. His ambivalence can also be seen in the description of Lamia’s beautiful eyes: ‘what could such eyes do there / But weep, and weep, that they were born so fair?’ (I, 61-62) aptly bring forth sympathy for Lamia in the reader using this image. The narrator again manifests his mixed feelings in the following lines: ‘Her throat was serpent, but the words she spake / Came, as through bubbling honey, because she is both evil as a snake and also has a sweet nature. But she is also capable of turning the honey-like words into a trap.

According to Warren Stevenson, the serpent was a symbol of benevolence and good fortune for the Greeks and the Egyptians. A universal reading of the serpent is not certain. That the patriarchal use of the serpent is meant to be negative is clear from Appollonius’s use of the symbol when he exclaims to Lycius, “And shall I see thee made a serpent’s prey?” (11:298), but Lamia sees her serpentine shape as a “wreathed tomb.” Appollonius’ use of the serpent image is meant to refer to Lamia’s misbehavior, but Lamia’s reference betrays the patriarchal construct of the feminine as evil. She expresses her oppression as she says to Hermes, “I was a woman, let

me have once more! A woman's shape" (1:117-118). Her serpentine form can be seen as a disguise of her true nature (Zhang, 202).

Keats alerts about Lamia's real nature, her status as deceptive shape-shifter, her associations with demons and madness. When she foams at the mouth during her transformation, the foam makes the very grass fade and die. There is a clear suggestion that she puts Lycius under a magic spell: when he first meets her and loss of consciousness. He is 'tangled in her mesh' (Lamia, 1, 295-7), a victim, and she is in complete control. Lycius is the dreamer, Lamia the dream. Hence the fundamental passivity of his relationship to her, and his later attempt to "return" to the world of human affairs.

Lamia's external appeal is ambiguously powerful, and her beauty renders her as a supernatural goddess worthy of love and worship, this image is balanced by Keats's reference to Lamia's gloomy tapestries. The allusion to Lamia's body 'touched with miseries' (1: line 54) and her weeping eyes and pleading words shift the reader's emotions and sympathies but due to her changing position, reader also keeps the different view on Lamia's figure and her human appeal. Keats appears to excuse Lamia's deceiving words by arguing that 'the words she spake', are 'for Love's sake' (Lamia, 1, 64-5). Her actions do not necessarily come to mislead or harm Lycius, but they rather reveal the anxiety of a woman in love (Schulkins, 2014, p. 135). Yet, her passion for Lycius displays her single-mindedness.

The ending of *Lamia* is also ambiguous. John Whale believes that Lamia is dead (Whale, p. 88) but Fogle equates perhaps Lamia only vanishes and she may resume a serpent's form again (Fogle, p. 69). The ending is very dubious because one cannot be sure where Lamia disappears. Her disappearance is like her indeterminate identity and makes the reader puzzled. Instead, the narrator seems sympathetic to their love and hopes that their secret love will not be revealed. But Keats' attitude toward his characters is somewhat ambiguous because he doesn't show the family and parents of Lamia.

Lamia herself becomes a symbol for a fluid reality involving both good and evil and is perhaps best understood as signifying the raw potentiality of being itself. Both Apollonius and Lycius fail to recognize Lamia as "potentiality," and both are implicated in her destruction through the immature belief that they can confine her reality to one set mode of existence. By embracing only one aspect of Lamia, each fails to confirm her entire being. Both identifications, that which labels Lamia good and that which labels her evil, freeze her in the present, making her reality something deadly static (Porscha Fermanis, 111).

4. Tragic Romance of Lamia and Lycius

The story of *Lamia*, which Keats found in Burton resembled those of *Isabella* and of *The Eve of St. Agnes* in representing two lovers united by a secret and mysterious bond. When narrating the poem, Keats shows his contradictory idea about love and such a view is manifest by *Lamia*. That is to say, *Lamia* is based on a woman's feelings about love. Keats's sophisticated characterization of Lamia indicates his shifting feelings about love.

The opening scene introduces the theme of romantic love. It functions to uncover the selfishness and presents the idea that immortal love can be achieved in the dream world of gods. But here is also the description about the love of Hermes and nymph. Nymph has inestimable treasure and he has temptation of her wealth, so he is ready to change Lamia from serpent to woman (Lamia, 1, 85-6). His bargaining with Lamia shows his perception about the love of the nymph which is just like an easily purchasing object and it also removes the emotional element associated with love. Hermes looks so eager to obtain her riches that he neglects to take her wishes into consideration (Schulkins, 2014, p. 131).

In spite of that, the story of Hermes and the nymph gives a glimpse of the fairy tale of romance after its happy ending, whereas the story of Lamia and Lycius's cannot maintain it. Their love is amongst mortals, but the absence of real romantic element increases the negative force and brings their destruction. Lycius only has selfish desires of inner wealth and pleasure. He keeps the narrow concept to her and misrepresents reality in this way which only suit to his own personal wishes. It makes clear that Lamia can be interpreted as a victim of her own romantic perception so Keats ridicules at Lycius's limited and romantic view and keeps sympathetic understanding to Lamia (132).

For Keats, love is a form of imagination. He lets Lamia dream of love and then her passion for Lycius displays the doubtful side of being in love. When Lamia sees Lycius, she begs him to look back at her and not to desert her. She says, 'will you leave me on the hills alone? Lycius, look back! and be some pity shown' (I, 245-46). If Lycius does not turn back but ignores her words, Lamia will suffer. She takes the initiative and, she makes herself suffer from love. Keats appears ironical and even satirical about love and tries to show the agony following from love. For him, love is nonsense and also an ambivalent feeling from which one cannot escape. Lamia seems to understand Lycius' psychology well and knows that he loves her at first sight by her singing (I, 249) and beauty (I, 251-53). Then Lamia starts to work upon Lycius' feelings.

According to Van Ghent, Lamia is the central character who wins Lycius's heart, takes him to an obscure place and deceives him and, therefore, she comes out as the goddess of death, while Lycius is nothing but a "sacrificial victim" (qtd. in Schulkins 136). But she is not evil and

dangerous for him because she only loves him and when he observes her divine appearance, he plans his own ideal thoughts on her shadowy figure and believes that she is the form of his delight as an ideal wife. But the fact is that Lycius is unable to see her clearly, always as her back is turned to him.

Whereas Warren Stevenson qualifies Lycius's love as "cynical" (Werner, W. Beyer, *Keats and the Daemon King*) which seems unsustainable. Lycius simply desires to marry her and make their love known to the world. He wants social recognition because he wants to use Lamia's beauty for his own fame that will arouse jealousy in people, thereby raising the level of respect. He wishes for a wedding celebration; at first, she is distressed by this idea and pleads with him to change his mind; but at last submits to his wishes (141).

He invites all his friends, but Lamia doesn't invite any-one, and also begs him not to invite his former tutor, the philosopher Apollonius. But, now he becomes cruel and taking delight in her sorrows, as a madman. He looks like a demon and subduing his beloved to accept his tyrannical rule (142). She suffers from lovesickness since she 'whisper'd' in a 'trembling tone'. She is also 'anguished and has a 'frail-strung heart'. These are typical symptoms of a person who is in love. She is not manipulating Lycius at this moment. But she is assuring her true love for him. The foreshadowing of Lycius and Lamia's doomed love tells the reader more about their complex character. The narrator repeats the forecast for their love: 'For all this came a ruin' (II, 16). They live happily in the palace and will not have any 'ruin' if the 'thrill of trumpets' (II, 27-28) does not happen. A sense of reality, the symbol of the thrill of trumpets, creeps in their love and ushers in the motif of illusion and reality.

A spiteful person Apollonius does not feel ashamed of it as he tells Lycius that "yet must I do this wrong / And you forgive me" (II, 168-69). Due to his aggressive character, he doesn't make the peaceful atmosphere but only bring up conflicts. By using the word sage Keats address Apollonius as the symbol of cold philosophy (Warren Stevenson, "'Lamia': A Stab at the Gordian Knot", 241), reason, and reality. He satirizes Apollonius and thinks he is unimaginative. He is like a snake and is capable of harming Lycius (Susan Parry, *Keats's Lamia*, 179). He insists on revealing Lamia's secret to Lycius as a serpent and fixes his gaze upon her and Lycius feels the terror of Lamia. For the first time, he forgets his own egotistical needs and tries to remove her fear by holding her pale and icy hand (Schulkins, 2014, p. 143). At this time, he realizes the pain and fears of the woman. Until now, he notices Lamia only as a mere ideal and sees her as "Not mortal, but of heavenly progeny" (II, 87).

He criticizes Apollonius but he replies that he will save Lycius from being of a serpent's prey. Then he repeats the word "serpent" and Lamia vanishes with an awful scream. After that Lycius realizes the value of Lamia's human feelings which leads to his death on Lamia's

disappearance. He senses her pain in the most extreme and intimate manner and feels her heart and soul rather than focusing merely on her external appearance. However, Lamia is also a woman who has emotions and needs- she is not just a repulsive creature. He realises that Lamia is a separate individual whose existence is not centred on him alone. When Lycius is unable to accept the loss of his dream, he dies in a fury of grief and in this way their romance ends in tragedy (John C. Whale, “John Keats”, 88).

The poet wants to say that things aren't as simple as they appear to be. Lycius is characterized as a romantic dreamer, a male lover, who fails to see his lover as an individual other. He sees her more as a part of his dream than his reality. What seems to lie at the heart of Keats' romances, and more specifically in *Lamia*, is that romantic love is nothing more than a selfish feeling that comes to satisfy personal desires without any regards (131).

5. Conclusion

John Keats did not, by any definition, live a life that most would call happy. For most of his life, though, he seemed to try to make the best of it. Disease took away his family, his future as a poet and the potential of him ever marrying the woman he loved. However, after the death of his brother, he slipped into depression. While not obviously terminally ill himself, Keats wrote his last poem *Lamia* full of imagery and an expression of commerce, ambiguous character and tragic ending of love. The poem, while still a typically lyrical poem of the romantic era and an outpouring of the grief and anger that Keats experienced when his family members died of Tuberculosis.

Lamia is viewed in a very similar but more complex fashion. Because of unavoidable circumstances, Keats and Fanny Brawne were separated and that was the real beginning of Keats's agony. *Lamia* reflects Keats's disorder of feelings about love and Fanny during the period of separation from her. Because of the promise of money to George, marriage to Fanny was for the time impossible, but Keats found that attempts to detach himself from Fanny both emotionally and imaginatively were also impossible. His passionate love for Fanny Brawne diverted him from the very literary achievement that might provide financial security necessary for marriage. *Lamia* is a strong reflection of Keats's love for Fanny but emphasizes particularly the mutual misgiving and fascination Keats felt.

We find his expression about the importance of money, suffering of love tragedy and dubious nature of human beings in *Lamia*. Using metaphor: ‘love is like a doll dress’d up’ he tells the reader that love is lighthearted, and one does not have to treat love very seriously but needs to protect it. Love is divine things and due to which a person feels holy but appears foolish to others. It is also clear from the poem that the dreams of immortal lovers are real, but the dreams of mortals are illusory and unreliable. Hermes and nymph are immortal, so they don’t

suffer, and their wishes are also easily fulfilled. For Lycius and Lamia in the mortal world, by contrast, Love is complex which makes their lives full of suffering and miserable.

We can say that *Lamia* has generated more allegorical readings than any other of Keats's poems with the numerous contrasts like dream and reality, imagination and reason, poetry and philosophy. The three main characters, Lamia, Lycius and Apollonius, have respectively been read, as poetry, the poet, and the philosopher. It also expresses a conflict between reality and the imagination. But who is responsible for the disaster which happens to Lamia and Lycius? In spite of good intention, Apollonius seems responsible, but he doesn't want to harm Lycius. He wishes to protect Lycius from falling prey to Lamia. And Lamia who is a serpent and loves Lycius also has no means to harm him. If Lycius had decided not to make the marriage public, the disaster would not have happened. But it is not wholly Lycius' fault because his decision of marrying Lamia publicly is prompted by Lamia's distrust of his love. All the three characters' relationships are interconnected and become very complex and ambivalent. At the end, no one is a winner, but everyone seems to be a loser. It is nobody's fault. Every character simply realises his or her dream or does his duty.

The poetic element employed by Keats enables him to create the appropriate thematic setting for his narration, evoke the expected emotions of the reader, and serve as the moral story of reality and love. He is able to educate his reader on interpreting between realities and appearances as well as acknowledging the defying power of imagination. *Lamia* shows how male idealization imposes on and limits women's sexual identity. Against general readings of Lamia's sexual character as the root of evil, what the analysis denotes is that *Lamia* places the spotlight on Keats's sympathetic but ambiguous representation of Lamia. Though the ambiguity is recognized, the nub of the argument is that Keats does not portray female sexuality as demonic—women as the Other which may be allegorically extended to all those common people who had been Othered in England during the Romantic era.

Works Cited

Bate, Walter Jackson, *The Stylistic Development of Keats*, 1945; New York, Humanities Press, 1962

--- *John Keats*, Cambridge, MA: Harvard University Press, 1963

Beyer, Werner W. *Keats and the Daemon King*, New York, Oxford UP, 1947, pp7-99

Bush, Douglas. *Mythology and the Romantic Tradition in English Poetry*, Cambridge, Mass, Harvard UP, 1937

Language in India www.languageinindia.com ISSN 1930-2940 20:4 April 2020

Dr. Muna Shrestha

Lamia: An Expression of Commerce, Ambiguous Character and Tragic Romance

168

- Cox, Jeffrey, ed. *Keats's Poetry and Prose*. New York: Norton & Company, 2009
- *Poetry and Politics in the Cockney School*. New York, NY: Cambridge University Press, 1998. Print.
- Everest, Kelvin. 'Isabella in the Market-place: Keats and Feminism', ed. Nicholas Roe, *Keats and History*, Cambridge: Cambridge University Press, 1995, pp. 107–26.
- Fermanis, Porscha. *John Keats and the Ideas of the Enlightenment*, George Square, Edinburgh, Edinburgh University Press, 2009
- Fogle, Richard Harter. *The Imagery of Keats and Shelley: A Comparative Study*, Chapel Hill: University of North Carolina Press, 1949
- 'Keats's *Lamia* as Dramatic Illusion', in *Nineteenth-Century Literary Perspectives: Essays in Honor of Lionel Stevenson*, Durham, NC: Duke University Press, 1974, pp. 65-75.
- Keats, John. *The Complete Works of John Keats*, 4, Ed. H. B. Forman. Glasgow: Gowars & Gray, 1900-1901
- Parry, Susan. 'Keats's *Lamia*', *Explicator*, 59, 4, 2001, pp178-79
- Schulkins. Rachel, *Keats, Modesty and Masturbation*, United Kingdom, Dorset press, Dorchester, 2014
- Sitterson, C. Joseph. Jr., 'Narrator and Reader in *Lamia*', *Studies in Philology*, 79, 3, 1982, pp297-310
- Stevenson, Warren. " 'Lamia': A Stab at the Gordian Knot", *Studies in Romanticism*, 11, 3, Boston University, 1972, pp. 241-252
- Stillinger, Jack (ed.), *Twentieth Century Interpretations of Keats's Odes: A Collection of Critical Essays*, Englewood Cliffs, NJ: Prentice-Hall, 1968
- *The Hoodwinking of Madeline and Other Essays on Keats's Poems*, Urbana: University of Illinois Press, 1971
- Tate, A. "A Reading of Keats." *American Scholar*, 15, Nrs. 1 and 2, 55-63, 189-97
- Van Ghent, Dorothy. *Keats: The Myth of the Hero*. Ed. Jeffrey Cane Robinson. Princeton: Princeton UP, 1983. Print
- Wasserman, Earl R. *The Finer Tone: Keats' Major Poems*, Baltimore, Johns Hopkins UP, 1967, pp. 159-62.

Watkins. Daniel P., *Keats's Poetry and the Politics of the Imagination*, London and Toronto: Associated University Presses, 1989

Whale, John C. *John Keats*, Houndmills, Palgrave Macmillan, 2005

Zhang, Yu. *Unweaving The Rainbow: The Taboo Woman in the Poetry of Coleridge and Keats*. Hamilton, Ontario: McMaster University, 1991.

=====

A TRANSFER GRAMMAR FOR ENGLISH-TAMIL MACHINE TRANSLATION

Prof. Rajendran Sankaravelayuthan

Amrita Vishwa Vidyapeetam University

Coimbatore 641 112

rajushush@gmail.com

Dr. P. Kumaresan

Assistant Professor

SRM Trichy Arts and Science College, Tiruchirappalli

drpkenglish@gmail.com

Coimbatore

April 2020

ABBREVIATIONS

Accusative	Acc/ACC
Adjective	Adj / ADJ
Adjectival Phrase	Adj P
Adverb	Adv/ADV
Adverbial Phrase	Adv P
Approximates	App
Augmented Transition Net work	ATN
Auxiliary	Aux
Be verb	BV
Complement	COMP
Compound verb	CV
Dative	Dat/DAT
Determiner	Det/DET
Demonstrative	Dem/DEM
Dictionary of English Word Analysis	DEWA
Direct Object	DO
Finite	FIN
Genitive	gen/GEN
Human Aided Machine Translation	HAMT
Indirect Object	IO
Instrumental	inst/INST
Intransitive Verb	Vi/VI
Knowledge Based Machine Translation	KBMT
Lexical Functional Grammar	LFG
Locative	LOC/loc
Machine Aided Human Translation	MAHT
Machine Translation	MT
Machine Translation Aid	MTA
Modal	MOD
Natural Language	NL
Natural Language Analysis	NLA
Natural Language Processing	NLP
Natural Language Generation	NLG
Negative	Neg/NEG
Noun	N
Noun Phrase	NP
Number	Num/NUM
Object	O
Ordinal	Ord

Perfect	Perf
Phrase Structure Grammar	PSG
Pre-determiner	Pre-Det
Preposition, Postposition	P
Prepositional/Postpositional Phrase	PP
Programming Language for Natural Language Processing	PLNLP
Person Number Gender	PNG
Progressive	Prog/PROG
Pronoun	PN
Plural	PLU/plu
Quantifier	Quan/Q
Relative participle	RP
Sentence	S
Singular	Sing/SING
Structural and Lexical Transfer	SALT
Subject (specified in the content itself)	S
Tense	T
Tree Adjoining Grammar	TAG
Verb	V
Verb Phrase	VP

TRANSCRIPTION FOR TAMIL ALPHABETS

Roman	Tamil
Vowels	உயிரெழுத்துக்கள்
a	அ
aa	ஆ
i	இ
ii	ஈ
u	உ
uu	ஊ
e	எ
ee	ஏ
ai	ஐ
o	ஓ
oo	ஔ
au	ஔ
consonants	மெய்யெழுத்துக்கள்
k	க்
ng	ங்
c	ச்
nj	ஞ்
T	ட்
N	ண்
t	த்
nd	ந்
p	ப்
m	ம்
y	ய்
r	ர்
l	ல்
v	வ்
zh	ழ்
L	ள்
R	ற்
n	ன்

A FEW WORDS

I was involved in machine translation projects promoted by Department of Electronics and Information Technology, Govt. of India for the Technological Development of Indian Languages (TDIL). I was/am associated with the machine translation projects funded by govt. of India since its onset in the form of Anusaraka to its expansion into Indian Language to Indian Language Machine Translation and English to Indian Language machine transition consortia projects. I am party to almost all ventures undertaken by govt. of India on Machine translation. The present material was lying in my lap from 2006 onwards. Let it see the light. Kindly bear with me the lacunae.

S. RAJENDRAN

CONTENTS

Chapter 1: Introduction	13-21
1.0. Preamble	13
1.1. Computationally viable syntactic structurers	13
1.2. Contrastiv study	14
1.3. Transfer Grammar	16
1.4. History of Machine Translation	17
Chapter 2: Syntacitc Structure of English	22-86
2.0. Introduction	22
2.1. Analysis of Words	22
2.2. Analysis of Phrase	23
2.2.1. Analysis of Noun Phrases	23
2.2.1.1. Constituents of Noun Phrases	23
2.2.1.2. Patterns of Noun Phrases	26
2.2.2. Analysis of Verb Phrases	27
2.2.2.1. Constituents of Verb Phrases	27
2.2.2.2. Typology of Verbs	27
2.2.2.3. Inflections in Verbs	29
2.2.2.4. Compounding of Verbs	30
2.2.2.4.1. Compounding of Primary Auxiliary Verbs	31
2.2.2.4.1.1. Compounding of Do Auxiliaries	31
2.2.2.4.1.2. Compounding of HAVE Auxiliaries	32
2.2.2.4.1.3. Compounding of BE Auxiliaries	34
2.2.2.4.2. Compounding of Modal Auxiliary Verbs	35
2.2.2.4.3. Compounding of Semi Auxiliary Verbs	35
2.2.2.5. Interpretation of Verbal Forms for Tense, Aspect and Mood	36
2.2.2.6. Patterns of Verb Phrases	39
2.2.3. Analysis of Adjectival Phrase	47
2.2.3.1. Constituents of Adjectival Phrases	48
2.2.3.2. Adjectival Comparison	50
2.2.3.3. Patterns of Adjectival Phrases	50
2.2.4. Analysis of Adverbial Phrases	51
2.2.4.1. Patterns of Adverbial Phrases	52
2.2.5. Analysis of Prepositional Phrases	55
2.2.5.1. Typology of Prepositions	56
2.2.5.2. Prepositional Phrases and Their Interpretations	57
2.2.6. Phrasal Co-Ordination	61
2.3. Clause Building Mechanism	62
2.3.1. Typology of Clauses	62
2.3.2. Building of Different Types of Clauses	65
2.3.2.1. Nominal / Complement Clauses	65
2.3.2.2. Adverbial Clauses	66

2.3.2.3.	Adjectival Clauses	68
2.3.2.3.1.	Restrictive and Non-Restrictive Relative Clauses	69
2.3.2.3.2.	Case in Relative Clauses	70
2.3.2.3.3.	Relative Pronoun as Adverbial	70
2.3.2.4.	Comparative Clauses	70
2.3.2.4.1.	Comparative Clauses of Quality	71
2.3.2.4.2.	Comparative Clauses of Quantity	71
2.3.2.4.3.	Comparative Clauses of Adverbs	72
2.3.2.5.	Comment Clauses	72
2.3.3.	Clausal Co-Ordination	72
2.4.	Sentence Analysis	73
2.4.1.	Word Order	73
2.4.2.	Building of Different Types of Sentences	76
2.4.2.1.	Sentence Types Based on the Complexity of Clauses	76
2.4.2.2.	Sentence Types Based on Their Function	77
2.4.2.2.1.	Analysis of Affirmative or Assertive Sentences	77
2.4.2.2.1.1.	Analysis of Equative Sentences	78
2.4.2.2.1.2.	Analysis of Non-Equative Sentences	78
2.4.2.2.2.	Analysis of Interrogative Sentences	78
2.4.2.2.2.1.	Yes-No Interrogatives	79
2.4.2.2.2.2.	Wh-Interrogatives	80
2.4.2.2.2.3.	Interrogative Determiners and Pronouns	82
2.4.2.2.2.4.	Interrogative Adverbs and Conjunctions	83
2.4.2.2.3.	Analysis of Negative Sentences	83
2.4.2.2.3.1.	'Not' Negation	83
2.4.2.2.3.2.	Negation by Negative Pronouns	84
2.4.2.2.4.	Analysis of Imperative Sentences	85
2.5.	Conclusion	86
Chapter 3:	Syntactic Structure of Tamil	87-160
3.0.	Introduction	87
3.1.	Analysis of Words	87
3.1.1.	Analysis of Inflected Forms of Nouns	88
3.1.2.	Analysis of Inflected Forms of Verbs	89
3.2.	Analysis of Phrases	90
3.2.1.	Analysis of Noun Phrases	90
3.2.1.1.	Constituents of Noun Phrases	90
3.2.1.2.	Patterns of Noun Phrases	93
3.2.2.	Analysis of Verb Phrases	93
3.2.2.1.	Constituent Structure of Verb Phrases	93
3.2.2.2.	Typology of Verbs	94
3.2.2.3.	Compounding of Verbs	95
3.2.2.3.1.	Analysis of Tensed Forms	95
3.2.2.3.2.	Analysis of Aspectual Forms	95

3.2.2.3.3.	Analysis of Modal Forms	96
3.2.2.3.4.	Analysis of Other Forms with Auxiliary Verbs	99
3.2.2.3.5.	Summing up of Verbal Compounding	100
3.2.2.4.	Analysis of the Patterns of Verb Phrases	105
3.2.3.	Analysis of Adjectival Phrases	109
3.2.4.	Analysis of Adverbial Phrases	110
3.2.4.1.	Constituents of Adverbial Phrases	110
3.2.5.	Analysis of Postpositional Phrases	112
3.2.5.1.	Typology of Postpositions	113
3.2.5.1.1.	Nominative Case + Postpositions	114
3.2.5.1.2.	Oblique Form + Postpositions	115
3.2.5.1.3.	Dative Case + Postpositions	119
3.2.5.1.4.	Accusative Case + Postpositions	122
3.2.5.1.5.	Locative Case + Postpositions	124
3.2.5.2.	Occurrence of Postpositions and Case Markers Denoting Multiple Argument Relations	124
3.2.5.3.	Postpositions, Cases and Clitics	125
3.2.5.4.	Summing up of Postpositions and Their Meaning Interpretations	126
3.2.6.	Coordination of Phrases	129
3.2.6.1.	'And' Coordination	129
3.2.6.2.	'Or' Coordination	131
3.2.6.3.	'But' Coordination	132
3.3.	Constituent Structure of Clauses	132
3.3.1.	Complementation	133
3.3.2.	Nonfinite Clauses	134
3.3.2.1.	Infinitive Class	134
3.3.2.2.	Verbal Participle Clauses	137
3.3.2.3.	Conditional Clauses	139
3.3.2.4.	Adjectival/Relative Clauses	142
3.3.3.	Nominalized Clauses	143
3.3.4.	Verbal Complement Clauses	144
3.3.5.	Comparative Clauses	145
3.3.5.1.	Complementing Similarity	146
3.3.5.2.	Complementing Difference	147
3.3.6.	Adverbial Clauses	147
3.4.	Analysis of Sentences	149
3.4.1.	Word Order	149
3.4.2.	Analysis of Different Types of Sentences	151
3.4.2.1.	Sentence Types Based on the Complexity of Clauses	151
3.4.2.2.	Sentence Types Based on Their Function	152
3.4.2.2.1.	Analysis of Affirmative or Assertive Sentences	153
3.4.2.2.1.1.	Analysis of Equative Sentences	153
3.4.2.2.1.2.	Analysis of Non-Equative Sentences	154

3.4.2.2.2.	Analysis of Interrogative Sentences	154
3.4.2.2.2.1.	Yes-No Questions	155
3.4.2.2.2.2.	Wh-Questions or Information Questions	156
3.4.2.2.2.3.	Alternative Questions	157
3.4.2.2.3.	Analysis of Negative Sentences	157
3.4.2.2.4.	Analysis of Imperative Sentences	159
3.5.	Conclusion	160
Chapter 4: Grammatical Formalisms and Syntactic Parsing		161-197
4.0.	Introduction	198
4.1.	Context-Free Grammar Formalism	161
4.1.1.	Three Approaches to Structure	162
4.1.1.1.	The Head and Modifier Approach	162
4.1.1.2.	The Immediate Constituent Approach	164
4.1.1.3.	The Slot and Filler Approach	165
4.1.1.4.	Summary of Structure Types	167
4.1.2.	Rules and Derivation	167
4.1.2.1.	The Derivation of Sentences	167
4.1.2.2.	Choices and Repetitive Structures	169
4.1.3.	Parsing With Context-Free Grammars	170
4.1.3.1.	General Issues In Parser Design	171
4.1.3.2.	Dimensions of Parsing Strategy for Context-Free Grammars	172
4.1.3.3.	The Problem of Ambiguity	173
4.2.	GB Formalism	174
4.2.1.	The GB Modules	176
4.2.1.1.	X-Bar Theory	176
4.2.1.2.	Theta Theory	177
4.2.1.3.	Government	177
4.2.1.4.	Case Theory	178
4.2.1.5.	Bounding Theory	179
4.2.1.6.	Binding Theory	179
4.2.1.8.	Constraints on Movement	180
4.2.2.	How Can GB Help In Parsing?	180
4.2.2.1.	Relative Clause Construction	181
4.2.2.2.	Passive Construction	181
4.2.2.3.	Subject-To-Subject Raising	182
4.3.	Lexical Functional Grammar	182
4.3.1.	LFG Overview	184
4.3.2.	LFG Formalism	186
4.3.3.	Well-Formedness Conditions	188
4.3.4.	Handling Wh-Movement In Questions	189
4.3.5.	Computational Aspects: Feature, Structures and Unification	190
4.3.5.1.	Features and Feature Structures	190
4.3.5.2.	Unification	191

4.3.5.3.	Other Constraints	193
4.4.	Paninian Formalism	194
4.5.	Conclusion	197
Chapter 5: Machine Translation System		198-219
5.0.	Introduction	198
5.1.	Computational Linguistics and Natural Language Processing	198
5.2.	Machine Translation	198
5.2.1.	Historical Background	199
5.2.2.	Machine Translation Process	200
5.2.2.1.	Machine Translation System	201
5.2.3.	Evolution of Various Approaches	202
5.2.3.1.	Direct Approach: First Generation	203
5.2.3.2.	Transfer Approach: Second Generation	203
5.2.3.3.	Corpus Based Approach: Third Generation	204
5.2.3.4.	Hybrid Approaches on the Horizons	204
5.3.	Components in MT System	205
5.3.1.	Electronic Dictionaries and Lexical Databases	205
5.3.1.1.	EDR Project	205
5.3.1.2.	Dictionary Projects in Europe	206
5.3.2.	Study of Corpus	206
5.3.3.	Morphological Analyser and Generator	207
5.3.4.	Grammars and Their Characteristics	207
5.4.	Evaluation of MT Systems	208
5.5.	Obstacles in MT	209
5.5.1.	Text Input	209
5.5.2.	Deformatting and Reformatting	209
5.5.3.	Pre-Editing and Post Editing	209
5.5.4.	Introduction of MT Systems in an Organization	210
5.6.	Some Findings on Usage	210
5.6.1.	Classification of Categories of Output	211
5.7.	Machine Translation Summits	211
5.8.	Associations for Machine Translation	212
5.8.1.	Objectives and Activities of IAMT	212
5.8.2.	Membership	212
5.9.	Implications and Spin Offs of MT Research	212
5.9.1.	Future of Machine Translation	213
5.10.	Machine Translation in India	213
5.10.1.	Issues in MT Involving Tamil	214
5.10.1.1.	Morphological Analysis	214
5.10.1.2.	Part of Speech Tagging	215
5.10.1.3.	Syntax Analysis	215
5.10.1.4.	Semantic Analysis	216
5.10.1.5.	Syntactic Transfer	216

5.10.1.6.	Dictionary Mapping	217
5.10.1.7.	Morphological Generation	217
5.10.2.	Resources and Tools Required for Tamil Language Processing	217
5.10.2.1.	Tools	217
5.10.2.1.1.	Morphological Analyser	217
5.10.2.1.2.	Tagger	217
5.10.2.1.3.	Parser	217
5.10.2.1.4.	Semantic Analyser	218
5.10.2.1.6.	Morphological Generator	218
5.10.2.2.	Resources	218
5.10.2.2.1.	Dictionary	218
5.10.2.2.2.	Cross-Lingual Dictionary	218
5.10.2.2.3.	Corpora	218
5.10.2.2.4.	Pos Tagged Corpus	219
5.10.2.2.5.	Parallel Corpora	219
5.10.2.2.6.	Transfer Grammar	219
5.10.2.2.7.	Collocation Dictionary	219
5.11.	Conclusion	219
Chapter – 6: Transfer Grammar for English to Tamil Machine translation		220-281
6.0.	Introduction	220
6.1.	Transfer of Words	221
6.2.	Transfer of Phrase	221
6.2.1.	Transfer of Noun Phrases	221
6.2.1.1.	Transfer of Demonstrative	222
6.2.1.2.	Transfer of Quantifiers	223
6.2.1.3.	Transfer of Genitive	223
6.2.2.	Transfer of Verb Phrase	224
6.2.2.1.	Transfer of Complex Verbal Forms Denoting Tense, Mood and Aspect	225
6.2.2.2.	Transfer of Verb Patterns	232
6.2.3.	Transfer of Adjectival Phrases	240
6.2.4.	Transfer of Adverbial Phrases	241
6.2.5.	Transfer of Prepositional Phrases	247
6.2.6.	Transfer of Phrasal Co-ordination	252
6.3.	Transfer of Clauses	253
6.3.1.	Transfer of Nominal / Complement Clauses	256
6.3.2.	Transfer of Adverbial Clauses	257
6.3.3.	Transfer of Adjectival Clauses	260
6.3.4.	Transfer of Comparative Clauses	261
6.3.4.1.	Comparative Clause of Quality	262
6.3.4.2.	Comparative Clause of Quantity	263
6.3.4.3.	Comparative Clause of Adverbs	263
6.3.5.	Transfer of Clausal Co-ordination	264

6.4.	Transfer of Sentences	264
6.4.1.	Transfer of Affirmative Sentences	270
6.4.2.	Transfer of Interrogative Sentences	272
6.4.2.1.	Transfer of Yes-No Questions	273
6.4.2.2.	Transfer of Wh-Questions	274
6.4.3.	Transfer of Negative Sentences	275
6.4.3.1.	Transfer of Negation in Equative Sentences	276
6.4.3.2.	Transfer of Negation in Non-Equative Sentence Types	276
6.4.3.3.	Transfer of Negative Pronouns and Determiners	277
6.4.4.	Transfer of Imperative Sentence	278
6.5.	Conclusion	280
Chapter -7: Conclusion		282-285
Bibliography		286

CHAPTER - 1 INTRODUCTION

1.0. Preamble

The concept of transfer grammar is not a recent phenomenon. Even in 1954 Harris discusses about the importance transfer grammar in the context of translation, machine translation, language teaching and language learning. We became aware of it recently due to our involvement in machine translation (MT). Presently we are interested in preparing a transfer grammar for English Tamil MT. Harris has proposed an elaborate methodology to prepare a transfer grammar (His idea of transfer grammar has been explained below under the heading “Transfer Grammar”). Here we narrow down our efforts just to correlate syntactic structure of English with that of Tamil from the point of view preparing a transfer grammar for English-Tamil machine translation. For this purpose the computable syntactic structures of English and Tamil have been worked out. These computational syntactic structure analyses are different from ordinary syntactic structure analyses in the sense that the computational syntactic structures are viable for computational processing. A transfer grammar for machine translation has to be prepared using these computational syntactic structure analyses. A transfer grammar is an important component in a machine translation system. This helps us to map one language structure into another language structure.

As English and Tamil belongs to two different types of language groups, that is English as predominantly SVO patterned language and Tamil a predominantly SOV patterned language showing unique characteristics which differentiate them drastically from one another, it is possible to manipulate these differences to form transfer rules. These transfer rules can be used to map the English structure into Tamil Structure and vice versa.

1.1. Computationally viable syntactic structures

The computationally viable syntactic structures of English and Tamil are worked out to facilitate the matching of the two types of structures in order to formulate transfer grammar (transfer rules). The transfer grammar is the core of the present research. Transfer grammar component is very crucial for developing a machine translation system. For this purpose English corpus, especially on tourism, has been downloaded from internet. In the present scenario machine translation systems are produced by preparing parallel corpora of the source and target languages and by making use of statistical methods. The corpus is at first manually annotated for various grammatical features and by using this training corpus rest of the corpus is automatically annotated. By statistical method and by making use of parallel corpora, the transition is executed between the source and target languages. For this purpose the transfer of source language into target language is crucial. This is done by making use of a transfer grammar, which helps in transferring the lexical and structural elements of source language text into target language text. Nearly 5000 sentences in the tourism domain have been collected and translated into Tamil. The translation is a source language faithful translation. As far as possible, information in the source language text are not disturbed. This facilitates the preparation of transfer grammar. Comparison, contrast and correlation are made between the source language and target language with the aim to develop transfer rules for the sake of MT.

1.2. Contrastive study

Of course, the theory of contrastive study is very relevant in this context. Contrastive study is an analysis, which tries to unearth the typological commonalties found between the languages being compared or contrasted. Theoretically, there is difference between comparative study and contrastive study. Comparative study is made between two genetically related (cognitive) languages of a particular language family in order to bring out their family affiliation. But contrastive study is undertaken between any two languages in order to bring out the corresponding features between them without bothering about their family affiliation, if there is any. It is a common notion that there is logic behind it. When two languages are compared expecting the commonalties, it is quite natural that the two sister languages will share common properties as they have originated from a common source (proto language). But in one sense, it is illogical and unwise to expect similar linguistic traits between two languages that are believed to have been originated from different sources. Chomsky's assumption that there are linguistic universals exists among languages, leads us to expect shared features between two unrelated languages. Contrastive analysis indirectly helps to frame the theory of linguistic universals, although the contrastive study has basically been made for language teaching purpose. However the contrastive study yields many a fruit in the domain of translation too.

Translation is one of the areas studied elaborately by linguists and translators. Traditionally translation was considered as the process of replacement of a text written in a source language by a text written in a target language, the objective being a maximum equivalence of meaning. But in the present day situation, translation is the process of transfer of message expressed in a source language into a message expressed in a target language, with the maximization of the equivalence of one or several levels of content of the message. It is hoped here that the correlation of the grammatical structures of English and Tamil throw some light for the process of machine translation.

In order to prepare a Machine Translation system for translating English texts into Tamil, we need to know the common and contrasting features of English and Tamil. The study which covers up both the aspects of commonness and contrasting feature are referred here as correlative study. The correlative study has to be made at least from the point of view of lexicon and constituent structure. The correlative study of the vocabulary (lexicon) of both the languages is needed for the sake of lexical transfer. The problem has been tackled in the English-Tamil bilingual dictionary and Tamil generation dictionary. We have to concentrate on the constituent structure of the two languages focusing our attention on syntax. Inflectional morphology is taken care of by morphological analysis. Chomsky defined a grammar of a language as a description of the ideal speaker hearers' intrinsic competence. The set of rules, which describes the structure of the sentences of a language are internalized by every speaker of a language and that gives him the competence to distinguish between grammatical and ungrammatical sentence. A native speaker of a language will be able to tell whether a string is deviant because of its meaning (its semantic interpretation) or because of it's from (its syntax). Each language has a stock of meaning bearing elements and these elements are combined to express different meanings. The following two English sentences *Raju called Ramu* and *Ramu called Raju* consist the same meaning bearing elements, but they indicate

two different meanings because the words are combined differently in them. These different combinations fall in the realm of syntax.

The aim of contrastive study of languages is to systematically compare the structures of the two languages. The Basic idea of contrastive analysis is started by Robert Lado (1957) in his “Linguistics across Cultures”. His view is:

The assumption that we can predict and describe the patterns that will not cause difficulty in learning and those that will not cause difficulty, by comparing systematically the language and culture to be learned with the native language and culture of the student. In our view, the preparation of up-to-date pedagogical and experimental materials must be based on this kind of comparison.

The term “contrastive linguistics” is known as

1. “Comparative Linguistics” by M.A.K. Holliday (1965:112)
2. “Bilingual Grammars” by Einar Haugen (1965:41)
3. “Contrastive Grammars” by H.A. Gleason (1955)

Then a more elaborate explanation of the term comes from David Crystal (1971: 24).

Knowing about a language means being up-to-date with research into the language and with language: in particular it means having a thorough knowledge of structural difference between the languages, the learner already knows and the one he is trying to learn.

In colleges and higher secondary schools instruction is given both in native and target language. The interference of the native language into the systems and structures of the target language is well focused in most cases. At such times the necessity for the application of contrastive linguistics to second language teaching rise up.

The objectives of contrastive grammars are well stated by Gleason (1955:207):

Contrastive grammars are most useful in setting up second language teaching materials. They enable an experienced teacher to predict with reasonable success what parts of the language structure will present the greatest difficulties to learners. They commonly define rather precisely the exact nature of those difficulties. This gives the teacher or lesson writer the basis for selecting a strategy to meet or minimize these difficulties.

One way of contrasting the syntactic structure in English and Tamil for effective teaching and learning would be to compare them in a reasonable accurate and objective away. It is to predict the areas of difficulty faced by the second language learners and to suggest suitable remedial measures. The experiment will enable the teacher to prepare their materials accordingly.

Holliday’s “Transfer comparison” (1965) describes the grammatical categories of one language in terms of the grammatical categories of another language. The fixed word order of English against flexible word order of Tamil, the use of prepositions in English against the postpositional case markers in Tamil and the use ‘and’ coordination of verbs in the place of participial coordination in Tamil (*cenRu-vandtaan* “went and came”) make them structurally different from each another. For example, it is possible to say “king of England” but not “England’s king”. “Rama killed a snake” is represented in Tamil as “*raaman paampaik konRaan*” reflecting the structural pattern of English as SVO language and Tamil as SOV

language respectively. The second structure is the normal pattern in Tamil (*ingkilaandtin aracan*). The syntactic feature in the languages is a category, for example English is a prepositional language but Tamil is a postpositional language because the former occurs before nouns the latter is used after nouns in sentence.

1.3. Transfer grammar

A true contrastive analysis should result in a so-called "transfer grammar", which consists of a set of specific rules for transferring from one language to the other, covering all aspects of the structures of the languages involved. Harris (1954) is of the opinion that the difference between the languages can be measured. He proposes a method which enables us to measure the difference in grammatical structure, and to establish what is the minimum difference (or the minimum similarity) between any two language systems. Presumably, any method of specifying difference can contribute toward a classification of structural types among languages (as distinct, say, from a genetic classification). The method is also relevant to a proceduralized system of translation. It can be put in the form routine instructions for machine translations. This is not only because of the inherent connections between transfer and translation, but also because sentence-pairs under translation are used in certain transfer foundation. The method may also be relevant for the learning or teaching of foreign languages; it suggests that it may prove possible to acquire a language by learning only the differences between the new language and the old (leaving those features which are identical in both to be carried over untaught); but here educational and psychological considerations enter in addition to any linguistic technique of minimizing the difference between the languages.

One can construct purely structural transfers between the phonologies of two languages, or their morphophonemics, or their morphologies (only the last is discussed here). And one can construct transfers between paired items in the two languages - paired by some useful criterion. He discusses about sounds paired phonetically rather than purely structurally, and words and sentences paired by translation.

The following paragraph is from Harris (1954) which he has discussed under the heading "DEFINING DIFFERENCE BETWEEN LANGUAGES." The passage is given as such as the rewiring his idea will hamper our understating of Harris on 'transfer grammar'.

We can begin making a transfer grammar by defining difference between languages as the number and content of the grammatical instructions needed to generate the utterances of one language out of the utterances of the other. If A is some large set of utterances in one language, and B is a set in another, then the list of changes that have to be made on A in order to transform A into B will be considered the difference B-A (i.e. it represents what there is in B over and above A; or, given A, how much more has to be done to get from there to B). In certain cases, the list of changes that transform the set B back into the set A may not be simply the reverse of B-A, but may be a different list; this would be A-B (what there is in A over and above B). If among various lists of changes that would transform A into B we find one that is the smallest in number and content (under some way of measuring content), we will call it the least or minimum difference B-A. We will consider whether a least difference exists, how it can be found, and under what circumstances B-A is the reverse of A-B (in which case

the amount of difference is independent of the direction). A grammar may be viewed as a set of instructions which generates the sentences of a language. Since the set of instructions B-A generate sentences (of B) from other sentences (of A), it can be viewed as an appendix to the grammar of A. That is to say, B can be obtained from the grammar of A plus the added instructions of B-A (which would take us from A to B). This would compare with the independent grammar (or grammars) of B, which generate the sentences of B directly, starting from scratch. Thus the difference B-A, or the transfer instruction, can be presented as a grammatical appendix to A, or as part of an indirect grammar of B (going via A). It is for this reason that it may be called a transfer grammar. One can also consider a set of grammatical instructions Z, which does not in itself generate any known language, but is so selected that if we add to Z certain additional instructions A-Z we will get the sentences of A, while if we add to Z other additional instructions B-Z will get the sentences of B. Then Z is a grammatical base common to A and to B; and both A and B are obtained by an indirect grammar which goes via Z. One can select Z for various purposes, e.g. for translation or teaching convenience, or for minimality (such that the sum of Z and A-Z and B-Z is least). Then the difference between A and B is the sum of A-Z plus the reverse of B-Z.

1.4. History of machine Translation

Machine translation can be traced back much further. We shall take as starting point the memorandum called 'Translation' written by Warren Weaver in 1949. Weaver was then Director of the Natural Sciences Division of the Rockefeller Foundation. Because of his own intellectual background he was much influenced by the ideas of information theory. Furthermore, one of the earliest uses of computers during the Second World War had been in cryptography – decoding the enemy's secret messages. This led Weaver to a notion of translation as essentially a process of decoding: a text in Chinese was a coded version of an English message. Thus, he was very optimistic about the possibility of using a computer to carry out the decoding.

His letter was circulated to some influential people in the States that produced not only a great interest in machine translation, but also quite substantial research funding for work in the area. Not surprisingly – if rather sadly – much of the interest came from defense and the intelligence authorities, so that the most common source language tackled was Russian, and the most common target language English. It is due to the parallel strong interest arisen in the Soviet block with the languages of English and French.

While considering these early research efforts, it is important to remember that both computer science and formal linguistics were then in their infancy. At that time the high level programming languages had not yet been invented. So the programmer worked very close to the machine, in terms of a few primitive operations. The instructions were written for many times that could be handled by a single program statement which may be automatically translated into a large number of primitive operations without the programmer having to worry about the translation process. Computers had small, limited memories: often 'good' programming came down to finding a way to economize on the number of memory locations used, even if this meant confusing program instruction with data on which the program

should work. In that situation, many of the principles, which are now part of the universal creed of the programmer, simply did not arise: when the chief concern is to Crum as much program as possible in to a limited space. One does not think about program architecture reflecting individual tasks to be done within the program, nor of starting with the top-level task and breaking it down into its components, each in its turn broken down in to independent modules. In essence, this comes down to saying that everything that had to be done was directly programmed in to machine instructions: information about language and the use of that information were inextricably mixed together in the same form.

Generative linguistics, with its insistence on describing language through the medium of a formal description, and its search for generalizations within the description, was also in its very early days. Consequently, is not very surprising that the problem of translation was seen as primarily a problem of dictionary look-up. The text to be translated was scanned from start to finish, each word in turn looked up in a bilingual dictionary, and the target language words substituted for the source language word.

The reader can quite quickly discover the limitations of this technique for himself by taking any sentence on this page and carrying out the same operation towards a language he knows. And, of course, the developers of early systems also quickly began to realize that for more was needed. Various techniques were used in an attempt to improve the quality of the output, ranging from allowing the treatment of one word to influence the translation of the following word, through attempts to resolve part of speech ambiguity by recognizing that certain sequences of parts of speech were illegal for particular languages. Article + verb + noun in English, for example – ‘the run cat’ cannot be a phrase of English, to the beginnings of developing syntactic analyses capable of determining the structure of the sentence.

But, unfortunately, the research workers proved to be victims of their own earlier enthusiasm and optimism. They had been convinced, in the early days that producing very general translation system, able to deal with a very wide range of texts, doing so without any significant human intervention and producing high quality translation as a result was merely a matter of working very hard, which they were quite prepared to do. They had also made their conviction known: the medicine translation conference at George Town University in 1954 had finished on a very optimistic note: mechanical translation was not only feasible but far closer to realizations than possibly the audience recognized (Reynolds, 1954).

Other quotations show that this was not an isolated view: ‘in about two years, we shall have a device which will at one glance read a whole page and feed what it has read into a tape recorder and thus remove all human co-operation on the input side of the translation machines.

‘..... it will not be very long before the remaining linguistic problems in machine translation will be solved for a number of important languages’ (Raifles, 1958)

Thus, when the American authorities set up a committee (the Automatic language processing Advisory committee) to evaluate progress in machine translation and to make recommendations for the future, it was only too easy for the committee to conclude that the results so far achieved did not measure up to what had been promised. The committee’s report, published in 1966, thus concluded that much more fundamental research was needed

before fully automatic high quality translation could be achieved, adding that, at least for the foreseeable future, it was more economic to use human translators than to use a computerized system and recommended that funding for direct work on machine translation should cease, with available funds being channeled towards basic research – thus, incidentally, giving quite a boost to work in Artificial intelligence, which was then very much at its beginnings.

Many findings of the Alpac report can be challenged. Certainly it reflects the American context where even today translation is regarded as very low-level and therefore ill-paid work, which can be done by any one with one or two years training in the relevant language (quite recently, a reporter commenting on Reagan's work fare Program quoted as typical jobs to be employed by the otherwise unemployed 'clerks, street claiming and translating'). It is also ironic that the system on which the evaluation was based – the Georgetown Automatic translation System – was subsequently in regular use in Europe well into the 1970's, thus amply demonstrating the existence of a need and that, within limits, the need was being fulfilled. But fair or unfair, balanced or biased, there was no arguing with the committee's conclusions, and funding for work on machine translation in the States become extremely difficult to find.

However, although this meant that academic work on machine translation became both rare and disreputable, work did not entirely stop. Some of the European groups, especially those who relied on American funding were dissolved, but others, most notably the groups in Grenoble and in Saarbrücken managed to keep going and are still active now.

Also there were those who had worked on the discontinued projects who were still convinced that the need for machine translation was there, and that the enterprise was feasible. They reformed themselves into commercial companies: one of the better known commercially available systems, Systran is the product of one such group.

Even within the States, small pockets of research survived, mostly those independent of government funding, for example at Brigham Young University, and at the University of Texas, leading to the METEOR system, recently marketed by its European sponsors, Siemens, under the name Litras. The Brigham Young project was later dissolved but has its intellectual inheritors in two of today's commercial systems, Alps and Weidener. The two companies producing these systems were both originally based in Provo, as is Brigham Young, and even though there is no direct link, the influence of the Brigham Young Projects is visible.

A shift towards machine translation becomes respectable again. It came with the successful completion of the TAUM-METEO system in 1977. This is the system, which translates the Canadian weather forecasts, and must count as one of the most well-known success stories in machine translation. Around the same time, other systems, by intelligent use of constraints either on the language of the text treated or on the size of the burden placed on the part of the work done by the computer, were successfully developed.

Typical of the first is Titus, in its successive incarnations, developed by the French textile industry for the translation of abstracts, and working via a restricted language. CULT is a system which translates the Acta Mathematica Sinica (and, more recently, also a Chinese Physics journal) from Chinese into English, and which relies quite heavily on pre-editing, is typical of second.

There is no space here to go into any very great detail on any of these systems. Further details and further references can be found in King (1987). Currently, a number of major projects are under way. The Japanese National Project (MU) has just successfully completed its first four year period, during which a pre-industrial prototype system was developed, and work is just starting on a major development effort. The French National Project is due to produce its first results in the near future. The European community is sponsoring a very large research and development programme Eurotra, designed to produce a system capable of dealing with all the languages of the community.

In parallel too, there is an increasing number of research projects, aiming at longer term results improving the quality of machine translation output. Many of these are in Japan, where there are around twenty such projects, but quite recently, a major research effort has been set up attached to Carnegie Mellon University in the States and the German government is sponsoring research on the use of recent results in theoretical linguistics within translation systems. The Canadian and Swiss governments are also showing renewed interest. Thus machine translation is once again accepted both as an area in which useful, if limited systems can already be developed, and as a legitimate research area.

A computationally viable syntactic structure of English has been worked out with the intention of matching it with the similar structure of Tamil in order to prepare a transfer grammar for machine translation. The computational syntactic structure of English is explained under the following sub headings: Noun phrase, Pre Positional Phrase, Verb Phrase, Adjectival Phrase, Adverbial Phrase and The sentence types based on the structure and function.

A computationally viable syntactic structure of Tamil has been worked to map it against the similar structure in English with the aim of preparing a transfer grammar, which will be utilized for Machine translation between these two languages. The computational syntactic structure of Tamil will be explained under the following subheadings: Noun Phrase, Post positional Phrase, Verb Phrase, Adjectival Phrase, .Adverbial Phrase and The sentence types based on the structure and function.

The fundamental idea of machine translation is to transfer source language text into target language text. For that the source language structure at the level of morphology, syntax and semantics has to be analyzed and the information gathered from the analysis to be transferred into target language by a generator. The analysis and generation are based on certain grammatical formalisms. The predominantly used formalisms are the following: Phrase structure grammar, Context Free grammar, Context sensitive grammar, Government and binding theory, Lexical functional grammar, Paninian grammar, Case grammar, Generalized phrase structure grammar, Head driven phrase structure grammar and Finite state grammar. Each of the grammatical formalism has its own merits and drawbacks. We have to choose one of the formalisms for our purpose.

Translating Languages with Computer – Machine Translation (MT) has been one of the greatest dreams in computer applications. Machine Translation systems acts as a bridge to access cross lingual information by making the documents available in one language to another language. Such systems are inexpensive, instantaneous and multiplicative when compared to human translation. Building such a system across a pair of languages is

nontrivial, fully automatic high-quality translation of an arbitrary text from one language to another is far too hard to automate completely. The level of complexity in building such a system depends on the similarities and difference among the pairs of languages.

And this dream is gradually becoming a reality. Research on MT is an intellectual challenge with worthy motive and practical objective. The challenge is to produce translations as good as those made by human translators. The motive is removal of language barriers. The practical objective is the development of economically viable systems to satisfy growing demands for translations. Contrary to general belief, there is a considerable shortage of human translators even for technical translations. To fill this vacuum there is an increasing demand, worldwide, for MT systems.

We have seen the state of art of MT System development in and outside India. The development of MT systems outside India, especially in European countries and America, is remarkable. India is also making attempts to develop MT system for Indian Language to Indian Language transfer as well as English to Indian languages transfer. Ministry of Communication and Information Technology and Ministry of Human resources give financial support to these programs. Of course we have to travel a lot to achieve this goal. Though such attempts are expensive, at least for the development of Research and Development and from the experimental point of view we have tried to build such systems. The present thesis explores one such possibility.

An exhaustive study of correlation of the computational syntactic structure of English with that of Tamil in the background of lexical and structural transfer of the concerned languages has been made. The computational syntactic structures of both languages have been deeply explored and a transfer grammar for the purpose of developing the machine translation has been worked out. The transfer grammar contains transfer rules, which take care of transferring the structures of source language into target language. The transfer rules will help promoting translation from source text to target text.

The book has been written with its use for further research and its application in machine translation process. The transfer grammar is an important component in the machine translation system. It serves both social and educational needs.

CHAPTER 2

SYNTACTIC STRUCTURE OF ENGLISH

2.0. Introduction

In this chapter a computationally viable syntactic structure of English has been worked out with the intention of matching it with the similar structure of Tamil in order to prepare a transfer grammar for machine translation.

English is a configurational language in which the structures of words, phrases, and clauses are more or less fixed, that is, they occur in certain predictable positions in sentences. Compared to Tamil, English is a fixed word order language. The functional interpretations of constituent elements depend more on the positions rather than inflections. English shows the characteristics features of SVO language. It is a prepositional language in which the elements marking the relation between noun and verb come before the noun. Here in this chapter the constituent structure of sentences in English will be elaborated upon to make it available for creating a transfer rules. The rules involved in the analysis of English sentences will be identified so as to compare them with the rules involved in analyzing Tamil sentences and thereby to understand the intricacies involved in the transfer of the source language structure into the target language structure. For the sake of parsing the text in the target language, it is proposed to do the following processes:

1. To analyse the words by assigning them to the word class and giving them lexical, functional, inflectional and derivational meaning depending on the nature of the words.
2. To analyse phrases into words
3. To analyse clauses into phrases
4. To analyse sentences into phrases and clauses
5. To identify the type of sentences

For the sake of computation, the analysis of sentences in English has been dealt under the following headings:

1. Analysis of Word
2. Analysis of Phrase
3. Analysis of Clause
4. Analysis of Sentence

2.1. Analysis of Words

The following form classes have been identified: noun, verb, adjectives, and adverbs. The following functional classes have been identified:

1. Pronouns
2. Prepositions
3. Determiners (Articles, Ordinals, Quantifiers, Demonstratives)
4. Conjunctions (Coordinating conjunctions & Subordinating Conjunctions)
5. Auxiliary verbs (Primary auxiliaries & Modal auxiliary)

The word processor will analyse the words by assigning them to the word class and giving them lexical, functional, inflectional and derivational meaning depending on the nature of the word.

2.2. Analysis of Phrase

The mechanism of building the following types of phrases are dealt under this head.

1. Analysis of noun phrases
2. Analysis of verb phrases
3. Analysis of adjectival phrases
4. Analysis of adverbial phrases
5. Analysis of prepositional phrases

2.2.1. Analysis of noun phrases

The constructions into which nouns most commonly enter, and of which they are the headword, are generally called noun phrase (NP) or 'nominal groups'. The structure of a noun phrase consists minimally of the noun (or noun substitute, such as pronoun). The constructions preceding and following the noun are often described under the headings of premodification and post-modification respectively.

2.2.1.1. Constituents of Noun phrases

The head of a noun phrase is a noun. The head noun may be preceded by some optional elements. An NP may consist of a single noun, pronoun, demonstrative pronoun, etc.

John is lazy. - *John* is a noun

He may come now. - *he* is a pronoun

These are flowers. - *these* is a demonstrative pronoun

The following items may precede the noun in an NP: determiners, ordinals, quantifiers, adjectival phrase, classifier and predetermines. Thus an NP can be parsed as follows:

NP \leftrightarrow Pre-det + Det + Ord + Quant + Adj. P + Class + N

Determiners

Determiners are obligatory before non-generic nouns. Pronouns have inherent determiners in them.

2. Elephants are herbivorous animals.
3. He is a good boy.

Determiners are five types:

1. Article: *a/an, the*
2. Demonstrative pronouns: *this, that, these, those*
3. Possessive pronouns: *his, her, their,*
4. Interrogative pronouns: *whose*
5. Wh-words: *what, which*

They precede nouns.

NP \leftrightarrow Det + N

the table, a book, this book, his book, whose book

Ordinals

First, second, third, etc. that denote the order of the items in a series are called ordinals. In an NP, ordinals can follow determiners.

NP \leftrightarrow Det + Ord + N

the first class

his third son

Quantifiers

Quantifiers specify quantity or number. E.g. *several, a few, one, two, many*, etc. In an NP, the quantifier can follow the ordinals. If there is no ordinal, the determiner is followed by the quantifier.

NP \leftrightarrow Det + Ord + Quan + N

The first three songs

his many mistakes

Approximates (App.)

The approximates introduce approximation to the head noun E.g. *approximately, nearly, almost, etc.* Numeral quantifiers can be approximated by approximates.

Nu-quant. P \leftrightarrow App + Nu-quant

Nearly hundred books have been sold.

Approximately five boys came yesterday.

Limitizers (Limit)

Limitizers introduce limitation to the noun phrase that follows. E.g. 'only', etc. Limitizer occurs before quantifier to limit the quantity.

Nu-quant P \leftrightarrow Limit + Nu-quant

Only five boys came to see me.

Only Uma appeared before the interview.

Adjectival phrase

Adjectival phrase is phrase that functions as an adjective. A noun can be modified by an adjective phrase.

NP \leftrightarrow Adj. P + N

a very nice lady

many beautiful *carved* figures.

Classifier

A classifier is a noun or a sentence that functions as an adjective. A classifier too can come before a noun to modify it.

NP \leftrightarrow Class + N

arts College

the do or die slogans

Predeterminers

The terms such as *like*, *half of*, *all*, *all of* are predeterminers. Predeterminers or pre-articles are those items, which precedes the determiner in an NP.

NP ↔ Pre-det + Det + N

half of a dozen

all my sons

all the boys

Genitive observes the arrangement of relative clause with regard to their head; a considerable number of genitive constructions in contemporary English do, follow their head.

the lap of her sister.

her sister's lap.

If genitive, however, are proper nouns, particularly single names, they often precede.

E.g.

John's house.

Yet even single names are often post posed.

E.g.

house of John.

The current status of the genitive in English reflects a change from OV order to VO order. While the favoured order for genitives has been shifted, adjectives still predominantly precede the modified noun.

E.g.

large blue eyes.

Only when they are in turn modified do descriptive adjectives regularly follow their head.

E.g.

They rested on a rock conveniently low.

Limiting adjectives – articles and demonstratives – also stand before nouns, as do numerals; they usually precede descriptive adjectives.

E.g.

I could not hear him at that distance.

I haven't sent the two persons.

I jumped over the first of the six benches.

Parallel to the order of limiting adjectives is that of multiplying numeral combination with nouns representing higher entities: millions, thousands, hundreds, tens in the order of higher to lower (preceded by the simple numerals).

E.g.

Four thousand two hundred and seven.

As with preposed descriptive adjectives, genitives, and relative clauses, preposed limiting adjectives and the cited numerals combinations reflect OV structure. This is the most conservative of the English modifying patterns. In maintaining it as a relic pattern, English provides evidence for the OV structure, which posited for its ancestor language. Yet English nominal phrases for the most part observe the canonical order of SVO languages, maintaining

form early stages OV order only with adjectives and numeral constructions other than the teens.

2.2.1.2. Patterns of noun phrases

Following are the different types of NP patterns.

Type: 1

NP \leftrightarrow NP + PP

E.g.

the rebellion of the people

the man of the match

Type: 2

NP \leftrightarrow NP + Relative Clause

E.g.

the man who painted the wall

the boy who won the prize

Type 3

NP \leftrightarrow Complement clause

E.g.

that he is generous

Type 4 a

NP \leftrightarrow NP + to-infinitive Clause

E.g.

attempt to climb

Type 4 b

NP \leftrightarrow NP + to-infinitive Clause

E.g.

his anxiety to go

Type 4c

NP \leftrightarrow NP + to-infinitive Clause

E.g.

the house to live in

Type 5

NP \leftrightarrow NP + (Preposition) + Interrogative clause

E.g.

the mystery (of) why she left

the knowledge of how to do it

Type 6

NP \leftrightarrow NP + that-clause

E.g.

the news that she left

Type 7

NP \leftrightarrow Det + Compound noun

E.g.

a film star
my ink pen

2.2.2. Analysis of verb phrases

The verb phrase consists of a verb as its head. The term verb phrase is used in two senses. Traditionally, it refers to a group of verbs that together have the same syntactic function as a single verb.

E.g.
is coming
may be coming
get up

In such phrases (verbal groups, verbal clusters), one verb is the main verb (the lexical verb) and the others are subordinate to it (auxiliary verb, catenative verbs). A verb followed by a non-verbal particle is generally referred to as a phrasal verb. In generative grammar, the VP has a much broader definition, being equivalent to the whole of the predicate of a sentence, as is clear from the expansion of S as NP + VP in phrase structure grammar. As the parsing technique we are adopting is based on phrase structure analysis we take the second approach to VP. According to the second point of view, all the elements except the subject NP constitute VP.

2.2.2.1. Constituents of Verb phrases

The constituents which come under VP i.e. that are headed by V can be listed as follows:

1. Adverbial phrase

VP \leftrightarrow V + Adv

E.g.
He came very fast.

2. Noun phrase (s)

VP \leftrightarrow V + NP + NP

E.g.
He gave her a book

3. Prepositional phrase(s)

VP \leftrightarrow V + PP

E.g.
He fell down from the tree

4. to-infinitive clause

VP \leftrightarrow V + to-infinitive clause

E.g.
He wanted to buy a computer

5. That-clause

VP \leftrightarrow V + that-clause

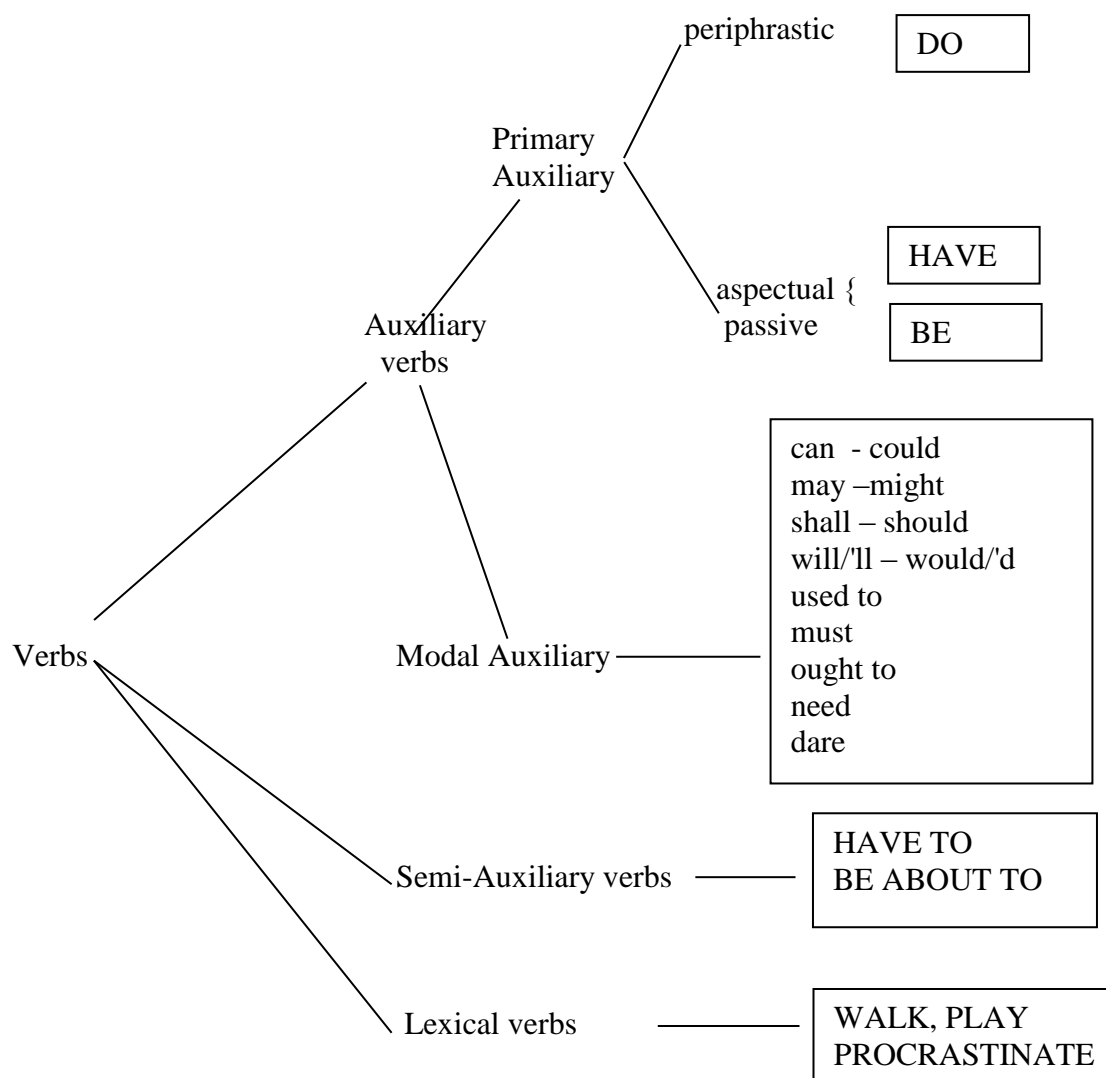
E.g.
He said that he would come home at 6 o' clock.

2.2.2.2. Typology of verbs

The verbs need to be distinguished into two types:

1. Lexical verbs
. walk, go, run etc.
2. Auxiliary verbs
will, can, may etc.

The verb that carries the major sense of the predicate phrase is called lexical verb and the verbs that carry secondary meaning such as tense, mood and aspects are called auxiliary verbs. The following diagram shows the typology of verbs (adopted from Quirk et al (1972:69):



2.2.2.3. Inflections in verbs

A typical lexical verb has five forms. The DEWA gives the five forms for each verb. The following table shows the five forms and their symbols and functions with examples:

Form	Symbol	Example	Functions
Base	V/V1	call drink put	1. All the present tense except 3 rd person singular: I/You/we/they call 2. Imperative: Call at once! 3. Subjunctive He demanded that I call him. 4. Infinitive: 4.1. the bare infinitive: He may call. 4.2. To infinitive:

			He wants her to call.
<i>S</i> form (3 rd person singular present)	V-s/V1s	calls drinks puts	3 rd person singular present tense He/she/it calls
Past	V-ed1/V2	called drank put	Past tense He called yesterday.
<i>ing</i> particle (present participle)	V-ing/V4	calling Drinking Putting	Progressive aspect (BE + V-ing): He's calling you. 2. Non-finite ing –clause: He's calling a spade.
<i>ed</i> participle (past participle)	V-ed2/V3	called drunk put	Perfective aspect (HAVE + V-ed2): He has drunk the water. Passive voice (BE+V-ed2): He is called.

2.2.2.4. Compounding of verbs

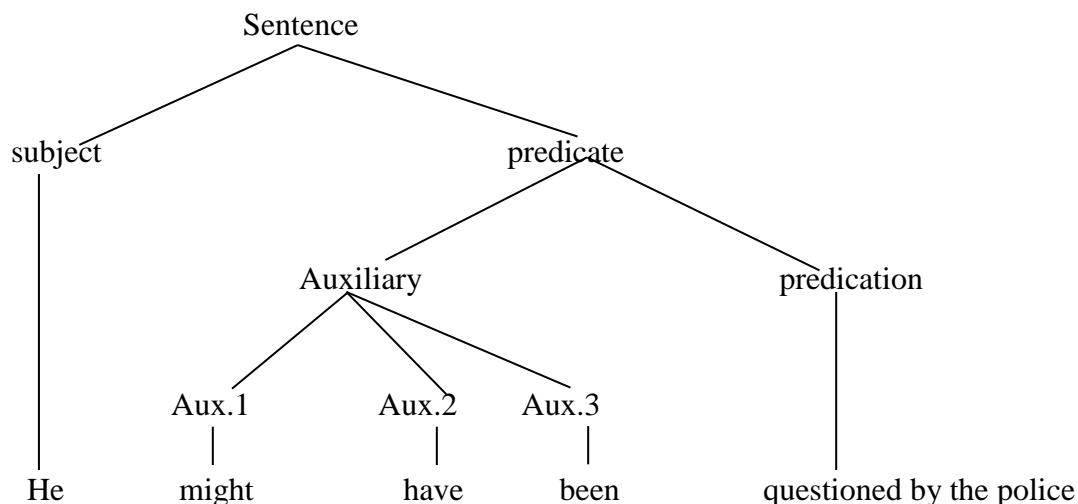
The auxiliary verbs are compounded with lexical verbs to bring different shades of meaning to the verb. Auxiliary verbs, as their name implies, are helping verbs. They do not have independent existence as verb phrases, but only help to make up verb phrases, which consists of one or more verbs, one of which is a lexical verb. The auxiliary verb makes different contributions to the verb phrase. For example, *DO* is only an empty carrier in certain sentence processes, whereas *BE* and *HAVE* contribute aspect, and modal auxiliaries contribute modality (expressing speech concepts such as volition, probability, and insistence). Although the auxiliaries have different functions in the verb phrase, they have one important syntactic function in common when they occur initially in the finite verb phrase:

Will he ask any questions?

Is he asking any questions?

Has he asked any questions?

The auxiliary of the verb is isolated from the rest of the predicate no matter how the verb phrase is. For this purely syntactic function of the auxiliaries, they can be called by a generic term 'operator'.



Based on the syntactic function and semantic distinction the auxiliary verbs have to be classified into three types:

Primary auxiliary verbs

Modal auxiliary verbs

Semi auxiliary verbs

2.2.2.4.1. Compounding of primary auxiliary verbs

The auxiliary verbs *do*, *have* and *be* and their different manifestations based on tense, person and number are termed primary auxiliary verbs. The primary auxiliary verbs are inflected for tense, person and number they show concord with the subject. The primary auxiliary verbs can be further classified into the following three types:

1. *Do* auxiliary verbs
2. *Have* auxiliary verbs
3. *BE* auxiliary verbs

2.2.2.4.1.1. Compounding of DO auxiliaries

DO auxiliaries are otherwise called periphrastic auxiliaries. *DO* is the most neutral or 'auxiliary like' of all auxiliaries. It has no individual meaning but serve as a 'dummy operator' in certain sentence processes. The auxiliary *DO* has the following forms:

Tense	Non-negative	Uncontracted negative	Contracted negative
Present	do	do not	don't
	does	does not	doesn't
Past	Did	did not	didn't

The following patterns show the different functions of *Do* as an auxiliary verb:

Pattern 1: DO-n't + V1: *DO* is used to form the negative of the present and past simple tense.

E.g.

She doesn't sleep.

She didn't sleep.

Pattern 2: DO...V1?: *DO* is used to form the interrogative of the present and past simple tense (i.e. question tags)

E.g.

Does she sleep?

Did she sleep?

Didn't she?

Pattern 3: DO + V1: *DO* + V1 can be used in the affirmative to give emphasis.

E.g.

You think I didn't play, but I did play.

I do assure that I will persuade him.

Pattern 4: DO so, DO-n't, DO: *DO* is used as a pro-verb to avoid repetition of a lexical verb in short agreements and disagreements.

E.g.

a. He speaks a lot.

b. Yes, he does so.

a. You eat too much.

b. No, I don't.

a. Shall I write to him?

b. Yes, do.

Pattern 5: and so DO... *Do* is used as pro-verb to avoid repetition of lexical verb in a sentence

E.g.

She likes sweets and so does her brother.

Pattern 6: ...DO: *Do* is used as a pro-verb in comparisons to avoid repetition.

E.g.

I sing better than he does.

Pattern 7: DO V1-imperative: *Do* is placed before imperative to make a persuasive request or invitation.

E.g.

Do attend the meeting.

Please do come

2.2.2.4.1.2. Compounding of HAVE auxiliaries

The *HAVE* auxiliaries are otherwise called aspect auxiliaries. The aspect auxiliary *HAVE* combines with past participle to form perfective complex verb phrase. *HAVE* has the following forms:

Type	Non-negative	Uncontracted negative	Contracted negative
Base	have, 've	Have not, 've not	haven't
s- form	has, 's	has not, 's not	hasn't
ing-form	having	not having	
ed-form	had (only as a lexical verb)		

The followings show the different distributions and functions of *HAVE* as an auxiliary verb:

Pattern 1: *HAVE* + past participle form of the main verb (V3). The functions are listed below:

1. has/have + V3 expresses present perfect
E.g.
She has gone.
2. had + V3 expresses past perfect
E.g.
She had gone.
3. will/shall + have + V3 expresses future perfect
E.g.
She will/shall have gone.
4. would/should + have + V3 expresses perfect conditional
5. E.g.
She would/should have gone.

Pattern 2: *HAVE* + NP [O] + V3: Express the idea of employing someone to get something done for you.

E.g.
I had my clothes washed.

Pattern 3: had better + to-infinitive clause: Expresses an unreal past.

E.g.
You had better agree to the proposal.

Pattern 4: *HAVE* + NP [O] + V-ing-clause:

1. Will/shall...have...V-ing expresses future time
E.g.
I'll have you singing the songs in two days.
2. Has/have ... V-ing expresses present time.
E.g.
She has the cuckoo singing a song.
2. had ... V-ing expresses past time
E.g.

He had the child playing around him by evening.

Pattern 5: HAVE + to-infinitive clause: Expresses obligation in the affirmative and absence of obligation in the negative.

E.g.

I have to arrange the books in the shelves.

You don't have to work hard.

2.2.2.4.1.3. Compounding of BE auxiliaries

BE is unique among verbs in having eight different forms:

		Non negative forms	Uncontracted negative forms	Contracted negative forms
Base	Be			
Present	1 st person singular present	am, 'm	am, 'm not	(aren't, arn't)
	3 rd person singular present	is, 's	is not, 's not	isn't
	2 nd person present, 1 st and 3 rd person plural present	are, 're	are not, 're not	aren't
Past	1 st and 3 rd person singular past	was	was not	wasn't
	2 nd person past, 1 st and 3 rd person plural past	were	were not	weren't
<i>ing</i> -form	being		not being	
<i>ed</i> -participle	Been		not been	

Based on the function *BE* auxiliaries can be classified into two:

1. Aspect auxiliary
2. Passive auxiliary

The following patterns show the different distributions and functions of *BE* as an auxiliary verb:

Pattern 1: BE + V-ing: Expresses continuous aspect.

E.g.

She is eating.

Pattern 2: BE + V3: Express passive voice.

E.g.

He was tamed.

Pattern 2: BE + infinitive-clause: Conveys orders and plan.

E.g.

He is to lead the team.

They are to attend the function tomorrow.

Pattern 3: was/were + infinitive clause: Express an idea of destiny.

E.g.

He was to undertake a great responsibility.

Pattern 4: BE about + infinitive clause: Express immediate future

E.g.

We are about to start.

She was about to sing.

2.2.2.4.2. Compounding of modal auxiliary verbs

The modal auxiliary verbs and their alternative forms are given in the following table:

Non-negative forms	Uncontracted negative forms	Contracted negative forms
can	cannot, can not	can't
could	could not	couldn't
may	may not	(mayn't)
might	might not	mightn't
shall	shall not	shan't
should	should not	shouldn't
will	will not	won't
'll	'll not	
would	would not	wouldn't
'd	'd not	
must	must not	mustn't
ought to	ought not to	oughtn't to
used to	used not to	usedn't to (didn't use to)
(need)	need not	needn't
(dare)	dare not	(daren't)

The modal auxiliary verbs listed above express various shades of meanings such as ability, permission, possibility, willingness, intention, and prediction, etc.

E.g.

Anybody can do it.

I never could play cricket.

You may go if you want.

2.2.2.4.3. Compounding of semi auxiliary verbs

The set of verbs that show the characteristics of auxiliaries in certain aspects and the characteristics of lexical verbs in certain other aspects are called as semi-auxiliary verbs.

E.g. be about to, be apt to, be bound to, be going to, be liable to, be sure to, be to, had/'d better/best, have to, have got to, come to, fail to, get to, tend to, etc.

2.2.2.5. Interpretation of verbal forms for tense, aspect and mood

The inflection and compounding in verbs lead to the formation of different verbal forms expressing different tense, mood and aspect. The following table depicts the building up of verbal forms to denote tense, mood and aspect. The following table depicts the interpretation of tense, aspect and mood of the verbal forms.

Form	Meaning
V-past tense (V2) He wrote.	Past tense
V-present tense (V1, V-s) He writes	Present Tense
will/shall + V1 He will write. I shall write.	Future Tense
may / might + V1 He may/might leave tomorrow.	Future time with modality (In many contexts, modal auxiliaries have inherent future reference, both in their present tense and past form.)
has / have + V3 He has written. I have written	Present perfect aspect
had + V3 He had written	Past perfect aspect
BE-present tense + V-ing He is writing.	Present progressive aspect
BE-past tense + V-ing He was writing.	Past progressive aspect
will/shall + be + V-ing He will be writing.	Future progressive aspect
1. can + V1 He can speak English but he can't write it very well. 2. could + V1 I never could play chess.	Ability = be able to = be capable of = know how to
1. can + V1 Anybody can make mistakes. 2. can + be + V3 The road can be blocked. 3. may + be + V3	I. Possibility = it is possible but / to theoretical possibility may = factual possibility

Form	Meaning
The road may be blocked. 4. may + V1 He may succeed. 5. might + V1 He might succeed.	
1. could be + NP [C] That could be my train. 2. could be + V3 The road could be blocked.	II. Possibility (theoretical or factual, cf. might)
may + V1 He may never succeed ('It is possible that he will never succeed')	III. Possibility = it is possible that /to may = factual possibility (cf. can = theoretical possibility)
1. can + V1 Can I smoke in here ('Am I allowed to smoke here?'). 2. may + V1 May I smoke in here?	I. Permission = be allowed to = be permitted to (‘can’ is less formal than ‘may’ in this sense)
could + V1 Could I smoke in here?	II. Permission
1. may + V1 You may borrow my car if you like. 2. may not + V1 You may not borrow my car. (=You are not allowed to borrow my car.)	III. Permission = be allowed to = be permitted to In this sense may is more formal than can. Instead of may not or mayn't mustn't is often used in the negative to express prohibition
might + V1 Might I smoke here?	IV. Permission
will + V1 I'll write as soon as I can. Will you have another cup of tea?	I. Willingness (weak volition) unstressed, especially 2 nd person. 'Down toners' like please may be used to soften the tone in requests.
shall + V1 He shall get the money. You shall do exactly as you wish.	II. Willingness on the part of the speaker in 2 nd person and 3 rd person (weak volition). Restricted use.
would + V1 Would you excuse me?	III. Willingness (weak volition)
1. shall + V1 We shall let you know our decision. We shall overcome.	I. Intention on the part of the speaker only in 1 st person (intermediate volition).

Form	Meaning
2. shan't + V1 I shan't be long.	
will + V1 I'll write as soon as I can. We won't stay longer than two hours.	II. Intention (intermediate volition). Usually contracted 'll; mainly 1 st person.
shall + V1 You shall do as I say. He shall be punished. The vendor shall maintain the equipment in good repair	Ia. Insistence (strong volition). Restricted use. b. Legal and quasi-legal.
will + V1 He 'will do it, whatever you say ('He insists on doing it...') (cf. He 'shall do it, whatever you say = 'I insist on his doing it')	II. Insistence ('strong volition' = insist on). Stressed, hence on 'll contradiction. An uncommon meaning.
would + V1 It's your own fault; you 'would take the baby with you.	III. Insistence ('strong volition')
should + V1 You should do as he says. They should be home by now.	I. Obligation and logical necessity (= ought to)
1. must + V1 You must be back by 10 o'clock. 2. had to + V1 Yesterday you had to be back by 10 o'clock. Yesterday you said you had to / must be back by 10 o'clock. 3. have to / BE + obliged to You don't have to / are not obliged to be back by 10 o'clock.	II. Obligation or compulsion in the present tense (= be obliged to, have to); except in reported speech. Only had to (not must) is used in the past. In the negative sentence needn't, don't have to, not be obliged to be used (but not must not, mustn't which = 'not be allowed to').
	Prediction Cf. the similar meanings of other expressions for logical necessity and habitual present. The contracted form 'all is common
Will/must/should + V1 The game will/must/should be finished by now.	Specific prediction
Will + V1, V1 Oil will float / floats on water.	Timeless Prediction

Form	Meaning
Will/'all + V1 He'll (always) talk for hours if you give him the chance.	Habitual prediction
1. Must / has to + be There must / has to be a mistake. (Must is not used in sentences with negative or interrogative meanings, can being used instead. 2. cannot + be There cannot be a mistake. 3. mustn't + be (Must, can occur superficially interrogative but answer-assuming sentence.) Mustn't there be another reason for his behaviour.	Logical necessity
ought to + V1 You ought to start at once. They ought to be here by now.	Obligation and logical necessity

2.2.2.6. Patterns of verb phrases

Traditionally verbs have been distinguished into certain patterns based on the constituents that can go along with the verbs. This has been referred as verb patterns. The traditional distinction between verbs as transitive and intransitive is based on this point of view. These patterns come handy to parse sentences.

Verb pattern 1: This represents the patterns of the verb BE. The nominal part of the predicate may be any one of the following items: a noun, a pronoun, a possessive, an adjective or adjective phrase, an adverb or adverbial phrase/adjunct, a prepositional phrase, an infinitive or infinitive clause.

1. NP + BE + NP
This is a book
2. NP + BE + PN
It's me
3. NP + BE + Possessive P
That's mine
4. Interrogative + BE + NP
Who is that?
5. NP + BE + Adj.

She is clever.

6. NP + BE + Adj. P

The statue will be life size

7. NP + BE + PP

She is in good health

8. NP + BE + Adv

She is here

9. There + BE + NP

There was a large crowd

10. There + BE + NP + PP

There are three windows in this room

11. It + BE + Adj. / NP + to-infinitive (phrase)

It is so nice to sit here with you.

13. How + Adj. / NP + (it + BE) to-infinitive phrase

How nice it is to sit here with you.

14. What + Adj. / NP + (it + BE) to-infinitive clause

What a pity it is to waste them..

15. It + BE + Adj. / NP + gerundial clause

It is so nice sitting here with you.

16. NP + BE + clause

The trouble is (that) all the shops are shut.

17. It + BE + NP / Adj. + clause

It was a pity (that) you couldn't come.

18. NP + BE + to-infinitive clause

This house is to let

19. It + BE + Adj. / NP + for + N/pronoun + to-infinitive (phrase)

It was hard for him to live on his small pension.

20. NP + Vi

The sun was shining

Verb pattern 2: Many verbs may be used without a complement or adjunct. This pattern is for complete intransitive verb, i.e. verbs which may be used without a complement. Adjuncts are optional.

1. There + Vi + NP

There followed a long period of peace and prosperity.

2. It + Vi + whether-clause

It does not matter whether we start now or latter

3. It + Vi + to-infinitive Clause

It only remains to wish you both happiness.

4. It + Vi + that-clause

It seemed that the day would never end.

5. NP + Vi + for + PP [Adv adjunct]

We walked for five miles.

6. NP + Vi + Adv. adjunct

My hat blew off

7. NP + Vi +Adj.

The leaves are turning brown.

8. NP + Vi + Adjectival past participle

You look tired

9. NP + Vi + NP

He died a millionaire

10. NP + Vi + Reflexive pronoun

You are not looking yourself today

11. S + Vi + Predicative adjunct (i.e. Present participle)

The children came running to meet us.

Verb pattern 3: There are many verbs that are used with repositions so that the verb and preposition function as a unit. They may be called prepositional verbs. For example, the verb *succeed* is used with *in*; *rely* and *depend* are used with *on/upon*. Some verbs may be used with two or more preposition (ex. *complain to somebody about something; compare one thing to/with another thing*).

1. NP + Vi + preposition + NP (NP = noun, pronoun)

You can rely on me

2. NP + Vi + preposition + NP + to-Infinitive Clause

They advertised for a young girl to look after the children

3. NP + Vi + (preposition + (it))+ that-clause

We will see (to it) that she gets home early.

They decided (on) who should act as Sita

Verb pattern 4: Intransitive verbs are also used with a to infinitive as in verb pattern 7. The pattern is subdivided.

1. NP + Vi + to-infinitive clause (of purpose, outcome, or result)
He ran to chase the thief.
2. NP + Vi + to-infinitive clause (may be equivalent to a coordinated or subordinated clause)
He turned to see the sun setting.
3. NP + Vi + to-Infinitive clause (infinitive adjunct is used after some verbs)
She agreed to sing a song.
4. NP + seem/appear + (to be) + Adj. /NP
This seems (to be) light thing
She seemed (to be) unable to enjoy it.
5. NP + seem/appear/happen/chance + to-infinitive Clause
The baby seems to be asleep.
We chanced to meet in the park that morning.
6. NP + be + to-infinitive Clause
You are to break the news

Verb pattern 5: The anomalous finites *will, would, shall, should, can, could, may, might, must, dare, need* and *do, does, did*, when used for the interrogative and negative forms and emphatic affirmative are followed by a bare infinitive (without *to*).

1. NP + Anomalous finites + bare infinitives
You may leave now.

Verb pattern 6: These are patterns for transitive verbs (Vt). In this pattern, a complement or an adjunct may occur but is not essential. The pattern is subdivided.

1. NP + Vt + NP (passivisation is possible)
Nobody answered my question.
2. NP + Vt + NP (passivisation is not possible)
She laughed a merry laugh.
3. NP + Vt + Gerundial clause (not replaceable by to-infinitive)
She enjoys playing tennis
4. NP + Vt + Gerundial clause (replaceable by to-infinitive clause)

The children love playing on the sand.

5. NP + need/want/bare + Gerund (with passive meaning)

The garden needs watering.

Verb pattern 7: In this pattern the verb is followed by a to infinitive which may be preceded by *not* where this makes sense.

1. NP + Vt + (not) + to-infinitive clause

I prefer not to start early.

2. NP + have/ought + (not) + to-infinitive clause

You ought not to complain.

Verb pattern 8: In this pattern the object of the verb is an interrogative pronoun or adverb or whether followed by a to-infinitive clause.

1. NP + Vt + interrogative pronoun + to-infinitive Clause

I don't know who to go for advice.

She could not decide what to do next.

2. NP + Vt + interrogative Adv. + to-infinitive Clause

Have you settled where to go for your holidays?

3. NP + Vt + whether + to-infinitive Clause

She didn't know whether to cry or to laugh.

Verb pattern 9: In this pattern the object of the verb is a that-clause. After such frequently used verbs as *say, wish, hope, think, expect, believe, that* is often (or even usually) omitted. After less frequently used verbs such as *decide, suggest* and *intent* that is rarely omitted in formal style. *Feel* is used in this pattern when it indicates non-physical perception. *Hear* is used when it means *learn* or *be informed*.

1. NP + Vt + that-clause

He doesn't believe that my intentions are serious.

Verb pattern 10: In this pattern, the object of the verb is a dependent clause or question. The clause may be introduced by a relative pronoun or adverb, by *what* (meaning *that which*) or by *whether*.

1. NP + Vt + Depend Clause/question

I don't know who she is.

I don't know who is she.

2. NP + Vt + whether-clause

She asked whether I took sugar in my tea.

Verb pattern 11: These patterns are of transitive verbs used with a complement or with an indirect object. In this pattern a verb is followed by a noun or pronoun (which must be animate) and a that-clause.

1. NP + Vt + NP + that-clause

He warned us that the roads were icy.

The workers told their employers that they wanted more money.

Verb pattern 12: Verbs in this pattern are followed by an NP which is the indirect object and an NP which is the direct object. The indirect object is equivalent to a prepositional adjunct with *to* or *for*. It must be animate.

1. NP + Vt + NP [IO] + NP [O]

The indirect object can be converted into *to* + NP

He handed her the letter (= He handed the letter to her)

2. NP + Vt + NP [IO] + NP [O]

The indirect object can be converted into *for* + NP

Are you going to buy me some? (= Are you going to buy some for me?)

3. NP + Vt + NP + NP

He struck the door a heavy blow.

Verb pattern 13: Verbs in these patterns are followed by a noun or by pronoun or a prepositional group with *to* or *for*. The object of the preposition must be animate.

1. NP + Vt + NP [O] + *to* + NP

She read the letter to all her friends.

2. NP + Vt + NP [O] + *for* + NP

I have bought some chocolate for her.

Verb pattern 14: In this pattern the verb is followed by a noun or pronoun (direct object) and a prepositional phrase.

1. NP + Vt + NP [O] + PP

We congratulated him on his success.

Thank you for your kind help.

2. NP + Vt + PP + NP [O]

I explained to him the impossibility of granting his request.

3. NP + Vt + PP + to-infinitive + that clause

I must leave it to your own judgment to decide whether you should offer your resignation.

Verb pattern 15: In this pattern the verb is used with an adverb or adverbial phrase. The pattern is subdivided.

1. NP + Vt + NP [O] + Adv. P/PP
Please put the milk in the refrigerator.
The deductive followed the suspected man for two hours
all afternoon.
2. NP + Vt + NP [O] + Adverbial particle
Put your shoes on.
Take your coat off.
3. NP + Vt + Adverbial particle + NP [O]
Put on your shoes.
Take off your coat.

Verb pattern 16: In this pattern the direct object is followed by an adverbial adjunct. The pattern is subdivided. In this pattern the adverbial adjunct is a to-infinitive clause (which may be introduced by *in order* or *so as*), which is an adjunct of purpose or intended result.

1. NP + Vt + NP [O] + to-infinitive clause
He brought his brother to see me.
2. NP + Vt + NP [O] + as/like/for + NP
They have hired a fool as our football coach.
Put it like this.
She miss took me for my twin sister.

Verb pattern 17: In this pattern the verb is followed by a noun or pronoun and a to-infinitive. The pattern is subdivided.

1. NP + Vt + NP [O] + (not) + to-infinitive clause (can be passivized)
I warn you not to believe a word he says.
2. NP + Vt + NP + (not) + to-infinitive clause (cannot be passivized)
He doesn't want anyone to know that he is going away.

Verb pattern 18: In this pattern the verb is used with a noun or pronoun and a bare infinitive. A to-infinitive is used in passive construction. The pattern is subdivided.

1. NP + Vt + NP + infinitive clause (verbs indicate physical perception)
Did anyone hear John leave the house?
Did you see anyone go out?
2. NP + Vt + NP + infinitive clause (verbs do not indicate physical perception)
What makes you think so?
3. NP + have + NP + infinitive clause
We have computers to do our work.

Verb pattern 19: In this pattern the verb is followed by a noun or pronoun and the –ing form of the verb. These together form the direct object. The pattern is subdivided.

1. NP + Vt + NP + present participle phrase (verbs indicate physical perception)
He felt his heart throbbing.
2. NP + Vt + NP + present participle phrase (verbs do not indicate the physical perception)
I can't have you doing that.
3. NP + Vt + NP + *ing* form of the verb (NP = noun, pronoun, possessive)
I can't understand him/his leaving so suddenly.

Verb pattern 20: In this pattern the verb is followed by a noun or pronoun and an interrogative pronoun or adverb (except why), or whether introducing a to- infinitive.

1. NP + Vt + NP + interrogative pronoun or adverb + to-infinitive clause
I showed them how to do it.
2. NP + Vt + NP + whether + to-infinitive clause
Tell him whether to trust him or not.

Verb pattern 21: This pattern is similar to verb pattern 20, except that the interrogative here introduces a dependent clause or a question in place of the infinitive-clause. If may replace whether here (with the same meaning) provided there is no confusion with the use of if to introduce the conditional clause.

1. NP + Vt + NP + Dépendent clause/Question

Tell me what you name is?
He told me why he had come.

Verb pattern 22; In this pattern the verb is used with a noun or pronoun or gerund followed by an adjective. The adjective may indicate result or manner.

1. NP + Vt + NP [O] + Adj. (NP = noun, pronoun, gerund)
We painted the ceiling green.
The blister on my heel made walking painful.

Verb pattern 23: In this pattern the noun or pronoun following the verb has either an object complement or a subject complement in the form of a noun or noun phrase.

1. NP + Vt + NP [O] + NP [Object complement]
The team has voted me their new captain.
2. NP + Vt + NP + NP [Subject complement]
Jill has made Jack an excellent wife.

Verb pattern 24: In this pattern the verb is followed by a noun or pronoun and a past participle. The pattern is sub divided

1. NP + Vt + NP [O] + Past Participle Phrase
NP [O] = noun, pronoun
Have you ever heard a pop song in Japanese?
You must make yourself respected.
2. NP + have + NP [O] + Past Participle Phrase
NP [O] = noun, pronoun
She's had her handbag stolen.
The pilot had his plane hijacked.
3. NP + have/get + NP [O] + Past Participle
NP [O] = noun, pronoun
I must have/get my haircut.

Verb pattern 25: Most of the verbs used in this pattern indicate an opinion, belief, supposition, declaration, and mental perception. They all followed by a noun or pronoun *to be* and an adjunct (an adjective or noun). *To be* sometimes omitted. The perfect infinitive *to have been* is not omitted.

1. NP + Vt + NP [O] + (to be) + Adj./NP
Most people considered him (to be) innocent.

2.2.3. Analysis of adjectival phrase

Adjectives in English can be identified by the following characteristic features:

1. Most of them inflect for comparison three degrees, positive, comparative and superlative.

<i>Positive</i>	Comparative	Superlative
Good	better	best
Big	bigger	biggest
Beautiful	more beautiful	most beautiful

2. Many are formed by the addition of derivational suffixes to nouns.

Nouns	Adjectives
Snow	snowy
Courage	courageous
Beauty	beautiful

3. They can be preceded by intensifiers such as *very* and *quite*.

very good
Quite right

4. They can precede nouns.

red carpet
sweet words

5. They usually have primary stress on the first syllable.

'clever, 'angry

2.2.3.1. Constituents of adjectival phrases

Traditionally all the nominal modifiers are put under the category of adjective. They are listed below:

Traditional classification of adjectives	Examples
Demonstrative	this, that, these, those
Distributive	each, every, either, neither
Interrogative	what, which, whose
Possessive	my, your, his, her, its, our, your, their
Of quality	good, stupid, clever, brave

In the present day analysis the first four types of traditional adjectival categories are put under determiner and only the last type (adjective of quality) is taken as adjective. Both present participle (with *ing*) and participles (with *ed*) can be used as adjectives:

The cinema is interesting.

A tired worker.

Adjectives, which precede their nouns, are called attributive adjectives.
this book.

The distribution and arrangement of adjectives is listed below:

1. Demonstratives and possessives: Demonstratives and possessives occur before nouns.
E.g. this book, his book

2. Adjectives of quality: Adjectives of quality, however, can come either before their nouns or after verbs such as *be*, *seem*, *become*, etc. Adjectives after the verb are called predicative adjectives.

1. Adjectives occurring before noun:

happy couple, tedious journey

2. Adjectives occurring after verbs:

Uma is clever.

Usha grew impatient.

Kala became happy.

Rani turned pale.

Some adjectives can be used only attributively and some only predicatively and if the position is changed, meaning will change.

1. Attributive adjectives

utter fool, bad sailor, heavy drinker

2. Predicative adjectives

Kannan is afraid. *afraid Kannan Uma is upset. *Upset Uma. Usha is right. *Right Usha.

3. Adjective denoting size (except little), general description, (excluding adjectives of personality, emotions, etc.), age and the adjective little, shape, colour, material, origin, purpose (ex. gerunds in compound nouns: swimming suit, walking stick). A fairly usual order of adjectives of quality is as given below:

size (except little), general description, (excluding adjectives of personality, emotions, etc.), age and the adjective little, shape, colour, material, origin, purpose (ex. gerunds in compound nouns: swimming suit, walking stick)

a red silk saree

around wooden table

a thick metal walking stick

4. Adjectives of personality/emotion, Adjectives of physical description

Adjectives of personality/emotion come after adjectives of physical description. They can precede or follow *young/old*.

a frail frightened girl

an obese angry boss

a young excited lady.

an excited young lady

little, old, and young: *Little, old, and young*, when used as part of an adjective-noun combination and not to give information, are placed next to their nouns.

a good old man

a nice little child

Old and young: When used to give information, *old* and *young* occur in position given below.

an old Welsh bard
a bulky young lady

fine, lovely, nice + shape etc.: *Fine, lovely, nice* + shape etc., usually express approval of the size, etc.

a fine warm house.
nice thin cloth.

pretty: *Pretty* followed by another adjective with no comma in between is an adverb of degree meaning *very, quite*.

Uma is pretty clever.
Usha is pretty fast.

2.2.3.2. Adjectival comparison

Adjectival comparative construction varies based on the three degrees of comparison. The three types of forms, simple, comparative and superlative forms, of adjectives can be referred from the DEWA.

Positive degree: The positive form is preceded by *as* and followed by *as*.

Uma is as beautiful as her mother.
It is not as costly as a diamond.

Comparative degree: *Than* follows the comparative form

Uma is prettier than Usha.
Kannan's voice is louder than mine.

Superlative degree: *The* precedes the superlative form

Usha is the most beautiful girl in the class.

2.2.3.3. Patterns of adjectival phrases

The following table shows different types of building of adjectives with reference to their pattern of occurrence.

Type.1a. [... + Adj. + N] NP + V.

A good boy came

Type.1b. NP + BE + [.. + Adj. + N] NP.

He is a good boy

Type.2. NP + BE + Adj.

She is beautiful

Type.3. BE + Intensifier [Adv] + Adj,

She is very beautiful

Type.4a. It+BE+Adj+ to-infinitive Clause

It's easy to please Jim

Type.4b. NP + BE + Adj. + to-infinitive Clause

Jim is eager to please every one

Type.4c. It + BE + Adj. + to- infinitive Clause

It is wrong of Jim to leave

Type.4d. It + Adj. + that-Clause

It is certain that Jim will win.

Type.4e. NP + Adj. + to-infinitive Clause

John was first to arrive

Type.5. NP + Adj. + [preposition + NP] PP

John is anxious for news

Type.6. NP + Adj. + (+ preposition) + Clause

John is glad that you succeeded.

John is anxious about how they got on.

2.2.4. Analysis of adverbial phrases

Many adverbs share the characteristics of adjectives. They form the comparative and superlative with more and most respectively before the positive. Most of them are derived by adding *ly* to the adjectives. They usually follow the verbs and specify manner, place, or time. The following table gives the different kinds of adverbs. These may be broadly classified into three categories:

1. Simple adverbs
2. Interrogative adverbs which are used to frame questions
3. Relative adverbs which are used to combine clauses

Broad classification	Sub types	Examples
I. Simple	Manner	slowly, quickly, boldly, well, hard
“	Place	here, there, near, up, by
“	Time	then, today, still, soon, now
“	Frequency	always, never, often, once, occasionally
“	Sentence	certainly, definitely, surely
“	Degree	rather
II. Interrogative adverbs which	Interrogative	when, where, why, how

Broad classification	Sub types	Examples
are used to frame questions		
I. Relative adverbs which are used to combine clauses	Relative	when, where, why

2.2.4.1. Patterns of adverbial phrases

The following table shows the building of different types of adverbs and their distribution.

Adverbs of Manner:

NP + Vi + Adv1

Usha ran fast.

NP + Vt + NP [O] + Adv1

I ate banana hurriedly.

Usha welcomed Uma warmly

NP + Adv1 + Vt + NP [O]

Usha warmly welcomed the minister from Chennai.

NP + Adv1 + V + to-infinitive clause

They secretly decided to go to Chennai.

They decided to go to Chennai secretly.

1. NP + V + NP [O] + Adv11

Usha answered the question foolishly.

2. NP + Adv1a + V + NP [O]

Usha foolishly answered the question.

1. NP + V (AV) + NP [O] + Adv12

Kannan paid her well.

Uma treated him badly.

2. NP + BE + Adv12 + V (PV)

She was well paid.

He was badly treated

1. Adv13 + NP + V + (NP)

Somehow Usha did it. Usha did it somehow.

Somehow Uma escaped.

2. NP + V + Adv13

Uma escaped somehow.

Adverbs of place:

NP + V + Adv2

Uma ran away.

Usha waits outside.

Raja sent her aboard.

Write it there.

NP + V + PP + Adv2

Kannan looked for it everywhere.

NP + Vt + NP + Adv2

Keep the book somewhere

NP + Vt + NP + Adv21

Usha has seen it somewhere.

Uma hasn't seen it anywhere.

Kannan has gone somewhere.

Kannan hasn't gone anywhere.

Here/ there + BE/COME/GO + NP [S]

Here's Usha's friend.

There goes my wife.

Here comes Raja.

There comes the elephant.

There/here + NP [=Personal pronoun] + V

There he goes.

Here it comes.

Adverbs of time:

Adv31 + NP + V + NP [IO] + NP [O]

Eventually Usha told Uma the secret

NP + V + NP [IO] + NP [O] + Adv31

Usha told Uma the secret eventually.

NP + V + Adv32

Kala came early.

Uma has gone there before.

Let's start late.

Come immediately

NP + V-perf + Adv33

Uma left Mysore in 1998. I haven't seen her since.

Usha mocked at Kannan and he has been depressed ever since.

1. NP + V + (NP [O]) + Adv34

Usha hasn't come yet.

Uma hasn't seen him yet.

2. NP + Adv34 + Vt + NP [O]

Kala hasn't yet finished the work I gave her a week ago.

Adverbs of frequency:

1. NP + V + Adv4

Usha is usually happy.

2. NP + Adv4 + V

Uma often comes late.

Kala is often late.

Kannan seldom visits Uma.

1. NP + Aux1 + Adv4 + Aux2 + V

Uma has often been warned.

2. Aux1 + NP + Adv1 + V

Has Uma ever been warned?

Adv1+ Adv41 + NP + V

Secretly ever did Uma try to meet Usha?

Adv42 + NP + V ...

Seldom have Usha heard such a speech.

There + BE + Adv4 + NP

There is hardly any money left.

NP + Adv4 + V...

Usha hardly ever visit her friends.

Sentence adverbs: These modify the whole sentence/clause and normally express the speaker opinion.

NP + BE + Adv5 + Adj

Usha is certainly right.

Uma is apparently happy.

NP + Adv5 + V ...

Kannan definitely looks happy.

Usha perhaps thinks so

NP + Aux1 + Adv5 + Aux2 + V

Uma would obviously have gone.

NP + Aux + Adv5 + V

Usha will surely come.

Adv5 + NP + V...

Apparently Uma looks happy.

NP + V ... + Adv5

Uma looks happy apparently.

NP + V ... + V51

Uma will like Usha definitely.

NP + V ... + Adv52

Perhaps Uma will like Usha.

Adv53, NP + V ...

Honestly, Usha has won the first prize.

Frankly, I disagree with Uma.

Admittedly, Usha is the most beautiful girl in the group.

Adverbs of degree:

NP + BE + Adv6 + Adj

Usha is quite happy.

Uma is extremely beautiful.

NP + BE + Adv6 + V ...

Kala was completely covered with mud.

NP + HAVE + Adv6 + V...

Bava had almost reached Chennai.

NP + BE + Adj + Adv61

The knife isn't sharp enough.

That food is not good enough.

NP + Adv62 + V

Uma almost fell down.

NP + V + Adv62

Usha had enough.

NP + Aux + Adv62 + V...

Kala could barely see the picture.

NP + V + Adv63...

Usha ate only banana.

Kala only gave me her pen.

NP + V + NP + PP + Adv63

Kala gave her pen to me only.

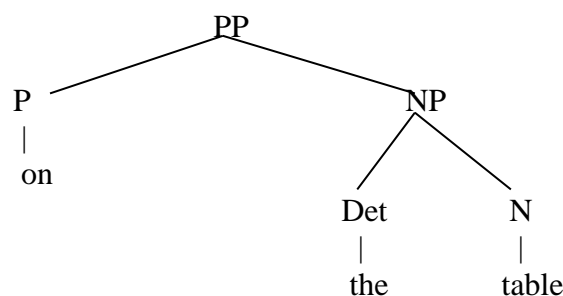
NP + Aux + Adv64 + V..

Uma has just gone home.

Usha has just finished her work.

2.2.5. Analysis of prepositional phrases

A prepositional phrase consists of a preposition followed by a prepositional complement that is characteristically either a noun phrase or a clause (wh-clause or V-ing clause) in nominal function.



In the most general terms, a preposition expresses the relation between two entities, one being that represented by the prepositional complement. Of the various types of relational meaning, those of place and time are the most prominent and easy to identify. Other relational meanings such as instrument and cause may also be recognized although it is difficult to describe the prepositional meanings systematically in terms of such labels. Seeing the preposition as related to a clause may elucidate some prepositional meanings best.

2.2.5.1. Typology of prepositions

Prepositions can be identified as simple and complex based on the number of words that make up the preposition. The following table depicts the typology of prepositions based on its composition.

Simple prepositions: Most of the common English prepositions consist of one word:

Pure preposition: *Aboard, about, above, across, after, against, along, alongside, amid, amidst, among, amongst, around, at, as, atop, before, behind, below, beneath, beside, besides, between, beyond, but, by, despite, down, during, for, from, in, inside, minus, notwithstanding, off, of, on, upon, opposite, out, outside, out with, over, past, per, plus, re, round, since, than, through, throughout, to, toward, towards, under, underneath, until, till, up, via, with, within, without.*

Prepositions which have affinities with verbs or adjectives: *except, excepting, bar, barring, concerning, considering, following, including, granted, pending, less, like, near, save, unlike, worth*

Complex prepositions: Most complex prepositions are placed according to their form which can be categorized into one of three:

1. Averb + prepositions: *along with, apart from, aside from, as for, as to, away from, into, off of, on to*

2. Verb/adjective/conjunction/etc. + Preposition: *owing to, except for, due to, but for, because of, etc.*

3. Preposition1 + noun + preposition2 : *by means of, in comparison with, in case of, etc.*

Prepositions is preceded by a definite or indefinite article:

in the light of, as a result of

1. in + noun + of

in case of, in charge of, in view of, in need of, in spite of, in front of, in lieu of, in favour of, in place of, in face of, in aid of, in quest of, in respect of, in search of, etc.

2. in + noun + with

in contact with, in common with, in line with, in accordance with, etc.

3. by + noun + of

by means of, by way of, by virtue of, by dint of, etc.,

4. on + noun + of

on account of, on behalf of, on top of, on pain of, on the strength of, etc.

5. Other types

at variance with, in exchange for, in return for, in addition to, in relation to, at the expense of, for the sake of, in/with regard to, with respect to, at the hands of, etc.

2.2.5.2. Prepositional phrases and their interpretations

The following table depicts different PPs and their interpretations.

Preposition	Prepositional phrase	Meaning/ Interpretation	Example
at	at + a set of spatial NPs	Dimension 0	He is standing at the bus stop
at	at + a set of temporal NPs	Time when Point-of-time	He came at six o'clock
at	at + a set of nouns	Period-of-time	at Christmas
at	at + NP invoking stimulus		I am upset at her behaviour.
in	in + a set of spatial NPs	Dimension 1/2 Area	There is no fun in the world
In	in + a set of spatial NPs	Dimension 2/3 Volume	in the box
in	in + a set of temporal NPs	Within	in five weeks
in	in + a set of temporal NPs	Period-of-time	in the evening in August
in	in + a set of NPs	Manner	He did it in hurry.
on	on + a set of spatial NPs	Dimension type 1/2 Area	He sat on the table.
on	on + a set of temporal NP		He came on Monday He came on the following day
above, over, at the top of	above/over/at the top of + Spatial NPs	Superior spatial relation	(It hangs) above his head.
over	over + a set of NPs	position	A lamp hung over the door
over	over + a set of NPs	destination	They threw a blanket over her
over	over + a set of NPs	passage	They climbed over the ball
over		orientation	They live over the road
over	over + a set of NPs	resultative	At last we were over the crest of the hill. The horses are over the fence.
over	over + a set of NPs	pervasive (static)	Leaves lay thick over the

Preposition	Prepositional phrase	Meaning/ Interpretation	Example
			ground
over	over + a set of NPs	pervasive (motion)	They splashed water (all) over me
all over	all over + Spatial NP	Dimension-type $\frac{1}{2}$, especially when preceded by <i>all</i> , have pervasive meaning	The child was running all over the flower borders.
over	over + Temporal NPs	Duration (durational meaning parallel to the pervasive meaning with reference to place.)	He camped there over the holiday.
below, under, etc.	Inferior prepositions + Spatial NPs	Inferior spatial relation	The dog sits under the table.
in front of	anterior prepositions + Spatial NPs	Anterior spatial relation	in front of the table
before	before + Spatial NP	Anterior spatial relation	He was standing before the house
before	before + Temporal NP	Anterior time relation	He will come before five o' clock.
before	before +NP denoting an event	Anterior time relation	He came here before the war.
behind	behind + Spatial NP	Posterior spatial relation	He was standing behind the building
after	after + Temporal NP	posterior time relation	He came after five o' clock
since	since + Temporal NP		He was sick since yesterday.
until, till	until, till + Temporal NP		He was awake till now
to	to + Spatial NP	Goal	(He came) to Chennai
to	to + Temporal NP		He worked from five o' clock to 10 o' clock.
to	to + Benefactor NP	Goal/Benefactor	He gave the ring to her.
from	from + Spatial NP	Source	He came from Chennai.
from	from + Temporal NP	Duration	He worked from five o' clock to 10 o' clock.
from... to	from + Spatial NP + to + Spatial NP	Source & goal	He walked from railway station to bus stand.

Preposition	Prepositional phrase	Meaning/ Interpretation	Example
from...to	from + Temporal NP + to + Temporal NP	Duration.	She worked from 2 to 3 o'clock.
between	between + Spatial NP	Interior spatial relation.	He is standing between two pillars.
between	between + temporal NP	Period	I'll phone you between lunch at three o'clock.
through	through + Spatial NP	Path	He went through the forest.
through	through + Spatial NP	Passage with reference to dimension type $\frac{1}{2}$ or dimension type $\frac{2}{3}$.	The ball rolled through the grass.
through	all + through + Spatial NP	Dimension-type $\frac{1}{2}$, especially when preceded by <i>all</i> , have pervasive meaning	Chaos reigned all through the house.
across, past	across + Spatial NP	Passage with reference to dimension type $\frac{1}{2}$ or dimension type $\frac{2}{3}$.	The ball rolled across the grass.
within	within + Temporal NP	Interior temporal relation	He will finish the work within two days.
up to	up to + set of Spatial NPs	Goal	He went up to bus station.
up to	up to + set of Temporal NPs	Goal	Up to last week, I hadn't received a reply
through out	throughout + Spatial NP	Pervasive	He searched for her throughout Chennai
through out	throughout + Temporal NP	Durative (durational meaning parallel to their pervasive meaning with reference to place)	He studied her lessons throughout night. He camped there throughout the summer.
(all) through	all through + Temporal NPs	Durative (durational meaning parallel to their pervasive meaning)	He worked hard all through his life.

Preposition	Prepositional phrase	Meaning/ Interpretation	Example
		with reference to place.)	
with	with + a set of NPs	Accompaniment	He went with her
with	with + a set of NP having instrumental sense	Instrument	He cut the apple with knife
with	with + a set of NPs	Means (= by means of)	He cooked it with fire.
with	with + a set of NPs	Manner	He did it with great care.
without	without + as set of NPs having instrument sense	Instrument	He drew the picture without a ruler.
without	without + a set of NPs	Means (= not by means of)	He decorated it without flower.
by	by + a set of NPs having instrumental sense	Instrument	(He cut the apple) by a knife
by	by + a set of NPs of human instigator	Agent	(He was killed) by her
by	with + a set of NPs	Means	(He cooked it) with fire
by	by + a set of temporal NPs	Point of time	By the time we'd walked five miles, he was exhausted
for	for + NP	Purpose	(He did it) for money.
for	for + NP denoting a benefactor	Recipient	(He bought it) for her. (He laid a trap) for his enemies.
for	for + Temporal NP	During	(He camped there) for summer.
for	for or against + NP	Support or opposition	Will you vote for or against us?
like	like + a set of NPs	Manner	He writes poetry like his brother.
<i>because of, on account of, for fear of, lack of, out of, etc.</i>	because of, etc. + a set of NP	The range or spectrum between cause and purpose	Because of draught, the price of rice was high last year.

Note different meanings elucidated for the prepositions with reference to the context. It is not only the NPs that follow the preposition but also the verbs with which the PP is collocated give different kinds of interpretation to the preposition.

2.2.6. Phrasal co-ordination

In phrasal co-ordination, instead of two sentences, two or more phrases are coordinated.

Venu and Meera make an ideal couple.

Two and two make four.

And and *or* are the main coordinators for phrasal co-ordination. *But* is used only to link adjective phrase and adverb phrases.

A very short but unusually thrilling story.

He worked slowly but steadily.

Most subordinators cannot be used to link phrases, but *if* and *though* are used quite freely to link adjective phrases and adverb phrases.

A very pleasant if long journey.

A simple though efficient system.

There are different types of phrasal co-ordination.

Coordination of noun phrases: NP and/or NP: Noun phrases are commonly conjoined

Ram and Prem are brothers.

Coordination of more than two noun phrases: NP, NP...and/or NP. *And* and *or* can link more than two NPs, and all but the final instance of the conjunctions can be omitted.

We congratulated Ram, Prem, and Beem.

Coordination of determiners: Det and/or Det. Demonstratives can be linked to each other or to other determiners in the NP.

Take this (pen) and that pen.

Coordination of adjectival phrases: Adj P and/or Adj P. Adjectives both predicative and attributive can be conjoined.

She is polite and smart.

The polite and smart girl welcomed us.

Coordination of adverbial phrases: Adv P and/or Adv P. Adverbials and dependent clauses can be conjoined.

I can announce it loudly or by using a speaker.

Coordination of prepositional phrases: PP and/or PP. Prepositional phrases can also be conjoined.

The test in April and in May is postponed.

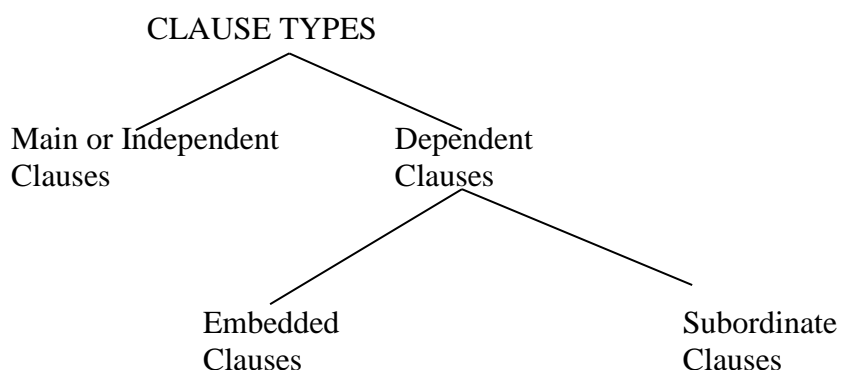
2.3. Clause building Mechanism

Clause building mechanism is dealt under the following heads:

1. Typology of clauses
2. Building of different clauses
3. Co-ordination of clauses

2.3.1. Typology of clauses

The following tree diagram depicts the typology of clauses.



While in co-ordination the conjoins are equals, in subordination one unit or sentence is embedded in another and it is also dependent on the other. Subordination is a non-symmetrical relation, holding between two clauses in such a way that one is a constituent of the other.

If you are ready, I'll join you.

In this sentence *If you are ready* is the subordinate/dependent clauses embedded in main/superordinate/independent clause *I'll join you*. Complementizers and subordinators are associated with the two distinct kinds of dependent clauses: embedded and subordinate clauses. Both kinds of clauses have a special slot before the subject, one in which the complementizer or subordinator occurs. This slot is known as the COMP slot.

Dependent clause may function as subject, object, complement or adverbial.

[That...] NP + VP - Subject

That he is lazy is a fact.

NP V [that...] NP - Direct object

I know that he likes you.

NP BE [that...] NP - Subject complement

The point is that he is your friend.

NP + V interrogative clause {IO}+ NP {O} - Indirect object

I gave whoever it was a cup of tea.

Adv clause + S - Adverbial

When we meet I shall explain it.

The clauses that can occur as subjects or objects and can be the arguments of a predicate like noun phrases are referred to as embedded clause.

For Rajan's car to break down would be unfortunate.

The police reported that Rajan's car had broken down.

This kind of dependent clause is an argument clause, which has been embedded inside a larger clause. That is why it is called an embedded clause. Those clauses that contain embedded clauses are called container clauses or matrix clauses.

Subordinate clause with subordinators in the COMP slot, differ from embedded clauses in that they are not arguments of a predicate. They are thus not used as subject or objects. In many grammars, subordinate clauses are called adverbial clauses. The rationale is that just as adverbs modify verbs, so these subordinate clauses supply additional information modifying the more general content of the verb in the other clause. Subordinators or subordinating conjunctions are perhaps the most important formal indicators of subordination. Most of the subordinators consist of a single word, and there are numerous compound items also.

Simple subordinators: after, as, because, before, if, once, since, that, although, yet, nevertheless, etc.,

Compound subordinators: in that, so that, such that, provided (that), now (that), supposing (that), as far as, as long as, so long as, sooner than, rather than, as if, as though, in case, etc.

Correlative subordinators: if...then, as...so, more/less...than, as...as, so...as, so...that, no sooner...than, etc.

Other indicators of subordination are:

1. wh-element
She knows why I am late.
2. the relative pronoun *that*
I know that he was not a good man.
3. subject-operators inversion as in
Had I been there, I would have helped him
4. nominal *that* clause from which *that* has been omitted
I suppose you're right
5. Comment clause, relatable to the main clause
You're right, I suppose.

Typically, subordinate clauses are classified according to semantic criteria—whether their perspective on the content of the superordinate clause, as indicated by their subordinator, is one of time, location, manner, reason, etc. Here is a listing of subordinate clauses identified as to their perspectives:

Subordinator	Subordinator + Clause	Perspective
1. After	after Usha met them	TIME
2. Before	before Ramu died	TIME
3. Since	since I last met them	TIME
4. Until	until we meet again	TIME
5. When	when you are in love	TIME
6. While	while they were eating	TIME
7. Where	where Sujatha wrote it	LOCATION
8. Because	because Uma was angry	REASON
9. Since	since You didn't pay me	REASON
10. as if	as if Usha was sick	MANNER
11. as though	as though Kannan hadn't seen him	MANNER
12. so that	so that We'd miss them	PURPOSE
13. in order that	in order that Rajan would confer	PURPOSE
14. so as	so as to avoid the police	PURPOSE
15. in order	in order to avoid the police	PURPOSE
16. as (many) as	as (many) as Uma had	COMPARISON
17. more than	more than Uma had	COMPARISON
18. (tall)er than	taller than Usha was	COMPARISON
19. (al)though	Although they refused	CONTRAST

20. even though	even though she was rich	CONTRAST
21. despite	despite (my) hating eggs	CONTRAST
22. so (that)	so (that) It was a success	RESULT
23. if	if Raju had read it	CONDITION

Three types of main clauses of subordinate clauses can be structurally identified.

Finite clause: A clause whose V element is a verb phrase.

As she is ill, she cannot attend her class

Non-finite clause : A verb whose V element is a nonfinite VP.

Having arrived late, he was disappointed.

Verb less clause: A clause containing no V element.

Although very cheerful, Mary has many problems

Dependent clauses may function as subject, object, complement, or adverbial in the superordinate clause:

Functions of dependent clause	Example
Subject:	That she clever is obvious.
Direct object:	I know that she is clever.
Subject complement:	The truth is that she is not intelligent.
Indirect object	She gave whoever came a cone of ice- cream.
Object complement	I found her tied with problems.
Adverbial	When they meet, he will tell her the truth.

Dependent clause may be nominal clauses, adverbial clauses, adjectival/relative clauses, comparative clauses, or comment clauses.

2.3.2. Building of different types of clauses

The following clauses are dealt here:

1. The nominal clauses
2. Adverbial clauses
3. Adjectival clauses
4. Comparative clauses
5. Comment clauses

2.3.2.1. Nominal / complement clauses

The different kinds of nominal/ complement clauses are tabulated below.

1. that clause

- a. Functioning as subject
That she is beautiful is true.
- b. Functioning as direct object
I told him that she was beautiful.
- c. Functioning as subject complement
The truth is that they have won the game.
- d. Functioning as appositive
Your assumption, that things will improve, is understood.
- e. Functioning as adjectival complement
I am sure that things will improve.

2. wh-interrogative clause

- a. Functioning as subject
What he is searching for is a house.
- b. Functioning as direct object
He wants eat whatever is ready.
- c. Functioning as subject complement
He is what I thought of.

3. Yes-no interrogative clause

- a. It is formed by *if* or *whether*.
I don't care if/whether he is available.

4. Nominal relative clause

- It can act like nominal wh-interrogative clause. It will be introduced by wh-element.
What he is looking for is a wife.

5. To-infinitive nominal clause

- a. to+V1...
For a boy to do that is strange.

6. Nominal V-ing clause

- a. BE+V-ing...
His hobby is collecting stamps.

7. Bare infinitive

- a. infinitive clause without *to*
All he did was press the button.

8. Verbless clauses

- a. A clause contains no V element
Mosaic flooring in every room is expensive.

2.3.2.2. Adverbial clauses

Adverbial clauses can occur in a final, initial, or medial position within the main clause. The following are the different kinds of adverbial clauses.

1. Clauses of time: Adverbial clauses of time are introduced by such subordinators as *after*, *since*, *as soon as*, etc.

When I reached college, classes had begun

After I graduated, I went to States.

2. Clauses of place: Adverbial clauses of place are introduced by *where* or *wherever*.

The plants grow where there is enough water.

He accompanied her wherever she went.

3. Clauses of condition:

a. Conditional clauses: It states the dependence of one circumstance or set of circumstances on another. Clauses of condition are introduced chiefly by the subordinators, *if* (positive condition) and *unless* (negative condition). Some compound conditional conjunctions are *provided that*, *on condition that*, etc.

If you wait, (then) you can meet him.

If he performs well, he will win the prize.

Unless it rains, the crops will die.

b. Real and unreal conditions: A 'real' condition leaves unresolved the question of the fulfillment or non-fulfillment of the condition. In an 'unreal' condition, on the other hand, it is clearly expected that the condition, on the other hand, it is clearly expected that the condition will not be fulfilled.

a. Real condition

If she comes, I'll talk to her.

If it rains, the picnic will be cancelled.

b. Unreal condition

If she came, I'd talk to her.

Had I been there, I'd have congratulated you.

4. Clauses of Concession: Concessive clauses imply a contrast between two circumstances, i.e., the main clause is surprising in the light of the dependent one. Clauses of concession are introduced chiefly by *though* or *although*. Other conjunctions include *while*, *whereas*, etc.

Although he tried hard, he failed.

Although he's poor, at least he's happy.

5. Clause of reason or cause: Clauses of reason or cause are most commonly introduced by the conjunctions *because*, *as*, or *since*.

I could not help her since I didn't have money.

6. Clauses of circumstances: Clauses of circumstances express a fulfilled condition or relation between a premise (in the subordinate clause) and the conclusion drawn from it (in the main clause). *Because*, *since* and *as* are the conjunctions used.

Since the rain has stopped, we shall go out.

As it was dark, she hesitated to go out.

7. Clauses of purpose: Clauses of purposes are adjuncts, introduced by (in order) (for_N) to, so as to. Finite clauses of purpose may be introduced by *so that*, *so*, or *in order that*.

He walked fast, to catch the train

She studied hard, so as to get the scholarship.

He worked hard, so that he could succeed.

We eat well, in order that we may be healthy.

8. Clauses of result: Result clauses are factual and are introduced by so that, such...that, so...that.

He practiced well, so that he could perform well.

The dog barked so loudly that the thief fled.

2.3.2.3. Adjectival clauses

Adjectival clauses or relative clauses are clauses linked to a noun in their container clause, frequently with a WH form like the relative pronoun *which* and *whom*. As relative clauses qualify an NP and hence perform the function of an adjective. Thus, the relative clause in the following sentence

The girl who is clever
does the function of the adjective *clever*, in the following phrase

The clever girl.

It is introduced by a relative pronoun (*who*, *whom*, *whose*, *which*, *that*) or relative adverb (*where*, *when*, *why*).

This is the boy who wrote the story

Show me the book that you bought yesterday.

The noun/pronoun to which the clause is related is called its antecedent, as the boy and the book in the sentences given above. The relative pronoun/adverb is sometimes omitted.

Show me the book you bought yesterday.

This is the boy I met at the party.

English makes use of relative pronouns to form relative clause. The relative clause is an example of post modification. The head noun will be modified by the following relative clause. The relative clause together with the noun it modifies forms a noun phrase. The relative pronouns *who* and *which* are followed by a verb or verb phrase. The agreement is on the basis of a two-term gender system, personal and non-personal.

Joan, who...

The boy who...

The people who

The human being who...

The fairy who...

London, which...

The box which...

The animals which...

The human body which...

The unicorn which...

The position of relative construction is determined by the VO constituent. They regularly follow nouns, avoiding in this way disruption of the verb-object constituent. The relationship of relative constructions to their antecedents is so clear that if an object is the shared noun of the relative clause no marker is needed; *which* or *that* is often omitted, as after rules in the following examples:

All because they would not remember the simple rules their friends had taught them.

English relative constructions may be restrictive, as in the first in the following example, or descriptive, like the second.

The only two creatures in the kitchen, that did not sneeze, were the cook, and a large cat, which was lying on the hearth and grinning from ear to ear.

The distinction between restrictive and descriptive relative clauses is maintained for other nominal modifiers as well, such as the participles in the following examples:

There stood the Queen in front of them, with her arms folded, frowning like a thunderstorm. (Descriptive)

With tears running down his cheeks, he went on again. (Restrictive)

The contrast also applies to adverbial clauses. The temporal clause in the first sentence is restrictive, while *that* in the sentence is descriptive.

2.3.2.3.1. Restrictive and non-restrictive relative clauses

Relative clauses typically differ from other embedded clauses in having one constituent missing or, if it includes a relative pronoun, out of its expected order. There are two major types of relative clauses in English. Restrictive relative clauses are embedded clauses used to identify a noun phrase referent by providing further information to narrow down the reference; apposite or non-restrictive relative clauses also provide additional information about a noun phrase referent that has already been adequately identified, so the new information is not needed for identification.

1. Restrictive relative clauses

Men who live in villages are healthy

My brother who is in Delhi is an architect.

2. Non restrictive relative clauses

Men, who are mortal, often forget it.

My brother, who is in Delhi, is an architect.

2.3.2.3.2. Case in relative clauses

Case is used to indicate the status of the relative pronoun in relative clause. There are two situations to consider. First, if the pronoun is in a genitive relation to a noun head, the pronoun can have the form *whose*.

The woman whose daughter you met is Mrs. Brown

The house whose roof was damaged has now been repaired.

Secondly, with a personal antecedent, the relative pronoun can show the distinction between *who* and *whom*, depending on its role as subject of the relative clause or as the object of verb or preposition in it.

The girl who spoke to him.

The girl whom he spoke.

The girl who (m) he spoke to.

The girl who (m) he met.

2.3.2.3.3. Relative pronoun as adverbial

The relative pronoun can have a special form as adjunct of place, time, and cause in the relative clause.

That is the place where he was born.

That is the period when he lived here.

That is the reason why he spoke.

2.3.2.4. Comparative clauses

In a comparative construction a proposition expressed in the superordinate clause is compared with a proposition expressed in the subordinate clause, by a correlative sequence, equational like *as...as*, or differentiating like *less...than*, *more...than*.

Rosy is as healthy as her sister.

Jasmine is less healthy than her sister.

There are comparative constructions with *enough* and *too*, which convey the contrasting notions of 'sufficiency' and 'excess' and which are related through negation. Paraphrases pairs may be constructed, as follows:

This shirt is too small for me (to wear)

This shirt is not big enough for me (to wear).

The following list shows the different types of comparative elements used in English.

As.... as, so...as: Similarity
 She is as clever as her brother.
 Than: Dissimilarity
 She is cleverer than her brother.
 Less...than: Dissimilarity
 She is less clever than her sister.
 More ...than: Dissimilarity
 She is more intelligent than her friend.

2.3.2.4.1. Comparative clauses of quality

The following list shows the different types of comparative clauses of quality.

1. NP + BE + as + positive form of adjective + as + NP: Similarity Positive degree

Uma is as beautiful as Usha.

2. NP + BE + more + adjective + than + NP: Dissimilarity, Comparative degree

Uma is more beautiful than Usha.

3. NP + BE + Comparative degree form of adjective + than + NP: Dissimilarity, Comparative degree

Raja is taller than Ramesh.

4. NP + BE + the + Superlative degree form of adjective + among all: Dissimilarity, Superlative degree

Raja is the tallest among all.

2.3.2.4.2. Comparative clauses of quantity

The following list shows the different types of comparative clauses of quantity.

1...NP...+ HAS + as + many + NP + as ...: Positive degree, Clause of similarity

Ram has as many shirts as Sam has.

2. NP...+ HAVE + more + NP + than + NP + HAVE: Comparative degree, Clause of difference

Ram has more shirts than Sam has.

2.3.2.4.3. Comparative clauses of adverbs

Adverbial comparative construction varies based on the three degrees of comparison. The three forms of adverbs, positive, comparative and superlative forms, can be referred from the DEWA.

1. With the positive form *as...as* in the affirmative and *as/so...as* in the negative are used: Positive degree

Uma shouted as loudly as she could.

It didn't cost her so much, as she feared.

2. With comparative form *than* is used: Comparative degree

Uma walks faster than Usha.

Kannan screamed louder than I expected.

3. Superlative degree: With superlative it is possible to use *of* + noun: Superlative

Usha worked hardest of the labourers.

2.3.2.5. Comment clauses

Comment clauses are somewhat loosely related to superordinate clauses, functions as disjuncts or conjuncts. They may occur initially, finally or medially, and have separate tone units. They occur in various forms.

1. A main clause

I believe, nobody was there.

2. An adverbial clause

He is a rebel, as you know.

3. A nominal relative clause

What's more, they were robbed.

4. A to-infinitive clause

I am innocent, to be honest.

5. An ing-clause

I fear, speaking as an expert, if this is right.

6. ed-clause

Stated bluntly, he has no manners.

2.3.3. Clausal co-ordination

There are three coordinators in English, *and*, *or*, and *but*, used for linking clauses or sentences together. The clause coordinators occur clause initially.

Sam sings well and his sister dances well.

The clause beginning with coordinator cannot be moved in front of the preceding clause.

They are aboard on a tour, or they are at home.

The clause beginning with *or* cannot be moved to front *and* and, *or* can link more than two clauses, and all but the final one can be omitted.

Sam will come, do this work, and rest here.

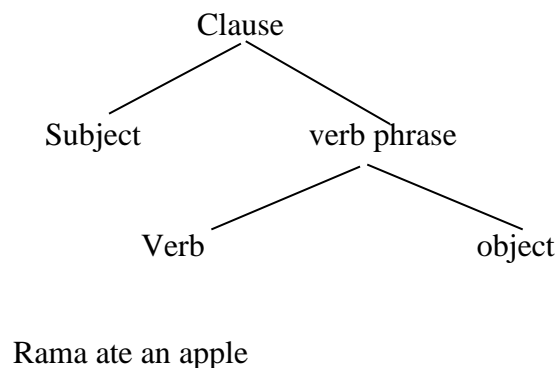
2.4. Sentence analysis

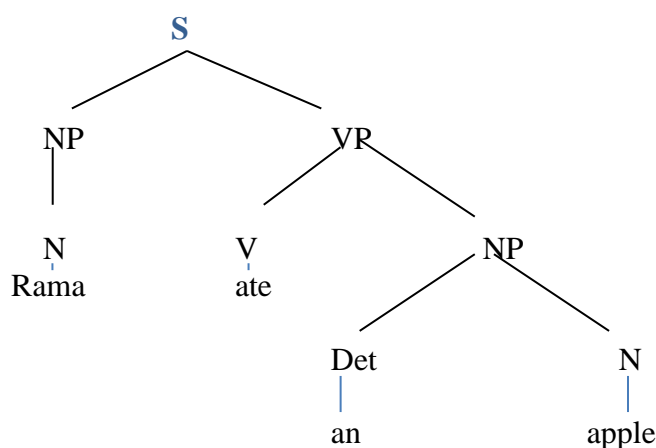
The sentence analysis is dealt under two heads:

1. Word order
2. Forming different types of sentences

2.4.1. Word order

Word order is a term used in grammatical analysis to refer to the sequential arrangements of words or linguistic units. English relies on word order as a means of expressing grammatical relationships within constructions. English has fixed word order and so is called configurational language. The core of the configurationality issue is about the question of special grammatical relation of subject and a different one of object, whatever these relations correspond to different positions in the hierarchy of the sentence. It has been established well that in English there is a syntactic VP node and the object is decided by its position.





The order of morphemes in word structure tends to be fixed. Morphemes tend to be positionally bound. The higher we move in the hierarchy of units, the more freedom we have in the ordering of constituents. Word order refers to the order of constituent structure of linguistic units. Each constituent represents a complex set of features. The ordering of the constituents may be linear or sequential, discontinuous or fused.

1. SVO linear

Mohan has read this book.

2. Aux. + SVO order which is discontinuous

Has Rajamani read this book?

3. Fused order

read = 'V + Past participle' is fused into *read*

English is an SVO language, meaning that the verb tends to come between the subject and object. The illustration exemplifies that English sentence which is in SVO order becomes Aux. + SVO which is a discontinuous order.

English is a highly consistent SVO language shows the following characteristics:

1. English being an SVO language has prepositions.
2. The government constructions observe SVO patterns, as do the nominal modifying constructions – with the exception of descriptive and limiting adjectives in an archaic order.
3. As a consistent language, English exemplifies characteristic features of SVO languages, such as many patterns that have been developed in the verbal modifying constructions, the wide use of substitutes, and the grammatical processes used to highlight elements of sentences.
4. The verbal patterns make heavy use of auxiliaries, which are also involved as substitutes and in interrogative and negative constructions. The grammatical process involves function words, again in distinctive constructions like clefting.

A TRANSFER GRAMMAR FOR ENGLISH-TAMIL MACHINE TRANSLATION

Prof. Rajendran Sankaravelayuthan and Dr. P. Kumaresan

5. Simple, unmarked clauses in English agree with the SVO pattern, and require representations for the three constituents: subject, verb, and object. Neither the subject nor the verb nor the object of a transitive verb may be omitted.

Uma folded her hands.

*Her hands Uma folded.

6. English does not permit any order other than the above in unmarked sentences occurring as single utterances. This constraint applies also in subordination, as in the following sentence:

Kannan shouted while Uma folded her hands.

7. The verbal qualifiers must precede verbs. This position conflicts with the optimum position for subjects. To express negation, for example, the negative element might be prefixed to the verb.

Uma does not fold her hands.

*Uma folded not her hands.

8. Government operates strongly in English, both in predicates and in other government constructions.

Her hands are folded.

Two of her hands are folded.

9. In comparison of inequality the adjective precedes the standard.

Uma is more beautiful than Usha.

10. In titles, the name follows, functioning like a standard for the 'variable' title.

Queen Diana.

11. In personal names, the surname follows as standard to the given name.

John F. Kennedy.

12. In numerals in the teens, the form of ten follows, as in the other constructions of this kind furnishing a standard for the simple numerals from three to nine.

thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen.

13. English has been characterized by functional syntacticians as a language in which the initial segment, or theme, often using old material, sets the scene for the new material, or rhyme.

Uma folded her hands.

14. The subject *Uma* is one of the important elements of the preceding discourse, while the predicate *folded her hands* introduces a new action. SVO order provides a convenient basis for such organization of sentences.

Seven types of basic sentential structures can be identified in English.

1. SVA pattern
Arul is in the hall.
2. SVC pattern
Arul is clever.
3. SVO pattern
Arul threw the ball.
4. SVOA pattern
Arul kept the ball on the table.
5. SVOC pattern
Arul has proved her wrong.
6. SVIOO pattern
Arul taught her music.
7. SV pattern
The baby cried

(Here in this context A = Adjunct, C = Complement, IO = Indirect Object, O = Object, S = Subject, V= Verb,)

2.4.2. Building of different types of sentences

Traditionally sentences in English have been classified based on the complexity of the clauses and also on the basis of the function. Though this traditional classification can be set aside in a rigorous structure oriented analysis, the classifications do have indirect bearing on our understanding of word building mechanism in English. That is why they have been dealt here.

2.4.2.1. Sentence types based on the complexity of clauses

Traditionally sentences are classified as simple, compound and complex. This distinction is based on the criterion whether the sentence contains a single verb or verb phrase or more than one verb or verb phrase. It has been explicated traditionally that a simple sentence contains at least one verb or verb-phrase; compound and complex sentences contain more than one verb or verb phrase. Accordingly simple sentences have only one finite verb, compound sentences have two or more finite verbs and complex sentences have one finite verb and one or more non-finite verbs.

1. Simple sentence

He goes to market

2. Compound sentence.

He went to market and bought some vegetables.

3. Complex sentence

He is going to market to buy vegetable.

A simple English sentence is built of two primary constituents, NP and VP. So a sentence in English can be parsed as consisting of NP and VP.

$S \leftrightarrow NP + VP$

In a compound sentence one sentence is coordinated with another sentence and in a complex sentence one or more sentences are subordinated under a matrix sentence. Coordination and subordination have been dealt earlier.

2.4.2.2. Sentence types based on their function

Traditionally sentences have been classified into five types based on their function.

1. NP + VP: Affirmative or assertive sentences

He went to market.

2. Question word/ auxiliary + NP + VP: Question or interrogative sentences

Is he going to market?

3. NP + not + V: Negative sentences

He is not going to market.

4. V1: Imperative or command sentences

Go to market.

5. Exclamatory words: Exclamatory sentences

How beautiful the building is!

This traditional classification of sentences into assertive, interrogative, negative imperative and exclamatory has been dealt elaborately in speech art theory, where various communicative functions have been identified and classified accordingly. We have not elaborated this communicative function here.

2.4.2.2.1. Analysis of affirmative or assertive sentences

Assertive statements follow the regular order of subject, verb and object in English. The phrase structure of assertive sentences can be given as NP + VP in English as they have only one finite verb. They may be called minimal sentences. Minimal sentences can be distinguished into two types:

1. Equative type

She is a beautiful girl.

2. Non-equative type

She bought a book.

2.4.2.2.1.1. Analysis of equative sentences

In equative type of sentences, a linking verb (LV) links the subject and the complement. The equative sentences can be parsed as follows.

$S \leftrightarrow NP + LV + NP / Adj. / Adv.$

The link verb (LV) could be a BE verb (abbreviated as BV; ex. *is, am, are, was, were, will be, shall be*) or copulative verb (abbreviated as CV; ex. *become* etc.)

$S \leftrightarrow NP + BV + NP / Adj. / Adv.$

She is a pilot.

Kamala is intelligent.

She is there.

$S \leftrightarrow NP + CV + NP / Adj.$

He became a teacher

He remains poor

The mango tastes sweet.

The verbs such as *become, remain, taste*, etc., which equate the subject with adjective, have been classified as equatives.

2.4.2.2.1.2. Analysis of non-equative sentences

The following are the different types of non-equative sentence patterns:

1. $S \leftrightarrow NP + Vi$

The butterfly flies.

2. $S \leftrightarrow NP + Vi + Adv.$

The car reached late.

3. $S \leftrightarrow NP + Vt + NP$

John wrote a letter

4. $S \leftrightarrow NP + Vt + NP + NP$

John gave her a purse.

5. $S \leftrightarrow NP + V \text{ (have type)} + NP$

Kamala has three airplanes.

(Vi = intransitive verb; Vt = transitive verb)

2.4.2.2.2. Analysis of interrogative sentences

It is expressed by inverting the order of words, using interrogative words that are often classified as interrogative adjectives, interrogative adverbs, and interrogative pronouns.

E.g. Is he going?

Apart from word order even tone also expresses interrogation.

E.g. You have my address?

In writings, either the word order + the question mark at the end or merely the question mark denotes the interrogative sentences. Based on the reply, the question evokes, the interrogative sentences can be classified into two types.

1. Those that may be answered with *yes* or *no* (yes-no question)
2. Those that introduces 'wh' words. (Wh- questions).

2.4.2.2.1. Yes-no interrogatives

Yes-no interrogatives are those questions for which the answer is either *Yes* or *No* i.e., affirmation or rejection. Yes-no question is formed by fronting the auxiliary and giving the sentence a rising intonation. The auxiliary (the tense and the auxiliary element that immediately follows it) is moved from the position after the subject NP to the front of the subject NP by the inversion of the subject and the auxiliary. Only the auxiliary element (modal, *have*, or *be*) to which the tense is attached moves with the tense to the front of the subject NP. Yes-no questions can be classified into three types and can be assigned three types of parsed structures. The following list gives the type and patterns of yes-no interrogative sentences with examples.

1. 'Be' verb questions: BE + NP + VP

Is she a teacher?

Is her voice sweet?

Was he there?

2. Questions with modal Auxiliaries: Modal + NP + VP

Can she sing?

Should I go?

Must I sing?

Dare you question me?

May I use your pen please?

Can he be a doctor?

3. Questions without 'be' verbs and modals: DO + NP + VP

Did Uma go to school?

When no optional element has been picked from the auxiliary and the main verb is not 'be', we must use slightly different version of the yes-no question switch rule. In this version, the only thing that is moved to the first position of the sentence is the tense. The traditional transformational generative grammarians called this as 'do insertion transformation'. According to this version, two types of transformations are applied. The first is 'Tense + Auxiliary Fronting Transformation' and the second is 'Do Insertion Transformation'.

He comes.

Does he come?

Uma went to Belgium

Did Uma go to Belgium?

2.4.2.2.2. Wh-interrogatives

'Wh' questions are introduced by interrogative pronouns, adjectives or adverbs. For all such questions the answers expect a piece of information. Such questions are called pronominal questions.

1. Who goes to college?
2. Whom do you want?
3. Whose question is this?
4. What is your problem?
5. Which is the correct answer?
6. How much is the apple?
7. Why did he do that?
8. Where did he go?

Wh-questions are so named because they contain question words that, with the exception of *how*, begin with WH. The wh-question word occurs normally at the beginning of the clause and may be part of the question phrase.

For what reason?

Whose apple?

In contrast to yes-no questions, which ask about an entire proposition, equative questions ask information about an argument of a predicate or about semantic domains like time, place, and manner. Following list shows some of the semantic domains along with 'wh' words and phrases, which are used to ask for information about them.

Time	Place	Person	Non-Human	Manner	Reason	Quantity
when, at what time, on which day	Where, at what place, in which town, to which country etc.,	Who, by whom, with which friends, whose have etc.	What, which, with what etc.	how, in what way. in which way, by what means, etc.	why, for what and which reason etc.	how much, how long, how many, how clear, etc.

The structure of 'wh' question sentences can be understood by comparing the structure of declarative sentences with that of 'wh' question sentences.

Usha will bring her mother from Trichy.

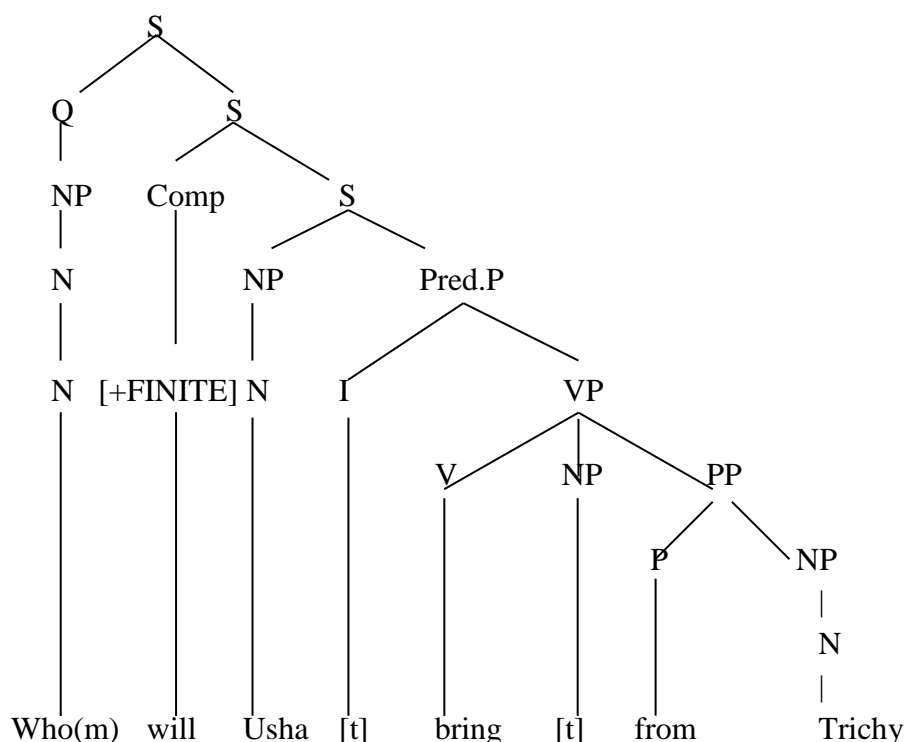
Usha will bring who (m) from Trichy?

Will Usha bring who (m) from Trichy?

Who will usha bring from Trichy?

The present day generative paradigm considers the formation of 'wh' question sentences from a deep structure by 'wh' movement. This can be depicted by a constituent called trace (t) as follows.

Figure: 6



In the similar manner, the structure of following sentences can be understood by comparing their respective declarative sentences that is their deviant structure can be understood from the representation of the deep structure in terms of core structure.

Where will Usha (t) bring her mother from (t)?

↓

Where will Usha bring her mother from?

Who will (t) (t) bring her mother from Trichy?

↓

Who will bring her mother from Trichy?

Note that in the second type, although the linear order of the constituent is exactly the same as if neither the operator nor the 'wh' word had moved, the hierarchical structure is different.

2.4.2.2.3. Interrogative determiners and pronouns

In the noun phrase, the interrogatives *which* and *what* can act as both determiner and pronoun and can have both personal and non-personal reference. The different interrogative determiners and pronouns are given in the following table.

	DETERMINERS	PRONOUNS	
	Personal and non-personal	Personal	Non-personal
Subjective case	What, Which	Who, What, Which	What, Which

Objective case		Whom	
Genitive case	Whose		
Interrogative ...+ Preposition	What, Which ... + preposition	Who, whom ...+ preposition	What, Which ...+ preposition
Preposition + interrogative	Preposition + What, Which	Preposition + whom	Preposition + What, Which

2.4.2.2.4. Interrogative adverbs and conjunctions

Besides interrogative determiners and pronouns, there are interrogative adverbs and conjunctions. The following table gives the different types of interrogative words used as adverbs and conjunctions.

Meaning	Interrogative words	Examples
Place at or place to	Where	Where is he staying? Where are you going on your vacation?
Time	When	When are you leaving?
Cause, reason and purpose	Why	Why are you going there?
Manner, means and instrument	How	How often does he see her? How much money do you have?

2.4.2.2.3. Analysis of negative sentences

Negative is a process or construction in grammatical and semantic analysis, which typically expresses the contradiction of some or all of a sentence's meaning. In English grammar, it is expressed by the presence of the negative element *not* or *no*. In Lexis, there are several possible means of negation. For example, the prefixes such as *un*, *non*, *in*, *dis* are used to derive negative words from positive words.

Positive words	Negative words
tolerable	intolerable
popular	unpopular
human	non-human
obey	disobey

2.4.2.2.3.1. 'Not' negation

Not is an important negative element in English. To bring negative meaning *not* has to be placed after the auxiliary verb or 'be' verb. When there is no other auxiliary, *do*, *does*, *did* have to be used with *not*.

Type	Positive	Negative
I	Her parents are in Madras.	Her parents are not in

With 'be' verb	He is angry.	Chennai. He is not angry.
II With auxiliary verb	I have eaten an apple. I will see 'Hay Ram'. I can buy a car. She is teaching.	I haven't eaten an apple. I will not see 'Hay Ram'. I cannot buy a car. She is not teaching.
III Without auxiliary verb	He went to Chennai. He goes to market. You pay the fees.	He did not go to Chennai. He does not go to market. You don't pay the fees.

For negative questions, negative *not* appears at the beginning of the sentence; with modal auxiliary, *BE* verbs and *DO* forms. In the negative yes / no questions the auxiliary along with negative element is placed first by applying fronting movement. In the case of negative 'wh' questions. It will be as same as the 'wh' question with the introduction of 'wh' element.

Type	Positive question	Negative question
Yes-no question with auxiliaries	Is he coming today? Has he done the work? Will he come tomorrow?	Isn't he coming today? Is he not coming? Hasn't he done the work? Has he not done the work? Won't he come tomorrow? Will he not come tomorrow?
Without auxiliary	Did Usha go home?	Didn't Usha go home?
Wh-question	Who will approve it? Whose mother came here?	Who will not approve it? Whose mother did not come here?

2.4.2.2.3.2. Negation by negative pronouns

Negative sentences can be formed by making use of negative pronouns and determiners. The following table will show the use of negative pronoun and determiners.

Number	Function	Count		Mass
		Personal	Non – personal	
Singular	Pronoun	No one, nobody None (or)	Nothing	None (of)
	Pronoun and determiner	Neither (or)		
Plural	Pronoun	None (or)		
Singular and Plural	Determiner	No		

Use of no one / nobody**Positive**

He knows when is she going.

He has finished the work

Negative counterpart

No one / nobody knows when is she going

No one / Nobody has finished the work

Use of none

None (not one) is used as a countable as well as uncountable (not any) pronoun.

	Positive	Negative
Countable	One of us speaks Malayalam	None of us speaks Malayalam
Non Countable	He looks fresh It is ripe He has arrived	None looks fresh None is ripe None has arrived

To express addition negatively

Nobody has come yet

No one has come yet

None has come yet

None have / has come yet

None of the students has / have failed

Neither of the (two) students has failed

Nothing has happened yet

Nothing of this has come about

Neither of the accusation is true

That is none of your business

2.4.2.2.4. Analysis of imperative sentences

Imperative sentence is one with no overt subject noun phrase. It usually contains imperative form of a verb. The imperative is used in request, which according to circumstances may range from brusque commands to humble entreaties, the tone generally serving as a key to the exact meaning. The following table shows the expression of imperatives in different contexts:

1. V1: In the second person by the imperative form of verb or by *shall* with the infinitive. Emphasis is conveyed by *do* with the infinite.

Get lost.

Cook well.

He shall cook

Shut the door, please.

Do read your lesson well.

2. V1... (third person): In the third person with virtually the second person meaning.

Come here John.
Wash and dry the clothes, please.

3. Let + third person + V1: In the third persons by *let* with the infinitive

Let us fly away.
Let him study abroad.
Let there be light.

3. Negative word + you + V1: With negative adverbs and negative words

Never you mind
Don't you do it?

The colloquial phrase *mind you* can be added list of imperative types. It functions like a tag to another sentence. In the example cited above the subject pronoun follows the imperative.

I have no money to spend extra, mind you.

Conclusion

Here in this chapter the computational syntactic structure of English has been worked out. The constitutional structure of English has been analysed and there by identified the ways by which parsing can be performed on the English text to get the needed parsed tree structures which could be used for lexical and structural transfer. The computational syntactic structures have been worked at the levels of word, phrase, clause and sentence. All the sentential patterns of English have been identified to make them viable for computational analysis. With the help of these patterns, it is hoped to parse an English sentence in terms of words, phrases and clauses. The resulting parsed trees can be matched with Tamil parsed trees to formulate structural and lexical transfer rules.

CHAPTER 3

SYNTACTIC STRUCTURE OF TAMIL

3.0. Introduction

In this chapter a computationally viable syntactic structure of Tamil has been worked to map it against the similar structure in English with the aim of preparing a transfer grammar, which will be utilized for Machine translation between these two languages.

Tamil is a verb final language. It shows the characteristic features of SOV language. Tamil nouns are inflected for case markers. So the noun phrases can be shuffled before the predicate verb. Unlike English that is a prepositional language Tamil is a postpositional language. When compared with English, Tamil is a word order free language. Here in this chapter the constitutional structures of Tamil will be elaborated so as to compare them with the constituent structures of English. The sentential structures of English and Tamil will be correlated so as to understand the mechanism of transferring the source language structure into target language structure. The syntactic structure of Tamil will be dealt under the following headings.

1. Analysis of Words
2. Analysis of Phrases
3. Analysis of Clauses
4. Sentence

3.1. Analysis of Words

The following form classes have been identified in Tamil:

1. Noun
2. Verb
3. Adjectives
4. Adverbs

The following function classes have been identified:

6. Pronouns
7. Prepositions
8. Determiners (Ordinals, Quantifiers, Demonstratives)
9. Conjunctions (Coordinating conjunctions & Subordinating conjunctions)
5. Auxiliary verbs

From the lexical information available in terms of meaning of the content word (stripped of from inflectional and productive derivational suffixes) and the inflectional and derivational meaning, words will be built for Tamil. For example, *went* of English will have the following

A TRANSFER GRAMMAR FOR ENGLISH-TAMIL MACHINE TRANSLATION

Prof. Rajendran Sankaravelayuthan and Dr. P. Kumaresan

information available for lexical transfer:

Went = go + past + third person neuter singular

The transfer dictionary (i.e. bilingual dictionary) gives the equivalent the core of the inflected word *go* as *poo*; the inflectional meaning ‘past’ will be added with *poo* resulting in the form *poon-*; the agreement information ‘third person neuter singular’ results in the formation of *poonatu* ‘it went’. A transfer dictionary consisting of a bilingual dictionary of core words complemented by rules to derive both inflectional and derivational forms from the semantic features has been built to serve our purpose.

3.1.1. Analysis of inflected forms of nouns

Nouns can be inflected for number and case. An inflected noun form may be the phonemic realization of the three morphemes, the formation of which can be given as follows:

Noun+(Number)+(case)

Maram+kaL+ai > marangkaLai ‘tree_Plural_ACC

The correct representation of an inflected form of a noun involves the following pattern of formation.

Noun stem+ (plural suffix) + (oblique suffix) + euphonic suffix+case suffix

maram+ kaL+Euphonic+aal

tree_Plural_Oblique_Instrumental

mara-tt-in-aal

tree_Oblique_Euphonic_Instrumental

The following table depicts the case forms Tamil:

Case form	Case suffix/bound postposition	Example
Nominative	Zero	<i>maram</i> ‘tree’
Accusative	-ai	<i>maratt-ai</i>
Dative	-ukku~ -kku ~ -ku	<i>mara-tt-ukku</i>
Instrumental	-aal	<i>mara-tt-aal</i>
Sociative	-ooTu, -uTan	<i>mara-tt-ooTu</i>
Locative	-il, -iTam	<i>marattil, avan-iTam</i>
Ablative	-irundtu	<i>mara-tt-il-irundtu</i>

3.1.2. Analysis of inflected forms of verbs

Verbs in Tamil inflect for tense, negation, person, number, gender, adjectival form and adverbial form. There are three tenses in Tamil, past tense, present tense and future tense. Tamil makes use of tense markers for expressing tense. There are a set of past tense markers, a set of present tense markers and a set of future tense markers. The alternate markers are conditioned, phonologically and morphologically. The finite verbs and non-finite verbs in Tamil are inflected forms and the following patterns emerge out.

Finite verb

1. Verb root + tense marker + PNG
2. Verb root + negative + PNG

Non-Finite verbs

Verb + infinite marker

Past participle forms

Verb + tense + past participle

Verb + negative + participle

Conditional

Verb + conditional marker

Relative Participle forms

Verb + past tense + relative participle

Verb + present tense + relative participle

Verb + future tense + relative participle

Verb + negative + relative participle

Pronomilized forms

Verb + past tense + relative participle + PNG

Verb + present tense + relative participle marker + pronoun

Verb + future tense + relative participle marker + pronoun

The following is the verb paradigm table for the verb *ezhutu* 'write':

Person	<i>Present</i>	Past	Future
First person	<i>ezhutu-kiR-een</i>	<i>ezhutu-in-een</i>	<i>ezhutu-v-een</i>
Second person	<i>ezhutu-kiR-aay</i>	<i>ezhutu-in-aay</i>	<i>ezhutu-v-aay</i>
Third person masculine	<i>ezhutu-kiR-aan</i>	<i>ezhutu-in-aan</i>	<i>ezhutu-v-aan</i>
Third person feminine	<i>ezhutu-kiR-aaL</i>	<i>ezhutu-in-aaL</i>	<i>ezhutu-v-aaL</i>
Third person	<i>ezhutu-kiR-atu</i>	<i>ezhutu-in-atu</i>	<i>ezhut-um</i>

neuter			
Third person masculine, feminine	<i>ezhutu-kiR-aar</i>	<i>ezhutu-in-aar</i>	<i>ezhutu-v-aar</i>
First person plural	<i>ezhutu-kiR-oom</i>	<i>ezhutu-in-oom</i>	<i>ezhutu-v-oom</i>
Second person plural	<i>ezhutu-kiR-iirkaL</i>	<i>ezhutu-in-iirkaL</i>	<i>ezhutu-v-iirkaL</i>
Third person plural masculine, feminine	<i>ezhutu-kiR-aarkaL</i>	<i>ezhutu-in-aarkaL</i>	<i>ezhutu-v-aarkaL</i>
Third person plural neuter	<i>ezhutu-kinR-ana</i>	<i>ezhutu-in-an</i>	<i>ezhut-um</i>

The transfer dictionary takes care of the transfer of V + inflections/derivation from English into Tamil.

3.2. Analysis of Phrases

The building mechanism of the following five major phrases along with their coordination has been dealt here.

1. Analysis of noun phrases
2. Analysis of verb phrases
3. Analysis of adjectival phrases
4. Analysis of adverbial phrases
5. Analysis of postpositional phrases
6. Analysis of Coordination phrases

3.2.1. Analysis of noun phrases

An NP may be built up of a noun, pronoun or demonstrative pronoun, which forms the head of the construction.

raajan irukkiRaan - *raajan* is a noun

'Rajan is there'

avan ippozhutu varallam - *avan* is a pronoun

'he may come now'

ivaikaL puukkaL aakum - *ivaikaL* is a demonstrative pronoun

'these are flowers'

3.2.1.1. Constituents of noun phrases

The following items may precede the noun that heads an NP:

A TRANSFER GRAMMAR FOR ENGLISH-TAMIL MACHINE TRANSLATION
Prof. Rajendran Sankaravelayuthan and Dr. P. Kumaresan

1. Determiners
2. Ordinals
3. Quantifiers
4. Adjectival phrase
5. Classifier

Predeterminers that come before determiners are not found in Tamil. Of course in Tamil the relative clause can come before determiners.

Determiners

The demonstrative pronouns (*indta* 'this', *andta* 'that') possessives (*en* 'my', *un* 'your', *avaLuTaiya* 'her') and the wh-words (*endta* 'which') are grouped under determiners (only when they precede nouns).

NP ↔ Det + N

andta meejai 'that table'

oru nduul 'a book'

avanuTaiya nduul 'his book'

indta nduul 'this book'

Ordinals

OnRaavatu 'First', *iraNTaavatu* 'second', *muunRaavatu* 'third', etc. which denote the order of the items in a series are ordinals in Tamil. *mutal* is synonymous with *onRaavatu* 'first'. In an NP ordinals can follow determiners.

NP ↔ Ord + N

mutal vakuppu 'the first class'

avaruTaiya muunRaavatu makan 'his third son'

Quantifiers

Pala 'many, several', *cila* 'a few', *onRu* 'one', *iraNTu* 'two' are quantifiers which specify quantity or number in Tamil. In an NP the quantifier can follow the ordinals. If there is no ordinal, the determiner is followed by the quantifier.

NP ↔ Ord + Quan + N

mutal muunRu paaTalkaL 'first three songs'

avanuTaiya pala tavaRukaL 'his many mistakes'

Approximates

In Tamil approximates (Appr.) such as *kiTTattaTTa*, *eeRakkuRaiya*, etc. come quantifiers to approximate the quantity.

NP \leftrightarrow Appr + Quan + N

eeRakkuRaiya aayiram peer andat pooTTiyil pangkeRRaarkaL

'Approximately thousand persons participated in the competition'

Limitizers

In Tamil the limitizers such as *maTTum*, *maattiram*, etc. occurs after nouns to limit the nominal reference.

NP + *maTTum*

umaa maTTum ndeeRRu vandtaaL 'Uma only came yesterday'

Adjectival phrase

Adjectival phrase is a phrase that functions as an adjective.

Adj P + N \leftrightarrow NP

rompa azhakaana peN 'a very nice lady'

pala azhakaan vaLainda vaTivangkaL 'many beautiful carved figures'

Classifier

The classifier, which is a noun or a sentence that functions as an adjective as found in English is found in Tamil too.

NP \leftrightarrow Class + N

kalaik kalluuri 'Arts College'

Relative Clause

An NP in Tamil may be built of a relative clause (i.e. a clause that has an adjectival function) and N.

NP \leftrightarrow RC + N

ilaiyai varNampuuciya manitan 'the man who painted the last leaf'

paricu venRa paiyan 'the boy who won the prize'

Thus an NP can be built in the following way.

Det + Ord + Quant + Adj P + Class + N \leftrightarrow NP

andta mutal pattu aRivuLLa paiyankaL 'that first ten clever boys'

andta mutal pattu ciRandta kalaikalluurikaL 'that first ten good arts college'

anta azhakaana puukkaL 'those beautiful flowers'

ellaa pukazhpeRRa manitarkaL 'all the famous men'

andta kaTavuLaal capikkappaTTa iTam 'that God-forsaken place'

3.2.1.2. Patterns of noun phrases

At least the following patterns can be identified in Tamil.

1. NP \leftrightarrow Poss P + NP

ennuTaiya maaman makaL 'my uncle's daughter'

2. NP \leftrightarrow Relative clause + NP

neeRRu ndaan paartta paiyan 'the boy whom I saw yesterday'

3. NP \leftrightarrow *enRu*-clause

avaL paTittavaL enRu elloorukkum teriyum

'that she is educated is known to all'

3. NP \leftrightarrow *enpatu*-clause

avan ndallavan enpatu elloorukkum teriyum

'that he is good is known to all'

4. NP \leftrightarrow *enRa*-clause

avaL pooyviTTaaL enRa ceyti 'the news that she had left'

5. Det + Compound noun \leftrightarrow NP

oru cinimaa ndaTikai 'one film female star'

3.2.2. Analysis of verb phrases

The verb phrase is built up of a verb, which is the head of the construction. Verb occurs as predicates in the rightmost position of a clause. As predicates they select arguments (ex. subject, direct object, indirect object and locative NPs) and assign case to their arguments and adverbial adjuncts. Another syntactic property of verbs in Tamil is that they can govern subordinate verb forms. Verbs occurring as finite verbs in clause final position can be complemented by non-finite verb preceding them. The latter with respect to the interpretation of tense or subject governs these non-finite forms, being subordinate to the finite verb form. If we follow the traditional idea of having a VP node for Tamil, then all the elements, except the subject NP, will have to be grouped under VP.

3.2.2.1. Constituent structure of verb phrases

The constituents which come under VP i.e. that are headed by V can be listed as follows:

1. Adverbial Phrase

avan veekamaaka vandtaan

he fast come_PAST_he

‘he came fast’

2. Case Phrase

kaNNan raataiy-aip paarttaan

Kannan Radha_ACC see_PAST_he

‘Kannan saw Radha’

3. Post Positional Phrase

puli avaL meel paayndatu

tiger she on jump_PAST_it

‘The tiger jumped over her’

4. Verbal participial Clause

caappiTTuviTTuc cenRaam

eat_PAST_PAR_leave_PAST_PAR go_PAST_he

‘having eaten food he went’

5. Infinitive Clause

caappiTac cenRaam

eat_INF go_PAST_he

‘he went to eat’

6. Conditional Clause

veelai irundtaal varuvaan

work be_PAST_CON come_FUT_he

‘he will come if there is any work’

7. Concessive Clause

mazhai peytum puumi ndanaiyavillai

rain rain_PAST_CON earth wet_INF_not

‘even though it rained, the earth is not drenched’

8. Complement Clause

avan veelai muTindtuviTTatu enRaam

he work finish_PAST_PAR_leave_PAST_it say_PAST_he

‘he said that the work is finished’

Tense, mood and aspect are conveyed by auxiliary verbs and the inflections on verbs. Though they can be compartmentalized theoretically, they depend on one another and so need to be dealt in a single package.

3.2.2.2. Typology of verbs

At least two types of verbs can be identified in Tamil: lexical verbs and auxiliary verbs. The lexical verbs, as we noted already, carries the primary meaning of the predicate. The auxiliary verbs carry the secondary meaning such as tense, aspect, mood, voice and attitude. The auxiliary verbs can be classified as follows (Lehmann, 1993:205):

Category	Auxiliary verbs
Aspect	<i>aaku, aayiRRu, iru, viTu,</i>
Mood	<i>-aam, aakaatu, iru, kuuTu, aTTum, paar, poo, vaa, maaTTu, muTi, veeNTu</i>
Passive voice	<i>paTu</i>
Causation	<i>vai, cey, paNNu</i>
Negative polarity	<i>illai</i>
Attitude	<i>kiTa, kizhi, taLLu, tiir, tolai, poo, pooTu</i>
Non-attitude	<i>azhu, koTu, koL, paar, vai</i>

3.2.2.3. Compounding of verbs

Building of verbal forms for denoting tense, mood and aspect is referred here as compound verbs. Compounding leads to tense-aspect-mood (TAM) system, which is crucial to verbs. The auxiliary verbs added to non-finite and gerundial forms of the main verb (MV). The aspectual verb forms (in 3.2.2.3.2.) depict the complex process of verbal compounding.

3.2.2.3.1. Analysis of tensed forms

The morphological generation of finite and non-finite forms of verbs has been discussed under the word building mechanism or morphology.

3.2.2.3.2. Analysis of aspectual forms

Aspectual auxiliaries express aspect in Tamil. The aspectual auxiliaries not only express aspectual distinction but also other semantic concepts depending upon the context. Lehman (1989) identifies the following five aspects in Tamil.

1. Inceptive aspect
2. Progressive aspect
3. Durative aspect
4. Iterative aspect
5. Perfective aspect

1. Inceptive aspect: The verb *aaku* occurs as an auxiliary verb in Tamil finite past tense form after *al* suffixed adverbial nouns expressing inceptive aspect.

V-*al* + *aaku* + PNG

avaL avanaik kaNTatum paaTalaanaaL 'She started singing immediately after seeing him'

2. Perfective aspect: The perfective aspect in Tamil is expressed by the auxiliary verbs *iru*, *aayiRRu* and *viTu* which are added to the past participle form of a main verb.

MV in past participle form + *iru* + PNG
 MV in past participle form + *aayiRRu*
uSaa cennaikkup pooy irukkiRaaL 'Usha has gone to Chennai'
uSaa camaiyal ceytaayiRRu 'Usha has finished cooking'

The auxiliary *viTu* added after past participle form expresses perfect aspect, that is an action or event that has been completed within a point or period of time. Thus *viTu* indicates a complete action.

MV in past participle form + *viTu* + PNG
uSaa anta ndaavalaip paTittu viTTaaL 'Usha has read the novel'
umaa tanjcaa uurai viTTu pooy viTTaaL 'Uma has left Thanjavur'

Progressive aspect: Progressive aspect in Tamil is expressed by auxiliary *koNTiru*. With stative main verbs *iru* expresses progressive aspect.

MV in past participle form + *koNTiru/iru* + PNG
umaa paaTik koNTirukkiRaaL 'Uma is singing'
uSaa ndaaRkaaliyil uTkaarntu irukkiRaaL 'Usha is sitting on the chair'

Durative aspect: The compound auxiliary verb *koNTuvaa* (a combination of the past participle form, *koNTu*, of the verb *koL* and *vaa* 'come') following a main verb in verbal participle expresses durative aspect. In durative aspects an on going action or event is related to a period of time.

MV in past participle form + *koNTuvaa* + PNG
avaL peeca peeca avan mozhipeyarttukkoNTu vandtaan
 'He went on translating as she was speaking'

Iterative aspect: The same compound verb *koNTuvaa* with following a main verb in verbal participle form denotes iterative aspect too. Iterative aspect is the repeated or regular occurrence of an action or event during a period of time. In this case the part of the compound auxiliary verb *koNTu* can be dropped.

MV in past participle form + *koNTuvaa* + PNG
kazhindta oru vaaramaaka kaalaiyil mazhai peytu koNTu varukiRatu 'For the last one week it rains in the mornings'

3.2.2.3.3. Analysis of modal forms

The auxiliaries such as *aam*, *aakaatu*, *iru*, *kuuTu*, *TTum*, *paar*, *poo*, *vaa*, *maaTTu*, *muTi*, and *veeNTu* express mood in Tamil.

Internal obligation:

MV in past participle form + *veeNTum*
uSaa inRu maalai madurai pooka veeNTum
'Usha must go to Madurai this evening'

Negation of external obligation:

MV in past participle form + *veeNTaam*
ndii inRu paLLikku kaNTippaaka pooka veeNTaam
'You must not go to school today'

Desideration:

MV in past participle form + *veeNTum*
umaa ooyvu eTukka veeNTum 'Uma should take rest'
ndiingkaL kuzhandtaiyaikkuk kaRpikkaveeNTum
'You should teach the child'

External obligation imposed by outer circumstances or authority.

1. MV in infinitive form + *veeNTiyiru* + Tense + Neuter
2. MV in infinitive form + *veeNTivaa* + Tense + Neuter

umaa inRu maturai pooka veeNTiyirukkum
'Uma has to go to madurai today'
uSaa ndeeRRu cennai pooka veeNTi vandtatu
'Usha had to go to Chennai yesterday'

Negative obligation

1. MV in infinitive form + *kuuTaatu*
2. *al* suffixed verbal nouns. + *aakaatu*

ingkee yaarum kuLikkak kuuTaatu. 'No one should take bath here'
ndii ingkee varalaakaatu 'You should not come here'

Probability:

MV in infinitive form + *kuuTum*.
avan inRu varakkuuTum 'He may come today'

Ability and possibility:

1. MV in infinitive form + *muTiyum/iyalum*
2. MV in infinitive form + *muTi* + Pres. / Past + *atu*
umaavaal ndaTakka muTiyum 'Uma can walk'
uSavaal ndanRaaka malayaaLam peeca iyalum
 'Usha can speak well in Malayalam'
ennaal ndeeRRu paTikka muTindtatu 'I could study yesterday'

Circumstantial possibility and conjectural possibility:**V-al + aam**

paTaiviiran kutiraiyil eeRalaam

'The soldier may claim upon the horse' (Circumstantial possibility)

Umaa ipootu caappiTalaam 'Uma may eat now' (conjectural possibility)

Positive Ability:

1. MV in Infinitive form + *muTi* + *Tense* + *Neuter*
2. MV in infinitive form + *iyalum*
enaal ndeeRRu ndanRaaka tuungka muTindtatu
 'I was able to sleep well yesterday'
ennaal cariyaaka aangkalam peeca iyalum
 'I can speak in English clearly'

Negative ability:

MV in Infinitive form + *muTiyaatu / iyalaatu* (negative)

ennaal aangkalam peeca muTiyaatu / iyalaatu 'I cannot speak English'

Permission :

V-al + *aam*

ndii pookalaam 'You may go'

Hortative or optative and desiderative:**MV in infinitive form + aTTum**

umaa meeTaiyil paaTaTTum 'Let Uma sing on the stage'

avarkaL makizhcciyaaka vaazhaTTum 'May they live happily'

Hortative (if the subject NP of the clause is the first person inclusive pronoun.):

V-al + *aam*

vaarungkaL (ndaam) caappiTalaam 'Come, let's eat'

Intention and prediction (Speaker's prediction or subject's intention of the performance of the action denoted by the verb.):

1.MV in infinitive form + *poo* + Tense + PNG

2.MV in infinitive form + *vaa* + Tense + PNG

3.MV in infinitive form + *iru*

umaa oru viiTu kaTTap pookiRaaL 'Uma is going to build a house'

mazhai peyyap pookiRatu 'It is going to rain'

ndaan ammaaviTam uNmaiyaic colla vandteen

'I was going to tell mother the truth'

uSaa ndaaLai cennai cella irukkiRaaL

'Usha intends/plans to go to Chennai tomorrow'

Intentional attempt:

MV in infinitive form + *paar*

uSaa pattu maNikkuL camaiyalai muTikkap paarttaaL 'Usha tried to finish cooking before 10 O' clock' (but did not complete it)'

Positive permission and suggestion:

V-al + *aam*

ndii viiTTukku pookalaam 'You can go home'

Negative permission:

V-al + *aakaatu*

kaiy kazhuvaatu caappiTal aakaatu

'One should not eat without washing the hands'

Negative willingness:

Main verb in infinitive form + *maaTTu*

umaa ndaaLaikku cennai pooka maaTTaaL

'Uma will not go to Chennai tomorrow'

3.2.2.3.4. Analysis of other forms with auxiliary verbs

Passive:

MV in infinitive form + *paTu* + Tense + PNG

vaali iraamanaal vatam ceyyappaTTaan 'Vali was killed by Raman'

Causative:

MV in infinitive form + cey/vai/paNNu + Tense + PNG

aruL umaavai veelai ceyya vaittaan 'Arul made Uma do the work'

celvam kalaavai paaTac ceytaan 'Selvam made Kala sing'

3.2.2.3.5. Summing up of verbal compounding

The following table depicts the entire TAM system of Tamil. (The table is prepared by taking into account the descriptions given in (Annamalai (1982), Asher (1982), Stever (1983) and Lehman (1989) giving credence to my own innovation.)

Meaning (arranged keeping in view of the source language)	Form in Tamil
Past tense	V + past tense + PNG <i>avan kaTitam ezhutinaan</i> 'He wrote a letter'
Present Tense	V + present tense + PNG <i>avan kaTitam ezhutukiraan</i> 'He writes a letter'
Future Tense	V + future + PNG <i>avan kaTitam ezhutuvaan</i> 'He will write a letter'
Future time with modal auxiliaries. In many contexts, modal auxiliaries have inherent future reference, both in their present tense and past form.	V-al + aam <i>avan ndaalai pookalaam</i> 'He may go tomorrow'
Present perfect aspect	V + past participle + <i>iru</i> + present + PNG <i>kaNNan kaTitam ezhutiirukkiRaam</i> 'Kanna has written a letter'.
Past perfect aspect	1. V + past participle + <i>iru</i> + past + PNG <i>kaNNan kaTitam ezhutiirundtaan</i> 'Kannan had written a letter' 2. V + past participle + <i>aayiRRu</i> <i>umaa camayal ceytaayiRRu</i> 'Uma completed cooking'
Present progressive	V + past participle + <i>koNTiru</i> + present + PNG <i>kaNNan kaTitam ezhutik koNTirukkiRaam</i> 'Kannan is writing a letter'
Past progressive aspect	V + past participle + <i>koNTuiru</i> + past + PNG <i>avan ezhutikkoNTirundtaan</i> 'He was writing'
Future progressive aspect	V + past participle + <i>koNTiru</i> + future + PNG <i>avan ezhutikkoNTiruppaan</i> 'He will be writing a letter'
Inceptive aspect verbal noun + <i>aaku</i> is equal to	V-al + <i>aaku</i> + Tense + PNG <i>umaa paaTalaanaaL</i> 'Uma started singing'

Meaning (arranged keeping in view of the source language)	Form in Tamil
<i>toTangku</i> 'start' which is added to the infinitive form of a main verb.	<i>umaa paaTat toTangkinaaL</i> 'Uma started singing'
Durative	V + past participle + <i>vaa</i> + Tense + PNG <i>umaa peecca kaNNan mozhipeyarttu vandtaan</i> 'Kannan kept on translating while Uma was talking'
Iterative	V + past participle + <i>vaa</i> + Tense + PNG <i>kazhindta oru vaaramaaka aruL kaalaiyil ezhundtu paTittu varukiRaana</i> 'For the last one week Arul is studying (regularly) by getting up early in the morning'
Ability	1.V + infinitive + <i>muTiyum / iyalum</i> (positive) <i>avanaal aangkilam peecca muTiyum/iyalum</i> 'He can speak English'
Negation of ability	2.V + infinitive + <i>muTiyaatu / iyalaatu kaNNanaak indta muuTTaiyai tuukka muTiyaatu/iyalaatu</i> 'Kannan cannot lift this package' 3.V + infinitive + <i>muTiyavillai</i> <i>enaal caturangkam aaTa muTiyavillai</i> 'I could not play chess'
Possibility: circumstantial possibility	1. V-al + <i>aam</i> <i>avarkaL koopurattil eeRalaam</i> 'They can climb up the tower' 2.V + infinitive + <i>kuuTum</i> <i>indta kuLattil ndiiccal aTikkak kuuTum</i> 'One can swim in the pond' 3.V + infinitive + <i>muTiyum</i> <i>indta caalaiyil vaakanangkaL cella muTiyum</i> 'The vehicles can ply in this road'
Possibility: conjectural possibility	<i>avaL ippoZhutu viiTTukkup pookalaam</i> 'She may go home now'
Permission	1. V-al + <i>aam</i> <i>ndaan pukai piTikkalaamaa?</i> 'May I smoke?'
Negation of permission	1. V-al + <i>aakaatu</i> <i>indta aRaiyil pukai piTkkalaakaatu</i> 'One must not smoke in this room' 2. V-al + <i>kuuTaatu</i> <i>indta kuLattil ndiical aTikkak kuuTaatu</i> 'One should not swim in this pond'

Meaning (arranged keeping in view of the source language)	Form in Tamil
Willingness	V + future tense + PNG <i>epootu muTikiRatoo apootu ndaan kaTitam ezhutuveen</i> 'I will write a letter when it is possible to write one' V + present tense + PNG-aa <i>innoru kooppai teeniir kuTikkiRaayaa?</i> 'Will you take another cup of tea?'
Willingness on the part of the speaker in 2 nd person and 3 rd person ('weak volition') Restricted use.	V-al + aam <i>avan paNam peRalaam</i> 'He can get money' <i>ndii virumpuvatu pool ceyyalaam</i> 'He can do as he wish'
Willingness ('weak volition')	V + future tense + PNG + aa <i>ndii ennai mannippaayaa?</i> Will you excuse me?'
Negative willingness	V + infinitive + maaTTu + PNG <i>kaNNan inRu veelai ceyya maaTTaan</i> 'Kannan won't do work'
Refusal	V + infinitive + maaTTu + PNG <i>ndaan kaNNanuTan peeca maaTTeen</i> 'I will not talk to Kannan'
Intention on the part of the speaker only in 1 st person ('intermediate volition').	1. V + future tense + PNG <i>ndaangkaL ungkaLiTam engkaL tiirmaanattait terivippoom.</i> 'We will inform you our decision' 2. <i>aakaatu</i> <i>enakku mandtiriyai paarttu peeca ndiiNTa ndeeram aakaatu.</i> It will not take long time for me to meet minister.
Insistence ('strong volition'). Restricted use. Legal and quasi-legal.	V-al + aam <i>ndaan colkiRa paTi ndii ceyyalaam</i> 'You shall do as I say' <i>avan taNTikkappaTalaam</i> 'He shall be punished' <i>viyaapaari tannuTaiya karuviyai ceppam ceytu vaittirukkalaam</i> 'The business man shall maintain the equipment in good repair'
Insistence ('strong volition').	1. V + future tense + PNG <i>ndiingkaL colvatai avan ceyvaan</i> 'He will do what you say' V + past participle form + <i>iru</i> + infinitive + <i>veeNTum</i> <i>atu un tavaRu. ndii kuzhandtaiyai unnuTan eTuttuc cenRirukka veeNTum</i> 'That is your mistake. You should have the child along with you'
Obligation: internal obligation	V + infinitive + <i>veeNTum</i>

Meaning (arranged keeping in view of the source language)	Form in Tamil
	<i>avanukku avacaramaaka viiTTukkup pooka veeNTum</i> 'He has to go home immediately'
Obligation: external obligation	1.V + infinitive + <i>veeNTivarum</i> / <i>veeNTiyatu varum</i> <i>avanukku ndaaLai madtiriyai candtikka veeNTi varum</i> 'He has to meet the minister tomorrow' 2.V + infinitive + <i>veeNTi</i> / <i>veeNTi irukkiRatu</i> <i>avanukku ndaaLai mandtiriyaic candtikka veeNTi /veeNTiyatu irukkiRatu</i> 'He has to meet the minister tomorrow'
Obligation: negation of external obligation	<i>ndii ndaaLai mutal kalluurikkup pooka veeNTaam</i> 'You don't need to go to college tomorrow onwards'
Obligation: negative obligation	1. V + infinitive + <i>kuuTaatu</i> <i>ndiingkaL caalaiyin mattiyil ndaTakkakkuuTaatu</i> 'You must not walk on the centre of the road' 2.V-al + <i>aakaatu</i> <i>matu arundtutal aakaatu</i> 'One should not drink liquor'
Prediction: specific prediction	V + future + PNG <i>viLaiyaaTTu indndeeram muTindtirukkum</i> 'The game will be finished by now' V + infinitive + <i>veeNTum</i> <i>viLaiyaaTTu indndeeram muTindtirukka veeNTum</i> 'The game should be finished by now'
Prediction: timeless prediction	V+future+PNG <i>eNNai taNNiiril mitakkum</i> 'The oil will float in water'
Prediction: habitual prediction	V + future +PNG <i>avanukkuc candtarppam koTuttaal avan (eppozhutum)</i> <i>maNikkaNakkaakap peecuvaan</i> 'He always talks for hours if you give him the chance'
Logical necessity	1. V + infinitive + <i>veeNTum</i> <i>tavaRu irundtirukka veeNTum</i> 'There has been a mistake' 2. <i>muTiyaatu</i> <i>tavaRu irundtirukka muTiyaatu</i> 'There cannot be a mistake' 3. V + infinitive + <i>veeNTaam</i> <i>avanuTaiya parimaaRRattiRku veeRu kaaraNam</i> <i>irundirukka veeNTaam</i> 'There mustn't be another reason for his behaviour'
Obligation and logical necessity	V + infinitive + <i>veeNTum</i> <i>ndii uTanee puRappaTa veeNTum</i> 'You ought to start

Meaning (arranged keeping in view of the source language)	Form in Tamil
	at once' <i>avarkaL ipootu ingkee irukka veeNTum</i> 'They ought to be here by now'
Desideration: duty, advise, suggestion	V+infinitive + <i>veeNTum</i> <i>ndii inRu viiTTuppaaTam ezhutaveeNTum</i> 'You should write your home work today' <i>umaa ndnRaakp paTikka veeNTum</i> 'Uma should study well' V+infinitive + <i>aTTum</i> <i>avan tinamum atikaalaiyil ezhundtu paTikkaTTum</i> 'Let him study by waking up early in the morning'
Negative desideration	1.V+infinitive + <i>kuuTaatu</i> <i>ndii iravil atika ndeeram kaN vizhittup paTikkak kuuTaatu</i> 'You should not study your lessons by keeping awake late in the night' 2.V- <i>al</i> + <i>aakaatu</i> <i>iravil veku ndeeram kaN vizhittal aakaatu</i> 'One should not remain awake late in the night'
Intention	V+infinitive + <i>poo</i> + tense + PNG <i>kaNNan umaavai maNakkap pookiRaan</i> 'Kannan is going to marry Uma'
Intention (with restricted set of verbs)	V + infinitive + <i>vaa</i> + tense + PNG <i>kaNNan umaavai keeTka varukiRaan</i> 'Kannan is going to ask Uma'
Passive	V + infinitive + <i>paTu</i> + tense + PNG <i>avan kaNNanaal kollappaTTaan</i> 'He was killed by Kannan'
Causation	V + infinitive + <i>vai</i> + tense + PNG <i>avan kaNNanai tuungka vaittaan</i> 'He made Kannan sleep' V+ infinitive + <i>cey</i> <i>avan kaNNanai tuungka ceytaan</i> 'He made Kannan sleep'
Negation	V + infinitive + <i>illai</i> <i>avan viiTTiRku pookavillai</i> 'He did not go home'
Negation in future	V + infinitive + <i>maaTTu</i> + PNG <i>kaNNan ndaaLai vara maaTTaan</i> 'Kannan will not come tomorrow'
Volition, willingness, reflexive	V + past participle + <i>koL</i> + tense + PNG <i>katavu taanee tiRandtu koNTatu</i> 'The door opened on its own'

Meaning (arranged keeping in view of the source language)	Form in Tamil
	<i>kaNNan tan kuzhadntaiyai tan maTiyil vaittukkoNTaan</i> 'Kannan kept his child on his lap' <i>kaNNan tannait taanee meccikkoNTaan</i> 'Kannan praised himself'
Assessment	V + past participle + <i>paar</i> + tense + PNG <i>avaL ceelaiyai uTuttup paarttaaL</i> 'She wore the saree (in order to see whether it suit her or not)'
Anticipated consequence	V + past participle + <i>vai</i> + tense + PNG <i>avaL (kaaRRukkaaka) katavai tiRandtu vaittaaL</i> 'She kept the window open (so that the wind could blow inside)'
Benefaction	V + past participle + <i>koTu</i> + tense + PNG <i>avaL kaNNanukku veelai ceytu koTuttaal</i> 'She worked for the benefit of Kannan'

3.2.2.4. Analysis of the Patterns of verb phrases

The following shows the different types of VP patterns/predicate patterns (and sentential patterns) based on the characteristic features of verbs.

Pattern 1:

a. NP + NP

atu puttakam 'that is a book'

avan maaNavan 'He is a student'

b. NP-ukku + NP

avan-ukku talaivali 'He has head ache'

c. NP + relative clause + NP

itu vaaTakaikku viTum vaNTi 'This is a car to let'

d. NP + pronominalized clause

avan indta kalluuriyil paTittavan

'He is one who got educated in this college'

e. *atu*-clause + NP

tinamum uTaRpayiRci ceyvatu avaciyam

'It is important to do exercise daily'

f. *atu*-clause + NP-ukku + NP

avan viiTTukku varuvatu enakku makizhcci

'I am happy that he is coming home'

g. *atu*-clause-il + NP-ukku + NP

avan teervil veRRipeRRatil enakku makizhcci

'I am happy that he has passed in the examination'

h. V-*atu* clause

yaarai ndoovatu 'Whom to blame'

Pattern 2:

- a. NP + BV (*iru, uNTu, illai*)
kaTavuL irukkiRaar 'God exists'
- b. NP + NP-aaka + BV
avan paci-aaka irukkiRaar 'He is hungry'
- c. NP-ukku + NP-aaka + BV
avanukku paciyaaka irukkiRatu 'He is hungry'
- d. NP-iTam + NP + BV (*iru, illai*)
enn-iTam paNam irukkiRatu 'I have money'
- e. NP-il + NP + BV (*iru, illai*)
kuLatt-il taamaraip puu illai 'There is no lotus in the pond'
- f. NP + Adv [Adv A] + BV (*iru, illai*)
anta puttakam ingkee illai 'That book is not here'
- g. NP + NP-il [Adv A] + BV (*iru, illai*)
andta puttakam kaTaiyil illai 'That book is not in the shop'
- h. NP + PP [Adv A] + BV (*iru, illai*)
puttakam meejai meel irukkiRatu 'The book is on the table'
- i. NP-ukku + *atu*-clause + NP-aaka + BV (*iru, illai*)
enakku unnuTan iruppatu makizhcciyaaka irukkiRatu
'I am happy to be with you'
- j. *aal*-clause + NP-aaka + BV (*iru, illai*)
avarkaL kalyaaNam ndaTandtaal nanRaaka irukkum
'It will be good if their marriage takes place'
- k. NP + *atu*-clause-pool + BV
eIlaam ndii viTTuccenRatu pool appaTiyee kiTakkiRatu
'All lise as you left'
- l. *ataRku* clause-a set of locative postpositions denoting different dimensions of temporal relations + NP + Adv A + BV (*iru, illai*)
avan varuvataRRku munnal ndaan ingku irundteen
'I was here before he came'

Pattern 3:

- a. NP + NP + BV (*aaku, alla*)
avan maaNavan aavaan 'He is a student'

Pattern 4:

- a. NP-ukku + Vi (a set of verbs of feeling)
enakku pacikkiRatu 'I feel hungry' *enakku talaivalikkiRatu* 'I feel headache'

Pattern 5:

a. NP + Vi

ndaam vaazhkiRoom 'We live'

b. NP + NP-ukku + Vi

avan viTTukkup poonaan 'He went home'

c. NP + NP-il + Vi

avan viTutiyl tanginaan 'He stayed in a lodge'

d. NP + PP + Vi

eli vaLaikkuL nduzhaindtatu 'The rat went inside the hole'

e NP + Adv A + Vi

avan pattumail ndaTandtaan 'He walked for ten miles'

f. NP + NP-aaka + Vi

ilaikaL manjaL niRamaaka maaRiyatu 'The leaves turned yellow' *avan oru paNakkaaranaaka iRandtaan* 'He died a rich man'

g. NP + enRu-clause + *teri*

avan varuvaan enRu terikiRatu 'It seems that he will come'

h. *atu*-clause-*pool* + *teri*

mazhai varuvatu pool terikiRatu 'It appears as if it is going to rain'

I .tu-clause-*aaka* + *teri*

avan avaLaip paarttu makizhcciyaTaindtataakat terikiRatu 'It appears that he felt happy by seeing her'

j. NP + Infinitive clause + Vi

avan engkaLai candtikka vandtaan 'He came to meet us'

k. NP + Past participle clause + Vi

avaL tan kuzhndtaiyaip paarttu makizhcciyaTaindtaaL 'She felt happy by seeing her child'

l. NP + *atu*-clause-*ukku* + Vi

avar atai avaniTam colvataRku veTkappaTTaar 'He felt shy to tell that to him'

m. NP + *atu*-clause-*ukku-aaka* Vi

avaL avan varuvataRkaaka kaattirundtaaL 'She waited for him to come'

Pattern 6:

The basic case-marking pattern of a Tamil transitive clause is the 'nominative-accusative' pattern. All transitive verbs show this pattern.

a. NP + NP-*ai* + Vt

avarkaL avanaip paarttaarkaL 'They saw him'

b. NP + NP-*ai* + NP-*il* + Vt

avar paNattaip peTTiyil vaittar 'He kept the money in a box'

- c. NP + NP-ai + NP-poola + Vt
avar avanai oru eezhaiyaip poola ndaTattinaar
 'He treated him as a poor fellow'
- d. NP-ai + NP + NP-aaka + Vt
avaL paalaic cuuTaak kuTittaaL 'She drank the milk hot'
avarkaL avanai aracanaaka ndaTattinar 'They treated him a king'
- e. NP + NP-aaka + NP-ai + Vt
avaL avan veRRikkaaka avanaip paaraaTTinaaL
 'She praised him for his success'
- f. NP + Infinitive clause + Vt
avan avaLaip paarkka virumpinaan 'He wanted to see her'
- g. NP + Infinitive clause + Vt
avan taan amerikkaa poovatai yaarum aRiya viruumpavillai
 'He did not want anybody to know that he is going to America'
- h. NP + infinitive-clause + NP-ai + Vt
avan ennaip paarkka tan tampiyai azhaittaan
 'He called his brother to see me'
- i. NP + Verbal participle clause + NP-ai + Vt
avar maRaindu ndinRu avaLaip paarttaar 'He saw her hiding himself'
- j. NP + V-aamal clause (i.e. neg. verbal participle clause) + NP-ai + Vt
avar avaLaip paarkkaviTaamal ennait taTuttaar
 'He obstructed me not to see her'
- k. NP + aal-clause + Vt
avan paNam kiTaittaa celavazhippaan
 'If he gets money he will spend it'
keeTTaar 'He listened to what she said'
ndaan kaLLan ooTuvataip paartteen 'I saw the thief running'
- l. NP+ atu-clause-ai + Vt
avar avaL kuuRuvataik
- m. NP + atu-clause-ukku + Vt
avar avaLaip paarppataRku virumpavillai 'He did not want to see her'
- n. NP + atu-clause-ukku-aaka + Vt
avar angku tangkuvataRkaaka viiTu kaTTinaar
 'He built a house to stay there'
- o. NP + enRu-clause + Vt
ndaan avaL vavruvaaL enRu ndinaaitteen
 'I thought that she would come'
- p. NP + enpatu-clause-ai + Vt
avar angku pooka veeNTum enpatai avaLiTam kuuRavillai
 'He did not tell her that he should go there'

Pattern 7:

The first deviation from the basic pattern of transitive verb is 'Dative-accusative' pattern. The verbs of mental experience (ex. *teri* 'know', *puri* 'understand', etc.), verbs of emotional experience (ex. *piTi* 'like', etc.) and verbs of physical and biological experience show this pattern.

- a. NP-*ukku* + NP-*ai* + *teri*
enakku avaLait teriyum 'I know her'
- b. *enRu*-clause + NP-*ukku* + *teri*
peerundtu eppootu varum enRu enakkut teriyaatu
'I don't know when the bus comes'
- c. NP-*ukku* + NP + *veeNTum*
enakku paNam veeNTum 'I need money'

Pattern 8:

This is the typical pattern of trivalent verbs receiving three arguments, subject, object and indirect object.

- a. NP [S] + NP-*iTam* [IO] + NP(-*ai*) [O] + Vt
avaL enniTam paNam koTuttaal 'She gave me money'
- b. NP + *enRu*-clause + NP-*iTam* + Vt
avaL unpeyar enna enRu enniTam keeTTaal
'She asked me what is my name'
- c. Interrogative clause + Vt
un peyar enna kuuRu 'Tell me what is your name'
- d. NP + NP-*ukku* + NP + Vt (*koTu* type of verbs)
avaL avanukku oru utai koTuttaal 'She gave him a kick'
- e. NP + NP-*ukku* + Verbal participle clause + Vt
avar avanukku miTTaay vaangkik koTuttaar
'He bought sweets and gave him'
- f. NP + NP-*iTamirundtu* + NP + Vt (*vaangku* type of verbs)
avaL enniTamirundtu paNam vaangkinaal 'She got money from me'
- g. NP + NP-*ukkuaaka* + NP [O] + Vt (*vaangku*-type of verbs) *avar avanukkaaka puttakam vaangkinaar* 'He bought a book for him'

3.2.3. Analysis of adjectival phrases

The adjectival phrases are headed by an adjective. In Tamil adjectival phrase always precedes head noun in NP. The adjectives in Tamil come to attribute noun. They are traditionally classified as follows:

Traditional classification of adjectives	Examples
Demonstrative	<i>indta</i> 'this', <i>andta</i> 'that'

Distributive	<i>ovvoru</i> 'each'
Interrogative	<i>endta</i> 'what, which', <i>enna</i> 'what', <i>evvaLavuvu</i> 'how much'
Possessive	<i>ennuTaiya</i> 'my', <i>unnuTaiya</i> 'your', <i>avanuTiya</i> 'his', <i>avaLuTaiya</i> 'her', <i>atanuTaiya</i> 'its', <i>ndamuTaiya</i> 'our', <i>unnuTaiya</i> 'your', <i>avarkaLuTaiya</i> 'their'
Of quality	<i>ndalla</i> 'good', <i>stupid</i> , <i>puttiyuLLa</i> 'clever', <i>viiramuLLa</i> 'brave'

The arrangement of items coming under adjectival phrase has been discussed under NP. In the present day analysis all except the last one are kept under determiner.

3.2.4. Analysis of adverbial phrases

Modern Tamil makes use of a number of noun and verb forms categorically reanalysed to a closed set of adverbs in the same way a number of uninflected and inflected noun and verb forms are syntactically reanalysed to a close set of postposition.

3.2.4.1. Constituents of adverbial phrases

The following table shows the different types of adverbs in Tamil with examples.

Broad categories	Sub types of adverbs	Examples
Simple adverbs	1. Manner	<i>metuvaaka</i> 'slowly', <i>viraivaaka</i> 'quickly', <i>tairiyamaaka</i> 'boldly', <i>'ndanRaaka</i> 'well', <i>kaTinamaaka</i> 'hard'
“	2. Place	<i>ingkee</i> 'here', <i>angkee</i> 'there', <i>arukee</i> 'near', <i>meelee</i> 'up'
“	3. Time	<i>inRu</i> 'today', <i>ituvurai</i> 'still', <i>ciikkiram</i> 'soon', <i>ipootu</i> 'now'
“	4. Frequency	<i>eppozhutum</i> 'always', <i>orupootum</i> 'never', <i>aTikkaTi</i> 'often', <i>orutaTavai</i> 'once', <i>epootaavatu</i> 'occasionally'
“	5. Sentence	<i>ndiccayamaaka</i> 'certainly', <i>kaTTaayamaaka</i> 'definitely', <i>surely</i>
Interrogative adverbs that are used to frame questions	6. Interrogative	<i>eppootu</i> 'when', <i>engkee</i> 'where', <i>een</i> 'why', <i>eppaTi</i> 'how'
Relative adverbs that	7. Relative	<i>eppootu</i> 'when', <i>engkee</i> 'where', <i>een</i> 'why'

are used to combine clauses		
--------------------------------	--	--

The adverbial phrase generally comes immediately before the head verb. The adverbial phrase has an adverb as a head, which can come alone or preceded by a sequence of words.

avaL mella ndaTandtaaL
she slowly walk_PAST_she
'she walked slowly'
avaL mika viraivaay ndaTandtaaL
she very fast walk_PAST_she
'she walked fast'

In the first sentence *mella* is a simple phrase, which comes alone to attribute the head verb. In the second sentence *mika viraivaay* is a complex phrase containing an adverb preceded by an intensifier (adjective).

Based on the formation and the structure, adverbs can be classified as follows:

Types of adverbs	Items	Example
Simple adverbs	<i>mella</i> 'slowly'	<i>avan mella caappiTaan</i> 'He ate slowly'
Verbal participial form	<i>viraindu</i> 'fast'	<i>avan viraindu vandtaan</i> 'He came fast'
Infinitive form	<i>urakka</i> 'loudly'	<i>avan urakka peecinaan</i> 'He talked loudly'
Noun + <i>il</i> form	<i>viraivil</i> 'soon'	<i>avan viraivil ingku varuvaan</i> 'He will come here soon'
Nouns denoting location/Time + <i>tooRum</i>	<i>ndaaL tooRum</i>	<i>avaL ndaaL tooRum koovilukku varuvaaL</i> 'She comes to temple daily'
Noun + Dative case + Noun	<i>ndaaLukku ndaaL</i> 'day by day'	<i>avaL ndaaLukku ndaaL melindtaaL</i> 'She became lean day by day'
Reduplicated infinitive form	<i>cuTa cuTa</i> 'very hot'	<i>toocai cuTa cuTa irundtatu</i> 'the dosa was hot'
Reduplicated adverbial form	<i>mella mella</i> 'very slowly'	<i>avaL mella mella ndaTandtaaL</i> 'she walked very slowly'
N + <i>aaka</i>	<i>veekam-aaka</i> 'fast'	<i>kaNNan veekamaaka ootinaan</i>

		'Kannan ran fast'
--	--	-------------------

3.2.5. Analysis of postpositional phrases

Asher (1985) defines postposition in Tamil as 'an element that can be added to a nominal to form a postpositional phrase standing in a functional relationship with a verb'. They can be seen as a somewhat heterogeneous class with members ranging from fully bound to free forms. All postpositions in Tamil are formally uninflected or inflected noun forms or non-finite verb forms. To express, for example, locative functions, Tamil uses nouns denoting various locations as locative postpositions. When a closed set of noun and verb forms occur as postpositions, they follow a noun phrase and form with the preceding noun phrase a postpositional phrase:

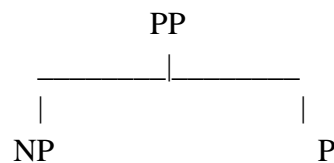
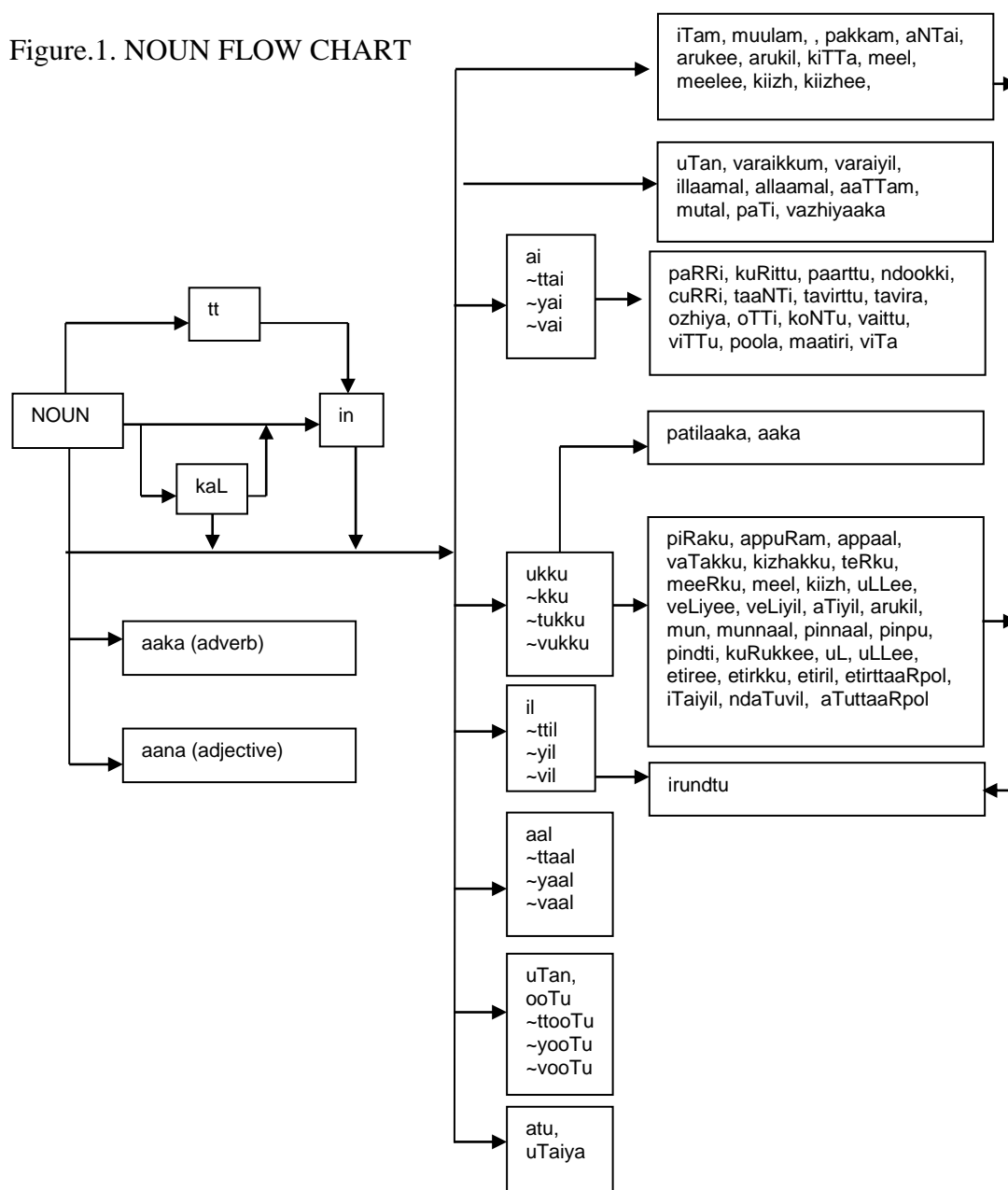


Figure.1. NOUN FLOW CHART



The noun flow chart shows the postpositional phrases.

3.2.5.1. Typology of postpositions

Depending on the case form of the preceding noun phrase, the postpositions can be classified as tabulated below:

Case of the noun phrase preceding the postposition	Postpositions which follow the noun phrase concerned
Nominative case	<i>allaamal</i> 'except', <i>aaka</i> 'like', <i>illaamal</i> 'without', <i>enRu</i> 'as

	such', <i>ennum</i> 'as such', <i>enRa</i> 'as said', <i>maatiri</i> 'like', <i>muulam</i> 'with', <i>varai/varaikkum/varaiyil</i> 'until', <i>vazhiyaaka</i> 'through'
Oblique form	<i>pakkam/aNTai/arukil/kiTTee</i> 'near', <i>kiizh</i> 'under', <i>aaTTam</i> 'like', <i>mutal</i> 'from', <i>paTi</i> 'according to'
Dative case	<i>aTiyil</i> 'under', <i>aTuttu</i> 'next', <i>aTuttaaRpoola</i> 'next', <i>aNTai</i> 'near', <i>appaal</i> 'beyond', <i>appuRam</i> 'after; behind', <i>arukee/arukil</i> 'near', <i>aaka</i> 'for', <i>iTaiyil</i> 'between', <i>uL</i> 'inside', <i>uriya</i> 'belong to', <i>etiree/etirkku/etiril</i> 'opposite', <i>etirttaaRpoola</i> 'opposite', <i>kiTTee</i> 'near', <i>kiiz</i> 'below', <i>kuRukkee</i> 'across', <i>ndaTuvil</i> 'in the middle of', <i>ndeeril</i> 'in front', <i>ndeeraaka</i> 'straight', <i>pakkattil</i> 'near', <i>patilaaka</i> 'instead of', <i>piRaku</i> 'after', <i>pin/pinnaal/pinpu/pindti</i> 'behind; after', <i>mattiyil</i> 'at the centre of', <i>mun/munnaal/munpu/mundti</i> 'before; in front of', <i>meel</i> 'above; after', <i>meeRku</i> 'west', <i>teRku</i> 'south', <i>vaTakku</i> 'north', <i>veLiyee</i> 'outside',
Accusative case	<i>oTTi</i> 'in connection with', <i>ozhiya</i> 'except', <i>kaaTTilum</i> 'than', <i>koNTu</i> 'with', <i>kuRittu</i> 'about', <i>cuRRi</i> 'around', <i>taaNTi</i> 'across', <i>tavirttu/tavira</i> 'except', <i>ndookki</i> 'towards', <i>paRRi</i> 'about', <i>paarttu</i> 'towards', <i>poola</i> 'like', <i>maatiri</i> 'like', <i>viTa</i> 'than', <i>viTTu</i> 'from', <i>vaittu</i> 'with'
Locative <i>il</i> , etc.	<i>irundtu</i> 'from', <i>vaittu</i> 'at'

Some of the above listed postpositions denoting spatial and temporal relations can be considered as adverbials. They could take more than one categorical host as anchor and can be inflected further for directional and locational case markers. There is even an overlap of word forms that are postpositions and adverbs. Through these 'adverbial postpositions' need to be distinguished from the 'regular postpositions' for the sake of computation, such difference is ignored. For the purpose of contrast the case inflections also dealt along with postpositions.

3.2.5.1.1. Nominative case + postpositions

The following table shows different postpositions occurring after nominative case with certain descriptive details along with examples.

Postposition	Descriptive Details	Casal relations/ meaning	Example
<i>muulam</i>	The postposition <i>muulam</i> can be translated as 'by means of, through (the agency of), under the auspices of'. <i>muulam</i> also expresses instrumental	through-relation and instrumental relation	<i>pativaaLar muulam</i> 'Under the auspices of the registrar' <i>kaNNan caavi muulam katavai tiRandtaan.</i> 'Kannan

Postposition	Descriptive Details	Casal relations/ meaning	Example
	case relation noun by denoting the meaning 'with'.		opened the door with a key'
<i>varai</i> , <i>varaikkum</i> , <i>varayil</i>	As postpositions <i>varai</i> , <i>varaikkum</i> and <i>varayil</i> express anterior location of limit 'up to' and duration 'up to, until'.	'up to' relation	<i>kaNNan viiTu variyai/varaikkum /varaiyil / ooTT-in-aan</i> 'Kannan drove up to the house' <i>campaLam vaangkukiRa varaikkum</i> 'Until (one) draws (one's) pay'
<i>illammal</i>	<i>illaamal</i> as a postposition it expresses negative instrumental and negative commutative relation.	Negative instrumental and negative commutative	<i>kaNNan katavai caavi illammal tiRantaan.</i> 'Kannan opened the door without a key.'
<i>ceerndtu</i>	<i>ceerndtu</i> as a postposition expresses commutative relation. <i>ceerndtu</i> is added to the noun phrase cliticized by <i>um</i> .	Commutative	<i>avarkaL iraNTu peerum eerndtu vandaarkaL</i> 'The two of them came together (i.e They arrived simultaneously)'
<i>allammal</i>	<i>allaamal</i> as a postposition expresses negative commutative relation.	Negative commutative	<i>ciitai allamal elloorum vantaarkal.</i> 'Everybody except Sita came.'

3.2.5.1.2. Oblique form + postpositions

The postpositions which are added after oblique form of a noun and their case relations along with meaning are tabulated and summarized as under'

Post position/case suffix	Descriptive details	Casal relation or meaning	Examples
<i>-ai</i>	The accusative suffix is	Objective	<i>aNNan-ai</i> 'elder brother.'

Post position/case suffix	Descriptive details	Casal relation or meaning	Examples
	-ai and is obligatory with human nouns. Accusative marker is optionally used with neuter nouns. When the object noun is modified by some determiners ai is obligatorily used even with neuter nouns.		<i>enn-ai</i> 'me.' <i>ndaan paTam paartteen</i> 'I saw a picture' <i>ndaan ndeeRRu paartta paTattai inRu paartteen</i> 'I saw the picture which saw yesterday' <i>andta paTattai avaL paarkkavillai</i> 'She did not see that picture'
-aal <i>koNTu</i> <i>payanpaTutti</i> <i>vaittu</i>	The instrumental case suffix is <i>aal</i> . It denotes the tool used by the agent in performing the action identified by the verb. It is largely the noun denoting the tool such as <i>katti</i> 'knife', <i>peenaa</i> 'pen', <i>taTi</i> 'stick' etc.alone occur in tool instrumental relation. The tool instrumental case suffix <i>aal</i> can be substituted by the postposition <i>koNTu</i> and verb particle form <i>payanpaTutti</i>	instrumental relation	<i>kaNNan kattiyaal pazhattai ndaRukkinaan.</i> 'Kannan cut the fruit using knife.' <i>kaNNan kattiyaal koNTu/payanpaTutti pazhattai ndaRukkinaan.</i> 'Kannan cut the fruit using knife.'
-ukku	<i>ukku</i> is the dative case form in Tamil.	The dative case expresses experiences, benefactive, possessive, genitive, allative, time, comparative and purposive relations.	<i>avan aaciriyarukku paricu koTuttaan</i> 'He gave a presentation to the teacher.' <i>avan avaLukku evvaLavoo ndallavan</i> 'Comparing with her, he is for better.' <i>avan cennaikkuc celkiRaan.</i> 'He goes to Chennai.'
-atu	According to	Possessive	<i>en-atu tozhil</i> 'my duty'

Post position/case suffix	Descriptive details	Casal relation or meaning	Examples
<i>uTaiya</i>	Tolkappiyam <i>atu</i> is a genitive marker. Genitive case marker is optional after demonstrative pronoun and sometimes after human proper nouns. Thus an oblique form stands to denote genitive case. Some times <i>-in</i> which is <i>caariyai</i> 'inflectional increment' can be considered as oblique case marker may stand to represent genitive case. The post position <i>uTaiya</i> too denote genitive case.		<i>un uur</i> 'your village' <i>raaman-atu raaman-in/raaman/ raamanuTaiya peenaa</i> 'Raman's pen.'
<i>-il</i>	Locative meaning is expressed by the suffix <i>-il</i>	'at/in' Locative	<i>avan cennaiyil paTikkiRaan.</i> 'He studies in Chennai.'
<i>pakkam aNTai aruku kiTTa</i>	<i>pakkam, pakkattil, aNTai, aNTaiyil, arukee, arukil and kiTTa</i> as postpositions to express proximate location 'near' .	'near' Locative	<i>andta viTTu pakkam/aNTai/arukee/ki TTa aalamaram irukkiRatu.</i> There is banyan tree near our house'.
<i>kuuTa -uTan -ooTu</i>	<i>kuuTa</i> as a postposition it expresses committative case relation. It is synonymous with the case suffixes, <i>ooTu</i> and <i>uTan</i> , which also denote committative case relation. It is to be noted that <i>kuuTa</i> also means 'also,	Committative	<i>en kuuTa vaa</i> 'come with me'

Post position/case suffix	Descriptive details	Casal relation or meaning	Examples
	too'.		
<i>meel</i> <i>meelee</i>	<i>meel</i> and <i>meelee</i> as a postposition after nouns in oblique form to express superior location 'on' in which case the two entities are in contact	Superior	<i>ceekar mecaiyn meel(ee)</i> <i>uTkaarndtukkiRaam</i> 'Sekhar is sitting on the table'
<i>kiizh</i> <i>kiizhee</i>	The postposition <i>kiizh</i> can be translated as 'under'. The noun <i>kiiz</i> 'inferiority', optionally with the euphonic clitic <i>ee</i> (i.e. <i>kiiz (ee)</i> occurs as a postposition after nouns in oblique form to express inferior location 'under'. <i>kiiz</i> can also co-occur with the bound postposition <i>irundtu</i> .	Inferior	<i>marattin-kiizee maNal</i> <i>irukkiRatu</i> 'There is sand under the tree'
<i>aaTTam</i>	The noun <i>aaTTam</i> which means 'motion' occurs as a postposition to express comparison 'like'.	Similarity	<i>kaNNan panRiyaaTTam</i> <i>kattinaan</i> 'Kannan cried like a pig'
<i>mutal</i>	<i>mutal</i> with temporal nouns as expresses posterior duration 'since, from'. The postposition can also express the starting point of a series when an NP followed by the postposition <i>varai</i> 'upto' which expresses the end point of a series, co-occurs in the sentence.	Source	<i>kaalai mutal mazhai pey-kiRatu</i> 'It has been raining since morning'
<i>paTi</i>	The noun <i>paTi</i> 'manner,	Manner	<i>raam jaati kaTTu ppaaTu</i>

Post position/case suffix	Descriptive details	Casal relation or meaning	Examples
	way' occurs as a postposition expressing the sense 'according to'.		<i>paTi kaliyaanam ceyya villai</i> . 'Ram didn't marry according to caste rules.
<i>vazhiyaakka</i>	The postposition <i>vazhiyaaka</i> can be translated as 'through'. The noun <i>vazhi</i> 'path, way' with the so-called adverbializing suffix <i>aaka</i> occurs as postposition expressing motion through an object.	Path	<i>ciinnu tooTTam vazhiyaaka vantaan</i> 'Seenu came through the garden.
<i>ooTu, uTan, kuuTa</i>	The sociative suffixes in Tamil are <i>oTu/ooTu, uTan</i> and <i>kuuTa</i> . Their meaning corresponds to 'with' in English. Accompaniment is the decisive feature in the meaning of the sociative case.	Sociative	<i>un-oTu/ -ooTu/ uTan/ kuuTa</i> 'with you' <i>raaman kaNNan-ooTu/uTan/kuuTa vandtaan</i> . 'Raman came with Kannan.'
<i>poruTTu</i>	<i>poruTTu</i> is synonymous with <i>aaka</i> added to dative NP. It gives benefactive sense.	Benefactive	<i>avaL avan poruTTu paNam vaangkinaaL</i> 'She got the money for him'

In the above sentence it gives the concept 'simple location'. Sentence 2 describes the concept of goal. Thus the case suffixes in Tamil are *ai, aal, ooTu, ukku* and *il* denoting accusative, instrumental, associative, dative and locative respectively. The suffixes *-in, an* and *atu* signify the genitive. The nominative is unmarred in Tamil. The accusative and datives can be realized only by case-suffixes. All the rest can be realized either by the case-suffixes or by the postposition. It is large number of case relations are represented by the postpositions. And hence if the case system in Tamil is analysed on the morphological point of view, many cases will go unrepresented.

3.2.5.1.3. Dative case + postpositions

The following table shows different postpositions occurring after dative case with certain descriptive details along with examples.

A TRANSFER GRAMMAR FOR ENGLISH-TAMIL MACHINE TRANSLATION
Prof. Rajendran Sankaravelayuthan and Dr. P. Kumaresan

Postpositio n	Descriptive detail	Case relations /meaning	Example
<i>piRaku</i>	The noun <i>piRaku</i> 'posteriority' occurs as a postposition expressing posterior location in time 'after'.	Posterior location	<i>kaNNan caapaaTTiRku-p piRaku tuungkukiRaan</i> 'Kannan is sleeping after lunch'
<i>appuRam</i>	<i>appuRam</i> occurs as a postposition to express posterior location in time and space. <i>appuRam</i> can be translated as 'after, behind'.	Posterior location	<i>kaNNan oru maatattiRku appuRam vandtaan.</i> 'Kannan came after one month.'
<i>appaal</i>	<i>appaal</i> occurs as a postposition which expresses ulterior location 'beyond'. <i>appaal</i> can also occur with the bound postposition <i>irundtu</i> which has ablative case function.	Uterior location	<i>aaRRiRku appaal oru kiraamam irukkiRatu.</i> 'There is a village beyond the river'
<i>meel</i> <i>meelee</i>	The postposition <i>meel(ee)</i> when occurring after a noun in dative case, expresses superior location, 'above' and non-contact of the two entities involved. When following a time in dative case, <i>meel(ee)</i> expresses superior location in time 'after'.	Superior location	<i>meecaikku meel(ee) oru viLakkut tonkukiRatu</i> 'A lamp is hanging above the table' <i>muraLi aindtu maNikku meel(ee) vandtaan</i> 'Murali came after 5 o' clock
<i>kiizh</i> <i>kiizhee</i>	The postposition <i>kiizh(ee)</i> when occurring after a noun in dative case, expresses inferior location 'below' and non-contact of two entities involved.	Inferior	<i>meecaikku-k kiizh(ee) oru peTTi irukkiRatu</i> 'A box is below the table'
<i>vaTakku</i> <i>teeRku</i>	The four directional nouns <i>vaTakku</i> ,	Directional location	<i>uurukku-k kizhakkeekaTal irukkiRatu</i> 'East of the town is

Postposition	Descriptive detail	Case relations /meaning	Example
<i>meeRku</i> <i>kizakku</i>	kizhakku, <i>teeRku</i> , and <i>meeRku</i> which denote the directions north, east, south, west respectively occur as postpositions to nouns in dative form expressing the four directional location.		the sea.
<i>uL</i> , <i>uLlee</i>	<i>uL</i> (<i>Lee</i>) occurs as a postposition express interior location in space 'inside, into' and time 'within, by'. Frequently <i>uL</i> (<i>Lee</i>) occurs as bound form especially with time nouns.	Interior location	<i>Raji viiTTukkuuL (Lee) poonaaL</i> 'Raji went into the house.' <i>rameeS indta vaarattiRkuL veelaiyai muTikka veenTum.</i> 'Ramesh has to finish the work within this week.'
<i>veLiye</i>	<i>veLiye</i> as a postposition expresses exterior location 'outside'.	Exterior location	<i>viiTTukku veLiye ore</i> <i>cattamaaka irukkiRatu</i> 'There is a lot of noise outside the house'
<i>pin</i> , <i>pinnaal</i> <i>pinpu</i> , <i>pindti</i>	<i>pin</i> , <i>pinnaal</i> , <i>pinpu</i> , and <i>pindti</i> as postposition to express posterior location in time and space 'behind, after'. The ablative case marker <i>irundtu</i> can occur with <i>pinnaal</i> .	Posterior location	<i>raam virundtukup pin/ pinaal/ pinpu/ pindti vandtaan.</i> 'Ram came after the feast.'
<i>kuRukee</i>	<i>kuRukee</i> as a postposition to express motion to an ulterior location 'across'.	Transverse location	<i>oru eli meecaikku kuRukee oTiyatu</i> 'A mouse ran across the table.'
<i>iTaiyil</i>	<i>iTaiyil</i> and <i>ndaTuvil</i> as postpositions express medial location 'between, in the middle of'.	Medial location	<i>uuruku ndaTuvil oru aaRu irukiRatu</i> 'There is a river in the middle of the town.'
<i>mun</i> , <i>munnaal</i> , <i>munpu</i> ,	<i>mun</i> , <i>munnaal</i> , <i>munpu</i> and <i>mundti</i> as postpositions express	Anterior location	<i>iraNTu maNikku munaal vaa.</i> 'Come before 2 'o' clock'. <i>enakku munpu ninRaana.</i> 'He

Postposition	Descriptive detail	Case relations /meaning	Example
<i>mundti</i>	anterior location in time and space 'before, in front of'.		stood in front of me'
<i>etiree</i>	<i>etiree</i> , <i>etirkku</i> , and <i>etiril</i> as postpositions express anterior location 'opposite'.	Citerior location	<i>viTTuku etiree orukoovil irukkiRatu</i> 'Opposite that house is a temple'
<i>etirkku</i> , <i>etitiril</i> , <i>etirttaaRpoola</i>	<i>etirttaaRpoola</i> occurs as a postposition to express anterior location 'opposite'.	Opposite	<i>koovilukku ettirttaaRpoola taNNiir toTTi irukiRatu</i> . Opposite the temple there is a tank.
<i>patilaaka</i>	<i>patilaaka</i> occurs as a postposition to express 'instead of'.	Substitution	<i>Cinimaavukku-p patilaaka-k kaTaRkaraikkup poovoom</i> 'We will go to the beach instead of cinema'
<i>aTuttaaRpoola</i>	<i>aTuttaaRpoola</i> occurs as a postposition to express adjacent location 'next'.	Near	<i>anta viiTTukku aTuttaaRpoola oru kaTai irukkiRatu</i> 'Next to that house is a shop.
<i>aaka</i> , <i>veeNTi</i>	<i>aaka</i> and <i>veeNTi</i>	Purpose	<i>avaLukku aaka/ veeNTi avan puttakam vaangkinaan</i> 'He bought book for her'

3.2.5.1.4. Accusative case + postpositions

The following table shows different postpositions occurring after accusative case their descriptive details and case relations along with examples.

Post Position	Descriptive details	Case relations	Examples
<i>kuRittu paRRi</i>	<i>paRRi</i> and <i>kuRittu</i> function as postpositions expressing 'about'.	About-relation	<i>raamu mozhiyiyalai kuRittu/paRRi peecinaan</i> . 'Ramu talked about linguistics'
<i>cuRRi</i>	<i>cuRRi</i> and <i>cuRRilum</i> occur as postposition expressing circumferential	Around-relation	<i>viiTTaic cuRRi caakkaTai irukkiRatu</i> 'There is a gutter around the house'

Post Position	Descriptive details	Case relations	Examples
	location 'around'.		
<i>paarttu</i> <i>ndookki</i>	<i>paarttu</i> and <i>ndookki</i> occur as postpositions expressing the direction of verbal or mental activity towards something denoted by NP to which they are postposed.	Towards-relation	<i>raji raajavaip paarttu/ndookki peecinaan.</i> 'Raji talked towards Raja'
<i>taaNTi</i>	<i>taaNTi</i> occurs as a postposition expressing ulterior location 'across'.	Across-relation (ulterior location)	<i>enkaLviiTu koovilai-t taaNTi irukkiRatu</i> 'Our house is located across the temple'
<i>tavirttu</i> <i>tavira</i> <i>ozhiya</i>	<i>tarvirttu</i> , <i>tavira</i> and <i>ozhiya</i> as postpositions expressing the meaning 'except, besides'.	Except-relation	<i>vikaasaittai tavirttu/tavira/ ozhiya veeRu yaarum varavillai.</i> 'Except Vikash no one else came'
<i>oTTi</i>	<i>oTTi</i> occurs as a postposition expressing the meaning 'in connection with, regarding'.	'In connection with' relation	<i>rameeS aaraayciyyai oTTi veLindaaTTukuc cenRaana</i> 'Ramesh went abroad in connection with research'
<i>viTTu</i>	<i>viTTu</i> occurs as a postposition to express source of motion 'from'	From	<i>kumaar viiTTai viTTu ooTinaan</i> 'Kumar ran away from the house'
<i>viTa</i>	<i>viTa</i> occurs as a postposition to express comparison 'than'	Than-relation	<i>rakiim raajaavai viTa uyaram</i> 'Rahim is taller than Raja'.
<i>poola</i> <i>maatiri</i>	<i>poola</i> and <i>maatiri</i> occur as postpositions to express comparison 'like'	Like-relation	<i>raajaa kuzhandtaiyai-p poola azhutaan</i> 'Raja cried like a child.'
<i>koNTu</i> <i>vaittu</i>	<i>koNTu</i> and <i>vaittu</i> express instrumental	Instrumental relation	<i>kumaar kattiyaik koNTu/ vaittu</i>

Post Position	Descriptive details	Case relations	Examples
	function otherwise expressed by the case suffix <i>aal</i> .		<i>pazhattai veTTinaan</i> . 'Kumar cut the fruit with a knife.'
<i>munniTTu</i>	<i>munniTTu</i> as a postposition expresses the meaning 'for, for the purpose of', in connection with'.	For- relation	<i>avaL kalyaaNattai munniTTu uurukkup pooyirukkiRaaL</i> 'She has gone to village for marriage'

3.2.5.1.5. Locative case + postpositions

The following table shows different postpositions occurring after accusative case their descriptive details and case relations along with examples.

Postposition	Descriptive etails	Case relations	Examples
<i>irundtu</i>	<i>irundtu</i> added after locative <i>-il</i> and other locative post positions gives the meaning 'from'	Source	<i>avan viiTTilirundtu veLiyeerinaan</i> 'He left the house' <i>avan marattin meelirundtu iRangkinaan</i> 'He got down from the tree'
<i>vaittu</i>	<i>vaittu</i> added after locative <i>il</i> gives the meaning 'at'	Locative	<i>avaL maicuuril vaittu avanaip paarttaaL</i> 'She saw her in Mysore'

3.2.5.2. Occurrence of postpositions and case markers denoting multiple argument relations

From all the above instances, it can be found that some of the postpositions occur more than in one context. The following chart will illustrate this.

S.No	Post Positions	Argument Relations
1.	<i>peril</i>	Topic, place, cause.
2.	<i>meel</i>	Place, topic, time
3.	<i>mattiyil</i>	Place, time, event
4.	<i>munnaal</i>	Place, time, event
5.	<i>pinnaal</i>	Place, time, event
6.	<i>uL</i>	Place, time, event
7.	<i>vaittu</i>	Place, instrument

S.No	Post Positions	Argument Relations
8.	<i>appuRam</i>	Place, time, event
9.	<i>piRaku</i>	Time, event
10.	<i>iTaiyil</i>	Time, place, event
11.	<i>ndaTuvil</i>	Time, place, event
12.	<i>koNTu</i>	Instrument, agency

3.2.5.3. Postpositions, cases and clitics

Some linguistics form function both as clitics and postposition depending on the situation. For example the form *kuuTa* may either be a postposition or a clitic. Consider the following sentences.

kamalaa tan aNNan kuuTa cinimaavukku vandtaaL.

'Kamala had come to cinema with her brother.'

kamalaa kuuTa cinimaavukku vandtaaL

'Kamala also came for the picture'

kuuTa in the first sentence show commutative relation and in the second sentence it is mere a clitic denoting emphasis. *kuuTa* in the first sentence can be replaced by the commutative markers *ooTu* and *uTan*, whereas in the second sentence it can be replaced only by the clitic *um*.

kamalaa tan aNNan-ooTu/uTan cinimavukku vandtaaL.

'Kamala came to cinema with her brother.'

kamalaavum cinimaavukku vandaaL

'Kamala too came to cinema'

The above can be rewritten as given below:

kamalaavum avaL aNNanum cinimaauukku vandtaarkaL.

'Kamala and brother came to cinema.'

kuuTa in the second sentence gives the sense also and it cannot be paraphrased as the sentence in commitative sense.

Function of clitics is as follows:

1.Temporal

avaL vandta uTan ndaan pooneen. 'I went immediately after she came.'

2.Emphasis

ndaan taan ceyteen 'I myself did'

3.Co-ordinator

ndaanum avaLum poonoom. 'I and She went'

4. Concessive

avaL kuTac ceyvaaL 'Even she can do.'

Thus, a clitic may roughly be said as following: A clitic is a linguistic form which can occur with almost all constituents of a sentence, except noun attributes and which has varied function such as emphasis, concession, co-ordination etc.

3.2.5.4. Summing up of postpositions and their meaning interpretations

The following table depicts different postpositions and their interpretations.

Preposition/case suffix	Case/ postpositional phrase	Meaning Interpretation	Example
-ai	NP-oblique	Objective case relation	<i>avaL avan-aip paarttaaL.</i> 'She saw him'.
-aal	A set of NPs containing human instigator + -aal	Agent	<i>avan avaLaal kollappaTTaan.</i> 'He was killed by her'.
-aal	A set of NPs containing natural force, etc. + -aal	Means	<i>avan atai tiyaal veekavaitaan.</i> He cooked it with fire.
-aal	A set of NP having instrumental nouns + -aal	Instrument	<i>avan kattiyaal aappiLai ndaRukkinaan.</i> He cut the apple with knife.
koNTu/vaittu	A set of NPs having instrumental nouns + koNTu/vaittu	Instrument	<i>avan aappiLai katti koNTu/vaittu veTTinaan</i> 'He cut the apple by a knife'
-ukku 'to'	Oblique NP + ukku	Goal	<i>avan cennaikku vandtaan</i> 'He came to Chennai'
-ukku 'at'	Oblique NP + ukku	At-temporal relation Dimension 0	<i>avan pattumaNikku paLLikkuTam cenRaam</i> 'He went to school at 10 o' clock.'
-il	A set of spatial oblique NPs + -il	At-spatial relation Dimension 0	<i>avan pas ndiRuttumiTattil ndiRkiRaam</i> 'He is standing at the bus stop'
-il	A set of spatial oblique NPs + il	In-spatial relation Dimension 1/2 Area	<i>ivvulakil candtooSam illai</i> 'There is no fun in the world'
-il	A set of spatial NPs oblique NPs + -il	Into-spatial relation Dimension 2/3 Volume	<i>peTTiyil paNam illai</i> 'There is no money in the box'
	A set of temporal	Within	<i>avan oruvaarattil andta</i>

Preposition/case suffix	Case/ postpositional phrase	Meaning Interpretation	Example
	oblique NPs + <i>-il</i>		<i>veelaiyai ceytu muTittuviTuvaan</i> 'He will complete the work within five weeks'
<i>-il</i>	Temporal NP + <i>il</i>	During	<i>avan veyyal kaalattil kuuTaaratil irundtaan</i> 'He camped there for summer'.
<i>meel</i> 'on'	A set of spatial NP in oblique NP+ <i>meel</i>	Superior spatial relation	<i>avan penjcin meel uTkaarndirukkiRaana</i> 'He is sitting on the table'
ϕ	A set of spatial NPs + ϕ	On-temporal relation	<i>avan tingkaL kizhamai vandtaan</i> 'He came on Monday'
<i>-ukku</i>	A set of temporal oblique NPs + <i>ukku</i>	At-temporal relation	<i>avan aaRu maNikku vandtaan</i> 'He came at six o'clock'
<i>meel</i> 'on, above'	NP- <i>ukku</i> or oblique NP + <i>meel</i>	Superior spatial relation	<i>atu avan talaikku meel tongkukiRatu</i> 'It hangs above his head.'
<i>kiizhee</i> 'under, below'	NP- <i>ukku</i> or oblique NP + <i>kiizh/ kiizhee/ aTiyil</i>	Inferior spatial relation	<i>meecaikku aTiyil ndaay uTkaarndu irukkiratu</i> 'The dog sits under the table.'
<i>mun, munnaal</i> 'in front of'	Spatial NP- <i>ukku</i> or oblique NP + <i>munnaal</i>	Anterior spatial relation	<i>meecaikku mun/munnaal ndaay uTkaarndu irukkiRatu.</i> 'The dog sits in front of the table'.
<i>mun, munnaal</i> 'in front of'	Spatial NP- <i>ukku mun/ munnaal</i> +	Anterior spatial relation	<i>avan viiTiRku munnaal ndiRkiRaana</i> 'He was standing before the house'
<i>mun / munnaal munnar</i> 'before'	Temporal NP- <i>ukku</i> + <i>mun / munnaal</i> +	Anterior time relation	<i>avan aindtu maNikku mun/ munnaal/ munnar vandaan</i> 'He will come before five o'clock.'
<i>pin, pinnaal</i> 'behind'	behind + Spatial NP	Posterior spatial relation	<i>avan andta kaTTiTattiRkup pinnaal / pin ndiRkiRaana.</i> He was standing behind the building
<i>pinnaal, pin piRaku</i> 'after'	NP- <i>ukku</i> + <i>pin/ pinnaal piRaku</i>	Posterior time relation	<i>avan aindtu maNikkup piRaku /pinnaal/ pin vandtaan</i> He came after five o'clock
<i>il + irundtu</i> 'since'	NP- <i>il</i> + <i>irundtu</i>		<i>avan ndeeRilirundtu uTaIndalamillaamal irukkiRaana</i> 'He was sick since yesterday.'

Preposition/case suffix	Case/ postpositional phrase	Meaning Interpretation	Example
<i>varai</i> 'until, till'	Temporal NP + <i>varai</i>	Until-temporal relation	<i>avan panniraNTu maNi varai vizhittirundtaan</i> 'He was awake till ten o' clock'
<i>iTam</i> 'to'	Oblique NP + <i>iTam</i>	Goal/Benefactive	<i>avan avaL-iTam mootiram koTuttaan</i> 'He gave the ring to her.'
<i>irundtu</i> 'from'	1. oblique NP- <i>il</i> + <i>irundtu</i> 2. oblique NP + locative postpositions + <i>irundtu</i>	Source	<i>avan cennaiyil irundtu vandtaan</i> 'He came from Chennai' <i>viiTTin kuurai meel irundtu</i> 'From the roof of the house'.
<i>irundtu</i> 'from'	Temporal NP- <i>il</i> or NP + <i>irundtu</i>	From-temporal relation	<i>avan pattu maNiyilirundtu veelai ceykiRaan</i> 'He worked from five o' clock to 10 o' clock.'
<i>iTaiyil</i> 'between'	NP- <i>ukku</i> + <i>iTaiyil</i>	Interior spatial relation.	<i>tuuNkaLukku iTaiyail avan ndiRkiRaan</i> 'He is standing between two pillars.'
<i>vazhiyaaka</i> 'through'	Spatial NP + <i>vazhiyaaka</i>	Path	<i>avan kaaTuvazhiyaa cenRaan.</i> 'He went through the forest.'
<i>uL</i> 'within'	Temporal NP- <i>ukku</i> + <i>uL</i>	Interior temporal relation	<i>avan andta veelaiyai iraNTu ndaaTakaLukkuL muTituuviTuvaan</i> 'He will finish the work within two days.'
<i>muzhuvatu m</i> 'through out'	Spatial NP + <i>muzhuvatum</i>	Pervasive	<i>avan avaLai cennai muzhuvatum teeTinaan</i> 'He searched for her through out Chennai'.
<i>muzhuvatu m</i> 'throughout'	Temporal NP + <i>muzhuvatum</i>	Pervasive	<i>avaL tan paaTangkaLai iravu muzhuvatum paTittaaL</i> 'She studied her lessons through out night.'
<i>ooTu, uTan</i>	a set of NPs + <i>ooTu/ uTan</i>	Accompaniment	<i>avan avaL -ooTu/ uTan/ kuuTa cenRaan</i> 'He went with her'
<i>aaka</i>	NP- <i>ukku</i> + <i>aaka</i>	Purpose	<i>avan paNattiRk-aaka ataic ceytaan</i> 'He did it for money.'

Preposition/case suffix	Case/ postpositional phrase	Meaning Interpretation	Example
<i>aaka</i>	NP- <i>ukku</i> + <i>aaka</i>	Recipient	<i>avan</i> <i>avaL-ukk-aaka</i> <i>puntakangkaL vaangkinaan</i> 'He bought the books for her.'
<i>aaka</i>	NP- <i>ukku</i> + <i>aaka</i>	Support	<i>avaL en-akku-aaka pazhangkaL</i> <i>vaangkinaaL</i> 'She bought mangoes for me'

3.2.6. Coordination of phrases

Coordination as we have seen in the case of English, refers to the process of conjoining two or more elements of equal categorical status of the three syntactic levels – word, phrasal, sentential - to one conjoined structure, in which all elements have equal status or rank.

$N + N \leftrightarrow N$

$NP + NP \leftrightarrow NP$

$S + S \leftrightarrow S$

Tamil employs two types of coordinators

1. The clitics *um* 'and' and *oo* 'or' and *aa* (whether) or', all of which occur after each element conjoined.
2. Free forms, that is co-coordinating conjunctions occurring in-between the elements conjoined:
allatu 'or', *illaiyaanaal* 'or', *aanaal* 'but'

For the convenient of discussion the following three types of co-ordination can be distinguished:

1. 'and' coordination – unmarked conjunction
2. 'or' coordination – disjunction
3. 'but' coordination – adversative conjunction

3.2.6.1. 'And' coordination

The 'and' coordination in Tamil can be represented as follows:

$X\text{-um} + X\text{-um} \rightarrow X$

X represents the lexical categories such as nouns, verbs, postpositions, and adverbs and

phrasal categories such as noun phrases, postpositional phrases and clauses such as infinitive clauses and verbal participle clauses.

1. Noun coordination:

NP \leftrightarrow N-um + N-um

umaavum uSaavum paLLikkup poonaarkaL

‘Uma and Usha went to school’

2. Postposition coordination:

PP \leftrightarrow NP-ukku + P-um + P-um

viiTTukku munnaalum pinnaalum marangkaL niRkinRana

‘There are trees in front and at the back of the house’

3. Adverb coordination:

Adv-um + Adv-um \leftrightarrow AdvP

kaNNan angkum innngum alaindtaan ‘Kannan walked here and there’

4. Noun phrase coordination:

NP \leftrightarrow NP-um + NP-um

kaNNan oru tooaiyum iraNTu iTTaliyum caappiTTaan

‘Kannan ate one dosa and two idlies’

5. Postpositional phrase coordination:

PP \leftrightarrow NP-ukku P-um + NP-ukku + P-um

koovilukku munnaalum paLLikku pinnaalum aaTkaL ndiRkiRaarkaL

‘There are people in front of the temple and at the back of the school’

6. Infinitive clause-coordination:

NP... V-INF-um + V-INF-um V-FIN

KaNNan meeTaiyil aaTavum paaTavum toTangkinaan

‘Kumar started dancing and singing on the stage’

7. Verbal participle clause coordination:

NP + Verbal participle-um + Verbal participle-umV-FIN

kamala meeTaiyil aaTiyum paaTiyum pizhaikkiRaaL

‘Kamala earns livelihood by dancing and singing on the stage’

3.2.6.2. ‘Or’ coordination

There are five ‘or’ coordinators in Tamil:

1. The co-ordinating conjunction word *illaiyenRaal* ‘or’
2. The coordinating conjunction word *allatu* ‘or’
3. The clitic *oo*
4. The clitic *aavatu*
5. The interrogative clitic *aa*

The coordination can be represented by the following rules.

$X + illaamal + X$	$\leftrightarrow X$
$X + allatu + X$	$\leftrightarrow X$
$X-oo + X-oo$	$\leftrightarrow X$
$X-aavatu + X-aavatu$	$\leftrightarrow X$
$X-aa + X-aa$	$\leftrightarrow X$

Nouns, postpositions, adverbs and quantifiers can be coordinated by the four types of coordinators listed above. Adjectives can be conjoined with the two coordinating conjunctions *illaiyenRaal* and *allatu*.

Noun coordination:

$NP \leftrightarrow N + Coord N$

kaNNanin tangkai illaiyenRaal/allatu tampi ingkee varuvaarkaL

‘Kannan’s sister or brother will come here’

kaNNanin tangkaiyoo tampiyoo ingkee varuvaarkaL

‘Kannan’s sister or brother will come here’

KaNNanin tangakaiyaavatu tampiyaavatu ingkee varuvaarkaL ‘Kannan’s sister or brother will come here’

Adverb coordination: Type of ‘or’ coordination

$AdvP \leftrightarrow Adv + Coord + Adv$

kaNNan ingku illaiyenRaal/allatu angku varuvaan

‘Kannan will come here or there’

Quantifier coordination

$Quan + Coord + Quan \leftrightarrow Quan P$

avaL konjcam illaiyenRaal/allatu atikam caappiTuvaal

‘She will eat less or more’

3.2.6.3. 'But' coordination

The 'but' coordinator in Tamil consists of the conjunction word *aanaal* 'but', which occurs in-between the two elements conjoined, as represented by the following:

$$X \text{ aanaal } X \rightarrow X$$

X represents adjectives, nouns+aaka, postpositional phrases, adjectival clauses, and finite clauses.

1. Adjective coordination:

Adj P \leftrightarrow Adj *aanaal* + Adj
avaL azhakaana aanaal aapattaana peN
 'She is beautiful but dangerous woman'

2. Noun-aaka coordination:

Adv P \leftrightarrow Adv + *aanaal* + Adv
avaL viraiyaaka aanaal kavanamaaka ndaTandaaL
 'she walked fast but carefully'

3. Postpositional phrase coordination

PoP \leftrightarrow NP-*ukku* + Po + *aanaal* + NP-*ukku* + Po
avaL aindtu maNikkup piRaku aanaal aaRu maNikku mun vandtuviTuvaaL 'She will come after five but before six o'clock'

4. Adjectival clause coordination:

V-RP + *aanaal* + V-RP \leftrightarrow [V-RP + *aanaal* + V-RP] Adj Cl
enakku ndalla pazhutta aanaal azhukaata pazhangkaL piTikkum
 'I like well ripped but not rotten fruits'

5. Finite clause coordination:

NP...V-FINITE + *aanaal* ...V-FINITE \leftrightarrow [NP...V-FINITE + *aanaal* ...V-FINITE] S
avaL ingku vandtaaL aanaal enniTam peecavillai
 'She came here, but did not talk to me'

3.3. Constituent structure of clauses

Tamil resorts to coordination and subordination for building compound and complex

constructions. Tamil has a large system of complex sentence formation involving the embedding or adjoining of a clause into another sentence. When a clause is embedded into or adjoined to the structure of another sentence in Tamil, it is either embedded as co-constituent or complement to the left of a head constituent (i.e. complementation) or it is embedded into a noun phrase as sole constituent of the noun phrase (nominalization).

3.3.1. Complementation

Four types of complementation can be distinguished in Tamil

1. Noun phrase complementation
2. Postpositional phrase complementation
3. Predicate complementation
4. Adjoined complementation

The following table depicts the four types of complementation with description, pattern and example.

Noun phrase complementation :

A clause can be embedded into a noun phrase as complement to the left side of a head or head noun phrase.

$NP \leftrightarrow S + NP$

[[*kuTiyirukka*]S [*vacatiyaana viiTu*]NP]]NP

'the house to live comfortably'

Postpositional complementation:

A clause can be embedded into a postpositional phrase as complement or argument to the left side of the postpositional head.

$PP \leftrightarrow S + P$

[[*avanai paartta*]S *pinnar*]]PP

Predicate complementation:

A clause can also be embedded into a sentence as complement to the left side of the verbal predicate.

$S \leftrightarrow NP + S + V$

[[*avan*]NP [*marattilirundtu oru maangkaay vizhak*]S [*kaNTaan*]VP]]S

Adjoined complementation:

A clause can be adjoined to the left side of the matrix sentence.

$S \leftrightarrow S + S$

[[*kaNNan kallaal aTikka*]S [*maratilirundtu maangkaay vizhundtatu*]S]S

Tamil employs the following devices to mark complementation:

1. Non-finite and nominalized verb forms

umaa jappaan pooka virumpukiRaaL

Uma Japan go_INF like_PRES_PNG

‘Uma wants to go to Japan’

ndeeRRu avaL paaTinatai ndaan keeTTeen

yesterday she sing_PAST_RP_NOM I hear_PAST_PNG

‘I heard her singing yesterday’

2. Complementizing verbs

KaNNan ndeeRRu vandtaan enRu aRindteen

Kannan came_PNG COM know_PAST_PNG

‘I heard that Kannan came yesterday’

3. Complementizing nouns

Most of the complementizing nouns belong to the semantic category of time, manner, or measure and express thus various temporal, manners, etc. relations between the embedded clause and the matrix clause

3.3.2. Nonfinite clauses

There are four types of non-finite clauses in Tamil.

1. Infinitive clause
2. Verbal participle clause
3. Conditional clause
4. Adjectival clause

3.3.2.1. Infinitive clauses

Infinitive form has been introduced by adding the infinitive marker *a* to the verb stem. As a tense less verb form, the infinitive form is an appropriate verb form to occur in complements whose time reference is determined by the meaning or time reference of the complement taking predicate.

NP + [...V-INF]S + V-FINITE
 kaNNan viiTukkup pooka virumpinaan.
 'Kannan house_DAT go_INF wanted_he
 'Kannan wanted to go home'

The infinitive clauses, which are headed by an infinitive form of a verb, are embedded in a number of combinations in the formation of sentences.

Complement to verbs:

The infinitive clause occurs as a complement to verbs and depending on the matrix verb with which it is collocated it imparts meaning to the combinations.

kaNNan amaiccarai azhaikka virumpinaan
 'Kannan wanted to call the minister'

Complement to elocutionary verbs:

The elocutionary verbs such as *col* 'say' complement an infinitive clause.

NP + Infinitive clause + *col* type of verbs
 kumaar avaLai varac connaan 'Kumar asked her to come'

Complement to verbs of perception:

Certain verbs of perception, complement an infinitive clause.

NP + Infinitive clause + certain verbs of perception
 kaNNan avaL ankee ndiRkap paarttaan
 'Kumar saw her standing there'

Complement to certain auxiliary verbs denoting mood, aspect, etc:

The infinitive verbal form of the infinitive clause is collocated with a number of auxiliary verbs such as *paTu*, *cey*, *paNNu*, *vai*, *poo*, *iru*, *veeNTu*, *kuuTum* to impart secondary meanings such as aspect, mood etc.

NP + Infinitive clause + a set of auxiliary verbs
 avaL kuzhandtaiyai tuungka ceytaaL/ paNNinaaL
 'she made the child sleep'

Complement to noun phrases:

A noun phrase can also complement an infinitive clause.

NP+Infinitive clause +NP

kaNNanukku avaLaip paarkka neeram illai

‘Kannan did not have time to see her’

Infinitive clause as adverbial:

The infinitive clause containing the infinitive form of a verb as its head can be adjoined to or embedded into a main clause with adverbial function. The adverbial function could be purpose, cause, time and result.

NP + Infinitive clause + V

avan avaLaip paarkka eNNinaan ‘He thought of seeing her.’

Purpose

kaNNan caappiTac cenRaam ‘Kannan went to eat food’

Cause

kal eRiya kani vizhundtatu

‘As the stone was thrown at the fruit, it fell down’

Time

kaNNan tuungka raatai paaTinaaL

‘While Kannan was sleeping, Radha sang.’

Result

vaay valikka avaL peecinaaL ‘She talked so that her mouth pained’

Infinitive as Optative

The infinitive form can occupy the final position of a sentence i.e. infinitive clause can occur as a finite clause while expressing optative sense.

Infinitive clause

avaL talaiyil iTi vizha ‘Let the thunder fall on her’

Infinitive with Interrogative words

The infinitive form can occupy the final position in a sentence, that it can function as a finite clause when collocated with interrogative words.

... Interrogative word + Infinitive

ndaan enna ceyya? ‘what should I do’

Infinitive clause+aa

Infinitive added with the interrogative suffix can occupy the final position in a sentence. **Infinitive clause-aa**

ndaan varavaa? ‘Shall I come?’

Immediateness in an action followed by another action

Infinitive form can express that an action is followed by another action immediately or as a consequence of the first action.

ndaan tara avan vaangkikkoNTaan

‘As soon as I gave him, he received it’

Simultaneity in the action

The infinitive clause can be embedded in a matrix clause in such a way that the event expressed both by the embedded verb and the matrix verb occurs simultaneously.

Infinitive clause + S

avan paaTa avaL aaTinaaL ‘While he sang, she danced’

Infinitive+um

When the clitic *-um* is added to the infinitive form of a verb of an infinitive clause, it will express that the event denoted by the matrix verb follows the event denoted by the infinitive verb immediately.

Infinitive clause-um + S

talaivar varavum vizhaa toTangkiyatu ‘As soon as the president came the function was started’

Repetitive action

The infinitive form of an infinitive clause can be reduplicated so that the event can be visualized as if they are repeated

maram veTTa veTTa tuLirttatu ‘Even though the tree is cut repeatedly, it sprouted’

3.3.2.2. Verbal participle clauses

The Verbal participial clauses are those whose head is a verb in verbal participle form. The verbal participial form is having the following morphological structure:

Verb+PAST/Negative +Verbal participial suffix

There are two types of verbal participles: a positive and a negative. The structure of the positive verbal participle has been represented as given below:

verbs stem + past tense marker + verbal participle suffix.

umaa avanaip paarttu cirittaaL

‘Having looking at him Uma smiled’

The structure of the negative verbal participle is as given below:

1. verb stem + negative suffix *aa* + verbal participle suffix *mal*
2. verb stem + negative suffix *aat* + verbal participle suffix *u*

kalaa viiTTukkup pookaamal koovilukkuc cenRaaL

‘Having not gone to house, Kamala went to temple’

A simple verbal participle clause shows the following structural pattern

NP + [... V-PART]S + V-FINITE

Verbal Participle as adverb: Certain verbal participle forms of the verbs have lexicalized as adverbs

varai 'go fast' *viraindtu* 'fast'
kaTi 'reprove' *kaTindtu* 'reprovingly'

Verbal participle form with auxiliary verbs: Verbal participle form of a main verb combines with one or two or a series of auxiliary verbs such as *iru*, *koL*, *poo*, *viTu*, *aruL*, *aaku*, *paar*, etc. denoting aspectual meaning, modal meaning, etc. (see verbal compounding for details).

avan viiTTukku vandt-irukkiRaana 'He has come home'

Sequential events: Verbal participle form can be used to link one or more events expressed by verbs. The participle forms can be given side by side or can be separated by other words. Even the auxiliary verbs take verbal participle form to link with other verbs.

kaNNan uurunkup pooy vandtaan
'After having gone to village, Kannan came back'

Verbal participle form as the part of an event: There are instances in which the verbal participle form is the part of an event.

avan puttakattai eTuttuk koTuttaan
me' 'After having taken the book, he gave

Simultaneous event: Verbal participle form can link verbs, which denote events that take place simultaneously.

avar vaNTiyai ooTTic cenRaara 'He went by driving the cart'

Reason or cause: Verbal participle form can be used to link an event which is a cause with another event which is the effect of the first event.

avan paampu kaTittu iRandtaan 'Having bitten by snake he died'

State: The verbal participle forms can be used to denote the state of the subject of an event.

kuLam taamarai puuttu, alli malarndtu kaaNappaTTatu
'The pond is seen with blossomed lotus and Lilly'

Repetitive event: The reduplicated verbs can be linked by verbal participle forms to the main verb and the event will be shown as being repeated for many times.

avan ceTiyai veTTi veTTi eRindtaan

‘He cut the plants repeatedly and threw them out’

Condition: The verbal participle forms, *inRi* and *anRi* of the negative verb *il* and *al* respectively function as postpositions expressing the meaning ‘without’ and ‘except’.

ndii inRi andtak kaariyam ndaTaipeRaatu

‘Without you that matter will not be promoted’

Negative verbal participle form (*..V-aamal*) implies different shades of meaning depending on the contextual use of it. The structure of the clause is:

[...V-aamal]S

Reason/Cause: [...V-aamal]S implies reason or cause in certain contexts.

mazhai peyyaamal payirkaL karukina

‘The crops withered as it did not rained’

Manner: [...V-aamal]S implies manner in some contexts.

taNNiiraic cindtaamal eTuttuvaa ‘Bring the water without spilling’

State: [...V-aamal]S implies a state in certain contexts.

avar kaNNaaTi aNiyaamal vandtaar

‘He came without wearing spectacle’

Accompaniment: [...V-aamal] S implies the non-occurrence of an event when collocated with another event as if they are co-occurring.

kaNNan paTikkaamal uTkaarndtirukkiRaana

‘Kannan is sitting without studying’

Condition: [...V-aamal]S can imply condition in certain context. The conditional meaning will be felt only if the matrix verb is in interrogative form or negative form.

paTikkaamal teervil veRRi kiTTumaa?

‘Can one get success in the examination without studying?’

4.3.2.3. Conditional clauses

A simple conditional clause shows the following pattern.

[...V-COND] S

Tamil distinguishes between positive and negative conditional forms. The structure of the positive conditional form is as given below:

1. Positive conditional clause:

Verb stem + Past tense suffix + conditional suffix *aal*

umaa kuuTa vandtaal ndaan cinimaavukkup pooveen

'If Uma accompanies me, I will go to cinema'

2. Negative conditional clause

Verb stem + negative suffix *aa* + conditional bound form *viTTaal*

umaa kuuTa varaaviTTaal ndaan cinimaavukkup pooka maaTTeen. 'If Uma does not accompany me, I will not go to cinema'

The following table shows different types of conditional clauses:

Conditional clause with question words: Conditional clause can be followed by question word like *enna*

ndii ennooTu vandaal enna? 'Why don't you come with me?'

Conditional clause with clitic *taan+ee*: Conditional clause can be complemented by a combination two clitics, *taan+ee*, whose function is emphasis. The first conditional clause functions as an adverbial clause and the second conditional clause denote non-occurrence of the event denoted by the verb of the main clause.

ndaan connaal avaL keeTTaal taanee

'If she has only listened when I told her'

Probable and improbable conditional clauses: Conditional clauses are generally interpreted to mean the probability of occurrence of the events denoted by verbs in conditional form. A conditional clause can also be interpreted as a hypothetical situation that does not occur.

mazhai peytaal tuNi ndanaiyum 'If it rains the cloth will become wet'

ndaan oru mandtiriyaayirundaal paNakkaaran aayirupen

'If I were a minister I would have become a rich man'

Counter factual conditional clause + S: Conditional clause can refer a counter factual situation when the conditional verb is of the form V+PAST/NEG+PAR+iru+PAST+COND.

kaNNan paTittirundtaal teervu ndanRaay ezhutiyiruppaan

‘Had Kannan studied he would have written the examination well’

Conditional Clause + elliptical main clause: An elliptical main clause can embed a conditional clause.

avaL angkee poonaal avamaanam ‘It is a shame if she goes there’

Conditional + taan: The clitic *taan* added to the conditional will emphasize on the condition.

avaL paaTindaal taan kuzhandtai tuungkum

‘Only if she sings the child will sleep’

Conditional clause + aavatu : The clitic *aavatu* added to the conditional clause may imply that the subject of the embedded clause is unwilling to perform the event denoted by the conditional verb.

avaL vandaalaavatu avaLiTam koTukkalaam

‘It would have been given to her if she had come’

Conditional + ozhiya: The postposition *ozhiya* added to the conditional clause express negative conditionality.

kaNNan ingku vandtaal ozhiya onRum ndaTakkaatu

‘Nothing will happen unless until Kannan came’

Conditional clause+ um: When clitic *-um* is added with conditional clause, it will be interpreted as concessive conditional.

avaL ingku vandaalum kaariyangkaL onRum ndaTakkaatu

‘No matter will be settled even if she comes here’

Indefinite concessive clause: When conditional clause carries the verb of the form V+PAST+COND+um collocated with a subject in interrogative pronominal form, it will imply indefinite concession.

yaar vandtaalum ndaan payappaTamaaTTeen

‘Who so ever comes, I will not be afraid’

Alternative condition: Two conditional clauses can be conjoined by the clitic *um*.

avaL vandtaalum avan vandaalum enakku nallatutaan
‘Whether she comes or he comes, it is good to me’

Appellative conditional clause : Conditional suffix can be added with the appellative verb *al* to form *allaal/allaamal* which can be added to a noun as a postposition.

ndii allaal/allaamal teyvam illai ‘Except you there is no other god’

S + enRaal: The conditional form, *enRaal*, of the verb *en* ‘say’, when added to a sentence will embed a sentential statement as a condition.

mazhai peyyavillai enRaal payirkaL karukiviTum
The crops will wither if it does not rain’

Concessive clause + S: When clitic *-um* is added to verbal participial form, it will imply the non-occurrence of the event denoted by embedded clause in spite of the occurrence of the event denoted by the main clause.

mazhai viTTum tuuRal niRkavillai
‘Though the rain is over it does not stop drizzling’

Conditional concessive clause + S: When clitic is added to conditional form, it will imply the non-occurrence of the event in the past denoted by the embedded clause. *If* may imply the non-occurrence of the event in the future.

kaNNan paTittaalum teervil veRRi peRavillai ‘Even though Kannan studied well he did not get success in the examination’
mazhai vandtaalum vizhaa ndaTaipeRum
‘Even if it rains, the function will be held.’

3.3.2.4. Adjectival/relative clauses

A simple adjectival/relative clause shows the following structural pattern.

$[[\dots V_TENSE/NEG_RP]Adj P + NP]NP$

Tamil distinguishes four types of adjectival participles: three marked for the three tenses and a tenseless negative one. The structure of these adjectival participles is given below:

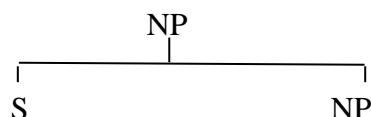
Verb stem + Past/Present/Negative suffix *aat* + adjectival suffix *a*

In the case of future adjectival participle the following is the structure:

A TRANSFER GRAMMAR FOR ENGLISH-TAMIL MACHINE TRANSLATION
Prof. Rajendran Sankaravelayuthan and Dr. P. Kumaresan

Verb stem + suffix *um*

um represents both future tense and the adjectival morpheme. The adjectival participle is thus only tensed non-finite verb form. Syntactically, an adjectival clause occurs always in noun phrase complementation. As a complement, the relative clause comes at the left side of a head noun.



ndeeRRu ingkee vandta antdap paiyanai ndaan ndeeRRu paartteen

Yesterday here come_PAST_RP boy_ACC I yesterday saw_I

‘I saw the boy who came here yesterday’

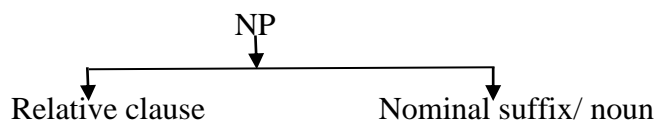
ndiingkaL kaalaiyil vaangkina paalai kuzhndtai kuTittuviTTatu

you_PL morning_LOC buy_PAST_RP milk_ACC child drank_PNG

3.3.3. Nominalized clauses

There are two types of nominalization in Tamil: nominalization on relativized forms and nominalization on non-relativized forms (i.e. directly to the verb stem).

1. The relative clause is nominalized by a noun or nominal suffix
2. The non-relativized forms nominalized by a noun or nominal suffix



1. Relative clause + noun ↔ NP

ndaan vaLartta ndaay

I bring up_PAST_RP dog

‘the dog brought up by me’

2. Relative clause + nominal suffix *atu* ↔ NP

[*avan vandatu*]NP *enakkut teriyaatu*

he come_PAST_RP _NS know_not

‘I did not know that he came’

3. Relative clause + pronominalizer (*avan, avaL, atu, avai/ana*) ↔ NP

neeRRu vandtavan

yesterday come_PAST_RP_he

‘one who came yesterday’

ndeeRRu vandtatu

yesterday come_PAST_RP_it

2. The verbal stem (untensed stems) are nominalized by the suffixes *tal*, *al*, *kai*, and *mai*.

varu ‘come’ + *tal* > *varutal* ‘coming’

varu ‘come’ + *al* > *varal* ‘coming’

varu ‘come’ + *kai* > *varukai* ‘coming’

varu ‘come’ + *aa* (negative suffix) + *mai* > *varaamai* ‘not coming’

All the nominalized forms are capable of embedding a sentence. Though they mean ‘the act or process of doing something’, they differ in their distribution.

kaalaiyil ezhundu kuLittal ndallatu ‘It is good to bathe early in the morning’

kaalaiyil ezhundtu kuLikkal-aam ‘One can bathe in the morning’

kaalaiyil ezhundtu kuLikkal veeNTum

‘One should take bathe in the morning’

avaL kaalaiyil ezhundt kuLikkaiyil avan avaLai paarttaan

‘He saw her while she was taking bath’

3.3.4. Verbal complement clauses

The verbal complement clauses will be complemented by the verbs such as *en*, *col*, *kuuRu*, *ndinai*. These verbs will be conjoined to the embedded clause by complementizers such as *enRu*, *ena*, and *aaka*.

***enRu* and *ena* can complement an S in finite clause.:**

NP + Finite clause + *enRu/ena* + *kuuRu*-type of verbs

kaNNan ndaaLai varukiReen enRu/ena kuuRinaan

‘Kannan said that he would come tomorrow’

The complementizer *aaka* can embed a sentence when the verb is changed into gerundial form (i.e. V-*atu* clause). The gerundial form to which *aaka* is added has the constraint that only those gerundial forms inflected for past and present tense can be complemented by *aaka*. The gerundial forms inflected for future tense cannot be complemented by *aaka*. The defective verbs which are inherently inflected for future tense suffix *-um* such as *kuuTum*, *veeNTum*, *teriyum*, *piTikkum* cannot take *aaka* as a complementizer.

NP + V-*atu* clause + *aaka* + *kuuRu* type of verbs

kaNNan ndaaLai varuvataakak kuuRinaan

‘Kannan said that he would come tomorrow’

Like the quotative verbs such as *kuuRu*, *col* and *en*, other verbs also can embed a complement clause with finite verb with the help of a complementizer *enRu*.

NP+ *enRu* + S

avan kaTTurai ezutalaam enRu uTkaarndtaan

‘He sat down so that he can write an article’

***enRu* can complement a noun.:**

NP+ *enRu* + S

kampan enRu oru kavi irundtaan ‘There was a poet named Kamban’

enRu can complement an elliptical sentence having only dative form of a noun or only defective verbal forms such as *veeNTum*.

NP-*ukku* + *enRu* + S

avarukku enRu onRum illai

‘There this nothing for him’

eezhai enRu yaaraiyum kuRaivaaka ndinaikkaatee

‘Do not think bad of one who is poor’

veeNTum enRu avan itai ceyyavillai ‘He did not do it intentionally’

The verb *en* can be a finite verb embedding an S:

NP + S + *en*

kaNNan ndaaLai varukiReen enRaana

‘Kannan said that he would come tomorrow’

3.3.5. Comparative clauses

In Tamil comparison is brought out by making use of simply postpositions like *poola* and *viTa/kaaTTilum*. *poola* is used for bringing out similarity and *viTa* and *kaaTTilum* for dissimilarity. Tamil makes use of pronominalized forms of adjectives instead of adjectives.

rooci avaL cakootiriyai poola aarookkiyamaanavaL

‘Rosy is as healthy as her sister’

rooci avaL cakootiriyai kaaTTilum/viTa kuRainda aarookkiyamaanavaL

‘Rosy is less healthier than her sister’

poola, *poonRu*, *maatiri*, *viTa*, *kaaTTilum* as complementizers can complement a

sentence for bringing out comparison. There are two sets in this category of complementizers: complementizers for expressing similarity and (ii) complementizers expressing difference. The complementizers, *poola*, *poonRu* and *maatiri* belong to the first type and the complementizers, *viTa* and *kaaTTilum* belong to the second type.

3.3.5.1. Complementing similarity

The complementizers such as *poola*, *poonRu* and *maatiri* can be used to express similarity. The verb of the complement clause will be in gerundial form, which could be inflected for all the three tenses.

avaL maan ooTukiRatu poola/poonRu/maatiri ooTukiRaaL
 she deer run_PRES_it_ACC similar run_PRES_she
 ‘she runs like a deer’

The verb in the embedded clause can be deleted.

avaL maan poola/poonRu/maatiri ooTukiRaaL
 she deer similar run_PRES_she
 ‘She runs like a deer’

Among the three complementizers mentioned above, *maatiri* can be collocated with verbs in relative participle form.

avaL maan ooTukiRa maatiri ooTukiRaaL
 she deer run_PRES_RP similar run_PRES_she
 ‘She runs like a deer’

poola and *poonRu* can be collocated with the verbs in conditional form marked with -aal and inflected for past tense.

avaL maan ooTinaaRpoola ooTukiRaaL
 she deer run_PRES_RP similar run_PRES_she
 ‘she runs like a deer’

There are instances in which the comparison is metaphorical or simile in which the verb denoting the embedded event differs from the verb denoting the matrix event.

avan iTi iTittaaRpoola uNarndtaan
 he thunder thunder_PAST_COND similar feel_PAST_he
 ‘he felt as if it has thundered’

avan vandtatu teyvamee vandtaaRpoola irundtatu
 he come_PAST_it god_EMP come_COND_similar be_PAST_it
 ‘His coming is like that of the coming of the god’

avanukku teeL koTTiya maatiri irundtatu
 he_DAT scorpion bite_PAST_RP similar be_PAST_it
 'he felt as if he was bitten by a scorpion'

3.3.5.2. Complementing difference

The complementizers such as *viTa* and *kaaTTilum* can bring out the difference. These complementizers are added to the embedded clause containing the verb in gerundial form, which are further inflected for accusative case.

kaNNan ooTiyatai viTa/kaaTTilum raaman veekamaaka ooTinaan
 Kannan run_PAST_GER_ACC more than Raman fast run_PAST_he
 'Kannan ran faster than Raman'

Here also the verb in the complement clause can be deleted.

kaNNanai viTa/kaaTTilum raaman veekamaaka ooTinaan
 Kannan_ACC more than Raman fast run_PAST_he
 'Kannan ran faster than Raman'

3.3.6. Adverbial clauses

A good number of postpositions come after non-finite forms of verbs or nominalized forms of verbs forming adverbial clauses. They show various types of temporal relations as well as manner. The following table illustrates the point.

Anterior time relation:

V-FUT-*atu*-clause + *mun/ munnar/ munnaal/ munpu*
 iraaman varuvataRku mun/munnar/munnaal/munpu kaNNan vandtuviTTaan 'Kannan had come before Raman came'

Posterior time relation:

1. Adjectival Clause + *pin/ pinnar/ pinnaal/ pinpu/piRaku*
 which can be glossed as 'after' added to past expresses
raaman vandta pin/pinnar/pinnaal/pinpu kaNNan vantdaan
 'Raman came after Kannan came'
avan caappiTTataRku appuRam avaL caappiTTaL 'She ate after he ate'
2. V-PAST-*atu*-clause-DAT to express the same temporal time relation discussed above. V+PAST+*atu*+ACC + *aTuttu/toTarndtu*
avaL paaTalai aTuttu/toTarndtu avan paaTinaan.
 'He sung immediately after she had sung'

Simultaneous time relation:

1. Adjectival clause + *pootu/pozhutu*
ndaan paaTum pootu/pozhutu avaL paaTuvaaL ‘she will sing while I sing’
2. Adjectival clause + *ndeerattil/ camayattil* denoting the first event
ndaan paaTum atee camayattil avaL veenai vaacittaaL
 ‘When I sang she played veena’.

Consecutive time relation:

1. Infinitive clause + *uTan*
talaivar vandtavuTan kuuTTam toTangkiyatu
 ‘The meeting was started as soon as the president came’
2. V+PAST+atu-um
talaivar vandtatum kuuTTam toTangkiyatu
 ‘the meeting was started as soon as the president came’

Interposal time relation:

- V-FUT-atu-clause+DAT + *iTaiyil*
avan paaTuvataRkum avaL paaTuvataRkum iTaiyil ndaan paaTineen
 ‘I sang in between the performances of his singing and her singing’

Interior time relation:

- V-FUT-atu-clause-DAT + *uL/uLLee*
avan caappiTuvataRkuL avaL vandtuviTTaaL ‘she came before he finished eating’
 .

Inceptive time relation:

- V-PAST-atu-clause +LOC + *irundtu*
raaman vandtatilirundtu kaNNan avanuTan peecikkoNTirukkiRaam
 ‘Kannan is talking with Raman from the time when Raman came’

Terminative time relation:

1. V-FUT-RP clause + *varai*
avaL tan kaNavan varum varai kaattirundtaaL
 ‘she waited for her husband to come’
2. V-FUT-atu clause + *varai*
avaL tan kaNavan varuvatu varai kaattirundtaaL
 ‘She waited for her husband to come’

Manner 1:

1. Infinitive-clause + *paTi/ maatiri/ vaNNam/ aaRu*
avaL conna paTi/ maatiri/ vaNNam/ aaRu avan keeTpaan
 'he will act as she said'
2. *atu*-clause + *poola*
avaL connatu poola avan keeTpaan 'he will act as she said'

Manner 2 :

1. Infinitive clause + *paTi/ vaNNam/ aaRu*
avaL azhuta paTi/ vaNNam/ aaRu irundtaaL 'she remained crying'
2. Infinitive clause + *maatiri*
avaL varukiRa maatiri terikiRatu 'It appears that she is coming'

Compulsion:

Verbs of Expression, it will be implied that the event denoted by the embedded verb is demanded.

avaL avanaip paTikkum paTi/ aaRu vaRpuRuttinaaL
 'she compelled him to study'

Purpose:

um-adjectival clause + *paTi/aaRu*
 With certain matrix clause *paTi* and *aaRu* may imply purpose.
mandtiriyai paarkkum paTi/aaRu avan vandtaan 'He came to see minister'

Extent:

V-PAST-RP clause + *aLavvu/ maTTum/ varai*
avaL tannaal muTinda aLavvu/ varai/ maTTum muyaRci ceytaaL
 'She tried to her maximum extent possible'

3.4. Analysis of sentences

The building of sentences is dealt under the following heads:

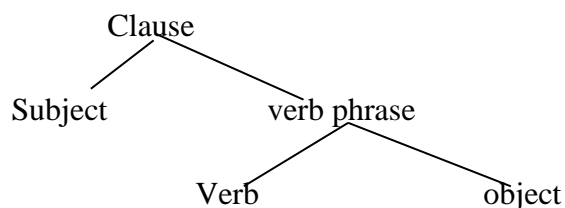
1. Word order
2. Types of sentences
3. Coordination of sentences

3.4.1. Word order

In languages like Tamil, word order is more flexible, as grammatical relations are signaled by inflections. In generative linguistics, languages with fairly free word order are

non-configurational languages. The core of the configurationality issue is about the question of special grammatical relation of subject and a different one of object, whatever these relations correspond to different positions in the hierarchy of the sentence. In Tamil there is little or no evidence for a hierarchy as given below.

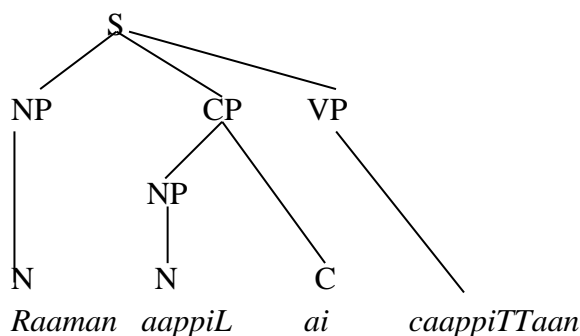
Figure 4.



It is generally believed that Tamil lacks of VP constituency. So, generally Tamil sentences are given flat structures without placing VP at a different hierarchical level. Tamil is an SOV language in which 'S' and 'O' can be shuffled. Tamil is not strictly a configurational language. In Tamil case markers decide the object.

raaman aappiLaic caappiTaan
'Rama ate an apple'

Figure. 2.



Here CP = case phrase and C is case. The ordering of the constituents may be linear or sequential in Tamil

1. SOV linear order

kajeesvari indta puttakattai paTittirukkiRaaL
'Gajeswari has read this book'

2. Fused order

paTittirukkiRaaL
read_PASTP_she

In Tamil, the interrogation does not change the word order.

Many interesting points will be revealed for the purpose of transferring English language structure into Tamil, if we look at the correlating features of the two languages from the point of view of their typological characteristics as SOV and SVO languages respectively. Syntactically, English and Tamil are perhaps most saliently different in the basic word order of verb, subject, and object in simple declarative clauses. Tamil is an SOV language, meaning

that the verb tends to come at the end of basic clauses. Tamil being SOV language has postpositions.

Tamil is a typical (S) OV language in which the verb occurs at the final position of a sentence. Word order in the sentence is relatively free, as long as the sentence ends with a main verb. For example, the sentence *Kannan introduced Uma to Raja* in Tamil can have the following word-order variants.

1. S O IO V

kaNNan umaavai raajavukku aRimukappaTuttinaan.

2. S IO O V

kaNNan raajaavukku umaavai aRimukappaTuttinaan.

3. O IO S V

umaavai raajaavukku kaNNan aRimukappaTuttinaan.

4. IO O S V

raajaavukku umaavai kaNNan aRimukappaTuttinaan.

5. IO S O V

raajaavukku kaNNan umaavai aRimukappaTuttinaan.

6. O S IO V

umaavai kaNNan raajavukku aRimukappaTuttinaan.

ai and *kku* are accusative and dative case markers and nominative is unmarked in Tamil. The above sentences are identical in logical content, but are different in discourse presupposition in a very subtle way. Ordinarily, constituents that represent older information precede those that represent newer information. The subject-initial sentence pattern is the most common among the various word order patterns. In declarative sentence with nominal subject and object, the dominant order is almost always one in which the subject precedes the object. The freedom of word order extends to adverbial adjuncts. For example, the sentence which means *He will come to see her tomorrow, tomorrow* can come anywhere before the verb.

1. *ndaaLai avan avaLai paarkka varuvaan*

2. *avan avaLai ndaaLai paarkka varuvaan*

3. *avaLai ndaaLaip paarkka avan varuvaan*

4. *ndaaLai avaLaip paarkka avan varuvaan*

3.4.2. Analysis of different types of sentences

Sentences can be differentiated into different types based on their structure and function.

3.4.2.1. Sentence types based on the complexity of clauses

Traditionally sentences are classified as simple, compound and complex. This distinction is based on the criterion whether the sentence contains a single verb or verb phrase or more than one verb phrase. It has been explicated traditionally that a simple sentence

contains at least one verb or verb-phrase. Compound and complex sentences contain more than one verb or verb phrase. Accordingly simple sentences have only one finite verb, compound sentences have two or more finite verbs and complex sentences have one finite verb and one or more infinite verbs.

1.Simple sentence

avan maarkeTTukkup pookiRaan

'He goes to market'

2.Compound sentence

avan maarkeTTukkup poonaan. kaaykaRikaLai vaangkinaan.

'He went to market and bought some vegetables'.

3.Complex sentence

avan kaaykaRivaangka candtaikkup pookiRaan

'He is going to market to buy vegetable'

A Tamil sentence can be analysed as containing either NP and VP or NP and NP.

$S \leftrightarrow NP+VP$

$S \leftrightarrow NP+NP$

Tamil sentences need not have a verb always.

1. $S \leftrightarrow NP + VP$

avan paaTam paTittaan

he lesson read_PAST_PNG

'He read the lesson'

2. $S \leftrightarrow NP + NP$

avan oru maaNavan

he one student

'He is a student'

The equative sentence denoting existence does not contain a verb in Tamil. The verbless existential sentences are possible while denoting present existence, but to denote a past and future existence, the be-verb *iru* which can carry tense is being used in Tamil, the noun complement will take the adverbial *aay / aaka*.

avar oru aaciriyaraay irundaar

he one teacher_ADV be_PAST_PNG

'He was a teacher'

This point has to be noted down while transferring the information in English into Tamil.

3.4.2.2. Sentence types based on their function

Traditionally sentences have been classified based on its function into the following

A TRANSFER GRAMMAR FOR ENGLISH-TAMIL MACHINE TRANSLATION

Prof. Rajendran Sankaravelayuthan and Dr. P. Kumaresan

types:

1. Affirmative or assertive sentences

avan candtaikkup poonaan

He went to market

2. Question or interrogative sentences

avan candtaikkup pookiRaana?

Is he going to market?

3. Negative sentences

avan candtaikkup pookavillai

He is not going to market

4. Imperative or command sentences

candtaikkup poo

Go to market

5. Exclamatory sentences

aa! evvaLavuzhakaana kaTTiTam itu!

'How beautiful the building is!'

In Tamil word order does not play a crucial role while transforming an affirmative into an interrogative sentences, it makes use of clitics.

3.4.2.2.1. Analysis of affirmative or assertive sentences

In Tamil, we can visualize assertive sentences as having at least five elements namely subject, predicate, attribute to subject, expansion of predicate particles and particles. In Tamil, as in English, minimal sentence can be classified into equative type and non-equative type.

3.4.2.2.1.1. Analysis of equative sentences

Equative sentences can be distinguished into:

1. Sentence having no verbs (verb less clauses)

2. Sentences having verbs

There is a type of equative sentences in which 'S' can be expanded into two noun phrases.

$S \leftrightarrow NP + NP$

kajeeSvari mikavum ndalla peN

'Gajeswari is a very good girl'

Semantically, verb less clauses represent an identification or attribution.

1. Equate for identification

avan oru maaNavan 'He is a student'

2. Equate for attribution

avaL azhakaanavaL 'She is a beautiful girl'

There are equative type of sentences in which BE verbs (*uNTu* 'is/are', *iru* 'be', *illai* 'be not', *alla* 'be not' and copula verbs (*aaku* 'become, be' for the sake of are used for marking tense or emphasizing positive or negative existence. The different types of equative sentences using these verbs are tabulated below:

Equative verb	Pattern	Example
<i>uNTu</i>	NP + <i>uNTu</i>	<i>kaTavuL uNTu</i> 'God exists'
<i>iru</i>	NP + <i>iru</i> +TENSE+PNG	<i>kaTavuL irukkiRaar</i> 'God exists'
<i>iru</i>	NP- <i>iTam</i> + NP + <i>iru</i> +TENSE+PNG	<i>enniTam paNam irukkiRatu</i> 'I have money'
<i>illai</i>	NP + <i>illai</i>	<i>kaTavuL illai</i> 'God does not exist'
<i>illai</i>	NP + NP- <i>illai</i>	<i>avaL ndallavaL illai</i> 'She is not a good lady'
<i>alla</i>	NP + NP- <i>alla</i>	<i>avaL ndallavaL alla</i> 'She is not a good lady'
<i>aaku</i>	NP + NP- <i>aaku</i> +FUT+PNG	<i>avan ndallavan aavaan</i> 'He is a good man'
<i>aaku</i>	NP + NP- <i>aaku</i> +PRES/PAST+PNG	<i>avan mandtiri aanaan</i> 'He became a minister'

3.4.2.2.1.2. Analysis of non-equative sentences

Non-equative sentences in Tamil contain a verb unlike the equative sentences which do not contain verb.

kamalaa kaTitam ezhutukiraaL 'Kamala wrote a letter'

So non-equative sentences can be expanded as NP (headed by an N) followed by VP (headed by a verb).

$S \leftrightarrow NP + VP$

kaamaakshi ezhutukiRaaL 'Kamakshi is writing'

paRavaikaL paRakkinRana 'The birds are flying'

3.4.2.2.2. Analysis of interrogative sentences

Like English, Tamil has also two types of question sentences. As we noted under English the first kind can be referred as Yes or No question type. The following sub types of interrogative distinguished in Tamil.

1. Yes-no questions
2. Information or question word questions
3. Alternative questions

3.4.2.2.1. Yes-no questions

Yes-no questions are asked to know whether the contents of the proposition supplied by the speaker are true or not. Yes-no question in Tamil is formed by the suffixation of interrogative clitic *aa* to a constituent of a sentence. This clitic can be added to any constituent; except modifiers (noun modifier).

umaa oru paaTTup paaTinaaL

‘Uma sang a song’

umaavaa oru paaTTup paaTinaaL ? (The subject is questioned)

‘Did uma sing a song?’

umaa paaTTaa paaTinaaL? (The object is questioned)

Is it song, did Uma sing?

umaa paTTup paaTinaaLaa? (The whole sentence is questioned)

‘Did Uma sing a song?’

umaa azhakaakavaa paaTTup paaTinaaL?

‘Did Uma sing well?’

Note that if the interrogative clitic is suffixed to the sentential final position (i.e. to the inflected verb or to the nominal predicate), the question is interpreted as a neutral one in which the scope of the clitic *aa* is the whole S, that is, it interrogates the whole of the sentence.

kaNNan oru vazhakkaRinjar ‘Kannan is an advocate.’

kaNNan vazhakkaRinjaraa? ‘Is Kannan an advocate?’

kaNNan neeRRu uSaavai aTittaan ‘Kannan beat Usha yesterday’

kaNNan neeRRu ucaavai aTittaanaa? ‘Did Kannan beat Usha yesterday?’

If the interrogative clitic *aa* is placed on some other constituent of the sentence, a focussed yes-no question results. That is, the constituent to which clitic *aa* is added is interrogated. The remainder of the proposition is presupposed.

uSaa ndeeRRu umaavaiyaa aTittaaL?

‘Was it Uma, did Usha beat yesterday?’

uSaa ndeeRRaa umaavai aTittaaL?

Was it yesterday that Usha beat Uma?

uSaavaa neeRRu umaavai aTittaaL?

Was it Usha that beat Uma yesterday?

3.4.2.2.2. Wh-questions or information questions

Information questions, which are otherwise known as question word questions, presuppose a proposition and interrogate the proposition for particular information. Such questions interrogate only a constituent of the sentence. Information questions are formed in Tamil by an interrogative pro-form and by realizing the constituent to be questioned with an interrogative pro-form that is referentially undetermined. Unlike English the devices such as movement of constituents etc are not used. Tamil has a number of interrogative proforms such as pronominal, pro-adverbial, pro-numerals, pro-adjectival, etc. All expect one (*yaar* 'who') contains the interrogative morpheme *e*. The different proforms used in Tamil are tabulated below.

Reason	Person	Dietic	Things	Place	Time	Manner	Quantity
<i>een</i>	<i>yaar</i> <i>evan</i> <i>evaL</i> <i>evar</i> <i>evarkaL</i>	<i>endta</i>	<i>etu</i> <i>evai</i> <i>evaikaL</i> <i>enna</i>	<i>engku</i> <i>engkee</i>	<i>eppozhutu</i> <i>eppootu</i> <i>enRu</i>	<i>eppaTi</i>	<i>evvaLavvu</i> <i>ettanai</i>

The following table shows the usage of the above listed interrogative words.

Type	Statement	Question
Time	<i>uSaa neeRRu vandtaaL</i> 'Usha came yesterday'	<i>uSaa eppootu vandtaaL?</i> 'When did Usha come?'
Place	<i>uSaa angkee vandtaaL</i> 'Usha came there'	<i>uSaa engkee vandaal</i> 'Where did Usha come?'
Quality	<i>uSaa ndalla peN</i> 'Usha is a good girl.'	<i>uSaa eppaTippaTTa peN?</i> 'What type of a girl Usha is?'
Serial Order	<i>uSaa pattaavatu vakuppil paTikkiRaaL</i> Usha is studying in tenth standard.	<i>uSaa ettanaiyaavatu vakuppil paTikkiRaaL?</i> 'In which class usha is studying?'
Reason	<i>kaNNan avaLaip paarkka vandtaan</i> 'Kannan came to see her'	<i>kaNNan een vandtaan?</i> 'Why did Kannan come?'
Person	<i>kaNNan vandtaan</i> 'Kannan came'	<i>yaar vandatu?/vandaar?</i> 'Who came?'
Deictic	<i>kaNNan andta puttakattaip paarttaan</i> 'Kannan saw that book'	<i>kaNNan endta puttakattaip paarttaan?</i> 'What book did Kannan see?'
Thing	<i>kaNNan puttakattaip paTittaan</i> 'Kannan saw the book'	<i>kaNNan etaip paarttaan?</i> 'What did Kannan see?'
Manner	<i>uSaa ndanRaakap paTikkiRaaL</i>	<i>uSaa eppaTip paTikkiRaaL?</i> 'How is usha

Type	Statement	Question
	'Usha is studying well.'	studying?'

3.4.2.2.3. Alternative questions

Alternative question provides either two alternative propositions or one proposition and its negation. The addressee is requested to commit himself to one of the alternatives to the two propositions and its negation. In Tamil alternative questions are formed by the coordination of two sentences with deletion of some identical material from the second sentence. The alternative questions are formed by the interrogative clitic *aa* which occurs as 'or' coordinator after each element conjoined. Like the coordinating clitics *oo* and *aavatu*, the clitic *aa* occurs with nouns, postpositions, adverbs, and quantifiers, but not with adjectives.

avan ndallavanaa keTTavanaa enRu teriyavillai?

He good_he_clitic bad_he_clitic know_not

'It is not known whether he is good or bad'

ungkaLukku peenaavaa pencils veeNTum?

you_DAT pen_clitic pencil_clitic want

'Do you require pen or pencil?'

3.4.2.2.3. Analysis of negative sentences

Negation is expressed by the following three ways:

1. Morphologically by a negative verbal suffix
2. Lexically by a negative verb
3. Syntactically by a negative auxiliary verb

There are however no negator likes *not* or negative quantifiers, or adverbs like *no one* and *nowhere* in Tamil. Negative morpheme occurs always in the inflected verb constituent, either incorporated in the verb itself or in the inflectional part.

Type	Sub types	Example
I.Morphological negation by negative verbal suffix: The negative morpheme is realized by two allomorphs <i>aa</i> , <i>aat</i> occurring as suffixes after the verb stem, and also by a zero morph.	1. V+Negative suffix+ Third person, singular number, and neuter gender suffix V+ <i>aa</i> + <i>tu</i>	<i>pas ingkee varaatu</i> 'The bus will not come here' <i>enakku hindi varaatu</i> 'I cannot talk in Hindi'
"	2.V+Negative verbal	<i>avaL neeRRu ennai paarkkaamal</i>

Type	Sub types	Example
	participle suffix V+aa-mal/aat-u	/ paarkkaatu poonaaL. 'Yesterday she went without seeing me'
The negative suffix <i>aat</i> occurs in the following three verb forms.	3.V+Negative singular / plural imperative suffix V+aat-ee V+aat-iirkaL	ingkee varaatee 'Don't come here' ingkee varaatirrkala Don't come here'
"	V+Negative adjective participle suffix V+aat-a	ndaan paarkaata peN pookiRaaL 'There goes a woman I did not see'
"	5.V+Negative suffix + Nominalising suffix V+aat+atu	uSaa varaatatu ndallatalla 'That usha did not come was not nice'
"	6.In periphrastic construction the model auxiliary <i>maaTTu</i> meaning 'will' is inflected for PNG expressing negative polarity. The negative morph is realized by zero morph. Thus, PNG suffix is directly added to the verb stem. <i>maaTTu</i> + Zero negative + PNG	Usha varamaTTaaL Usha won't come
II. Use of negative lexical verb: Negative lexical verbs <i>illai</i> and <i>alla</i> used for negating a proposition.	1. <i>illai</i> meaning 'be not' whose function is existential and copula. 1.1. Negation in locative sense express by the negative be-verb <i>illai</i> NP-il + <i>illai</i> 1.2. Negation in existential sense expressed by <i>illai</i> (as against positive <i>uNTu</i> 'be') NP + <i>illai</i> 1.3. Negation in copula sense expressed by <i>illai</i> (against positive <i>aaku</i> 'be' or zero) NP + <i>illai</i>	1.1. <i>uSaa viiTTil illai</i> 'Usha is not in the house' 1.2. <i>kaTavuL illai</i> 'God is not there' meaning 'be not' 1.3. <i>umaa oru maruttuvar illai</i> 'Uma is not a doctor'

Type	Sub types	Example
	2. <i>alla</i> meaning 'be not' whose function is copula only.	<i>avan maaNavan alla</i> 'He is not a student'
III Use of negative verb as an auxiliary verb:	1.Negative verb <i>illai</i> can be added after a main verb in infinite form, there by negating a proposition. V+infinitive + <i>illai</i>	<i>avan neeRRu kalluurikku varavillai</i> . 'He did not come to college yesterday'
“	2.The negative verb <i>maaTTu</i> , which can be inflected for PNG added after infinitive form of a main verb functions as an auxiliary expressing the meaning 'will not'. V+infinitive + <i>maaTT</i> -PNG	<i>umaa kalluurikkup pookamaaTTaaL</i> 'Uma will not go to college'

3.4.2.2.4. Analysis of imperative sentences

In Tamil the imperative may have the root of the verb. Modern Tamil distinguishes between singular and plural imperative forms. Both the singular and plural imperative forms are further distinguished into positive and negative forms. One of the imperative forms is also overtly marked for the category of person, second person. The various imperative forms can be analysed as phonological realization of the following morphemes underlined structure. As noted earlier imperative sentences are instructions, commands, and directions to second person.

Verb + imperative + person (negative) (plural)

The following table shows different types of imperatives:

1.Positive singular imperative: It is identical with verb stem and there is no marker. This shows that imperative and second person morphemes are not overtly expressed and are realized by zero morph each

V+ ϕ

tuungku 'sleep', *keeL* 'ask', *ndaTa* 'walk'

2.Negative singular imperative: The negative singular imperative form consists of the verb stem, to which the negative morph *aat* is suffixed, followed by clitic *ee* (euphonic suffix). In these forms the imperatives and second person morphemes are also realized by zero morph. Only the negative morpheme is overtly realized by the negative morph *aat* and the clitic *ee*

V+aat+ee

tuungkaatee 'Don't sleep', *keeTkaatee* 'Don't hear',
ndaTakkaatee 'Don't walk'

3. Positive plural imperative: It consists of the verb stem and the plural suffix *ungkaL*. Plural suffix *ungkaL* can integrate both the singular number and honorable status. This imperative form can be used to address either a single individual of honorific status or group of individuals.

V+ungkaL

tuungkungkaL 'Please sleep', *keeLungkaL* 'Please hear'
ndaTangkaL 'Please walk'

4. Negative plural imperative: It consists of the verb stem followed by the negative allomorph *aat+iirkaL*

V+aat+iirkaL

tuungkaatiirkaL 'Please don't sleep', *keeTkaatiirkaL* 'Please don't hear'
ndaTakaatiirkaL 'Please don't walk'

3.5. Conclusion

A computational syntactic structure of Tamil has been worked out in this chapter. The word level computational analysis helps to facilitate lexical transfer at level. The computational analysis of major phrases such as noun phrase, verb phrase, adjectival phrase, adverbial phrase and postpositional phrase helps to work out transfer at the phrase level. The clause level computational analysis helps to work out transfer at the clause level. The nature of subordination and different types of dependent and independent clauses have been identified and their structural patterns have been designed to facilitate transfer mechanism. The coordination of phrases and clauses has been dealt in detail. The structures of different types of Tamil sentences and their word order have been studied with the aim of transferring the English sentences into Tamil and vice versa.

CHAPTER 4

GRAMMATICAL FORMALISM AND SYNTACTIC PARSING

4.0. Introduction

This chapter gives an outline of the formal grammars commonly used for syntactic parsing in Machine Translation Systems. The choice of the formalism decides upon the parsing technique to be used. For transferring English texts into Tamil, syntax plays a crucial role. English being an SVO language and Tamil being an SOV language differs crucially from each other in their syntactic make up. For example, English has postpositions, whereas Tamil has prepositions. So syntactic parsing is a must to transfer English into Tamil and vice versa. For this various types of grammatical formalisms are used. The CFG (context free Grammar) formalism is the most exploited one. The fundamental idea of machine translation is to transfer source language text into target language text. For that the source language structure at the levels of morphology, syntax and semantics have to be analysed and the information gathered from the analysis have to be transferred into target language by a generator.

The parsing techniques to be adopted for the analysis and generation of a language text rely upon the choice of the grammatical formalism. The widely used formalisms are context-free grammar (CFG), phrase structure grammar (PSG), government and binding (GB) grammar, generalized phrase structure grammar (GPSG), lexical functional grammar (LFG), tree adjoining grammar (TAG) and so on. A few of them are discussed here.

4.1. Context-free Grammar Formalism

Context-free grammar is a widely used formalism for describing languages. It has been widely used because of its simplicity and clarity. A formal linguist describes the structures of a language by devising a collection of rules, called a grammar that can be used in a systematic way to generate the sentences of a language. The form and functioning of these rules differs among different forms of generative grammar. A context-free grammar provides an especially simple way of describing the structures of a language and of setting up a correspondence between the knowledge structures, the structures generated in producing or recognizing a sentence and the processes of recognition and production.

Context-free grammars are also known as immediate constituent grammars (by traditional linguists), Backus normal form (by programming language designers), and recursive patterns (in some computer applications). They are one particular kind of a more general class of phrase structure grammars, which are the basis for generative linguistics and for most computer systems that manipulate either natural language or computer languages.

As a background against which to view the details of context-free grammar, the first part introduces phrase structure and raises some general issues about how structures can be described. The second part gives a formal definition of context-free grammars and presents

the concept of derivation. Section third deals with the problem of recognizing and parsing sentences using a stored knowledge base of context-free rules. Those sections lay out the basic dimensions of parsing strategy and give examples of a number of parsing techniques that have been developed.

Difficulties arise in applying the basic ideas of phrase structure to complex languages (including all natural languages) but in this chapter we will ignore these and concentrate on what can be done with the formalism. Some of the extensions that have been proposed to handle real languages will be dealt later. These extensions gain the power to describe more of the properties of language, often at the price of losing the simplicity of pure context-free grammars.

4.1.1. Three Approaches to Structure

The patterns described by the simple transition networks have a kind of “flat” quality. Our intuitions about language call for some kind of constituent structure that is not captured by describing a sentence as matching a sequence of arcs through a network. Sentences are made up of “chunks” or “phrase”, and this structuring is important for how they communicate meaning.

One of the major themes of linguistics throughout its history has been an attempt to describe these structures and the ways in which they fit together. There have been many different formulations of the rules for language structure and their details depend on a basic attitude towards how structures are best described. These views of structure are not particular to linguistics. They apply equally well to any study of objects (physical, mental or social) that are describable as being made up of parts that in turn are made up of smaller parts.

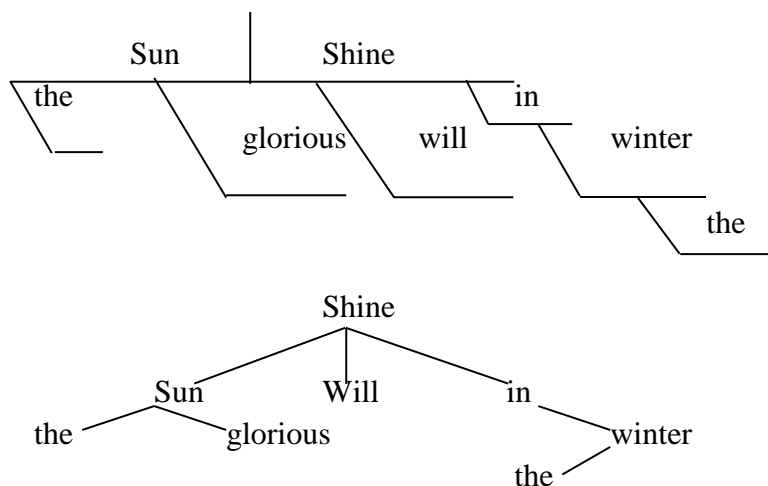
4.1.1.1. The Head and Modifier Approach

Many traditional presentations of grammar describe structures in terms of a basic simple pattern that is elaborated, or modified. For example, the underlying structure of a sentence can be thought of as a noun followed by a verb, with additional words (such as articles and adjectives) modifying the noun and others (such as adverbs) modifying the verb. Modifiers can themselves be modified (by words such as adverbs) to produce a multi-layered structure. At each level, there is a head, which is a single word and which may have one or more modifiers.

The figure (1) given below shows two different diagrams of a head and modifier analysis of the sentence: *The glorious sun will shine in the winter*. The first is a traditional grammar school *sentence diagram* using a formalism devised towards the end of the last century by Reed and Kellogg. The second is a dependency structure based on a formalism called dependency grammar, which was originally developed in connection with early

programs for machine translation. In both the diagrams of figure 1, modifiers are placed below the word they modify and are connected to it by a line. In the dependency grammar version, even the subject of the sentence is viewed as a modifier. The head of the sentence is the verb *shine*, which conveys what it is that happens. The fact that the sun does the shining is a modification.

Figure 1: Head and modifier structures for a simple sentence



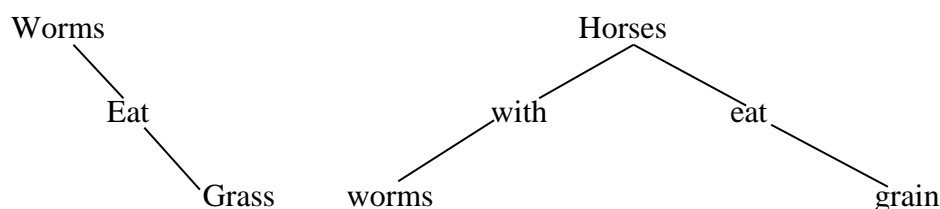
The head and modifier approach has held an important position in linguistics for reasons involving both meaning and syntax. In trying to associate word patterns with meanings, we find that the concept of modification corresponds well to our intuitive notions of description. A noun tells what an object basically is, while adjectives provide further description. A verb tells what happened, while adverbs tell the manner, time, place and other details of how it was done. This correspondence between word structure and conceptual structure is very useful in looking at language as an integrated system for conveying meaning.

The head and modifier approach, as formalized in dependency grammar, formed the basis for some early approaches to question answering, such as Protosynthex I (Simmons, Klein and McConlogue, 1964). It also influenced some of the current approaches to natural language, including Schank's (1975) *conceptual dependency* and Wilks' (1975 a, b) *semantic templates*. Protosynthex I stored the sentences of a children's encyclopedia and when asked a question, it tried to retrieve an appropriate sentence as the answer. Both the stored sentences and the question were parsed into dependency structures. For example, the two sentences *Worms eat grass* and *Horses with worms eat grain* were represented by the structures of Figure 2. In the Protosynthex version of dependency grammar, the main verb depended on the subject rather than the other way around.

When asked the question *What do worms eat?* Protosynthex I found (by means of an index) all the sentences containing the two words *worms* and *eat*. It then checked to see if in any of them the word *eat* depended on the word *worms*, as in the leftmost tree of figure given

below, since a sentence whose word *worms*, as in the leftmost tree of figure 2, since a sentence whose dependency structure matched that of the question would be more likely to provide a relevant answer. In this case, the sentence *worms eat grass* would be printed out, but *Horses with worms eat grain* would not, since its dependency structure does not match. This was an extremely simplistic form of question answering. It could work only if the relevant answer appeared directly in the stored knowledge, and even then it knew only roughly whether the selected sentence was appropriate. But the use of dependency structures enabled the system to be more selective than a simple keyword search.

Figure 2: Dependency structure used for question answering



At a more purely syntactic level, many phenomena of language follow closely along the lines of head-modifier structure. Most languages have rules of agreement or concord that are conveniently expressed in terms of modification. For example, in Spanish both the adjective and determiner depend for their form on the number and gender of the noun they modify, as in: *la vaca morado*, *las vacas morados*, *el caballo morado*, *los caballos morados* (*the purple cow*, *the purple cows*, *the purple horse*, *the purple horses*). In each of these sentences, the determiner (*la*, *las*, *el*, *los*) and the ending on the adjective *morad*-are selected to match the noun. This feature of head and modifier analysis was a motivation for its use in the early programs for machine translation. It provided a direct handle on the choices that needed to be made in forming the detailed word structure and endings in the target language.

The formal theory of dependency grammar has emphasized ways of describing structures rather than how the system's permanent knowledge is structured or how a sentence is processed. It does not address in a systematic way the problem of finding, the correct dependency structure for a given sequence of words. In systems that use dependency as a way of characterizing structure, the parsing process is generally of an *ad hoc* nature, as will be discussed latter.

4.1.1.2. The Immediate Constituent Approach

The simplest uniform way to describe constituent structures is to extend the notion of pattern as developed by making patterns *recursive*. The elements of a pattern are not limited to words and lexical categories, but can also include the names of other patterns. This allows common sequences to be factored out and provides a kind of nesting that captures some of the structure visible in the head and modifier approach. It could be written as:

(Determiner) Adjective * Noun Verb {{Determiner} Adjective * Noun}

By creating a pattern for *noun phrase* (labeled 'NP'), we can define a sentence ('S') as:

NP = {Determiner} Adjective * Noun
S = NP Verb {NP}

In matching a set of patterns like these against a sequence of words, we are in effect assigning the sentence a *phrase structure*, due to the nesting of sequences within one another. The sentence *The little orange ducks swallow flies* have three constituents: *the little orange ducks* (an NP), *swallow* (a VERB), and *flies* (another NP). In this case, each of these constituents is either a word or in turn made up of individual words. However, immediate constituent grammars allow any constituent itself to be a constituent structure. Figure 3 illustrates three different notations for representing constituent structure, using a more complex set of patterns. The bracketed text notation is used when for typographical reasons it would be inconvenient to use a two-dimensional form. A pair of brackets is labeled with the name of the pattern (appearing just after the opening bracket) and contains all of the elements that make up the instance of the pattern. When a pattern element is matched by a single word, that word appears. When it is matched by another whole pattern, the matching of that pattern is laid out within its own set of brackets.

The box notation illustrates graphically the fact that one pattern is made up of elements each of which can be another pattern. The more usual graphical notation uses *trees*, a formal structure with general applicability for representing a recursive organization based on two relationships – *constituency* and *order*. Each object bears the constituency relationship to a single object called its *parent*. Lines connect objects upward to their parent (or, conversely, down-wards to their children). In this case, the children are the immediate constituents of their parent. The children of any one parent are ordered by the order relationship, in this case corresponding to the left-to-right order in which they appear in the sentence.

Figure 4 gives a formal definition of tree structures that will be used in the rest of this chapter. It includes a role for the 'contents' for each node, as well as its parent and children. In using tree structures to represent immediate constituent structure, each node corresponds to a word or phrase. The contents are a *label* indicating which pattern it corresponds to. Its children are its *immediate constituents*, which in turn represent words or other phrases made up of constituents.

4.1.1.3. The Slot and Filler Approach

The motivation for analyzing the structure of sequence of words is that the result is to be used in some further analysis or processing, such as translation or comprehension of meaning. The fact that there is a particular sequence of recognizable elements is one aspect

of structure, but this does not capture *functional* relationships. For example the pattern ‘NP VERB NP’ for sentences does not specify that the two instances of NP play in different *roles* – one is the subject, and the other is the direct object.

In a slot and filler (or *role structure*) approach, the pattern for each kind of phrase is described as a sequence of named *slots* or *roles*, each of which corresponds to a *filler* in the sequence to which it is matched. Each pattern element specifies the kind of words or phrase it can match (as with the constituent structure approach) and also the name of a role that the word or phrase plays in the pattern as a whole. A role name can appear only once, but the object filling different roles may be of the same kind. A slot and filler pattern lists all of the potential elements and will match phrases containing any combination of them in the right order. Pattern can have roles (such as describers, classifiers and qualifiers of a noun phrase) that are filled by a sequence of items, rather than by a single item.

Figure 5 illustrates a slot and a filler pattern for English noun phrases. It makes use of an asterisk to indicate that a single slot is filled by a sequence of elements of the same type. Although it is still a simplification compared to the full range of English constructs, it covers a wide variety of phrases, including those with all slots filled, such as *All the last three successful game show contestants from Iowa*, and those with only some slots filled, such as *a tree* and *three blind mice*.

It is important to recognize that in a slot and filler analysis, role names are different from phrase type. Thus a word that is a Noun can be the HEAD of a noun group or one of its CLASSIFIERS. However, for classes such as ORIGINAL and CARDINAL that have only one function, we have chosen for simplicity to use the same name for both the class and the role.

In a slot and filler analysis, there is still a recursive constituent structure. For example, in analysis of the sentence *the glories sun will shine in January*, there is a slot for SUBJECT filled by an NP, which in turn has slots filled for DETERMINES (*the*), DESCRIBERS (*glories*) and HEAD (*sun*). If there were a simple one- to -one correspondence between slots and sequence of elements in the constituent structure, this approach would be different only in providing a convenient way of referring to elements of the structure without mentioning their position. However, it is often useful to postulate sets of slots along different dimensions, with the same element filling a slot in each dimension. Even along a single dimension, we may want to describe an element as filling more than one slot. In this sense, a slot and filler analysis deals with *roles*, rather than *parts*.

The slot and filler approach has served as a standard form of linguistic description in traditional grammar and in much of the structural paradigm. Transformational linguists have not generally dealt with functional consideration (the explicit analysis of roles structure) arguing that they add no syntactic information that is not already expressed in the constituent structure. Other formalism, such as systemic grammar has made extensive use of a slot and

filler approach. The computational paradigm, with its emphasis on integrating the analysis of different levels languages structuring, has reintroduced slot and filler notions in several forms. For the purpose of studying basic syntactic analysis strategies in this chapter, we will use context – free grammars, which deal only with immediate constituent structure.

4.1.1.4. Summary of Structure Types

Figure 6 summarizes the different kind of structuring, extending the basic formal definition of trees (figure 4) by specifying the contents of the node in each of structure. Only phrase structure trees are given a full DL definition in this chapter (figure 7), since we will be using them in defining in procedures for recognition and parsing. A version of role structure nodes will be defined and used for parsing with augmented transition networks.

The labels associated with nodes in a phrase structure tree are either words or *syntactic categories* a formalization of pattern names (like S and NP). Every word or phrase can be assigned to one or more syntactic categories. Figure 8 gives a DL definition, which has a little formal content, but specifies the existence of the class.

4.1.2. Rules and Derivation

A context-free grammar consists of a set of rules, each representing a labeled pattern to be matched against a sequence of constituents. In the most commonly used notation, the pattern name is followed by an arrow, followed the sequence of symbols (syntactic categories or words) that make it up, as illustrated in figure 9.

Figure 9. A simple grammar

S	→	NP VP
NP	→	Determiner NP 2
NP	→	NP2
NP2	→	Adjective NP2
NP2	→	Noun
VP	→	Verb
VP	→	Verb NP

It includes patterns for sentence (S), noun phrase (NP) and verb phrase (VP), making use of the standard syntactic categories from transformational grammar. In addition, a separate pattern (NP2) is used to stand for a structure containing nouns and adjectives but no determiner. Rules for constituents like this one that are parts of the more traditional constituents are needed in writing a grammar that fully characterizes a language. A general definition for rules and context-free grammars appears in Figure 10.

4.1.2.1. The Derivation of Sentences

Figure 11 gives a schema for the generation of a phrase structure tree whose leaf nodes contain the words of a sentence. It is a schema, not an algorithm, because it includes steps that call for making arbitrary selections – different sentences will be derived for different choices. It is not intended as a model of the process that actually goes on in generating a sentence for communication, but more as a form for ‘proof’ that sentence is in the language defined by the grammar. Just as the rules of proof specify what the legal steps are but do not say what steps to try, a grammar can be used to derive sentences. Each application of a rule corresponds to the use of an axiom or rule of inference in going from one step of a proof to the next. The result is a formal demonstration that the sentence is grammatical. This idea of abstract generation is essential to the generative paradigm and its approach to a language as a set of mathematical objects.

Figure 12 illustrates how a structure for the sentence. *The decorated pie plate contains a surprise* could be derived using the grammar of Figure 9. Notice that the generation as defined in Figure 11 is complete when all of the leaf nodes have terminal symbols of the grammar as their labels. In order to produce a sentence, an additional node would be produced for each of these, containing a word belonging to the lexical class indicated by the label.

The sequence of trees in Figure 12 represents the first few steps of the derivation, based on a sequence of arbitrary decisions as to which unexpanded node should be worked on and which rule for it should be used. The rule is shown on the arrow between the trees representing steps in the derivation. The order of steps is partially determined, since a node must be expanded before any of its children, but there is some freedom, and the same sentence could have been produced by choosing to expand symbols in a different order. For example, the top level NP could have been expanded before its sibling VP.

The schema of Figure 11 builds up a tree structure, which can be filled in with words to produce a sentence. It is also possible to generate sentences of the language without keeping a structural description as in Figure 13. The working structure is a sequence of symbols, which includes both symbols of the grammar and words. As each rule is applied, one of the symbols is replaced with another symbol or sequence of symbols, eventually leading to a sequence containing only words. Figure 14 shows the steps of a derivation of the same sentence as in 12 in which we have chosen always to expand the leftmost symbol at each step.

In this example, the filling in of words for lexical classes is included as though there were rules such as ‘Determiner – *the*’ In working with context free grammars, it is sometimes convenient to think of the dictionary as a set of such rules. For each word, there is one rule for each word class (lexical category) to which it belongs. The left-hand side of the rule is the category and the right hand-side is the word itself. This allows the association of words with lexical categories to be carried out by the same mechanisms as the association of sequences of constituents with composite categories. However, in this chapter we will write the algorithms

and schemas on the assumption that there is a separate dictionary associating words with word classes. This calls for slightly more complex definitions, but greatly simplifies the traces used to demonstrate their operation. We do allow a symbol on the right-hand side to be a word, so that words with special syntactic functions, such as *that*, *to*, *by* and *which*, can be included directly in rules.

4.1.2.2. Choices and Repetitive Structures

Previously we added facilities of looping and choice to the basic pattern mechanism by using transition network. In a context-grammar, the same effects are achieved by creating appropriate rules.

Figure 13: Schema to derive a sentence without a tree structure.

Generate a sentence (non-deterministic)	
Purpose: produce a sentence using a context-free grammar without deriving a tree structure.	
Background: <i>a context-free grammar</i> and <i>a dictionary</i>	
Results: a sequence of words that is a sentence in the language	
Working Structures:	
Derived sequence: a sequence. Each member of which is either a syntactic category or a word; initially consisting of one occurrence of the distinguished symbol of the grammar	
Basic Method: Keep repeating:	
<ul style="list-style-type: none"> ❖ If the derived sequence contains only words, return it as the result. ❖ Choose any position in the derived sequence that contains a syntactic category ❖ If the category is <ul style="list-style-type: none"> ❖ A lexical category then chooses any word in the dictionary belonging to that category, and replaces the symbol at that position with the word. ❖ A composite category, then choose any rule in the grammar having the symbol as its left-hand side, and replace the derived sequence with a new sequence that consists of: <ul style="list-style-type: none"> ❖ The part of the sequence that was before the chosen position ❖ The sequence of symbols specified by the right hand side of the rule ❖ The part of the sequence that followed the chosen position. 	

Figure 14: Derivation of a sentence without producing a tree

Rule applied			Derived sequence
			S
S	→	NP VP	NP VP
NP	→	Det NP ₂	Det NP ₂ VP
Det	→	the	the NP ₂ VP
NP ₂	→	Adj NP ₂	the Adj NP ₂ VP
Adj	→	decorated	the decorated NP ₂ VP
NP ₂	→	Noun	the decorated Noun VP
Noun	→	pieplate	the decorated pieplate VP

VP	→	Verb NP	the decorated pieplate Verb NP
Verb	→	contains	the decorated pieplate contains NP
NP	→	Det NP ₂	the decorated pieplate contains Det NP ₂
Det	→	a	the decorated pieplate contains a NP ₂
NP ₂	→	Noun	the decorated pieplate contains a Noun
Noun	→	surprise	the decorated pieplate contains a surprise

By having more than one rule for a single symbol, we can account for choices and optional elements. For example, the rules of Figure 3-9 allow a noun phrase to contain a determiner or omit it, depending on the choice of the rule ‘NP → DETERMINER NP₂’ or ‘NP → NP₂’. By allowing a rule to contain its own label as part of its right-hand side we can describe structures with repetition. The rule ‘NP₂ → ADJECTIVE NP₂’ can be expanded to produce an adjective followed by an unexpanded node that is still an NP₂. This can be repeated any number of times to produce a string of adjectives before finally applying the rule ‘NP₂ → NOUN’ to end the recursion.

A number of abbreviations have been developed to make it easier to combine similar patterns. One common abbreviation is to group together all rules with the same label, using vertical bars to separate their right-hand sides. Thus the two rules ‘NP → DETERMINER NP₂’ and ‘NP → NP₂’ could be written as ‘NP → DETERMINER NP₂ / NP₂’. Another abbreviation allows the use of parentheses to indicate optional elements, as in ‘VP → VERB (NP)’ which replaces the two VP rules of Figure 9. Although such notations are convenient for writing complex grammars we will not use them for the simple grammars in this chapter.

4.1.3. Parsing With Context-Free Grammars

The schemas for sentence generation given in section two are not directly applicable to the problem of how people (or computers) would go about generating sentences. To extend the abstract generation process to a model of sentence production, we would need formalism for describing the factors that control the choice of individual rules. There is little that can be done on a purely syntactic level and discussion of this problem will have to wait for the theories of semantics developed in the volume on meaning.

The problem of *parsing* (recognizing sentences and assigning them structures) can be dealt with more directly as a syntactic problem. Many techniques have been developed to apply generative grammars in a uniform way to analyse the structure of sentences. Figure 15 illustrates the relationship between stored knowledge and assigned structures in the use of a parser. It is a more specific example of the general organization.

A parser uses a parsing algorithm, along with a grammar and dictionary, to produce a phrase structure tree that corresponds to a given sequence of words. There is a direct correspondence between the rules of a grammar and the structures it assigns. As in the derivation trees of Section 2 each non-leaf node in the parse tree (the phrase structure tree

produced in parsing) corresponds to a single rule in the grammar, whose left-hand side is the label of the node and whose right-hand side corresponds to the children. Each leaf node is a word in the sequence. A recognizer is like a parser in its use of a grammar, but it does not produce a tree representing the analysis of the word sequence. Instead, it simply succeeds or fails for a given sequence of words, depending on whether it is or is not a sentence of the language defined by the grammar. Recognizers are, of course, not as useful since the reason for parsing is usually to get the resulting analysis. However, in our description of parsing algorithms in the rest of this chapter, we will often first present a related recognition algorithm, and then add the additional steps needed to produce the parse tree.

The problem in designing a context-free parser is to use the correspondence between rules and structures as the basis for organizing the analysis process. Many different parsing procedures have been devised, each with its own kind of working structure and with particular properties of efficiency (in time and storage). In designing a specific procedure, one must make choices along a number of different dimensions of parsing strategy, laid out in the rest of this section.

4.1.3.1. General Issues in Parser Design

To begin with many issues in designing a parsing procedure are not technical choices, but have to do with the overall approach to language and grammar. This chapter deals with context-free grammars and adopts a mathematical idea of grammaticality. This leads to a number of consequences.

Uniformity of Processing: There is no inherent reason why the parsing process must correspond directly to the form of the grammar. By writing a procedure based on specialized knowledge of the language being parsed, it might be possible to do things more efficiently. On the other hand, if there is a simple uniform procedure for applying a set of rules, the job of writing a language under stander is simplified. Once the rules have been put into the knowledge base, no further knowledge is needed for parsing. The correctness of the parsing procedure and the correctness of the grammar can be tested separately. Ideally the same rules would be used in a uniform way for generation as well, although this has rarely been the case in practical systems. This chapter describes only uniform procedures.

Separate Processing of Levels: The stratified model of language structure does not imply a stratification of processing. It is possible to design systems in which the parsing of syntactic structure is intermixed with other processing levels such as word recognition and the analysis of meaning. Much of the difficulty of choosing rules in parsing can be avoided by letting knowledge from the other levels take part in the selection. Some of the more sophisticated computer systems for natural language understanding use a mixed strategy and a number of experiments support the intuition that a human language under stander operates on many levels simultaneously. All of the procedures in this chapter, however, are based on the assumption that the input is a sequence of words and that the parsing is completed without

any appeal to meaning. The strategies for purely syntactic parsing will provide a framework for understanding more sophisticated procedure.

Precision: An obvious property of human language is that we can understand sentences that do not precisely fit a grammar. Even when we recognize a sequence of words as not being grammatical, we are often able to assign a structure to it anyway and figure out its meaning. Some computer systems for natural language are designed with an emphasis on this sort of flexibility. By looking for key words and using fairly unspecific patterns, they can accept a wider range of sequences than would be formally allowed by a grammar. The price they pay is in never producing a complete analysis that could be used to dig out the subtleties of meaning that can play such a large part in communication. They are limited to a rather vague notion of what a sentence is about, and as a result often make blunders in deciding on responses. The generative paradigm is based on an attempt to be precise and our approach here is to follow that path first, looking at flexibility later as a way to relax the precision when forgiveness is called for, rather than eschewing it from the beginning.

4.1.3.2. Dimensions of parsing strategy for context-free grammars

Within the boundaries of purely syntactic, uniform, precise, context-free parsing, there are three major dimensions along which parsing strategies differ. In presenting the details of each, we will begin with a non-deterministic schema, in which one dimension of choice has been fixed but the others are still open. Any actual parsing procedure must make specific choice along all of these dimensions.

Parallel versus sequential treatment of alternatives: There are two different procedures for recognizing sentences with a transition network. One followed multiple possibilities in parallel, keeping track of a set of simultaneous possible states. The other tried them in sequence, backtracking when its choices led to failure. This is one of the fundamental dimensions of strategy for every kind of procedure involving choices, and applies equally to procedure for reasoning and for the analysis of meaning.

Top-down versus bottom-up analysis: Parsing and recognition procedures for context-free grammars are similar to those of earlier discussion. In that we try to match successive elements of patterns (in this case, the right-hand sides of rules) to successive elements of the input sequence. The different is that instead of a single pattern being matched to the entire sequence, a number of rules must be used with elements of one rule calling for the application of another. This leads to the problem of deciding which rules to try, and in what order. There are two basic strategies, corresponding to two different ways of finding answers to the question ‘*What should I do next?*’

Basically, a top-down procedure begins by looking at rules for the desired top-level structure (usually a sentence), sees what constituents would be needed to make it up, looks for rules for those constituents, and in this way proceeds down the structure tree until it reaches words. A bottom-up procedure begins with the words and looks for rules whose

right-hand sides match sequences of adjacent words that can then be combined into a constituent as identified by the left-hand side. It then tries to combine these with each other and the remaining words into larger constituents and proceeds up the structure tree until it is able to combine constituents covering the entire input into a single structure labeled with the distinguished symbol.

The same structures are found by top-down and bottom-up parsing, but the amount of work done and the nature of the working structures is quite different. We will look at the advantages and disadvantages of each. The distinction between top-down and bottom-up strategies applies in a very general way to any kind of processing. It can be characterized as the difference between goal-directed processing, which is guided by the goal it is trying to achieve (in this case the recognition of a sentence) and data-directed processing, which is guided by the availability of specific data (in this case the words of the input sequence).

Choice Of Nodes To Expand Or Combine: Within the context of working basically top-down or bottom-up, there are still decisions to be made as to which nodes to work on first, either by expanding them (in a top-down procedure) or by combining them (in a bottom-up procedure). There are two basic organizations used to make these decisions; moving systematically through the input in one direction (usually from left to right), or systematically taking chunks of increasing size. There are mixed strategies in which a basically directional organization has a size-oriented substructure. How much work will be done with a given grammar on a given input depends significantly on the details of this choice.

We generally can use a left-to-right strategy with top-down procedures and a chunk-building strategy with bottom-up procedure. This is the simplest combination but not the only one. Many parsers for programming languages use left-to-right bottom-up procedures, which can take advantage of special properties of the grammars. Some parsers used in speech understanding systems operate top-down but look for islands from which they work in both directions. For example, in looking for an NP they first look for a noun (which tends to be more clearly enunciated and more predictable from meaning) and then work to the left looking for adjectives and determiners and to the right looking for modifying phrases.

Even in working across in a single direction it is possible to go from right to left instead of from left to right, and some parsers adopt this ordering. As far as the formalism is concerned, there is no privilege to either direction, but it seems more natural to proceed in the same order that the words would be heard in spoken language. Parsers that operate primarily in this direction are more likely to be good psychological models than those that need to have the entire sequence of words available before beginning processing. Of course, the use of the term 'left-to-right' for temporal order is specific to the writing conventions of English and other European languages. A Hebrew or Arabic parser would naturally operate 'right-to-left'.

4.1.3.3. The Problem of Ambiguity

An obvious feature of natural language is their ambiguity. The same sequence of words often has more than one interpretation. In those cases where this is due simply to polysemy (multiple meanings) of individual words, it does not present a problem for parsing. The sentence *she walked towards the bank* must be interpreted in a context that makes it clear whether it is the bank of a river or a financial institution, but the syntactic structure is identical in the two cases.

However, there are many cases of ambiguity where the syntactic structure is ambiguous. A classical example is the phrase *the old men and women*, in which the modifier *old* can be associated with either *men* or *men and women*. Conjunctions such as *and* are a major source of structural ambiguity. The attachment of modifying phrases is another common problem, as in the sentence multiple word classes, as in the two parsings of *I saw that gasoline* *I saw the man on the hill with a telescope*. There are at least three different ways to interpret the phrase, differing in whether I used a telescope, 'there is a telescope on the hill, or the man had a telescope. Other ambiguities arise from words that are in multiple word classes, as in the two parsing of *I saw that gasoline* could explode.

A context-free grammar is said to be *ambiguous* if it can be used to derive two different trees that have the same sequence of leaf node. A classical case of ambiguity is illustrated in Figure -16. Note that *time* is listed in the dictionary as a noun (*Time passes slowly*), a verb (*We are timing the marathon*) and an adjective (*Show me the time cards*).

A parsing procedure can be based on either of two basic attitudes towards ambiguity; it can search for a single interpretation and quit as soon as it has found one or it can return all of the possible interpretations. In general parallel procedures are better suited to returning all of the interpretations since they work on them all simultaneously. Back tracking procedures naturally stop as soon they find a single parsing, but it is easy to produce all the parsings by forcing them to back track each time they succeed. In describing the procedures below, we will assume that the parser should stop as soon as one parsing is found. It is an easy exercise to modify them to continue until all parsings have been found.

4.2. GB Formalism

We begin by posing a question: Why in spite of being the dominant linguistic theory, Government and Binding (GB) has been comparatively less popular with computational linguists? Basically there are two reasons:

1. GB does not address itself to either the problem of natural language parsing or of generation. Its goal is to identify the innate structure in human mind, which enables a child to acquire the language so effortlessly. As a result it proposes its formalism in a form for which neither existing parsing tools developed by computer scientists can readily be used, nor is it clear how new efficient parsing techniques will be designed in a straight forward manner. In other words one has to begin, in one sense, ab-initio.

2. The GB theory has not yet reached a stable enough from “where one would invest the effort in building a complete GB parser. It has been commented, “TG is a field whose very foundations shift as remorselessly as quicksand” (Radford, 1988).

The next question that comes up naturally is: If the above reasons hold why should NLP workers invest their time and effort in studying GB? The answer goes as follows: 1. If one is interested in the task of accepting only grammatical sentences then at least for languages like English where movement plays a crucial role, examples are known, for which, “there is no natural way to capture their effects in any of the well-known logic grammars or extensions of them” (Stabler, 1990). It is not being claimed here that GB has satisfactory solutions to these problems but at least a very large number of leading linguists are working on these problems in GB framework and one would like to get benefit of their efforts and insights.

Whereas many other grammatical formalism either do not address the problems of anaphora resolution and quantifier scoping or assume that they are best handled by pragmatics, GB linguists invest most of their efforts in attempting to solve these problems using the same machinery which GB has developed for handling wh-movements. Of course it must be admitted here that they address a very small fraction of the anaphora resolution problem.

Because for implementing GB parser one has to start ab-initio, one tends to tailor the parser according to the need of the natural language, e.g., due weight age is given to the lexical properties of heads of constituents early enough in the parser along with principles for case assignment and thematic role assignment, which in turn enables one to properly address the problem of ambiguity in an appropriate manner (see Wehrli (1988)). In other words, because the theory is silent or neutral to parsing or generation, particularities of the natural language concerned can be made use of while designing a parser without coming in conflict with the theory. Having seen the goal and the concerns of GB and why NLP researchers should look at GB, at least while working on English like languages, we will first give an overview of the GB model. In the next section we will look at GB in more detail, in particular, at each of the principles and modules. In Section 3, we will suggest how GB can be used computationally for parsing English.

The basic organization of GB grammar can be seen in Fig. I. It has three levels of representations of a sentence: D-structure, S-structure and LF-representations. PF-representation is the sentence itself.

In GB model a crucial role is played by interacting systems of principles, which are listed in Fig.18. These systems of principles place constraints thus filtering out ungrammatical representations.

Fig. 17: GB Model

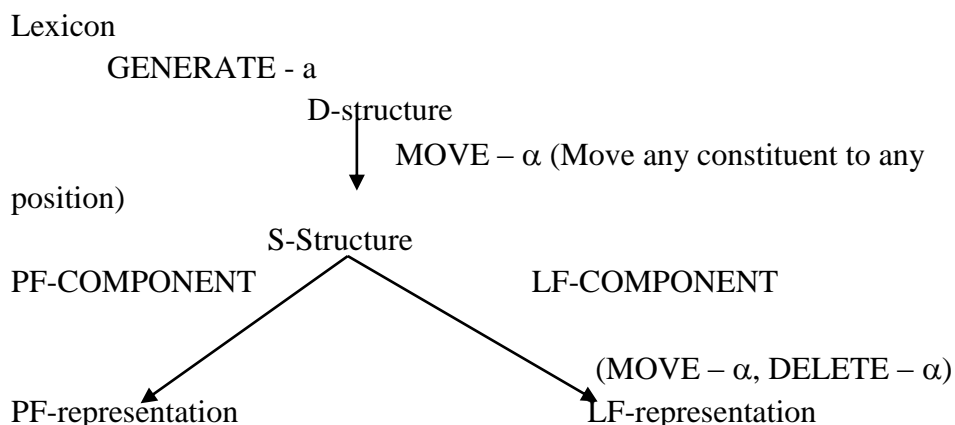


Fig.18: GB Principles

X – bar theory
 Thematic theory (theta theory)
 Government (Definitions)
 Case theory
 Bounding theory
 Binding theory
 Control theory

Typically, various principles have some parameters associated with them. These parameters are meant to make the grammar flexible enough to account for all the different languages.

4.2.1. The GB Modules

In what follows is a very brief summary of GB principles. It is based, primarily, on Duarte (1990).

4.2.1.1. X-bar theory

X-bar theory gives the structure of phrases in GB. It replaces the phrase structure rules of earlier transformational grammars. It says that if there is a head X_0 , it has a maximal projection termed as X . The maximal projection is a phrase optionally containing a complement and a specifier as determined by the head and also possibly adjuncts. This can be stated in terms of rule schema as follows, where curly brackets indicate the optionality of constituent.

- X -----> adjunct X..... (1)
- X -----> X adjunct..... (2)
- X -----> {spec} X3)
- X -----> X_0 {Comp}..... (4)

$$X \longrightarrow \text{adjunct } X \dots\dots\dots (5)$$

$$X \longrightarrow X \text{ adjunct} \dots\dots\dots (6)$$

The order of constituents on right hand side of rules (3) and (4) may be language dependent, e.g., in Hindi Comp will precede Xo. This is a simple example of a choice of parameter. The order shown here is for English. Xo is termed head X and is its maximal projection. Xo can be a lexical category like N (noun), V (verb), A (adjective) or P (preposition) or it can be a functional category like infl, COMP etc. Spec, COMPl and adjunct must be maximal projections. Head controls the choice of Spec and Compl both semantically as well as syntactically. Projection Principle: Lexical properties must be represented by categorical structure at every level of syntactic representation (i.e., D-and S-structure, and LF representation). This principle, which is not, a part of any one of the seven systems of principles listed in fig. 2.ensures that lexical requirement information is present at each level of representation and moreover, it also insists that the information must be coded in terms of configurational positions, a choice which is natural for English – like languages.

4.2.1.2. Theta Theory

θ-Criterion:

1. If α is an argument of β then the position P occupied by α is assigned one and only one θ -role R.
2. If β has a θ -role R to assign, then this θ -role is assigned to a position P and P is occupied by one and only one argument.

Note that in GB theory θ -roles are assigned to syntactic positions and not directly to arguments.

One of the main consequences of the θ -criterion is that constituents are allowed to move to non – thematic positions only. (This is a simple example illustrating constraints on movement imposed by system of principles.)

4.2.1.3. Government

Before we define government, we will define some structural relations.

Def. C-Command: α c-commands β iff

- (a) α does not dominate β and
- (b) the first branching node that dominates α dominates β

Def. M-Command: α m-commands β iff

- (a) α does not dominate β and
- (b) every maximal projection that dominates α also dominates β .

Def. Intervene: S intervenes between α and β iff
 S dominates α and does not dominate β .

Initial definition of government: α governs β iff:

- (a) α is a head;
- (b) α in – commands β , and
- (c) there is no intervening maximal projection between α and β

Revised definition and one we will use is as follows:

Def. Government: α governs β iff:

- (a) α is a head;
- (b) α m-commands β ; and
- (c) there is no intervening barrier between α and β

Where barrier is defined as follows:

Def. Barrier is a maximal projection such that

- (a) it is non - θ - marked;
- (b) is fully specified (i.e. its spec position is filled); and
- (c) its head is a functional category.

Remark: The crucial idea behind government is to define the domain of influence for a head.

Def. Proper Government: α properly governs β iff

- (i) Either it is a lexical government i.e.
 - (a) α governs β ; and
 - (b) α is a lexical head
- (ii) or it is an antecedent government, in which α governs β except it does not α require to be a head, it can be a maximal projection. However, α must be co-indexed with β .

4.2.1.4. Case Theory

Case Filter:

- (i) Every NP with phonetic content must be case marked.
- (ii) Every argument NP (distinct from PRO) must be case marked.

Case Assignment: certain heads assigns Case e.g.

1. Verb assigns accusative case
2. Preposition assigns oblique case
3. infl (+AGR) assigns nominative case

Principle: Case is assigned under government

4.2.1.5. Bounding theory

Subjacency: No instance of Move- α can cross more than one barrier

Empty Category Principle (ECP)

All traces must be properly governed.

4.2.1.6. Binding theory

Def. Binding α binds β .

(a) α c-commands β ; and

(b) α and β are co-indexed

Binding Principles:

(a) An anaphor must be bound in its governing category.

(b) A pronominal must be free in its governing category.

(c) An R – expression must be free everywhere.

Note: free means it should not be bound by a potential argument position.

Def. Governing Category: α is the governing category for β iff

α Is the minimal maximal projection containing

(a) β

(b) the governor of β , and

(c) a SUBJECT

Def. SUBJECT. A SUBJECT is either

AGR with respect to infl or

A subject NP with respect to NPs and small clauses.

The tables given below indicate what items are anaphor and what are pronominal. They include lexical categories as well as empty categories.

Lexical categories

Pronominal

	+	-
+	-	himself etc
-	him etc	proper noun - etc

Empty Categories

Pronominal

	+	-
+	PRO	NP-trace
-	PRO	wh-trace Q-trace

4.2.1.8. Constraints on movement

Based on the above principles, this is what we can say about movements (Duarte, 1990):

1. What can be moved?

Only heads and maximal projections are free to move.

2. Where can these be moved?

- The landing site has to be a non-thematic position.
- A head can only be moved to another head position and a maximal projection can only be moved to a maximal projection position.

3. By what process can a movement occur? If the target position is an empty spec or head position then the process is of substitution else it will be by adjunction.

4. How far apart a moved constituent and its trace can be? This is answered indirectly by the following conditions:

- Subjacency: In a single step no movement can cross more than one barrier.
- ECP: All the traces must be properly governed.

Binding theory: An NP trace must be bound in its governing category and a wh-trace (in general, a variable) must not be bound in its governing category.

4.2.2. How can GB help in parsing?

In English like language where primary information about thematic roles is coded in terms of relative position and yet it also permits movements for topicalization etc., it is not difficult to see the importance of various constraints on movement, which directly follow from various principles of GB theory.

To begin with one might suggest the following steps for parsing an English like language.

1. Using X-bar system of principles, form phrasal categories on the basis of lexical heads. This step may again be broken up in following sub-steps:

- Recognize lexical heads
 - Search for the longest well-formed sequence of specifiers and attach it (i.e., make it a sister) to the phrasal category dominating the lexical head.
 - Non-deterministically propose possible Xs as complements.
2. Using θ -criterion and projection principle identify the needed empty categories in the s-structure.

To decide the type of empty-category one may use the facts of following kind.

- If the position is not properly governed it must be a PRO (from ECP).
 - If the position has a case assigned to it, it must be a variable trace. (from non NP-movement).
3. Using binding theory (in case of PRO, using control theory) find the co-indexed phrase.

In case of a trace, determine its governing-category, and then depending on the fact whether it is an NP-trace or a variable look for the antecedent in the governing-category or outside it, respectively.

Note that the domain of search need not cross more than one barrier.

Following are some examples from Saint-Dizier (1990) with some-what simplified S-structure, which illustrate the approach.

4.2.2.1. Relative Clause construction:

Take the following example:

The boy who Mohan met yesterday is coming tomorrow

S-structure of relative clause in the above is:

{_{COMP} who _i Mohan met {NP ^t_i} yesterday}

Note the empty category is not a PRO because it is properly governed and it is not an NP-trace because it has accusative case assigned by the verb. So it cannot be bound by an argument position. Co-indexing it with 'who' satisfies all the constraints.

4.2.2.2. Passive Construction:

In case of passives, the following additional assumptions are made:

- A passivized verb cannot assign case to its object NP.

- θ -grid requirement of a passive verb differs in following manner from that of active verb.

- (a) No θ -role is assigned by a passive verb to its subject-NP in d-structure
- (b) A 'by-complement' with the θ -role of the subject NP of the active verb can be optionally present at d-structure.

Consider as an example:

A book was thrown.

$[[_{\text{NPA}} \text{book}]_i \text{ } [_{\text{was thrown}} [_{\text{NP}}^t i]]]$

In this case, the trace is an NP-trace because it is in a position, which is properly governed but does not have a case. So it must be bound in its governing category, which is the sentence itself. So the NP in subject position binds it appropriately.

4.2.2.3. Subject-to-subject raising

Consider the example sentence below with its S-structure:

Mohan seems to be on time.

$[_{\text{Infl}} \text{Mohan } i \text{ seem } [_{\text{COMP}} \text{trace } I \text{ } [_{\text{VP}} \text{to be on time}]]]$

Again this is a case of NP-movement because it cannot get case from an infl with-AGR feature, so it moves to a non- θ -marked position. Note 'seem' does not θ -mark its subject position. (it seems Mohan is on time.)

4.3. Lexical Functional Grammar

Lexical Functional Grammar (LFG) has been designed by Kaplan and Bresnan (1982) with a view to provide a computational formalism for analyzing sentences in natural language. The main problem it addresses is how to extract grammatical relations from a sentence. It postulates two levels of representation: one based on constituent structure and the other on grammatical functions such as subject, object. A particular source of difficulty in English is the fact that positions are used for coding both theta relations as well as topicalization etc. Considerable effort has gone into design of LFG so that it can deal with and separate these two kinds of information. LFG also indicates how the grammatical functions can be mapped onto theta roles. But here, it offers no theory; the mapping must be enumerated exhaustively in the lexicon.

A major strength of LFG is that it gives explicit algorithms for extracting grammatical functions. It uses context free grammar (CFG) for specifying constituent structure. Efficient parsing algorithms for CFG are well known (e.g. Early (1970), Cocke, Younger, Kassami algorithm (in Younger (1967), Tomita (1986)). LFG uses the powerful unification mechanism

for specifying mapping to grammatical relations. The same mechanism uniformly handles constraints across constituents in the constituent structure. More importantly, algorithms that solve these constraints are completely specified.

A weakness of LFG is that it does not offer any theory regarding lexical ambiguity, adjuncts and optional theta roles, and mapping from grammatical relations to theta roles. These tasks are left for the lexicon with LFG offering no linguistic insight as to how to do them. In fact, if one were to exhaustively enumerate the possibilities, in the lexicon the solution would be computationally expensive too.

Here we will focus on some selected aspects of English, namely two types of movements, and see how LFG handles them. Again this is a case of NP-movement because it cannot get case from an infl with-AGR feature, so it moves to a non- θ -marked position. Note ‘seem’ does not θ -mark its subject position. (it seems Mohan is on time.)

The following are the movements of interest here:

1. active-passive and dative constructions
2. wh-movement in wh-questions

Before going into the LFG formalism, it is appropriate to make a few observations on the phenomena to be explained.

Active-Passive and Dative Constructions

As examples of active-passive construction, consider the sentences (1) and (2).

- (1) A boy gave a book to the girl
- (2) A book was given to the girl by a boy.

Sentence (2) can be thought of as a sentence that has been obtained from its active counterpart (1) by moving the object ‘a book’ to the subject position, and converting the subject ‘a boy’ as a prepositional phrase and moving it to after verb. Moreover, optionally, the latter can be dropped altogether as shown by sentence (3). In fact, in the passive sentence, both object and the ‘by’ prepositional phrase can be dropped.

- (3) A book was given to the girl.
- (4) A book was given, yesterday.

In dative construction, there are double objects.

- (5) A boy gave the girl a book.

This can again be considered to be obtained by movement of 'to' prepositional phrase as the object, and earlier object as object 2. Another passive form is possible on dativization. Example sentences with the passive form are given in (6) and (7).

- (6) The girl was given a book by the boy.
- (7) The girl was given a book.

Wh-movement in Questions

In a wh-question, the wh-phrase containing the questioned element moves from its normal position to the front of the sentence. Examples are sentences (8) to (12).

- (8)* Ram killed who?
- (9) Who did Ram kill?
- (10)* Mohan said Ram killed who?
- (11) Who did Mohan say Ram killed?
- (12) Who did Mohan say Shyam believed Ram killed?

As sentence (12) shows, wh-element can move (arbitrarily) long distance in case of (arbitrarily deep) embedded sentences.

4.3.1. LFG - Overview

LFG assigns two representations (at two different levels) to a sentence. They are called c-structure (for constituent structure) and f-structure (for functional structure). The former is a tree structure, which shows word order, and hierarchical structure of constituents. The latter is a structure containing a set of attribute value pairs, and it may also be hierarchical. Consider sentence (5) as an example.

- (5) A boy gave the girl a book

Its c-structure is shown in Fig.1a. It has the usual syntactic and lexical categories. The tree encodes hierarchical as well as word order information. The corresponding f-structure is given in Fig.1b. It has the attributes subj, pred, tense, obj, obj 2, spec, etc. The values of the attributes are shown next to them. Subj, obj and obj2 are called grammatical functions because they are specified by the grammar and not by the lexicon. Pred is a special attribute that maps to semantic representation from the f-structure. From the above f-structure, we can obtain the following predicate argument representation (ignoring spec and tense):

give (boy, book, girl)

If we take the passive sentence (6)

The girl was given a book by a boy.

the final predicate-argument representation must remain the same as before: give (boy, book, girl) indicating that the ‘gross’ meaning of active and passive remains the same. This holds in spite of the different c-structure and f-structure from the active sentence: As the f-structure in Fig.2 indicates (see values of pred) there would be at least two lexical entries for give: one corresponding to the active use and the other to passive use in dative construction. (In fact, there will be two more lexical entries for normal active and passive and several more to take care of optional object and prepositional phrases in case of the passives).

Figure 19: C-structure

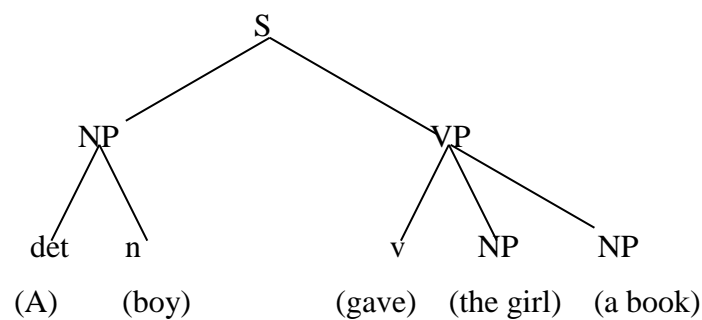
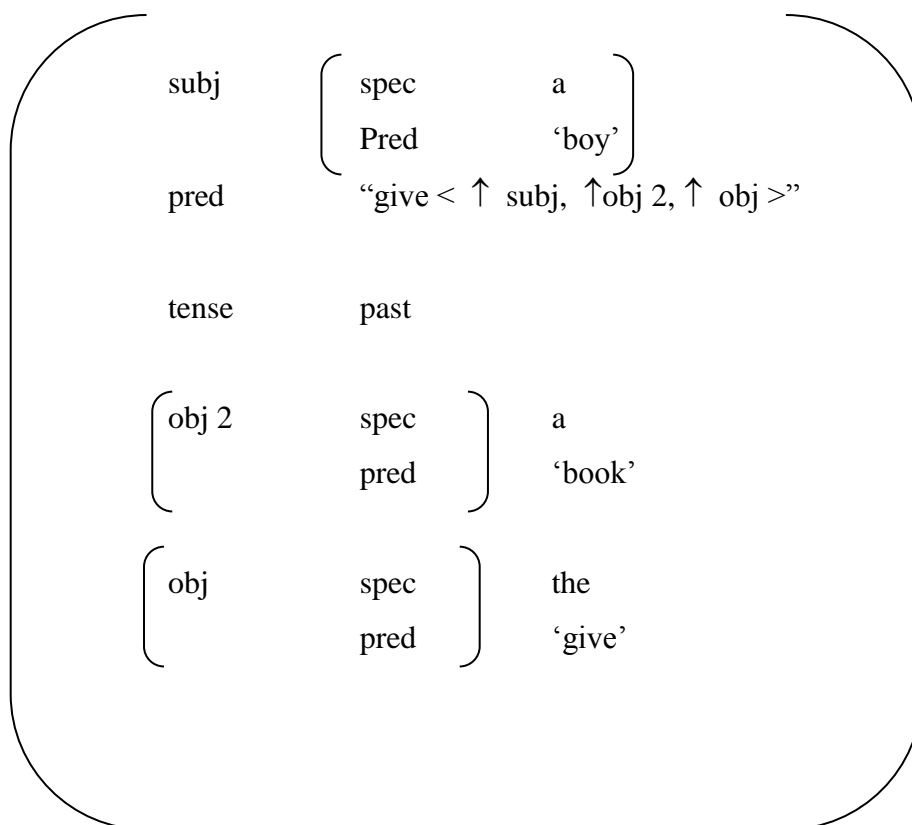


Fig. 20: f-structure



4.3.2. LFG Formalism

LFG formalism has two major components: a context free grammar and a functional specification. The former gives the c-structure for a sentence, and the latter gives the f-structure. The two components are inter-related, however, and using functional specification together with the c-structure produces the f-structure.

The functional specifications usually consist of equalities associated with each non-terminal on the right hand side of the context free (CF) rule. In the example grammar from Kaplan and Bresnan (1982) given below, there are two special symbols: up-arrow and down -arrow (called as meta-variables). The down-arrow in a functional specification associated with a non-terminal refers to the f-structure with the non-terminal, while the up-arrow refers to the f-structure associated with the symbol on the left-hand side of the CF rule.

$$\begin{array}{ll}
 \text{(R1)} & S \rightarrow \quad \{NP\} \quad VP \\
 & \quad \quad \quad \uparrow \text{subj} = \downarrow \quad \uparrow = \downarrow \\
 \text{(R2)} & VP \rightarrow \quad V \quad \quad \quad \{NP\} \quad \{NP\} \quad PP^* \\
 & \quad \quad \quad \quad \quad \quad \uparrow \text{obj} = \downarrow \quad \quad \quad \uparrow \text{obj 2} = \downarrow \quad \uparrow \\
 & (\downarrow \text{pcase}) = \downarrow \text{obj} \\
 \text{(R3)} & PP \rightarrow \quad \text{prep} \quad NP \\
 & \quad \quad \quad \quad \quad \quad \uparrow \text{obj} = \downarrow \\
 \text{(R4)} & NP \rightarrow \quad \text{det} \quad \text{noun} \mid \text{pronoun}
 \end{array}$$

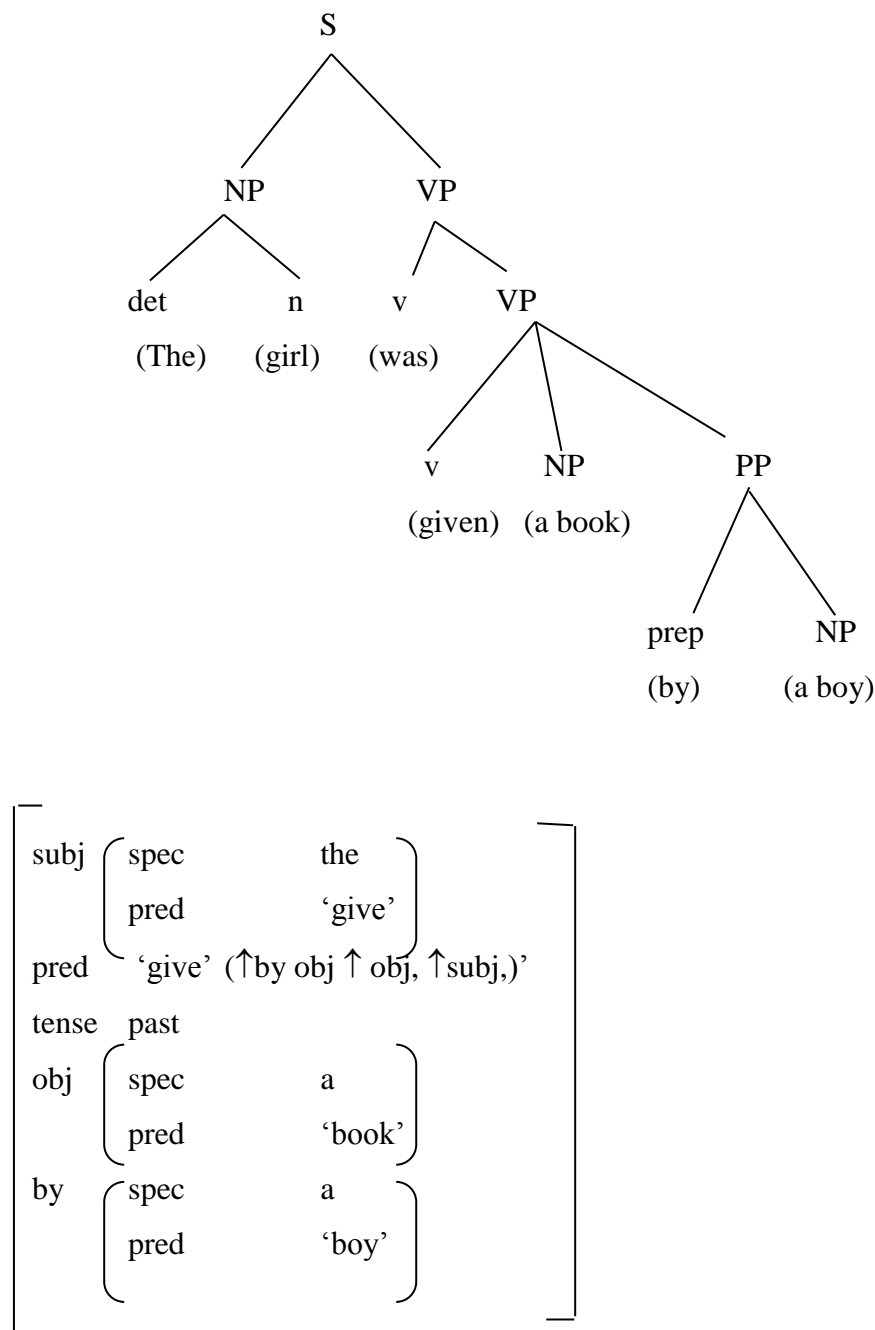
Rule R1 says that a sentence (S) consists of a noun phrase (NP) followed by a verb phrase (VP). The functional specification associated with the NP says that the f-structure for S has an attribute subj whose value is the f-structure for NP. The second specification says that the f-structure for VP and S are equal.

In rule (R2), both NPs are optional, which are followed by prepositional phrase (PP) repeating zero or more times. The NPs contribute to object or object2, in the f-structure of the sentence, PPs are stored as adjunct.

To obtain the f-structure, we must use the functional specification along with the c-structure. Consider as an example, sentence (5) whose c-structure is given in Fig. 19. Let f1 be the f-structure of the sentence and f2 that of the NP. Therefore, on using the subject specification of the c-structure we get:

$$f1 \text{ subj} = f2$$

Fig.21: C-Structure and f- structure for passive sentence (6)



Similarly other equations can be written down. The terminals also yield equations, using the lexicon. Solution to the equations is an f-structure shown in Fig.1b. It is associated with the root node S in the c-structure.

Some example lexicon entries are:

the, det

↑spec = the

boy, noun
 $\uparrow \text{pred} = \text{'boy'}$
 $\uparrow \text{num} = \text{singular}$

4.3.3. Well-formedness Conditions

F-structure assigned to a sentence must satisfy certain well-formedness conditions. If any of these conditions are violated the assignment is rejected and an alternative structure explored.

The first condition that must be satisfied by an f-structure is that of *uniqueness*, says that an attribute in an f-structure can have at most one value. For example, if it required that the following f-structure (corresponding to 'boys' and 'a') is made equal.

Fig. 22: F-structures for 'boy' and 'a'

$$\left(\begin{array}{ll} \text{num} & \text{plural} \\ \text{pred} & \text{boy} \end{array} \right) \quad \left(\begin{array}{ll} \text{num} & \text{singular} \\ \text{spec} & \text{a} \end{array} \right)$$

it will fail to yield a consistent f-structure because of the clash in the value of attribute num. Note on the other hand that the following:

$$\left(\begin{array}{ll} \text{num} & \text{singular} \\ \text{pred} & \text{boy} \end{array} \right) \quad \left(\begin{array}{ll} \text{num} & \text{singular} \\ \text{spec} & \text{a} \end{array} \right)$$

can be made equal by the following f-structure.

Fig. 23: A simple f-structure on unification

$$\left(\begin{array}{ll} \text{num} & \text{singular} \\ \text{pred} & \text{boy} \\ \text{spec} & \text{a} \end{array} \right)$$

This process of making two f-structures equal is called unification. It will be discussed in detail later. The uniqueness condition is a general method for specifying cooccurrence restrictions including agreement.

The second condition is that of *completeness*. Approximately, an f-structure is complete if it contains all the attributes named in the arguments of its predicate. For example if we have the attribute pred with the value:

give < (\uparrow Subj, \uparrow obj2, \uparrow obj)>

the f-structure must contain values of the attributes subj, obj and obj2. This condition would cause the following sentences to be rejected for example:

*A boy gave the girl.

*A boy gave.

Note that these would not otherwise be rejected by the grammar rules.

The third and final condition relates to coherence. It states that if there is a grammatical function in the f-structure, it must also occur in the predicate-argument combination. For example, if there is a grammatical function obj2, then it must also occur in the value of pred. This would cause the following sentence to be rejected:

*The boy slept the book.

*The boy ate the apple the girl.

because predicate for sleep has only one argument (relating to subject), and that for eat has only two arguments.

The second and third conditions correspond to theta criterion of GB (Chomsky, 1981) or akanksha-yogyata principle of Panini (Bharati et al., 1990). They capture sub categorization and theta-role assignment.

4.3.4. Handling Wh-movement in Questions

To handle long distance movement, there are bounded met variables notated as down and up arrows with double-edged tails (\Uparrow, \Downarrow). They are respectively called controller and controllee. Here, we will consider wh-movement related to questions only.

To handle the fronting of wh-phrases we will change rule R1 to R1'. Also the gap left behind by the movement will be handled by allowing empty noun phrase (see R5).

(R1) S \rightarrow {NP} NP VP
 \uparrow wh = + \uparrow subj = \downarrow \uparrow = \downarrow
 \uparrow Quest = \downarrow
 \uparrow = \Downarrow
 (R5) NP \rightarrow e
 \uparrow = \Uparrow

By defining the f-structure of the moved wh-phrase as a controller, and that of the empty NP as a controllee, we indicate that the f-structures are the same.

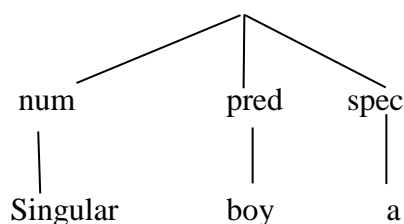
Thus, controller and controllee have a special meaning in LFG. The closest nested matching controller and controllee are made equal. (This is equivalent to co-indexing in other grammars.) Other rules about agreement etc. continue to hold. As an illustration consider the following sentences.

*Which boys_i e_i comes to school in time?

Which boys_i e_i come to school in time.

The former sentence is bad because of agreement violation of the empty element with the verb

Fig. 24: Graph representation of a f-structure



4.3.5. Computational Aspects: Feature Structures and Unification

As mentioned in the introduction, a major strength of LFG is that it gives explicit algorithms by which c-structure and f-structure can be obtained for a sentence. As it uses CFG, the parsing problem namely arriving at a c-structure from a sentence is a solved problem. Several efficient algorithms are known and their implementations are available “off-the-shelf.”

F-structure of a sentence can be obtained using its c-structure and functional specifications in LFG. Here, use is made of unification, a powerful operation. We discuss the notion of feature structure and unification below. The discussion is based on Reyle and Rohrer (1988: Introduction).

4.3.5.1. Features and Feature Structures

Features have been used in Linguistics since long at nearly all levels of linguistic description. A simple example of features associated with a noun phrase has been given in Fig.23 in the form of matrix representation. It can be expressed in the form of a graph representation in Fig.24. It is simple in the sense that each attribute (or feature) has an atomic value that it can take out of a fixed finite set. If we relax atomicity, the value of an attribute can be a feature structure and we can build hierarchical structures. Suppose we were to group num and person into one feature called agreement, and then its value would be non-atomic (see Fig.25). In f-structures in LFG, we have been using such complex structures.

Feature structures can simply be viewed as complex symbols or complex categories. GPSG by Gazdar et al. (1985) which uses features extensively, in fact, can be shown to be equivalent to a CFG by this (and other) argument(s). To illustrate the argument, suppose we want to say using features that subject must agree with the verb in number:

$$S \rightarrow NP \quad VP \\ (\uparrow \text{ subj} = \downarrow) (\uparrow \text{ subj num} = \downarrow \text{ num})$$

Suppose further that num can take one of two values s(ingular) and pl(ural). Now number agreement can be expressed without features by suitably adding new categories and rules:

$$S \rightarrow NP-S \quad VP-S \quad I \quad NP-PL \quad VP-PL$$

where NP-S stands for singular noun phrase etc.

4.3.5.2. Unification

Feature structures or complex categories form a lattice based on subsumption also called extension (notated as \subseteq) It can be defined as follows:

Definition: $A \subseteq B$ iff

Case (i) A and B are atomic values:

Then $A = B$

Case (ii) A and B are feature structures:

Then if there is a pair (a, u) in A, there is a pair (a, v) in B such that $u \subseteq v$.

For every attribute value, the bottom element of the lattice is the empty feature structure and the top element T is an artificially introduced element for which $X \subseteq T$ for all X. Subsumption is a partial order which, roughly speaking, expresses whether two structures are consistent and whether one contains more specific information than the other.

Two feature structure FS1 and FS2 are *consistent* if there is a feature structure FS (other than T) such that $FS \subseteq FS1$ and $FS \subseteq FS2$.

Unification of FS1 and FS2 is the least upper bound of FS1 and FS2 over the subsumption lattice. (Unification is said to succeed if a least upper bound (other than T) exists.)

The notion of unification, while it has been borrowed from logic, is more general here. A term in logic has fixed number of arguments, whereas in feature graphs the number of features is open. For example, in Prolog we may express the NP 'a boy' from Fig. 23b as:

np (boy, a, singular)

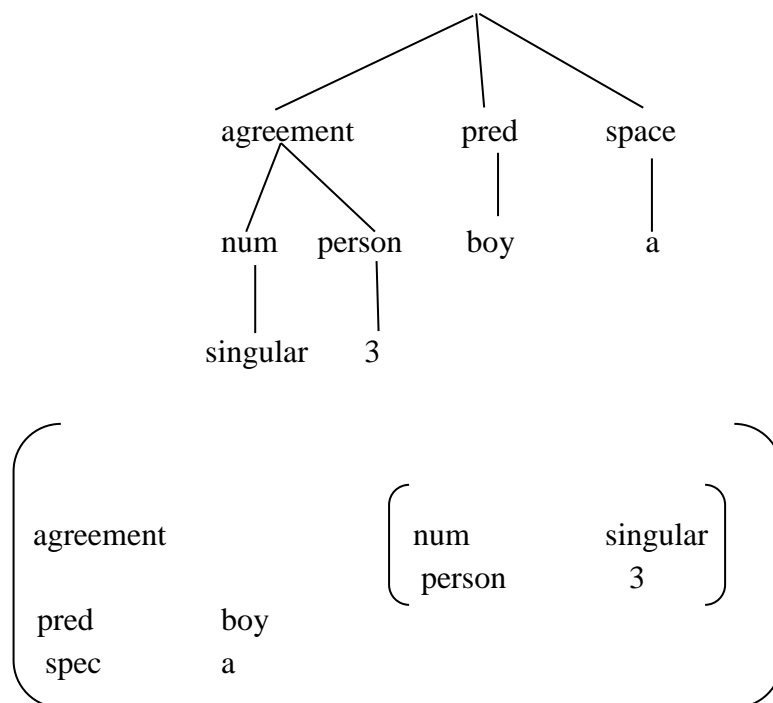
Here, the arguments correspond to pred, spec and num, respectively. It can be obtained by unification from the following two terms for ‘boy’ and ‘a’ corresponding to Fig. 23a:

np (boy, ---, singular)
np (- - - -, a, - - -)

If we now wanted to add some additional information with the term for ‘boy, say, about height it is not easy as changes have to be made for all kinds of other np terms.

As opposed to above, it is a relatively minor matter in feature structures to add a new feature. Absence of a feature in a feature structure simply means that the structure does not restrict the value of the feature in any way. It can be said that the feature structures assume an open world while the terms assume a closed world.

Fig.25: Graph and matrix notation for a complex feature structure



Thus, feature structures and their unification gives flexibility to the linguists in that they do not have to specify in advance how many features can show up and in what order they should appear.

In unification grammar of Kay (1979), LFG, GPSG etc. the context free rules specify how the constituents are to be built up, and the constraints on features indicate restrictions that hold across constituents (between daughter nodes or between mother and daughter nodes). Informally speaking, constraints provide the possibility to transport information along

A TRANSFER GRAMMAR FOR ENGLISH-TAMIL MACHINE TRANSLATION
Prof. Rajendran Sankaravelayuthan and Dr. P. Kumaresan

the branches of a syntactic tree. (If we get rid of the constraints and encode them into complex categories in context free rules, the information transport across categories is “compiled” by increasing the number of categories).

If we compare with attribute grammars we find that in those grammars, synthesized features percolate from bottom to top of the tree, whereas inherited attributes flow down the tree. Unification, on the other hand, is order free. The same result is obtained irrespective of top-down or bottom-up processing. Of course, completeness and coherence can only be checked at the end after final f-structure is obtained.

Unification over feature structures has the advantage that it gives considerable freedom to the linguist in specifying restrictions across constituents. It also gives freedom to the implementor to perform the checks at whatever stage in whatever order he wishes. But there is a price to be paid. It results in an inefficient operation for two reasons:

1. No order is implied, and in fact, as there is no way to assert that something, say, some important feature should be checked first, it results in inefficiencies. Structures are built and only much later an important feature may cause failure and undoing of work.
2. Because of the flexibility it provides, unification is an expensive operation.

4.3.5.3. Other Constraints

LFG also permits existential constraints. It is used to express that an attribute must have a value without specifying the value. For example,

(↑ tense)

is an existential constraint in the CF rule R6 for yes-no questions:

$$\begin{array}{rclcl}
 \text{(R6)} & S \rightarrow & V & & \text{NP} & & \text{VP} \\
 & & \uparrow \text{aux} = c + & & \uparrow \text{subj} = \downarrow & & \uparrow = \downarrow \\
 & & & & & & (\uparrow \text{tense})
 \end{array}$$

It asserts that the attribute tense must have a value in VP. This constraint can only be checked at the end after the f-structure has been built.

A negative existential constraint is also available, which in contrast to above, asserts that the named attribute must not be present.

Finally, there is another type of constraint that expresses necessity of existence of a particular value. For example,

(↑ aux = c +)

in rule R6, expresses the necessity that the attribute aux must have the value ‘+’. Unlike unification (for normal equality) this constraint only checks the value, it does not add it to the

f-structure if not already present. Purpose of this device is to avoid putting default value of an attribute everywhere when the non-default value is needed only at a few places. In the example above, if we did not have the necessity constraint, we would have to say with every non-auxiliary verb that the value of attribute aux is ‘-’. Now, that is not necessary: when nothing is stated about aux, the default value is ‘-’. It should be noted that if for an attribute only this kind of constraint is used, it overrides the open world assumption.

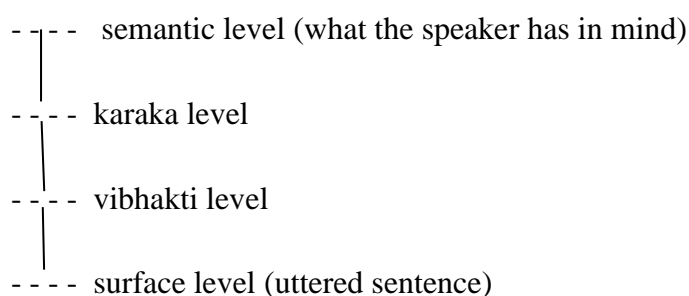
4.4. Paninian Formalism

The problem that has intrigued the generative linguists is how a human child is able to acquire natural language without any formal training simply by exposure to a miniscule amount of ‘positive’ language data. They postulate that there must be a universal grammar every child is born with, and which gets instantiated to a particular grammar for the language to which the child is exposed. The grammar allows the child to determine the grammaticality of sentences.

The goal of the generative enterprise is to characterize the initial state of knowledge of language that allows a human child to acquire the language so effortlessly (by his or her intimate association with a speech community). This is assumed to be distinct from other cognitive structures in the mind.

In contrast to above, the question that has intrigued Paninians is how is it that a speaker is able to convey information to a hearer by means of natural language. How is the information that a speaker wants to convey, represented or coded in language and how is the hearer able to extract the information? The goal of the Paninian enterprise is to construct a theory of human communication using natural language. Grammar, a part of such a theory of communication, is a system of rules that establishes a relation between what the speaker decides to say and his utterance, and similarly, the utterance and the meaning a hearer extracts. The following figure (26) shows the levels in Paninian model (Akshar Bharati et al 2004: 191)

Figure. 26: Levels in the Paninian model



The major task for the theory in generative enterprise is to correctly classify sentences as grammatical or ungrammatical. Meaning comes in through coindexing or theta

assignment. But, at times, meaning and grammaticality may be at variance. For example, in anaphora, coindexing shows what the grammar permits; on the other hand there are known contexts when native speakers accept a coindexing not permitted by the theory. (See Zribi-Hertz (1989) for examples.) Such instances are neither interesting nor relevant for the theory according to Wasow (1979). The implication of such a position is that a NL parser based on the theory may reject and thus block further processing of a sentence, which might be acceptable in the given context.

The main task for the Paninian theory is to assign a meaning to a sentence, which is the same as that assigned by the hearer. Sub-division into separate levels is a theory internal matter as long as the meaning assignment remains the same. There is certainly no separate autonomous syntactic level postulated by the theory. In fact, the Paninian Theory views the range from the sentence to the meaning as consisting of levels of meaning each level more refined than the previous one. The early levels, call them vyakaran levels, make minimal use of world knowledge and greater use of morphological or karaka knowledge. The later levels make greater use of world knowledge, intentions of the speaker and hearer etc. It is important to mention however, that even the vyakaran levels use the notion of vivaksha or speaker viewpoint, which has a relation to intentions or pragmatics. Shows the vyakaran levels in detail, and besides these shows only the final meaning level as perceived by the hearer/speaker.

There is a significant difference between the two models, which is sometimes missed in the details of levels. In the GB model, it seems that it is tacitly assumed that meaning is an ‘objective’ event or entity out-there in the world which is represented by means of the three levels of representations. In the Paninian model, the meaning is mental object in the mind of the speaker relating the “objective” event or entity with the speaker’s viewpoint of the event or entity. This comes about with the way theta roles and karaka roles are conceived of in the two models.

It is instructive to try to compare the levels across the two models. To do so it is important to identify relationships between some key categories and relations across the models. The task is harder than it seems because the terminology and the model for the generative enterprise is inspired by a positional language such as English, whereas that for the Paninian enterprise is inspired by a “free” word order language. In fact, incorrect equivalences between terms have been a major source of confusion while comparing the two models. First, karaka roles are different from thematic roles. For examples, karta karakas gets mapped to agent, instrument and patient in sentences (1), (2) and (3), respectively.

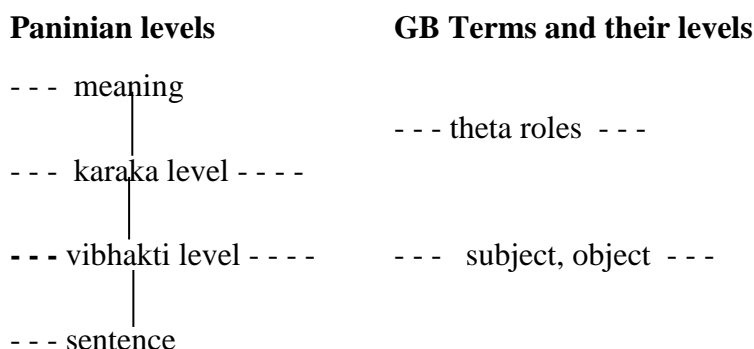
- (1) The boy opened the lock.
- (2) The key opened the lock.
- (3) The lock opened

Karaka relations combine the notion of vivaksha or speaker viewpoint with theta roles.

Second, according to us the so-called grammatical functions subject, object etc. are at vibhakti level in the Paninian model. They have been frequently sought to be defined as a distinct level between case and theta roles The following figure (27) shows the difference in

relationships between Paninian levels and TB terms and their levels ((Akshar Bharati et al 2004: 193).

Figure 27: Relationships between terms in the two models



It should be noted that subject, object have arisen out of positional languages like English where they have an intuitive appeal as well as natural and simple definitions and tests. In “free” word order language like Indian languages, the same information is contained in case endings or postpositional or prepositional markers. Concepts of subject, object as a distinct level are not only unintuitive but also it is very difficult to come up with criteria or tests for deciding when something is a subject. Most attempts try to define them configurationally for free word order languages, at which point the grammar building runs into serious difficulties.

If we draw a picture incorporating the above insights, we have the picture shown in Fig.28. It should be mentioned here that many GB theorists working on Indian languages define subject in such a way that it turns out to be more or less the same as karta.

There is another difference in the concerns the two models have towards formal power of grammars. Since the generative enterprise wants to characterise the universal grammar that every human is born with, there is an attempt to use grammar formalism with as little formal power as possible. This would ensure that it generates only the grammatical sentences in natural languages, and no more. The Paninian approach is neutral to such concerns.

Paninian model focuses on karaka roles, while major research effort in GB is on anaphora and quantifiers. So they both have something to offer. It should be noted however that GB includes only reflexives and reciprocals out of all the possible anaphora. These are a tiny fraction of the total. Moreover, the theory does not give the referent of this restricted class of anaphora, but rather identifies a domain within which the referent has to be found.

A comparison of GB and Panini approaches is given below in tabular format (Akshar Bharati et al 2004: 194).

Topic	Generative Enterprise	Paninian Approach
Question	How is the child able to acquire language?	How is the speaker able to convey information to the hearer using language?
Goal	Study of innate and autonomous structures in the human mind relating to language faculty as distinct from other cognitive structures	Study of language as a means of communication
Task	Theory should classify sentences as grammatical and ungrammatical	To explain the process of going from meaning to sentences and vice versa.
Focus	Isolates and studies syntax	Combines syntax, semantics and pragmatics in an overall framework
Model	Indirect connection between surface form (PF-repr.) and meaning (LF-repr.)	Direct connection between surface form and meaning.
Language types.	Principles and terminology inspired by positional languages	Inspired by 'free' word order languages.

4.5. Conclusion

In this chapter we have given outlines of different types of formalisms used for the syntactic parsing of texts for the sake of Machine Translation System. The parsing techniques to be adopted for parsing of a text depend on the formalism we chose.

Chapter 5 MACHINE TRANSLATION SYSTEM

5.0. Introduction

“Translating Languages with Computer” – Machine Translation (MT) has been one of the greatest dreams in computer applications. Machine Translation systems acts as a bridge to access cross lingual information by making the documents available in one language to another language. Such systems are inexpensive, instantaneous and multiplicative when compared to human translation. Building such a system across a pair of languages is nontrivial. Fully automatic high-quality translation of an arbitrary text from one language to another is far too hard to automate completely. The level of complexity in building such a system depends on the similarities and difference among the pairs of languages.

But the dream of building a deployable MT system is gradually becoming a reality. Research on MT is an intellectual challenge with worthy motive and practical objective. The challenge is to produce translations as good as those made by human translators. The motive is the removal of language barriers. The practical objective is the development of economically viable systems to satisfy growing demands for translations. Contrary to general belief, there is a considerable shortage of human translators even for technical translations. To fill this vacuum there is an increasing demand, worldwide, for MT systems.

5.1. Computational Linguistics and Natural Language Processing

Theoretical issues in Computational Linguistics (CL) concern syntax, semantics, discourse, language generation and language acquisition. Historically, it included the study of natural languages as well as artificial (Computer) languages. Applied work in computational linguistics, however, includes computer aided instructions, database interfaces, machine translation, speech understanding etc.

NLP recently emerged a major area of research and the progressive developments have made it possible to provide computer aids for text processing, writing grammar and electronic dictionaries, construct efficient parsers and even to build systems for machine aided translation, speech recognition ect.

5.2. Machine Translation

MT comes under a generic heading of Natural Language Processing (NLP). At the same time, because the technology involves many complex tasks, it is often seen as a category unto itself. This special status of MT also stems from the fact that it was the earliest kind of NLP. The theoretical and methodological bases of MT are computational linguistics theories and NLP technologies. Application of these theories and methodologies involve many issues such as dictionaries/lexicon, terminology banks, analysis of source sentences,

transfer of intermediate representations, generation of target sentences, computer environments for developing and examining machine translation systems, operational environments, pre-editing of source sentences, post editing of target sentences and so on.

5.2.1. Historical Background

Hutchins traces the history of machine translation very elaborately in a number of his works (Hutchins 1986, 2003, 2010). One of the early literary uses of computers is said to be the computer-generated concordance of the Bible in 1957. Thereafter it continued to help literary scholars to develop new ways to use computers for analyzing text, generate rhyme list, frequency counts and reverse indexing. With the advent of accurate Optical Character Readers (OCR) in 1960's, computers were being used in comparing texts. OCRs also became increasingly popular with lower costs and richer performance over the years as they offered machine-readable texts, saving the drudgery of manual text entry work.

Most of the early work on Machine translation, also known as automatic translation, mechanical translation, or simply MT is reported from USA and then USSR. Some work was also done in UK, Italy and Israel. These efforts were based on word-to-word translation schemes as it predates the important work in linguistics and computer science on syntax, grammar formalisms and parsing.

During 1950's there were several research projects on MT in USA. One of the famous systems is Georgetown University-IBM joint project for translation from Russian into English. US Govt. invested significant amount of research funds in late '50s and early '60s, mainly, to develop Russian-English MT systems. In 1964 an Automatic Language Processing Advisory Committee (ALPAC) was constituted by US Government to advise Department of Defence, Central Intelligence Agency and the National Science Foundation on research and development in the general field of mechanical translation of foreign languages. This committee in its report (1966) stated impracticability of such systems, which resulted in suspension of Government funding in this field. As a consequence, there has been very little specific research in MT conducted in higher Institutions in US. However, the experts who had been working in this area moved over to private sector and succeeded in developing a workable system 'SYSTRAN' which was productionised in 1969 and was adopted at several places by 1973 with additional improvements made afterwards. These achievements elsewhere, once again stimulated interest and also large scale funding by US Government.

In Japan research in MT began as early as 1957 at Denki Shikenjo (presently Electro Technical Laboratory, Tsukuba) and universities. The attempt was largely limited to basic research without any practical application.

In France, a Study Group for Machine Translation GETA was founded in 1971, although isolated research in MT was going on since 1961. Using their past experience, the

goal of “Perfect machine translation” was abandoned in favour of “human aided machine translation” (HAMT).

European Community was also becoming interested in MT since 1960s and sponsored GRENOBLE Project and number of other projects. The involvement of European Community led to some kind of renaissance, which helped to overcome the disastrous consequences of ALPAC report. EUROTRA Co-ordination group was established in 1978 with participation from competent university Institutes of all member states of the commission of the European Community (There are twelve member states and nine official and working languages). The duration of the programme was set at five and half years and the community budget was to be 16 million ECUs. This was to be complemented by 10 million ECUs of direct National contributions, as EURPTRA is a cost-sharing programme. Yet another programme “Multilingual Action Plan (MLAP) was also initiated in Europe in 1977 for productivity of EC translation services and Trans European Information flow.

Canada is a bilingual country with English and French as their official languages. Canadian Government had also been supporting several R&D Projects in the area of MT. One of the most successful Machine Translation systems TAUM METEO was put into operation since 1977 and provide translation of weather forecasts sentences in English and French. It has no pre-editing or post-editing and is fully automatic.

These were some of the early attempts towards MT all over the world. Intense activities in this area have been witnessed in 80s and 90s, with advances both in computational linguistics and computer science, stimulating large scale funding by Government agencies in the United States and elsewhere. It is a testimony to this intense interest in the area of MT worldwide.

5.2.2. Machine Translation Process

A typical machine translation process is shown in figure-1

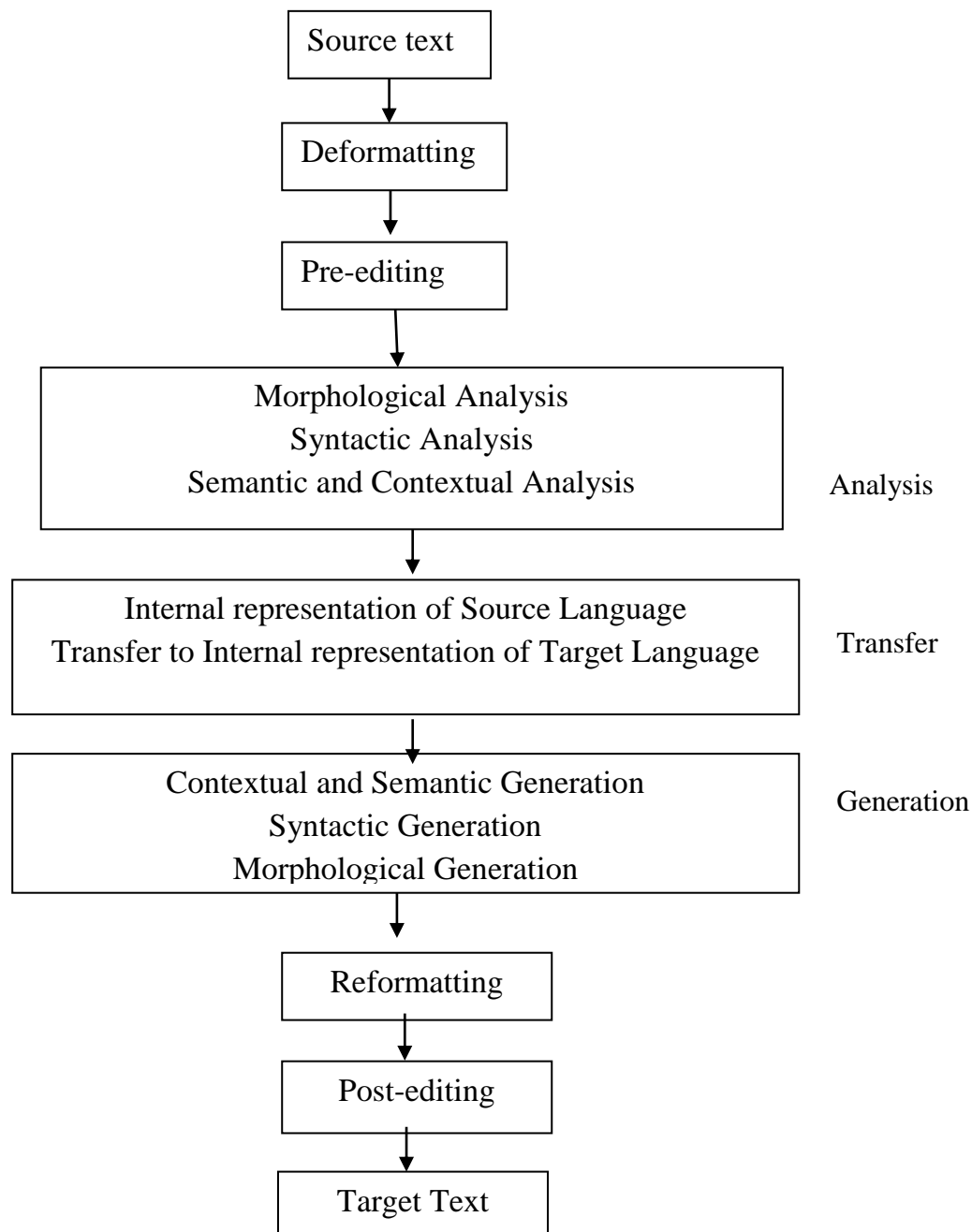
Morphological analysis determines the word form including inflections, tense, number, part of speech and so on. Syntactic analysis determines which word is the subject which one is the object, and so on. Semantic and contextual analysis determines a proper interpretation of a sentence from plural results produced by the syntactic analysis. Syntactic and semantic analysis is very often a combined operation and is executed simultaneously to produce syntactic tree structure and semantic network. The result is an internal representation of a sentence. The internal representation of the target language is often the same as that of source language, but sometimes the change of internal representation is required. The sentence generation phase is just the reverse of the analysis process.

5.2.2.1. Machine Translation System

A typical machine translation system considered this way could be viewed as depicted in Figure 2. Central portion of the figure, viz. inference engine is nothing but a knowledge base which stores various rules of source language as well as target language, dictionaries and grammar supplemented by common sense rules for translation.

Thus machine translation is basically a knowledge information processing system and is a large scale Artificial Intelligence problem. FGCS project in 1982 by MITI in Japan did not directly include machine translation. However one of the focal research themes of the project was identified as NLP and it was recognized that high level machine translation systems are likely to be the future application of FGCS technology (Rajendran 2019).

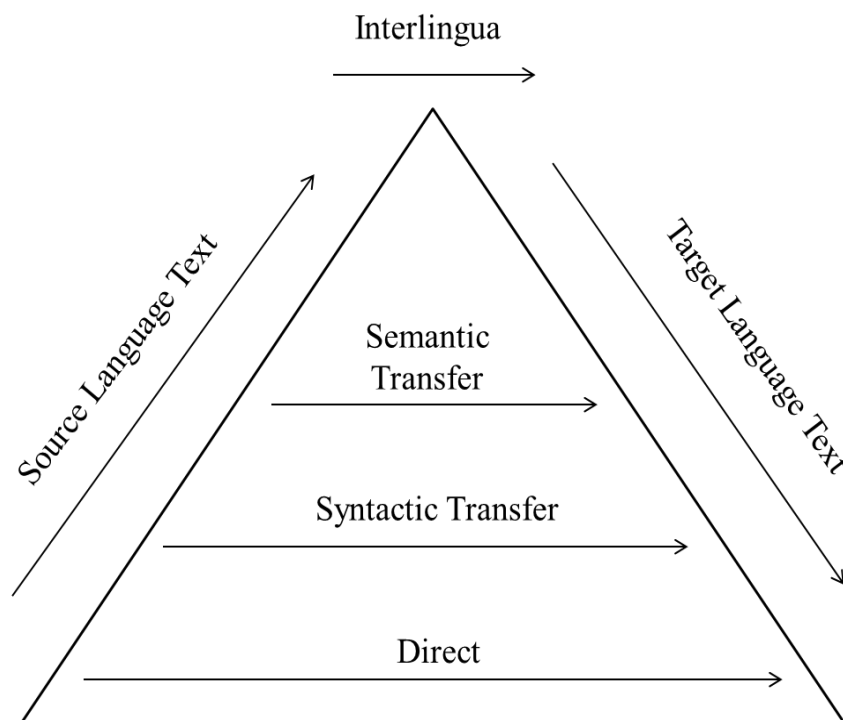
FIG 1: MACHINE TRANSLATION PROCESS



5.2.3. Evolution of Various Approaches

Research in the area of machine translation started much earlier to that in the area of Natural Language Processing. Various approaches for machine translation have been suggested and tried out. With the advances in computational linguistics and availability of powerful computers further refinements in these approaches were noticed, besides the emergence of newer approaches. These are reviewed in the following sections.

Figure 3: Approaches to Machine Translation



5.2.3.1. Direct Approach: First Generation

The very first proposals of the “first generation” of MT for using computers to translate till about 60s were called “direct” approach. These were essentially dictionary driven methods with no or low-level syntactic analysis and use of semantic features. These efforts came to an end with the publication of ALPAC report in 1966. There was a very little activity for about a decade thereafter.

5.2.3.2. Transfer Approach: Second Generation

The interests were revived in 1976 with the installation of SYSTRAN, a weather forecast translation system in Canada. Increasing activities followed throughout the world and rule based, syntax oriented abstract representation approaches became the “Second generation” of MT. Examples are Ariane, of the GETA Project in France, EUROTRA of the commission of European Communities and Mu of the Kyoto University, Japan. At the same time, considerable work was also going on rule based Inter-lingua models. In machine translation systems, an intermediate representation is necessary to express the results of sentence analysis. This represents syntactic and semantic structures of an input sentence given as a character string. Syntactic structure is shown as tree and semantic structure as a network. This intermediate representation of inter-lingua approach is called inter-lingua. Notable amongst the inter-lingua models was the CMU project at Carnegie Mellon University in USA and multilingual machine translation project at Centre of International co-operation for computerization in Japan.

Around this time commercial systems began appearing on the marked scene, most of them being for translations from English to Japanese and vice-versa. They also migrated from main frames to PCs and became popular.

5.2.3.3. Corpus Based approach: Third Generation

By about 1989, a new era and the “third generation” began in MT research with the emergence of wide range of collectively called “Corpus based” approaches. This represented a new departure in MT research. The corpus-based approaches include two categories, the first one uses direct information derived from corpora for analysis, transfer and generation of translations. This category includes statistics based, example based and connectionist approaches. Second category makes an indirect use of corpora as a source of information for deriving or compiling lexical, grammatical and knowledge databases. This second category consists of a range of activities such as database compilation, lexical and knowledge acquisition and statistical information to aid or complement rule based methods.

Essence of statistics based method is the alignment of sentence in the two languages and the calculation of the probabilities that any one word in a sentence of one language corresponds to two, one or zero words in the translated sentence in target language. The IBM-candide research project based on a large corpus of the Canadian Hansrad, records of parliamentary debates in English and French is an example.

Example based method was first proposed in 1980s but was implemented only a decade later. The basic philosophy in this method is that translation is often a matter of finding analogues examples. The method essentially relies on a bilingual database examples derived from a large corpus of texts and their translations. Example based machine translation approach has been extensively used in ATR project of Japan for spoken language translation. Another example is knowledge base machine translation (KBMT) at Carnegie Mellon University in USA.

Connectionist approach is a result of research in parallel computation, neural network or connectionism. Being the latest, these developments have attracted the MT researchers also. Connectionist method computes the distance between input text segments and bilingual text data in example based MT model. It offers the prospect of systems “learning” from past successes and failures. Previously, learning has meant that systems suggest changes on the basis of statistics about corrections made by users at the post-editing stage.

5.2.3.4. Hybrid Approaches on the Horizons

The hybrid approaches are also on the horizons. In some such approaches, corpus information is used for tuning analysis and transfer grammar. In others a standard transfer based MT approach is followed using traditional analysis and generation technique but

having transfer component based on aligned bilingual corpora. In yet others, statistical information is used as the source of preference assignment during text disambiguation.

5.3. Components in MT System

5.3.1. Electronic Dictionaries and Lexical Databases

In figure 2, a typical machine translation system; Dictionary is one component in the central portion. This implies monolingual / bilingual / multilingual, machine-readable dictionaries for a particular pair of pairs of languages which the machine is required to translate. The dictionaries provide definitions of words, their syntactic categories and at times usage by way of examples. They are, however, a poor source of much needed information for sophisticated semantic processing, i.e. how a word is used in relation to other in a sentence.

The electronic dictionary is not simply a machine-readable dictionary; it is a dictionary containing all the information necessary for computers to understand natural language. Thus an electronic dictionary must contain meanings of words, i.e., concepts expressed by words, their grammatical characteristics when they express concepts, and knowledge necessary for understanding concepts. Large-scale electronic dictionaries are being developed for machine translations in each of the MT projects currently under way at several places. Small-scale electronic dictionaries are used for question answering and speech recognition systems.

5.3.1.1. EDR project

Development of a large-scale electronic dictionary was taken up by the Japan Electronic Dictionary Research Institute, commonly known as EDR project. The aim of the project is

- (i) To develop a dictionary that can be easily processed and recompiled with computers into various forms for specific purposes.
- (ii) To develop a dictionary by utilizing to a full extent the current computer and NLP technology.
- (iii) To develop a dictionary for computer to process and to understand languages.

The project was initiated in April 1986 by joint funding from the Japanese Govt. and eight private corporations. Japanese and English are the two languages chosen as target languages. Specification of EDR electronic dictionary and other related information is being made available to the public. The entire set of concepts and headwords are also being made available on request by EDR.

5.3.1.2. Dictionary Projects in Europe

There are similar initiatives in Europe. European Commissions Language Projects show a surprising variety of programmes and project types. Notable multilingual dictionary / lexicon research projects are:

- (i) GENELEX under EUREKA programme
- (ii) ACQUILEX under ESPRIT programme
- iii) MULTILEX also under ESPRIT programme
- (iv) LEXICALISTE under EUROLANG programme

The objective of GENELEX is to construct a generic electronic dictionary in various European languages (currently for French, Italian and Spanish). The dictionary is considered as a large lexical database with no direct connection to any NLP application. The dedicated lexicons to particular application will be obtained by extracting data designed from the generic dictionary in a form adapted to needs.

ACQUILEX project is concerned with the acquisition of lexical knowledge for NLP systems, semi-automatically, from machine-readable versions of conventional dictionaries for English, Spanish, Italian and Dutch. Work on Acquilex is divided into two areas viz .i) development of methodology and construction of software tools to create lexical databases from machine readable dictionaries, and ii) subsequent construction of illustrative, theoretically motivated lexical knowledgebase designed to integrate, enrich and formalize database information.

Aim of the MULTILEX project is to propose and experiment standards for multilingual lexical databases. These standards are; standards on linguistic information (what is the databases) and architecture (how the entries in the dictionaries are organized), standards on tools (how to manipulate database), logical structure (how the information is represented) and the software architecture (how the tools are organized)

LE LEXICALISTE is a dictionary generator. This was originally developed to meet in house needs for large translation and document processing jobs. Le Lexicaliste is generic in nature. Lexical entries can be imported from various sources (other dictionaries, files, terminology lists etc.). When lexical data is required for a given application, a dictionary can be generated and exported to that application. Le Lexicalists runs under oracle RDBMS on sun workstations with X windows motif user interface.

5.3.2. Study of Corpus

It has now been well recognized that a large text corpus is very useful and is much informative in the construction of electronic dictionaries, lexical databases and allows testing of grammar formalism etc. Many NLP and MT projects have acknowledged the need of a

large corpus. Japan's EDR project and multilingual machine translation projects have built their corpora first and thereafter started development of electronic dictionaries etc. Founding of Linguistic Data Consortium (LDC) in 1992 by the US Govt. for large scale development and widespread sharing of resource for research in linguistics technology is yet another acknowledgement of importance of study of corpus. Goal of LDC is to collect, create and disseminate corpora of texts as well as speech to the researchers in NLP, MT and speech recognition. Yet another use of corpus is found in evaluation of machine translation system itself.

5.3.3. Morphological Analyser and Generator

Computational morphology deals with the recognition, analysis and generation of words. Most regular and productive morphological process across languages is inflection, while other aspects such as derivation, affixes and combining forms etc. are also included. In many languages nouns and adjectives vary according to number, gender, and case. Inflection alters the form of the word in number, gender, mood, tense, aspect, person and case. Similarly the verbs also take different forms depending upon person, tense etc.

A morphological analyser or generator supplies information concerning morphosyntactic properties of the words it analyses or constructs. In principle, there are two ways to deal with morphologically related forms. One is to store all the word forms with associated relevant properties, for example, walk (verb present plural), walks (Verb present singular), walking (verb present progressive) and walked (verb past). The other way is to store one base form walk (verb) with rules to relate variants. These options will have to be chosen depending upon how expensive the storage will be. Further, languages are creative and hence new words enter the language. So storing all variants is likely to become an intractable proposition.

5.3.4. Grammars and Their Characteristics

Grammar formalism so far proposed by the researchers include the following (Some of them have been discussed under the heading "Language formalism"):

- (i) Phrase structure Grammar (PSG): There are quite a few variants in this Category, such as, context free PSG, context sensitive PSG, Augmented Transition network Grammar (ATN), Definite clause (DC) Grammar, Categorical Grammar, Lexical Functional Grammar (LFG), Generalized PSG, Head driven PSG, Tree Adjoining Grammar (TAG).
- (ii) Dependency Grammar
- (iii) Case Grammar
- (iv) Systematic Grammar
- (v) Montague Grammar

Which grammar would suit a particular language depends on many factors specific to that language. For example, PSG has a serious problem in the analysis of sentences in Japanese. On the other hand Dependency Grammar has been very popular for Japanese but its draw back comes out clearly in disambiguation. Case grammar offers certain advantage as sentence representation is done by case frames. Advantage is that, a sentence in different languages, which express same contents, may have the same case frames. Due to this advantage many MT systems seen to have adopted it for sentence analysis and also form sentence generation. However, the difficulty arises in a situation where different usages of same verb or noun have to be distinguished. And if in language such usage is large, the number of semantic markers also becomes large.

A sentence includes lot of information such as syntactic, semantic, textual, interpersonal and so on. Grammar formalisms are just a framework to explain basic structure of a language and any one-grammar formalism may not apply across the languages.

5.4. Evaluation of MT Systems

With various machine translation systems currently available commercially, evaluation of these systems is attracting the attention of many users as well as researchers. There have been some trials for evaluating the machine translation systems in Japan. Japan Electronics Industries Development Association (JEIDA) is actively engaged in this area. Various methodologies and strategies are being suggested. Some of them are briefly discussed below.

Machine Translation evaluation needs to be approached from several viewpoints. First being the technology, which relates to the design and development of MT System, involving issues on Lexicon, grammar, terminology bank, parsing and generation, system integration, human interface etc. Second point concerns guidelines for users, which will help them to select cost effective system and the third is the identification of future technical problems, which will contribute to the improvements or upgrades. Given the range and complexity of the factor to be considered, it would be unreasonable to look for common or simple evaluation technique.

European commission sponsored EAGLES group on evaluation and assessment has suggested three types of evaluation viz. Adequacy evaluation, Diagnostic evaluation and Progress evaluation. Adequacy evaluation concerns assessing the system with respect to intended use and how well it will do and at what cost. This is very much oriented towards specific requirement. Diagnostic evaluation is to discover where the system fails and why. This kind of evaluation requires intimate knowledge of a system. Progress evaluation however can be used to compare like to like systems and measuring predetermined performance criteria.

Yet another methodology being suggested for quality evaluation of the translation is designing a test corpus for checking accuracy. List of technical terms and their scoring criteria will also be included in the test corpus.

5.5. Obstacles in MT

5.5.1. Text Input

The first module in any MT systems is Text Input of source language as shown in Figure 2. If machine-readable text in source language is available the process can be started by inserting a floppy disc. But if printed pages are to be input, either manual typing or optical character reader (OCR) is to be used. In manual typing speed and the cost of typists are to be accounted for. In case of OCR proof reading and error correction by human are to be managed.

5.5.2. Deformatting and Reformatting

An operative machine translation system is expected to do much more than simply translate individual sentences. Most of the text, which needs translation quickly, e.g. technical documentation, is heavily formatted. In some texts major portion on a page may be non-translatable material in the form of figures, flow charts or tables. Therefore, specific modules have to be built into the MT system, which will identify text portion to be translated and generate a template of that page. The individual translation units, usually sentences, but in case of headlines or table entries, single word or phrases, are automatically recognized and numbered consecutively. These are written into a text file and transferred for translation. After translation, the file containing the target language text units is returned to the user. This text has now to be reformatted after making appropriate correction (Post editing) etc. This reformatting step takes care of ensuring that the target language text is available with same layout as original including figures, flow charts, tables etc.

5.5.3. Pre-Editing and Post Editing

At times, segmentation of long sentences into two or more short sentences is also required which is often done manually at the pre-editing stage. Pre-editing and Post editing has a certain correlation. When a heavy or elaborate pre-editing is performed, very simple post editing may be sufficient and vice-versa. Post editing is generally unavoidable and hence many machine translation users do only post editing. It is essential to avoid ambiguities and also to improve the quality and style of translation. There may be words unknown to the system and difficult to analyse. In such cases post editing provides a facility to update the system lexicon. Post editing the machine output is not the same as revising a “human” translation. While the machine will make severe errors in syntax, human translator will make fewer but random errors, which are less predictable.

It is reported after a mail in poll conducted by Word Perfect magazine in June 1993 of the MT software now available on PCs, that the Pre editing is basically division of long sentences into shorter ones, fixing up punctuation marks and blocking material that does not require translation. Hence not much time is spent on it. Some users of Japanese to English system however, reported that pre-editing takes about 40% of total translation time.

On the other hand the poll reports that post editing, generally, accounts for larger share of production time and also the cost. Some language combinations are reported to give better results and consequently require lesser post editing. There is also another important factor, which require consideration at the time of post editing and that is the quality of expected output. A few may require very high quality output e.g. insurance contracts. Some others may require editing for accuracy but not for style. Yet others may require “information only” for “understanding only” and much time may not be spent on post editing.

5.5.4. Introduction of MT Systems in an Organization

The state of the art in computational linguistics does not permit the perfect translation of random texts. Therefore, if a text is translated with an aim of publication, post editing by human translation will remain a necessity, even if a system is tuned for specific subject area. The quality of translation does not hinge only on MT system but is equally dependent on the quality of source text. One also has to consider intended purpose of text, expectations of readers and even stylistic preferences of post editor.

Therefore, the introduction of MT system into an existing organization, whether it is a large company or a translation bureau, requires several steps. First, purpose of translation usage must be clearly established. Then kinds of documents must be specified and the expected quality, speed and cost must be clarified. In-appropriate use is likely to lead to frustration. For productive use of MT system, an initial training period of about two weeks will be necessary. At least two specialists, one for pre editing and other for post editing will have to be assigned. They are required to have some background in linguistics or languages, which the machine will translate. They must be trained for operations such as pre editing, post editing, dictionary changes and enhancements. Sentential styles of input and output documents must be carefully studied and translation equivalents must be determined. The documents must be translated by trial basis for sufficient volume and the dictionary and grammar must be tuned to the environment. Second training for about a week after a few months of trial translations may be beneficial as it can answer questions, which had arisen during actual application.

5.6. Some Findings on Usage

Commercial systems became available in Japan from about 1979 and few reports are available from the users about their efficacy. These systems are mainly for the language pair English – Japanese and vice versa. These reports indicate that there is 30% decrease of

translation costs by machine as against human translators. Speed up of 30% on the overall translation time has also been reported. Translation costs depends heavily on how much post editing is required. They are found to be proportional to the post editing time. A volume of 2000 pages per year is found to be break-even point for profit making by machine translation.

Another study by the Commission of European Community SYSTRAN System reports productivity increase by about 300%; speed up by about 500% and cost reduction by about 50%. It must be noted here that SYSTRAN was put into operation in 1977 and adapted thereafter at many installations. It has also undergone several cycles of improvements.

5.6.1. Classification of Categories of Output

It is possible to classify the sentence categories by the degree of difficulty of translation. Sentences, which express facts alone, are very clear for machine to be understood and translate. Sentences, which include time relations, expectations, assumptions, and conditions, are the next difficult category. Then come the sentences, which include speaker's intention and mental state. These are very difficult to translate for a machine because interpretation requires discourse analysis. Present day system translates sentences one by one independently. They do not have the ability to see the inter-relationship among adjacent sentences. Hence translation of sentences, which required contextual information, is imperfect.

Another factor, which affects the degree of difficulty to the highest, is the world knowledge, everyday life knowledge or common sense knowledge. As an example "fish eats cat" would be a perfect translation grammatically, syntactically and semantically. But the everyday life knowledge would have it marked as a wrong translation and would be corrected at the post editing stage as "cat eats fish".

There are many sentences, which include metaphors and culture specific expressions. Current MT systems do not know how to handle them.

5.7. Machine Translation Summits

Japan Electronic Industries Development Association (JEIDA) since its establishment carried out annual investigation of overseas machine translation technology and reported information on international technology standards in this area. They also organized international workshops in 1982, 84 and 85. As a result researchers of machine translation throughout the world came together and a first Machine Translation Summit was organized in Japan in 1987. This was followed up by Second MT Summit in Germany and the third in Washington USA. In July 1993 fourth MT Summit was held again in Japan.

These summits are held with specific goals such as elucidating the current technological level of MT Systems and technological problem that require attention of

researcher, to make the potential users aware of the current level of the research and reasons for imperfections etc.

5.8. Associations for Machine Translation

Intense activities witnessed in the last two decades have given rise to collaborative research not only in the field of Machine Translation but also in Speech related activities and in the generic field of NLP. In last four years, it has led to formation of machine translation associations in different parts of the world. These are,

- (i) Asia-Pacific Association for Machine Translation (APAMT) covering Asian Countries with its Secretariat at Tokyo.
- (ii) European Association for Machine Translation (EAMT) with secretariat at Geneva.
- (iii) American Association for Machine Translation (AAMT) with Secretariat at Washington DC; and
- (iv) International Association of Machine Translation (IAMT) with Secretariat at Washington DC.

5.8.1. Objectives and Activities of IAMT

The specific objectives of IAMT are collection of information, exchange and dissemination of the same and standardization. To meet these objectives IAMT under-takes the following activities:

- (i) To convene biennial General Assembly
- (ii) Sponsor workshops, symposia and conferences on MT and related technologies and applications.
- (iii) Organize tutorials and training courses.
- (iv) Establishment of technical committees, special interest groups and study teams.

5.8.2. Membership

Membership of IAMT is open to active potential MT users, developers and researchers and also to any individual, institutional or corporate entities. There are three categories of membership i) Individual ii) Corporate iii) Institutional

5.9. Implications and Spin Offs of MT Research

Besides Machine Translation, computerized analysis of natural languages can be used in automatic indexing, in data retrieval, and also in facts retrieval. Indexing has been carried

out from times immemorial, especially for texts of high prestige. In the past it must have involved tremendous efforts. Today such tools are produced readily by computer programmes used in MT research. Keyword in Context (KWIC) indexing has indeed developed skillful techniques. But these techniques yield only that information which can be derived from identification of word forms. These can be further enhanced by NLP technologies.

Research in MT has made and will continue to make contributions to other facilities as well. The system proto types are today available with which one can enter into a dialogue with the machine as question – answer session. Speech recognition and synthesis coupled with progressive advances in NLP has made it possible to access relatively homogeneous databases to answer queries on air ticketing, banking and medical fields. Combined with large lexical databases, they may be extended to provide access to wide variety of information. Network access can be provided not only for bilingual translations but also for multilingual jobs involving users overseas.

5.9.1. Future of Machine Translation

With the increasing interest in NLP and Machine Translation all over the world, there will be continuous improvements in the existing systems with a view to make them more robust and easily adaptable to the needs of the users. Certain areas have been already identified by the researchers in these directions. These are enumerated below:

- (i) **Development of dictionaries and lexical databases using Corpora:** Methods for producing dictionaries even from untagged texts have been presented in seminars and conferences. Lexical databases are being prepared by organizations, such as Microsoft corporation, USA, Institute of Machine Translation at the University of Stuttgart etc.
- (ii) **MT for specialized applications:** Large corporations with multinational operations are devoting considerable efforts to develop MT systems for in house use in specific domains. Examples are “Simplified English” developed and being used by Boeing Corporation for translation of maintenance manuals of Boeing aircrafts. General Motors are also working in developing similar systems.
- (iii) **MT with human intervention:** This is a paradigm shift with realistic attitude, which is gaining ground. It was a dominant theme at the conference “Language Technology 2000” held in Germany in 1993.
- (iv) **MT on Network:** Availability of MT software on a network appears to be a distinct reality in near future.
- (v) **Information retrieval:** Some researchers have suggested that MT should be introduced in information retrieval systems and databases systems so that users all over the world can have access to any on information source.

5.10. Machine Translation in India

A TRANSFER GRAMMAR FOR ENGLISH-TAMIL MACHINE TRANSLATION
Prof. Rajendran Sankaravelayuthan and Dr. P. Kumaresan

Attempts are going on at national level in developing MAT system from English to Indian languages. NCST, Mumbai has developed an MAT system named “MATRA” for Translation of English News stories to Hindi. An MAT system for translating documents/reports used for the campaigns of Public Health was made available by IIT, Kanpur, CDAC, Pune has come up with a system called “MANTRA” translates domain specific Government of India appointment letters. IIIT, Hyderabad is involved in developing an MAT system from English to Hindi on the lines of Anusaarka system that they have developed already. Universal Networking Language based translation system is also available from IIT, Mumbai.

Thanjavur Tamil University was involved in the development of Russian to Tamil Machine Translation System, a pioneering work in Machine Translation. Dr. Vasu Renganathan of University of Pennsylvania has developed an MT system from English to Tamil. The AU-KBC Research Centre, Chennai has developed an MAT system from Tamil to Hindi as well as a prototype for English to Tamil MAT. Mr. Durai Pandi of Ultimate Software Systems, Dindigul, TN has developed a preliminary version of English to Tamil MT system. This list is not exhaust as there are also other people who are involved in similar activities.

5.10.1. Issues in MT involving Tamil

Machine Aided Translation systems from and to Tamil involve various levels of processing over the Tamil language. Each level has its own complexity and let us discuss a few among them.

5.10.1.1. Morphological Analysis

This involves the identification of root and its associated grammatical features of words to be translated. As Tamil is rich in inflection this analysis is complex when compared to English Morph analysis. Sandi rules make this process more cumbersome and needs special rules to handle them apart from the morphological rules. Care should be taken to extract all the necessary grammatical information from the word, which are required for further processing. The following is an example of this:

Tamil word: “paNattiRkkaakattaanee”

Money-sake-only

Morphological split up: paNam+kku+aaka+taan+ee

The contents of the word are:

Root (paNam-money)

Dative case (kku)

Benefactive case (aaka)

Emphatic marker (taan)

Emphatic marker (ee)

While translating this word to English it has to be translated to a phrase like “for the sake of money only” rather than a single word.

5.10.1.2. Part of Speech Tagging

Part of Speech Tagging is the process of assigning the best part of speech for the constituents of the sentence. This is very important to generate or identify the structure of the sentence.

Tamil Sentence: *avan paTi eeRinaan*

He staircase climbed

The above sentence will be tagged as

avan<PRO>

paTi<N+NOM>

eeRinaan<V+PST+3SM>

Where,

PRO -> Pronoun

N => Noun

NOM => Nominative

V=> verb

PST => Past tense

3SM => 3rd person, Singular, Masculine

The root word *paTi* can be a noun meaning ‘staircase’ or a verb meaning ‘read’. The POS tagger using lexical and contextual information can resolve this kind ambiguity. Noun tag is assigned to the word *paTi* in this sentence.

5.10.1.3. Syntax Analysis

The sentence structure is identified when it is parsed during syntax analysis. By parsing, the clause boundaries, the prepositional attachments, the modifiers will be identified and associated with their respective components. Tamil is a relatively free word order language. This makes the parsing process complicated. The case markers of the NP’s help us in identifying the role of each constituent in the sentence. But the lack of case markers may create structural ambiguity. For example the following Tamil sentence has two parsing.

Tamil sentence: “*avaL akkaaL viiTtiRkku cenRaaL*”

She/her sister house-dative go+pst+2sf

The two parses:

(avaL) NP (akkaaL viiTTiRkku)NP (cenRaaL) V
(avaL akkaaL) NP (viiTTiRkku)NP (cernRaaL) V

If any one of the NPs has a genitive case marker *uTEya* then there won't be any ambiguity.

5.10.1.4. Semantic Analysis

For words having multiple senses, the right sense for that specific context has to be identified. The target language equivalent would be selected based on the disambiguated sense.

Tamil sentence 1:	avan	paTi	eeRinaan
	He	staircase	climb+pst+3sm
Tamil sentence 2:	avan	paTiyaal	aLandtaan
	He	vessel+inst	measure+pst+3sm

In the above sentences the word “paTi” has two senses in noun form.

1. Staircase

2. A vessel used to measure rice and wheat

By using the collocation word ‘*eeRinaan*’ ‘climb’, we can resolve that the word *paTi* of the first sentence refers to ‘staircase’ and not the ‘vessel’ and using the collocation word ‘*aLandtaan*’ we can resolve that the word ‘paTi’ of the second sentence refers to ‘vessel’.

5.10.1.5. Syntactic Transfer

This component will be needed if transfer approach is used for Translation process. The structure of the input sentence has to be mapped to the appropriate structure in the target language.

Tamil Sentence:	Raaman	puttakam	paTittaan
	Raman	book	read
Structure :	Noun	Noun	Verb

The English equivalent for the above sentence would be

English Sentence:	Raman read	a book
Structure :	Noun	Verb Noun

In this translation the structure of the Tamil sentence “Noun Verb” has been transformed to “noun Verb Noun” to from its English equivalent. This is a trivial example for understanding but it is vital for sentences involving complex structure.

5.10.1.6. Dictionary Mapping

Using a bilingual dictionary the source language root words are mapped to its equivalent in the target language. For a source language root word there may be multiple words in the target language. The appropriate word has to be chosen based on the context. The dictionary will also contain the grammatical features of the root word.

5.10.1.7. Morphological Generation

Here the inflected form of word is generated from the root and its grammatical features.

Tamil root word: “paTi”

Grammatical features: “Past tense”+ ”3rd person, Singular, Masculine”

The word form: “paTittaa”

In Hindi each inanimate object has a gender and the predicate that corresponds to the inanimate object takes the appropriate gender. But in Tamil we follow neuter gender for inanimate objects. Hence while developing translation system, this kind of differences has to be taken care while synthesizing the target language words.

5.10.2. Resources and Tools required for Tamil language processing

5.10.2.1. Tools

5.10.2.1.1. Morphological Analyser

A robust Morphological analyzer using latest state of the art technology with coverage of over 95% is required. Latest morphological analyzers follow paradigm approach and Finite state automata.

5.10.2.1.2. Tagger

Fully automated or semi-automated, rule based or statistical based Tagger is needed to tag the sentences. This kind of tagging will be useful not only for Machine Translation purpose but also for variety other applications like Information Extraction, Information retrieval, Text summarization and so on.

5.10.2.1.3. Parser

A Parser that gives the parse tree for the sentences based on any grammar formalism say dependency grammar, Phrase structure grammar or Tree adjoining grammar and so on is

the need of the hour in Tamil language processing. This involves developing rules and a parsing engine.

Some other NLP applications don't even require a full parse; partial parsing is sufficient for them. Even Noun phrase identification or clause identification will help those applications very much.

5.10.2.1.4. Semantic Analyser

The work on developing a word sense disambiguation tool is on its very elementary stage. This work needs lots of focus and serious efforts. Moreover it requires a huge tagged corpus for collecting the collocation information.

5.10.2.1.6. Morphological Generator

Once we have a well-structured finite state machine for Morphological analysis, without or with little modification the same machine can be used for Morphological generation. The morphological generators that have been developed shows satisfactory results.

5.10.2.2. Resources

5.10.2.2.1. Dictionary

Even though there exist good dictionaries for Tamil they are not available in e-form. Those dictionaries could be useful for computational purposes only if it is made available in machine-readable form.

5.10.2.2.2. Cross-lingual dictionary

This doesn't refer to normal cross lingual dictionary. What we want for Machine translation purpose is cross lingual root dictionaries. Individuals and institutions are developing bi-lingual dictionaries for their own purpose; this should be shared with other researchers in this area.

5.10.2.2.3. Corpora

A corpora for a language is a representation of the language style, word usage etc. It also acts as a test bench for evaluating morph analyzers, parsers and generators. CIIL has generated 3 million words corpus for each of about 15 languages. It has also partially tagged a few of them. Mass program should be activated to collect corpus for various languages through all available means. Internet is a good resource for collecting such corpus apart from

books, magazines, journal etc.

5.10.2.2.4. POS Tagged corpus

Pos tagged corpus is one in which all the sentences are annotated for part of speech. This corpus will be useful to develop statistical part of speech tagger. By means of various analyses over this resource, we can generate the computational grammar for the language. Such a corpus rarely exists for Tamil.

5.10.2.2.5. Parallel corpora

A parallel corpus is a valuable resource to generate transfer rules between a pair of language. It would also be useful to develop Statistical or Example Based Machine Translation systems. Alignment tools are required to align paragraphs, sentences and words of the parallel corpora before it could be used to develop such systems. Some publishers and government departments has such corpora. Those corpora should be made available to the researchers to develop productive systems.

5.10.2.2.6. Transfer grammar

The transfer grammar captures the contrastive difference between the syntactic structures of a pair of languages. Developing such transfer component is mandatory for developing translation systems based on transfer approach. Linguists who have sound Linguistic knowledge about the languages can develop this kind of resource.

5.10.2.2.7. Collocation dictionary

Collocation dictionary contains the collocations for ambiguous words of the language. Such dictionary is an important component for a sense disambiguation. Few groups are developing such resource for Tamil.

5.11. Conclusion

We have seen the state of art of MT System development in and outside India. The development of MT systems outside India, especially in European and America is remarkable. India is also making attempts to develop MT system for Indian Language to Indian Language transfer as well as English to Indian languages transfer. Ministry of Communication and Information Technology and Ministry of Human resources give financial support to these programs. Of course we have to travel a lot to achieve this goal. Though such attempts are expensive, at least for the development of Research and Development and from the experimental point of view we have try to build such systems. The present thesis explores one such possibility.

CHAPTER - 6

TRANSFER GRAMMAR FOR ENGLISH TO TAMIL MACHINE TRANSLATION

6.0. Introduction

This is the core of the present research. Transfer grammar component it is very crucial for developing a Machine Translation system, which translates English into Tamil and vice versa. For this purpose English corpus, especially on tourism, has been downloaded from internet. In the present scenario machine translation systems are produced by preparing parallel corpora of the source and target languages and by making use of statistical methods. The corpus is at first manually annotated for various grammatical features and by using this training corpus rest of the corpus will be automatically annotated. By statistical method and by making use of parallel corpora the transition is executed between the source and target languages. For this purpose the transfer of source language into target language is crucial. This is done by making use of a transfer grammar, which helps in transferring the lexical and structural elements of source language text into target language text. Nearly 5000 sentences in the tourism domain have been collected and translated into English. The translation is a source language faithful translation. As far as possible the information in the source text are not disturbed much. This helps in facilitate the preparation of transfer grammar. Importance is given the development of transfer rules.

This chapter aims to explicate the transfer grammar behind rendering English text into Tamil while preparing a machine translation aid. Of course, the theory of contrastive study is very relevant in this context. Contrastive study is an analysis, which tries to unearth the typological commonalities found between the languages being compared or contrasted. There is minute difference between comparative study and contrastive study. Comparative study is made between two genetically related (cognitive) languages of a particular linguistics family in order to bring out their family affiliation. But contrastive study is undertaken between any two languages in order to bring out the corresponding features between them without bothering about their family affiliation, if there is any. It is a common notion that there is logic behind it. When two languages are compared expecting the commonalities, it is quite natural that the two sister languages will share common properties as they have originated from a common source (proto language). But in one sense, it is illogical and unwise to expect similar linguistic traits between two languages that are believed to have been originated from different sources. Chomsky's assumption that there are linguistic universals exists among languages, leads us to expect shared features between two unrelated languages. Contrastive analysis indirectly helps to frame the theory of linguistic universals, although the contrastive study has basically been made for language teaching purpose. However the contrastive study yields many a fruit in the domain of translation too.

Translation is one of the areas studied elaborately by linguists and translators. Traditionally translation was considered as the process of replacement of a text written in a

source language by a text written in a target language, the objective being a maximum equivalence of meaning. But in the present day situation, translation is the process of transfer of message expressed in a source language into a message expressed in a target language, with the maximization of the equivalence of one or several levels of content of the message. It is hoped here that the correlation of the grammatical structures of English and Tamil throw some light for the purpose of machine translation.

In order to prepare a Machine Translation Aid (MTA) for translating English texts into Tamil, we need to know the common and contrasting features of English and Tamil. The study which covers up both the aspects of commonness and contrasting feature are referred here as correlative study. The correlative study has to be made at least from the point of view of lexicon and constituent structure. The correlative study of the vocabulary (lexicon) of both the languages is dealt here. The problem has been tackled in the English-Tamil bilingual dictionary and Tamil generation dictionary; the architecture of them is discussed. Here we are concentrating on the constituent structure of the two languages focusing our attention on syntax. Inflectional morphology is taken care of by morphological analysis. The transfer of grammar English into Tamil can be dealt under the following heads.

1. Transfer of words
2. Transfer of phrases
3. Transfer of clauses
4. Transfer of sentences

6.1. Transfer of words

The words of the source language that are derived, inflected and uninflected have to be transferred into Tamil. The information given by the English analysis dictionary is transferred into Tamil by using Tamil analysis and generation of dictionaries.

6.2. Transfer of phrase

The transfer processes of the following phrases have been dealt here.

1. Transfer of Noun Phrase
2. Transfer of Verb Phrase
3. Transfer of Prepositional Phrase
4. Transfer of Adjectival Phrase
5. Transfer of Adverbial Phrase

6.2.1. Transfer of noun phrases

A typical noun phrase in English can be analysed as follows, which in turn can be transferred into Tamil by making use of the transfer rule.

English: NP << Pre-det + Det + Ord + Quant + Adj P + Class + N

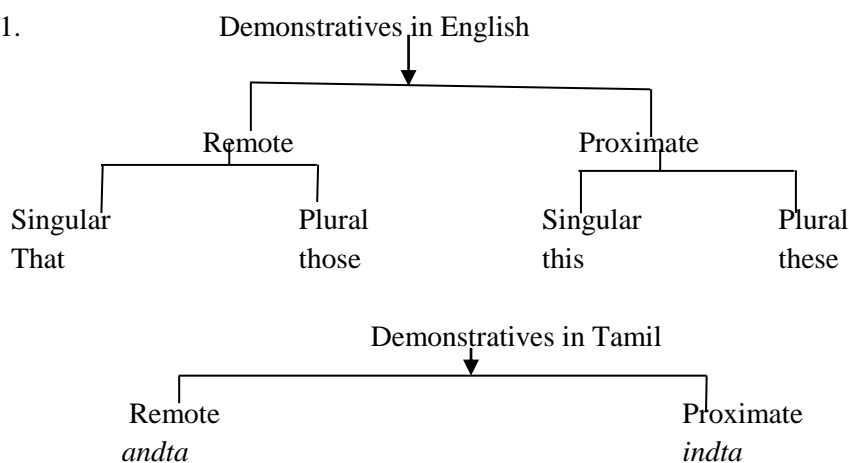
Tamil: NP << Class + Gen P + Qrd /Quant + Dem + Adj + N

The word order of the constituents in NP in Tamil is not fixed as in the case of English.

6.2.1.1. Transfer of demonstrative

Demonstratives in English and Tamil can be distinguished into two types in terms of proximity and remoteness. In English they can be further distinguished in terms of number. The following tree diagrams will illustrate the point:

Figure.1.



The following table gives the correlative features of English and Tamil demonstratives

English	Tamil
this	<i>indta</i> , itu
that	<i>andta</i> , atu
these	<i>indta</i> , ivai
those	<i>andta</i> , avai

The following correlative features of determiners in English and Tamil have to be noted down while transferring NP in English into Tamil.

1. English have articles, which can be differentiated into definite and indefinite articles whereas Tamil has no article, which can be distinguished into definite or indefinite.
2. It is sometimes possible in Tamil to make use of demonstratives for the definite article.

3. English recognizes singular versus plural distinction under remote and proximate demonstratives whereas Tamil does not make such distinction.
4. English makes use of demonstratives as pronominals in certain places whereas Tamil does not make use of demonstratives as pronominals.

6.2.1.2. Transfer of quantifiers

The following points have to be noted down while transferring the quantifier system of English into Tamil.

1. The aggregates (*all, both, etc.*), fractionals (*half, one-third, two-third etc.*) and multiples (*Twice, three times, four times, etc.*) occur before determiners in English and so they are called pre determiners. But in Tamil, the aggregates (*ellaa* ‘all’, etc), fractionals (*paati* ‘half’ *muunRil onRu* ‘one third’, *muunRil iraNTu* ‘two third’, etc) and multiplicatives (*iraNTu maTangku* ‘two times’, *muunRu maTangku* ‘three times’, etc) do not precede the demonstratives (except in certain cases where it may be due to stylistic variation).
2. In English the prepositions either optionally or obligatorily links the head noun with certain set of quantifiers. Because of this reason fractionals and multiples in English occur before determiners, whereas in Tamil fractionals and multiples follow the determiners. The following examples will illustrate this point.

English	Tamil
all those girls	<i>andta ellaa ciRumikaLum</i>
all those things	<i>andta ella poruTkaLum</i>
two thirds of this portion	<i>ltil muunRil iraNTu pangku</i>
double the amount	<i>iraNTu maTangku tokai</i>
half of the crowd	<i>andta paati kuuTTam</i>
three fourths (of the) share	<i>andta mukkaal pakuti</i>

In Tamil the clitic *um* has to be added after the noun to bring in the aggregate meaning.

6.2.1.3. Transfer of genitive

Genitive observes the arrangement of relative clause with regard to their head; a considerable number of genitive constructions in contemporary English do, follow their head.

The lap of her sister.
Her sister’s lap.

If genitive, however, are proper nouns, particularly single names, they often precede.

John's house.
Yet even single names are often postposed.

House of John.

The current status of the genitive in English reflects a change from OV order to VO order. While the favoured order for genitives has been shifted, adjectives still predominantly precede the modified noun.

Large blue eyes.

Only when they are in turn modified do descriptive adjectives regularly follow their head.

They rested on a rock conveniently low.

Limiting adjectives—articles and demonstratives – also stand before nouns, as do numerals; they usually precede descriptive adjectives.

I could not hear him at that distance.
I haven't sent the two persons.
I jumped over the first of the six benches.

Parallel to the order of limiting adjectives is that of multiplying numeral combination with nouns representing higher entities millions, thousands, hundreds, tens in the order of higher to lower (preceded by the simple numerals).

Four thousand two hundred and seven.

As with proposed descriptive adjectives, genitives and relative clauses, proposed limiting adjectives and the cited numerals combinations reflect OV structure. This is the most conservative of the English modifying patterns. In maintaining it as a relic pattern, English provides evidence for the OV structure, which posited for its ancestor language.

Yet English nominal phrases for the most part observe the canonical order of SVO languages, maintaining from early stages OV order only with adjectives and numeral constructions other than the teens.

6.2.2. Transfer of verb phrase

In SVO languages, like English, expressions of verbal modification should be placed before verbs, in accordance with their VO structure. Like nominal modification, verbal modification avoids disruption of the VO constituent. The presence of separate verb like

elements called auxiliaries constitutes one of the characteristics of SVO languages and of English. The expressions for declarative utterances simply observe the normal word order.

This speech caused a remarkable sensation among the party.

It is generally believed that Tamil lacks of VP constituency. So generally Tamil sentences are given a flat structure without VP being at a different hierarchical level. Tamil is an SOV language in which 'S' and 'O' can be shuffled. Tamil is not strictly a configurational language. The direct and indirect objects can be identified by case suffixes.

Many interesting points will be revealed for the purpose of transferring English language structure into Tamil, if we look at the correlating features of the two languages from the point of view of their typological characteristics as SVO and SOV languages respectively. Syntactically, English and Tamil are perhaps most saliently different in the basic word order of verb, subject, and object in simple declarative clauses. Tamil is an SOV language, meaning that the verb tends to come at the end of basic clauses. Tamil being SOV language has postpositions. Tamil is a typical (S) OV language in which the verb occurs at the final position of a sentence. Word order in the sentence is relatively free, as long as the sentence ends with a main verb.

6.2.2.1. Transfer of complex verbal forms denoting tense, mood and aspect.

Both English and Tamil employ the complex process of combining both inflection and compounding in denoting tense, aspect, and mood. We can find correspondences between English and Tamil for the purpose of translating one from the other, though the correspondences are not always perfect; there are proper equivalents and improper and defective equivalents. The tense, aspect, and mood systems of English and Tamil operate differently and finding equivalents is a tough task. But for the purpose of MT, we compromise with certain peripheral differences between them and try to capture the core of the systems with the view in mind that what is conveyed in English can be transferred to Tamil without much distortions as our idea is to translate linguistic text in English into Tamil. The emotive and attitudinal senses conveyed by the auxiliary system will not play a vital part in expressing linguistic concepts. So we ignore the emotive and attitudinal sense and try to capture a core aspectual and modal system. That is why we have ignored certain auxiliaries, which are used in Tamil to denote certain attitudinal and non-attitudinal senses. With this aim in mind, the aspectual and modals systems in both languages have been correlated for the purpose of preparing MTA. The following table correlates TAM system of English with that of Tamil.

TAM forms in English with examples	Meaning	Equivalent TAM forms in Tamil with examples
V1 + past tense He wrote	Past tense	V + past tense + PNG <i>avan ezhutinaan</i>

V + present tense He writes	Present Tense	V+present tense+PNG <i>avan ezhutukiraan</i>
has + have + V3 He has written. I have written	Present perfect aspect	V + past participle + <i>iru</i> + present+ PNG <i>avan ezhutiyrurukki Raan. ndaan ezhutiyrurukkiReen</i>
had + V3 He had written	Past perfect aspect	V + past participle + <i>iru</i> +past +PNG <i>avan ezhutiyrundtaan</i> V + past participle + <i>koNTiru</i> + present – PNG
Be' verb + Present tense + V – in He is writing.	Present progressive aspect	<i>avan ezhutik koNTiukiRaan</i>
'Be' verb + past tense + V- ing He was writing	Past progressive aspect	V + past participle + <i>koNTiru</i> – past – PNG <i>avan ezhutik koNTirundtaan</i>
Will/shall be verb future tense + V – ing He will be writing a letter.	Future progressive aspect	V + past participle + <i>KONTiru</i> + future + PNG <i>avan ka Titam ezhutik koNTiruppaan</i>

1.can + V1 He can speak English but he can't write it very well.	Ability = be able to = be capable of = know how to	V + infinitive + <i>mu Tiyum-iyalum</i> <i>avanaal aangkilam peeca muTiyum,</i> <i>aanaal ezhuta muTiyaatu.</i>
1. Can + V1 Can I smoke in here (‘Am I allowed to smoke here?)	1. Permission = be allowed to = be permitted to (‘Can’ is less formal than ‘may’ in this sense)	1. V- <i>al</i> + <i>aam</i> + <i>aa</i> <i>ndaan pukai piTikkalaamaa?</i>
1.can + V1 Anybody can make mistakes. 2.can + be + V3 The road can be blocked.	1. Possibility = it is possible but / to theoretical possibility may = factual possibility	1. V- <i>al</i> + <i>aam</i> <i>yaarum tavaRu Ceyyalam</i> 2. V + infinitive + <i>paTal</i> + <i>aam</i> <i>caalai aTaikkppa Talaam.</i>
Could + V1 I never could play the chess.	Ability	V + infinitive + <i>muTiyum / iyalum</i> <i>enaal caturangkam aaTa muTiyavillai.</i>

Could + V1 Could I smoke in here?	II. Permission	V- <i>al</i> + <i>aam</i> + <i>aa</i> ndaan pukai PiTikkalaamaa?
1. Could be + C That could be my train. 2. Could be + V3 The road could be blocked.	II. Possibility (theoretical or factual, cf: might)	1. irukkal + <i>aam</i> Atu ennaTaiya to TarvaNTiyaay irukkalaam 2a. V + infinitive + <i>PaTTu</i> + irukkal + <i>aam</i> (aalai aTaikkap PaTTu irukkalaam 2b. V + infinitive + <i>PaTTu</i> + irukka + kuuTum (aalai aTaikka PaTTirukkak kuuTum
may + V1 He might leave tomorrow	Future time with modal auxiliaries. In many contexts, modal auxiliaries have in-herent further reference, both in their present tense and past form.	V- <i>al</i> + <i>aam</i> avan ndaalai Pookalam
1. may + V1 You may borrow Car if you like. 2. may not + V1 ex. You may not borrow my car (=You are not allowed to borrow my car.)	III. Permission =be allowed to = be permitted to in this sense may is more formal than can. Instead of may not or mayn't mustn't is often used in the negative to express Prohibition	1. V- <i>al</i> + <i>aam</i> ndii ennuTaiya kaarai KaTanaakap peRalaam 2. V+infinitive + <i>maaTTu</i> + PNG .ndii ennuTaiya kaarai KaTanaakap PeRamaaTTaay
1. may + V1 He may never Succeed ('It is Possible that he will never succeed') 2. may + be + V ₃	III. Possibility = be it is possible that /to May – factual possibility (cf: can = theoretical possibility)	1a. V- <i>al</i> + <i>aam</i> (for positive meaning) 1.b. V+ infinitive + <i>maaTTu</i> + PNG avan veRRi peRamaaTTaan 2. V+ infinitive + <i>paTal</i> + <i>aam</i> Caalai aTaikkappaTalaam.
might + V1 He might leave tomorrow.	Future time with modal auxiliaries. In many contexts, modal auxiliaries have inherent	V- <i>al</i> + <i>amm</i> avan ndaalai pookalaam

	future reference, both in their present tense and past for.	
Might...? Might I smoke here?	IV. Permission	V-al + aam + aa Ndaan pukai PiTikkalaamaa?
Might + V1 He might succeed.	Possibility	V-al + aam Avan veRRi peRalaam.
Shall + V1 He shall get the money. You shall do exactly as you wish.	II. Willingness on the part of the speaker in 2 nd person and 3 rd person ('weak volition') Restricted use.	V-al + aam Avan paNam peRalaam. Ndii virumpuvatu pool Ceyyalaam.
Shall + V1 We shall let you know our decision. We shall, overcome. 1b. Shan't + V1 It shan't be long for me to meet the minister.	1. Intention on the part of the speaker only in 1 st person ('intermediate volition')	1a. V+future tense +PNG ndaagkaL ungkaLiTam engkaL tiirmaanattait terivippoom. 1b. aakaatu enakku mandtiriyai paarkka ndiiNTa ndeeram aakaatu
Shall + V1 You shall do as I say. He shall be punished. The vendor shall Maintain the equipment in good repair.	1.a. Insistence ('Strong volition'). Restricted use. b. Legal and quasi-legal.	V-al+aam Ndaan collukiRa paTi Ceyyalaam. Avan taNTikkappa Talaam. Teru viyaapaaari tannuTaiya Karuviyai ceppam ceytu Vaittirukkalaam.
Should + V1 You should do as he says. They should be home by now.	1.Obligation and logical necessity (=ought to)	V+infinitive + veeNTum ndii avan colvatu pool Ceyya veeNTum avarkaL ippootu viiTtil irukka veeNTum.
Will/shall + v1 He will write. I shall write.	Future tense	V + future + PNG avan ezhutuvaan Ndaan ezhutuveen
Will + V1 I'll write as soon as I can. Will you have another cup of tea?	I. Willingness ('weak volition') unstressed, especially 2 nd person. "Down toners" like please may be used to soften the	V+future tense + PNG Epootu muTikiRatoo apootu Ndaan ezhutuveen. Innoru kooppai teenier kuTikkiRaayaa?

	tone in requests.	
Will + V1 I'll write as soon as I can. We won't stay longer than two hours.	II. Intention (intermediate volition). Usually contracted 'II', mainly 1 st person.	V+future tense +PNG muTiyumpootu uTanee ezhutuveen. ndaangkaL iraNTu maNi ndeerattiRku meel tangka maaTToom.
Will + V1 He 'will do it, whatever you say ('He insists on doing it...') (cf He 'shall do it, whatever you say = 'I insist on his doing it')	II. Insistence ('strong volition'= insist on). Stress = ed, hence on 'll contra-diction. An uncommon meaning.	V+future tense + PN G ndiingkaL colvatai avan ceyvaan.
would....? Would you excuse me?	III. Willingness ('Weak volition')	V+future tense + PNG + aa ndii ennai Mannippaayaa?
Would + V1 It's your own fault: you 'would take the baby with you.	III. Insistence ('Strong volition')	V+ past participle form + Iru + infinitive + veeNTum atu un tavaRu. Ndii Kuzhandtaiyai unnuTan eTuttuc cenRirukka veeNTum
1.must You must be back by 10 o'clock. 2.had to Yesterday you had to be back by 10 o'clock. Yesterday you said you had to / must be back by 10 o'clock.	II. Obligation or compulsion in the present tense = (=be obliged to, have to); except in reported speech. Only had to (not must) is used in the past. In the negative sentence needn't, don't have to, not be obliged to are used (but not must not, mustn't which = 'not be allowed to')	1.V+infinitive +veeNTum ndii pattu maNikku tirumpa veeNTum. 2.V + past participle +iru+infinitive+veeNTum ndeeRRu ndii condaay pattu maNikku ndaan tirumpiyirukka veeNTum enRu.
Will, must, Should + V1 The game will/must/should be finished by now.	[Prediction of the similar meanings of other expressions for logical necessity and habitual present. The contracted form 'll is common]. Specific prediction.	V+infinitive + veeNTum viLaiyaaTTu inndeeram muTindtirukka veeNTum.
Will + V1, V1	Timeless Prediction	V + future + PNG

Oil will float/floats on water.		eNNai taNNiiril mitakkum.
Will, 'll He'll (always) talk for hours if you give him the chance.	Habitual prediction	V+future +PNG Avanukkuc candtarppam koTuttaal avan (eppozhutum) maNiokkaNakkaakap peecuvaan.
1.must, has to There must / has to be a mistake. (must is not used in sentences with negative or interrogative meanings, can being used instead.	Logical necessity.	1. irundirukka + veeNTum 2. tavaRu irundtirukka 3. veeNTum
2.cannot There cannot be a mistake. 3. mustn't (Must can occur superficially interrogative but answer-assuming sentence) Mustn't there be another reason for his behaviour.		2. irundirukka + muTiyaatu tavaRu irundtirukka muTiyaatu. 3. irundirukka + veeNTaam avanuTaiya parimaaRRattiRku veeRu kaaraNam irundirukka veeNTaam.
ought to + V1 You ought to start at once. They ought to be here by now.	Obligation and logical necessity.	V+infinitive +veeNTum Ndii uTanee puRappaTa veeNTum. avarkaL ipootu ingkee irukka veeNTum.
Used to + V1 He used to fish for hours. He used to be an excellent cricketer.	A state of habit that existed in the past but has ceased. (cf: would, and formerly or once + past)	V-atu+vazhakkam +aay + iru + past + PNG maNikkaNakkil miin piTippatu avan vazhakkamaay irundtatu. Avan oru arumaiyaana Kirikket aaTTakaaranaaka Irundtaan.

The following points have to be noted while transferring TAM system of English into Tamil.

1. Both English and Tamil make use of inflection as well as compounding (i.e. combining main verbs with the auxiliary verbs) to express TAM.
2. The important point to be noted from the point of view of word order is that auxiliary verbs in English precede the main verb in English, whereas in Tamil they follow the main verb.
3. In English auxiliary verbs are inflected for tense, person and number; whereas in Tamil they are inflected for tense, person, number and gender.
4. Both English and Tamil undergo auxiliary reduction.
5. Identical auxiliary verbs in complex constructions get deleted both in English and Tamil.
6. Auxiliary verb occurs in a sequence to denote tense, mood, aspect, voice etc. In both English and Tamil. The modal auxiliary verb in English never occurs after a primary auxiliary verb in English, whereas; in Tamil primary auxiliary verb never occur after a modal auxiliary verb (with the exception of few modal auxiliary verbs).
7. Both Tamil and English express perceptive and progressive sense by auxiliary verbs. But Tamil makes use of this device to express the completive and reflexive sense too.
8. In English, interrogative sentences are derived from their respective affirmative sentences by shifting the relevant auxiliary verbs to the initial position.

The following table shows the correlative features of auxiliary system in English and Tamil for the sake of transfer.

Auxiliary system in English	Auxiliary system in Tamil
The auxiliary verbs are used to add auxiliary meaning to the main verb.	In Tamil too, a lot of auxiliary verbs are used to add auxiliary meaning to the main verb.
The auxiliary verb precedes the main verb.	The auxiliary verb follows the main verb.
Primary auxiliary verbs are inflected for tense, person and number.	Primary auxiliary verbs are inflected for tense, person, and gender.
The modal auxiliary verbs are inflected for negation.	Tamil too, the modal auxiliary verbs are inflected for negation.
-.	The main verbs in the auxiliary verb constructions occur in the form of verbal participles infinitives or verbal nouns.
-	Any one of the identical auxiliary verbs is deleted in the formation of compound sentences.
Auxiliary verb reduction is possible.	Auxiliary verb reduction is possible in Tamil too.
Lexical insertion between the main verb and auxiliary verb (with the exception of	Lexical insertion mentioned in the case of English is not possible in Tamil.

a few modal auxiliary verbs) is possible.	
Auxiliary verb occurs in a sequence to denote a different grammatical meaning.	This is the case with Tamil too.
A modal auxiliary verb never occurs after a primary verb	A primary auxiliary verb never occurs after a modal auxiliary verb.
A statement can be converted into a yes – or – no question by shifting the auxiliary verb to the sentence initial position.	-
Auxiliary verbs occur in tag questions, but the main verbs do not occur in tag questions.	This is the case with Tamil too.
The <i>n't</i> that is the contracted form of <i>not</i> is cliticized onto the preceding auxiliary verbs but never onto a preceding main verb.	-
The supportive <i>do</i> appears before a main verb in certain environments, but never before an auxiliary verb.	-
The <i>all</i> (quantifier), which follows the auxiliary verb, is semantically associated with the subject of the sentence.	-

6.2.2.2. Transfer of verb patterns

The following table illustrates the transfer of verb pattern forms in English into Tamil.

Verb patterns in English	Parallel patterns in Tamil
VERB PATTERN 1 NP + BE + NP This is a book	NP + NP atu our puttakam
NP + BE + PN It's me	NP + NP atu ndaan / atu ennu Taiyatu
NP + BE + Possessive P That's mine	NP + Possessive Pronoun – uTaiyatu atu ennuTaiyatu
Interrogative + BE + NP Who is that?	NP + interrogative pronoun atu yaar?
NP + BE + Adj.	NP + Adj – pronominalizer

She is clever	aval azhakaanaval
NP + BE + Adj.P The statue will be life size	NP + Adj – pronominalizer Andta cilia mikapp periyathu
NP + BE + PP She is in good health	NP + NP-ooTu + iru avaL ndalla aarookkiyattooTu irukkiRaalL
NP + BE + Adv She is here	NP + Adv + iru avaL ingke irukkiRaalL
There + BE + NP There was a large crowd	Angkee + NP + iru angkee perum kuuTTamaaka irundtatu
There + BE + NP + PP There are three windows in this room	PP + NP + iru Indta aRaiyil muunRu jannalkaL irukkiRana
It + mBE + Adj. / NP + to – infinitive It is so nice to sit here with you.	atu-clause + Adj. + iru unnuTan uTkaarndtu iruppatu rompa ndanRaaka irukkiRatu
How + Adj./NP + (it+BE) to – infinitive phrase How nice it is to sit here with you	atu-clause + evvaLavu + Adj + iru unnuTan uTkaarndtu iruppatu evvaLavu ndanRaaka irukkiRatu
What + Adj. / NP + (it + BE) to infinitive clause What a pity it is to waste time.	atu-clause + ervvaLavu + Adj + iru ndeerrattai viiNaakkuvatru evvaLavu moocamaaka irukkiRatu
It BE + Adj. / NP + gerundial clause It is so nice sitting here with you	atu-clause + Adj. + iru UnnuTan UTkaarndtu iruppatu ndanRaaka irukkiRatu
NP + BE + that-clause The trouble is (that) all the shops are shut.	enpatu- clause + Adj + iru ellaa kaTaikaLum muuTappaTTirukkinRana enpatu cikkalaaka irukkiRatu
It + BE + NP / Adj. + that – clause It was a pity (that) you couldn't come	enpatu-clause + Adj + iru unnaal vara iyalavillai enpatu varattattiRkuriyataaka irundatu
NP + BE + to-infinitive clause This house is to let	NP + infinite-clause + iru Indta viiTu vaaTakaikku vita irukkiRatu
It + BE + Adj. / NP + for + N/ Pronoun + to-infinitive (phrase) It was hard for him to live in this small cell.	atu-clause + Adj + iru indta cinna ciRaiyil vaazhvatu kaTinamaaka irundtatu

VERB PATTERN 2 NP + Vi The sun is shining	Cuuriyan pirakaacikkiRatu NP + Vi
There + vi + NP There followed a long period of peace and prosperity.	NP + vi Amaitiyaana vaLamaana Kalam toTarndtau
It + Vi + whether –clause It does not matter whether we start now or latter.	Enpatu-clause + Vi ipposhuta allatu pinnaraa ndaam toTangakvirukkiRoom enpatu viSayam alla .
It + Vi + to-infinitive clause It only remains to wish you both be happiness.	Infinitive clause + Vi ndiingkaL iruvarum makizhcciyaaka irukka vaazhtta irukkiRatu
It + Vi + that-clause It seemed that the day would never end.	enRu – clause + Vi ndaaL muTivuRaatu enRu toonRukiRatu
NP + Vi + for + PP (adv. Adjunct) We walked for five miles	NP + NP (Adv adjunct) + Vi Ndaam aindtu maikaL ndaTandoom
NP + Vi + Adj. Adjunct My hat blew off	NP + Vi ennuTaiya toppi PaRandtu viTTatu
NP + Vi + Adj. The leaves are turning brown.	NP + Adj + Vi ilaikaL pazhuppu ndiRattil maaRukinRana
NP + Vi + Adjectival past participle You look tired	NP + Adj + Vi Ndi kalaippaakat toonRukiRaay
NP + Vi + NP He died a millionaire	NP + Adj + Vi Avan oru laTcaatipatiyaaka iRandtoan
NP + Vi + Reflexive pronoun You are not looking yourself today	NP + Pronoun – aaka + Vi Ndi inRu ndiiyaakat toonRavillai
NP + Vi + V-ing + infinitive-clause The children came running to meet us.	NP + infinitive-clause + V-past participle + Vi kuzhandaikaL ndammaic can dtikka ooTivandtana
VERB PATTERN 3 NP + Vi + preposition + NP (NP= noun, pronoun) You can rely on me	NP + NP + postposition + vi NP = noun, pronoun ndii en militu ndammpikkai vaikkalaam
NP + Vi + preposition + NP + to-	NP + infinitive-clause + NP + postposition + Vi

<p>Infinitive Clause</p> <p>They advertised for a young girl to look after the children.</p>	<p>avarkaL kuzhandtaikaLai</p> <p>kavanikka veeNTi oru iLamaiyaana</p> <p>peNNiRku viLamparam</p> <p>ceytaarkaL</p>
<p>NP + Vi + (preposition + (it) + that-clause</p> <p>We will see (to it) that she gets home early.</p> <p>They decided (on) who should act as Sita.</p>	<p>Infinitive-clause + NP + Vi</p> <p>avaL kaalam taazhtaamal viiTTiRku vara</p> <p>ndaam eeRpaaTu ceyvooM.</p> <p>Infinitive-clause + NP + Vi</p> <p>avarkaL muTivueTuttu viTTaarkaL, yaar</p> <p>ciittaavaaka ndaTippatu enRu.</p>
<p>VERB PATTERN 4</p> <p>NP + Vi + to-infinitive clause</p> <p>(of purpose, outcome, or result)</p> <p>He ran to chase the thief.</p>	<p>NP + infinitive clause + Vi</p> <p>avan tiruTanait turatta</p> <p>ooTinaan.</p>
<p>NP + Vi + to-infinitive clause (may be equivalent to a coordinated or subordinated clause)</p> <p>He turned to see the sun setting.</p>	<p>NP + infinitive-clause + Vi</p> <p>avan cuuriyan maRaivataip</p> <p>paarkkat tirumpinaan</p>
<p>NP + Vi + to-infinitive clause</p> <p>(Infinitive adjunct is used after some verbs)</p> <p>She agreed to sing a song</p>	<p>NP + infinitive-clause + Vi</p> <p>avaL oru paaTTupaaTa cammatittaaL</p>
<p>NP + seem/appear + (to be) + Adj./NP</p> <p>This seems (to be) light thing</p> <p>NP + seem / appear + (to be) + Adj. /NP</p> <p>She seemed (to be) unable to enjoy it.</p>	<p>NP + Adj/NP-aaka + toonRu/teri</p> <p>atu ileecaana poruLaakat</p> <p>toonRukiRatu</p> <p>enRu-clause + toonRu/teri</p> <p>avaL atai iracikka iyalaatu</p> <p>enRu toonRukiRatu.</p>
<p>NP + be + to-infinitive clause</p> <p>You are to break the news</p>	<p>NP + infinitive clause + veeNTum</p> <p>ndii anda ceytiyai veLippaTutta</p> <p>veeNTum</p>
<p>VERB PATTERN 5</p> <p>NP + Anomalous finites + bare infinitives</p> <p>You may leave now.</p>	<p>NP + infinitive clause + aam Ndi ippootu</p> <p>pookalaam</p>
<p>VERB PATTERN 6</p> <p>NP + Vt + NP (passivisation is possible)</p> <p>Nobody answered my question.</p>	<p>NP + NP-kku + Vt</p> <p>Yaarum ennuTaiya keeLvikku</p> <p>viTai aLikkavillai</p>
<p>NP + Vt + NP (passivisation is not possible)</p> <p>She laughed a merry laugh.</p>	<p>NP + NP + Vt</p> <p>avaL inimaiyaana cirippu cirittaaL</p>

NP + Vt + Gerundial clause (not replaceable by to infinitive) She enjoys playing tennis	NP + infinitive- Clause + Vt avaL Tenni ViLaiyaaTa VirumpukiRaaL
NP + Vt + Gerundial clause (Replaceable by to-infinitive clause) The children love playing on the sand.	NP + atu-clause-ai+Vt kuzhandtaikaL maNalil viLaiyaaTuvatai virumpukinRana
NP+ need/want/bare + Gerund (With passive meaning) The garden needs watering	Atu-clause + NP tooTTAttil taNNiir viTuvatu avaciyam.
VERB PATTERN 7 NP+Vt + (not) + to-infinitive clause I prefer not to start early	Atu-clause-ai + Vt Munnaree toTangkuvatai ndaan virumpavillai
NP + have/ought + (not) + to-infinitive clause You ought not to complain	NP + infinitive-clause + kuuTaatu ndii kuRaikuuRak kuuTaatu
VERB PATTERN 8 NP + Vt + interrogative Pronoun + to-infinitive clause I don't know who to go for advice	NP + interrogative pronoun-iTam + atu-clause + enRu + Vt Ndaan yaariTam aRivuraikkaaka Poovatu enRu teriyavillai
She could not decide what to do next	NP + interrogative pronoun-iTam + atu-clause + enRu + Vt avaLukku aTuttu enna ceyvatu enRu muTivu ceya iyavillai
NP + Vt + interrogative Adv. + to-infinitive Clause Have you settled where to go for your holidays?	Interrogative Adv+V-atu+enRu+NP+ Vt Un ViTumuRai ndaaTkaLil en... PooVatu enRu ndii tiirmaanittu ViTTaayaa?
NP + Vt + whether + to-Infinitive Clause She didn't know whether to cry or to laugh	atu-clause-aa enRu + NP-ukku + Vt taan cirippataa azhuvataa enRu avaLukku teriyavillai
VERB PATTERN 9 NP + Vt + that-clause He doesn't believe that my intentions are serious.	atu-clause + enRu + NP + Vt ennuTaiya viruppangkaL mukkiyattuvam vaayndtatu enRu avan ndampavillai
VERB PATTERN 10 NP + Vt + wh-clause I don't know who she is. I don't know who is she.	[NP + interrogative word + (V)]S + enRu + NP-ukku + Vt yaar avaL enRu enakkut teriyaatu avaL yaar enRu enakkut teriyaatu
NP + Vt + whether-clause She asked whether I put sugar in my tea.	S-aa + enRu + NP + Vt Ndaan teendiiril carkarai pooTeenaa enRu avaL keeTTa

VERB PATTERN 11 NP + Vt + NP + that-clause He warned us that the roads were covered with snow.	S + enRi + NP + NP-ai + Vt caalaikaL panikkaTTikaLaal muuTappaTTuLLana enRu avan engkaLai eccarittaaan.
VERB PATTERN 12 NP + Vt + NP [IO] + NP [O] The indirect object can be converted into <i>to</i> + NP He handed her the letter (= He handed the letter to her)	NP + NP-iTam + NP + Vt avan avaLiTam kaTitaittai oppaTaittaan
NP + Vt + NP [IO] + NP [O] The indirect object can be converted into <i>for</i> + NP Are you going to buy me Some? (=Are you going to buy some for me?)	NP + NP-aaka + NP + Vt ndii enakku-aakak konjcam vaangkap pookiRaayaa?
NP + Vt + NP + NP He struck the door a heavy blow..	NP + NP-aaka + NP + Vt avan katavukk oru veeka maanatattu koTuttaan
VERB PATTERN 13 NP + Vt + NP [O] + <i>to</i> + NP She read the letter to all her friends	NP + NP-iTam + NP-al + Vt avaL tannuTaiya cineekitikaLiTamum andta KaTitattaip PaTittuk'kaaTTinaL
NP + V + NP [O] + <i>for</i> + NP I have bought some Chocate for her	NP + NP-aaka + NP + V + Ndaan avaLukkaaka Konjam caakleeTT VaankigirukkiReen
VERB PATTERN - 14 NP + Vt + NP [O] + <i>for</i> + NP We congratulated him on his success. Thank you for your kind help.	NP + NP-aaka + NP-ai + Vt. ndaangkaL avan veRRikkaaka avanaip paaraaTTincom. ungkaLuTaiya anpaana utavikku ndanRi
NP + Vt + PP + NP [O] I explained to him the impossibility of granting his request.	NP + NP-ai + NP-iTam + Vt avanuTaiya veeNTukooLukku utavipuriya iyalaamaiyai ndaan avaniTam viLakkineen
NP + Vt + PP + <i>to</i> -infinitive + <i>that</i> clause I must leave it to your own judgment to decide whether you should offer your resignation.	enRu clause +atu-clause-ai + NP + NP-ukku + Vt. ndii unnuTaiya irajinaamaavai koTukkaveeNTumaa enRu muTivu ceyvatai ndaan unnuTaiya tiirmaanattiRkee viTTuviTaveeNTum.

VERB PATTERN 15 NP + Vt + NP [O] + Adv. P/PP Please put the milk in the refrigerator.	NP + NP-ai + NP-iL/Adv + Vt tayavu ceytu paalai kuLircaatanap peTTiyil vai.
NP + Vt + NP [O] + Adverbial Particle Put your shoes on	NP + NP-ai + VtT unnuTaiya kaalaNikaLai aNi
VERB PATTERN 16 NP + Vt + NP [O] + to-infinitive clause He brought his brother to see me.	NP+ NP-ai + infinitive-clause + Vt. avan tannuTaiya cakootaranai ennaip paarkka koNTu vandtaan
NP + Vt + NP [O] + as/like/for + NP They have hired a fool as our football coach.	NP + NP-ai + NP-aaka + Vt avarkaL oru muTTaaLai engkaLuTaiya kaal pandtaaTTA payiRciyaaLaraaka vaaTakaikku eTuttirundtaarkaL.
VERB PATTERN 17 NP + Vt + NP [O] + (not) + to-infinitive clause. (Can be passivized) I warn you not to believe a word he says.	[... V-infinitive + veeNTaam]S + enRu +NP +NP-ai + Vt avan kuuRuvatil oru collaikkuuTa ndampa veeNTaam enRu ndaan unnai eccarikkiReen.
NP + Vt + NP + (not) + to-infinitive clause. (Cannot be passivized) He doesn't want anyone to know that she is going away.	atu-clause-ai + NP + Vt avaL veLiyeeRikkoNTirukkiRaaL enRu yaarum aRivatai avan virumpavillai.
VERB PATTERN 18 NP + Vt + NP + infinitive clause (Verbs indicate physical perception) Did any one hear John leave the house? Did you see anyone go out?	Atu-clause-ai + NP + Vt jaaN viiTTai viTTu veLiyeeRiyatai yaaraavatu paarttiirkaLaa? Ndii yaaraavatu veliyee poonataip paarttaayaa?
NP + Vt + NP + infinitive clause (Verbs do not indicate physical perception) What makes you think so?	NP + NP-ai + infinitive-clause + Vt etu unnai avvaaRu eNNat tuuNTiyatu?
NP + have + NP + infinitive clause We have computers to do our work.	Atu-clause + ukku + ...+Vt ndaangkal engkaL veelaiyai ceyvataRku kaNini vaittuirukkiroom

VERB PATTERN 19 NP + Vt + NP + ing-clause (Verbs indicate physical perception) He felt his heart throbbing.	NP + atu-clause-ai + Vt avan tan itayam aTippatai uNarndtaan.
NP + Vt + NP + ing-clause (Verbs do not indicate the Physical Perception) I can't have you doing that...	NP + NP-ai verbal participle Clause + + Vt Ndaan atai Unnai Vaittu Ceyya iyalaaku.
NP + Vt + NP + ing-clause (NP = noun, pronoun, possessive) I can't understand him/his Leaving so suddenly.	NP + atu-clause-ai + NP/NP-aal + Vt avan tiTiir enRu veLiyeeRuvatai purindtukoLLa iyalavillai
Verb pattern 20 NP + Vt + NP + interrogative on noun or adverb + to-infinitive clause I showed them how to do it.	[interrogative pronoun/Adv + V- atu] + enRu + NP + NP-ukku + Vt. evvaaRu ceyvatu enRu ndaan avarkaLukku kaaTTineen
NP + Vt + NP + whether + to- infinitive clause Ask her whether to trust him or not.	atu-clause-aa + enRu + NP + NP-iTam + Vt avanai ndampuvataa veeNTaamaa enRu avaLiTam keeL
VERB PATTERN 21 NP + Vt + NP + wh-clause Tell me what your name is? He told me why he had come.	[... Wh-word ...] enRu + NP + NP-iTam + Vt un peyar enna enRu enniTam kuuRu avan een vandtaan enRu enniTam connaan.
VERB PATTERN 22 NP + Vt + NP [O] + Adj. (NP = noun, pronoun, gerund) We painted the ceiling green. The blister on my heel made walking painful.	NP + NP-kku + Noun of quality equivalent to adjective + Vt ndaangkaL uTkuuraikku paccai varNan aTittoom NP + NP-ai + Adj + Vt en paatattil irunda puNdaTappatai veetanaikkuriyataay ceykinRatu.
VERB PATTERN 23 NP + Vt + NP [O] + NP [Object complement] The team has voted me their new captain.	NP + NP-ai + NP-aaka + Vt andta kuzhu ennai avarkaLin putiya talaivanaaka teerndteTuttirukkinRatu
NP + Vt + NP + NP (Subject complement) Jill has made jack an excellent wife.	NP + NP-ai + NP-aaka + Vt Jill jaakkiRku oru ndalla Manaiviyaaka uruvaakiyirukkiRaaL

VERB PATTERN 24 NP + Vt + NP [O] + Past Participle Phrase NP [O] = noun, pronoun You must get this door painted You must make yourself respected	NP + [NP-ai+Infinitive] infinitive-clause + Vt Ndiindta katavai varnam Puucac Ceyya VeeNTum NP + [NP-uuku+V-infinitive] infinitive – clause + Vt. Ndiindta unaker mariyaatai tarac ceyya VeeNTum
NP + Vt + NP [O] + Past participle phrase NP [O] = noun, pronoun She's had her handbag stolen. The pilot had his plane hijacked.	NP + NP-ai + V-infinitive + Vt avaL tannuTaiya kaipaiyai tiruTa viTTaaL vimaanam ooTTiyee tan vimaanattai kaTattac ceytaar.
NP + have/get + NP [O] + Past participle NP [O] = noun, pronoun Please get the machine Repaired.	NP + NP-ai + V-infinitive + Vt tayavuveytu poRiyai pazhutu Paarkkac cey.
VERB PATTERN 25 NP+Vt + NP [O] + (to be) + Adj./NP Most people considered him (to be) innocent. I have always found Jonathan a good friend.	NP + NP-ai + NP-aaka + Vt palar avanai ndiraparaatiyaakak karutinaar. ndaan joonaatanai oru ndalla ndaNpanaakak KaNTeen.

6.2.3. Transfer of adjectival phrases

The following points of typological correlation have to be noted while attempting to transfer adjective phrase in English into Tamil.

1. Adjectives precede the nouns, which they qualify in Tamil, which reflect the characteristic of SOV language. Adjectives precede the nouns they qualify even though English is an SOV. However, a few numeral adjectives and all predicative adjectives follow the nouns, which they qualify. This tendency reflects the transition of sentence structure from SOV to SVO.
2. In English a few simple adjectives are inflected for degrees of comparison. Whereas in Tamil the adjectives are not inflected for degrees of comparison.
3. Adjectives occur in succession as qualifiers of head in both languages.

The following table illustrates the transfer of adjectival patterns in English into Tamil.

Adjectival Patterns of English	Parallel Patterns in Tamil
[... + Adj. + N] NP + V A good boy came	[... Adj + N] NP + V oru ndalla paiyan vandtaan
NP + BE + [... +Adj. + N] NP He is a good boy	NP + [... Adj. + N] NP avan oru ndalla paiyam
NP + BE + Adj. She is beautiful	NP + Adj + BE avaL azhakaay irukkiRaaL
NP + BE + Intensifier [Adv] + Adj. She is very beautiful.	NP + intensifier + Adj + Adj + BE avaL mika azhakaay irukkiRaaL
It + BE + Adj. + to-infinitive clause It's easy to please Jim	NP + atu-clause + Adj + BE Jimmai tirupptipaTuttuvatu eLitaaka irukkiRatu.
NP + BE + Adj. + to-infinitive clause Jim is eager to please every one	NP + infinitive clause + Adj + BE Jim ovvoruvaraiyum tiruttipaTutta Viruppamaaka irukkiRaan
It + BE + Adj. + to-infinitive clause It is wrong of Jim to leave	NP + atu-clause + Adj + BE jim veLiyeeRuvatu tavaRaaka irukkum
It + BE + Adj. + that-clause It is certain that Jim will win.	enpatu-clause + Adj. BE jim jeyippaan enpatu ndiccayamaaka irukkiRatu
It + BE + Adj. + to-infinitive clause John was first to arrive	Adv + V-atu + NP Mutalil vandtu cerndtatu jaaN
NP + BE + Adj. + (Preposition + NP) PP John is anxious for news NP + Adj. + (+preposition) + Clause John is glad that you succeeded. John is anxious about how they got on.	NP + [NP-ai + postposition] PP + Adj + iru jaaN ceytiaip paRRi kavalaiyaaka irukkiRaan. NP + enRu-clause + NP + Adj + iru ndii veRRi peRRaay enRu jaaNukku mazhcciyaaka irukkiRatu. avarkaL eppaTi camaaLikkiRaarkaL enRu jaaNukku kavalaiyaaka irukkiRatu.

6.2.4. Transfer of adverbial phrases

The following points of typological comparison have to be noted while attempting to transfer adverbial phrases in English into Tamil.

1. An adverb occurs in attributive construction with a verb, an adjective, an adverb or a main clause in both English and Tamil.

2. Adverbs in English are inflected for degree of comparison whereas adverbs in Tamil are not inflected for degrees of comparison.

3. Adverbs in English follow the forms, which they modify as in other SVO languages whereas in Tamil they generally precede the forms, which they modify.

4. More than one adverb can occur in a sequence in both English and Tamil.

5. In Tamil adverbial stems are used in repetition to give more emphasis to the meaning expressed.

umaa miiNTum miiNTum vandtaaL

'Uma came again and again'

The following table illustrates the transfer of adverbial patterns in English into Tamil.

Adjectival Patterns of English	Parallel Patterns in Tamil
<i>Adverbs of Manner</i> NP + Vi + Adv.1 Usha ran fast.	NP + Adv + Vi avaL veekamaaka ooTinaaL
NP + Vt + NP [O] + Adv 1 I ate banana hurriedly. Usha welcomed Uma warmly	NP + NP-ai + Adv. + Vt avaL vaazhaippazhattai viraivaaka caappiTTaaL. uSaa umaavai anpooTu varaveeRRaaL
NP + Adv1 + Vt + NP [O] Usha warmly welcomed the minister from Chennai.	NP + NP-ai + Adv + Vt uSaa cennaiyilurundtu vandta mandtiriyai anpooTu varaveeRRaaL
1. NP + Adv1 + V + to-infinitive clause. They secretly decided to go to Chennai. 2. NP + V + to-infinitive clause + Adv1 They decided to go to Chennai secretly.	NP + Adv + infinitive-clause + V avarkaL irakaciyamaaka cennai cella muTivu ceytanar. NP + infinitive-clause + Adv + V avarkaL cennai cella irakaciyamaaka muTivu ceytanar.
1. NP + V + NP [O] + Adv.11 (ex. Foolishly, generously, etc.,) Usha answered the question foolishly	NP + Adv. + NP-ukku + vt uSaa muTTaaLtanamaaka keeLvikk u viTaiyaLittaaL NP + NP-ukku + Adv.+ Vt
2. NP + Adv1a + V + NP [O] Usha foolishly answered the question.	uSaa keeLvikk u muTTaaLtanamaaka

	viTaiyaLittaaL
1. NP + V (AV) + NP [O] + Adv 12 (ex. Badly and well) Kannan paid her well. Uma treated him badly 2. NP + BE + adv12 + V (PV) She was well paid. He was badly treated	NP + NP-ukku + Adv. + V kaNNan avaLukku ndanRaaka campaLam koTuttaan umaa avanai moocamaaka ndaTattinaaL NP + NP-ukku + Adv. V avaLukku ndanRaaka campaLam koTukkappaTTatu avan moocamaaka ndaTattappaTTaan
Adv (somehow) + ...V.... Somehow they did it. ... V. Adv (somehow) They did it somehow.	NP + Adv + NP-ai + Vt NP + NP-ai + Adv + Vt avarkaL atai eppaTiyoo ceytaarkaL
Adverbs of place 1. NP + V + Adv2 (away, everywhere, here, nowhere, somewhere, there etc.,) Usha waits outside Raja sent her aboard Write it there. NP + V + PP + Adv2 Kannan looked for it evrerywhere NP + Vt + NP + Adv2 Keep the book somewhere	NP + Adv + V uSaa veLiyee kaattirundtaaL raajaa avaLai veLindaaTRiRku anuppinaan itai angkee ezhutu NP + NP-ai + Adv + V kaNNan atai ellaa iTangkaLilum] teeTinaan NP + NP-ai + Adv + V <i>puttakattai engkeeyuaavatu vai.</i>
NP + Vt + (NP) + Adv21 (ex. Somewhere and anywhere) Usha has seen it somewhere Uma hasn't gone anywhere Kannan has gone somewhere Kannan hasn't gone anywhere	NP + (NP-ai) + Adv + V uSaa atai engkoo paarttirukkiRaaL umaa atai engkum paarttirukkavillai kaNNan engkoo pooyirukkiRaan kaNNan engkum pooyirukkavillai
Here / there + BE/COME/GO + NP [S] Here's Usha's friend There goes my wife. Here comes Raja There comes the elephant	itoo/atoo + NP itoo uSaavin ndaNpar atooatto + NP + V itoo en manaivi pookiRRaaL itoo raajaa varukiRaan atoo yaanai varukiRatu.
There/here + NP [=Personal pronoun] + V There he goes Here he comes	atoo + NP + V atoo avan pookiRaan atoo avan varukiRaan

<p>Adverbs of time Adv 31 (Afterwards, eventually, lately, now, recently, soon, etc.,) +NP + V + NP [IO] + NP [O]</p>	<p>Adv + NP + NP-iTam + NP-ai + V</p>
<p>Eventually Usha told Uma the secret NP + V + NP [IO] + NP [O] + Adv.31 (afterwards, eventually, lately, now, recently, soon, etc.,) Usha told Uma the secret eventually</p>	<p>muTivaaka uSaa umaaviTam irakacyattaic connaaL uSaa umaaviTam irakacyattaic connaaL muTivaaka. (marked style)</p>
<p>NP + V + Adv.32 (before, early, immediately, and late) Kala came early.</p>	<p>NP + Adv + V Kalaa munnareetil vandtaaL</p>
<p>NP + V + Adv 32 Uma has gone there before Let's start late Come immediately</p>	<p>NP + Adv. + V Umaa munnareetil angku pooyviTTaaL ndaam taamatamaaka puRappaTalaamaa viraivaaka vaa.</p>
<p>NP + V-Perf + Adv33 (since and ever since) Uma left Mysore in 1998 I haven't seen her since</p>	<p>Adv. + NP + NP-ai + V Umaa 1998-il maicuurukkuc cenRaaL atanPiRatu ndaan avaLai Paarkkavilleii</p>
<p>1. NP + V + (NP [O]) + Adv.34 (Yet and still) Usha hasn't come yet. Uma hasn't seen him yet 2. NP + Adv34 + Vt + NP [O] Kalaa hasn't yet finished the work I gave her a week ago.</p>	<p>NP +(NP-ai) + Adv + V uSaa ituvarai varavillai. umaa avanai ituvaraip paarkkavillai NP + Adv + (NP-ai) + V kalaa ituvarai ndaan oruvaarattiRku munnar koTutta vellaiyai muTikkavillai</p>

<p>Adverbs of frequency 1.NP + V + Adv4 (Always, continually, frequently, occasionally, often, usually, once, etc.,) + Adj/NP NP + Adv + V Uma always comes late 2. NP + Adv4 + V Jaya often comes late. Kala is often late Kannan seldom visits Uma</p>	<p>NP + Adv + V uSaa vazhakkamaaka usha is usually happy. makizhcciyuTan irukkiRaaL NP + Adv + V Umaa epootum taamatamaaka varukiRaaL jayaa epootum taamatamaakka varukiRaaL kalaa aTikkaTi taamatamaaka varukiRaaL kaNNan eppootaavatu umaavai paarkka vuruvaan</p>
<p>1. NP + Aux1 + Adv 4 + Aux 2 + V Uma has often been warned Has Uma ever been warned? 2. Aux 1 + NP + Adv1 + V</p>	<p>NP + Adv + V umaa epootum eccarikkap paTukiRRaaL NP + Adv + V umaa epootaavatu eccarikkap paTTaaLaa?</p>
<p>Adv 1 + Adv 41 + NP + V Secretly ever did Uma try to meet Usha? Adv 42 + NP + V Seldom have Usha beard such a speech</p>	<p>Adv + Adv + NP + NP –ai V irakaciyamaaka epootaavatu umaa uSaavai candtikka muyanRaaLaa? Adv + NP + NP-ai + V aritaakat taan uSaa appaTippaTTa peecai keeTTirukkiRaaL</p>
<p>There + BE + Adv4 (hardly, scarcely, and barely) + NP There is hardly any money left. NP + Adv 4 + V</p>	<p>NP + Adv + V paNam konjam kuuTa miitamillai NP + Adv + V</p>
<p>Usha hardly ever visit her friends</p>	<p>uSaa aritaakattaa taan ndaNparkaLai candtippaaL</p>
<p>Sentence adverbs: These modify the whole sentence / clause and normally express the speaker opinion. NP + BE + Adv 5 (actually, apparently, certainly, definitely, perhaps, surely, etc.,) +Adj. Usha is certainly right Uma is apparently happy</p>	<p>NP + Adv + Adj + BE uSaa ndiccayamaaka cari umaa veLippaTaiyaaka makizhcciyaaka irukmkiRaaL</p>
<p>NP + Adv5 + V ...</p>	<p>NP + Adv +V</p>

Kannan definitely looks happy	kaNNan ndiccayamaaka makizhcciyaakat terikiRaana
NP + Aux 1 + Adv5 + Aux2 + V Uma would obviously have gone NP + Aux + Adv5 + V Usha will surely come	NP + Adv + Aux1 + V umaa ndiccayamaakp Pooy iruppaaL NP + Adv + V uSaa kaTTaayamaaka varuvaaL
Adv 5 + NP + V.... Apparently Uma looks happy. NP + V ... + Adv5 Uma looks happy apparently....	Adv + NP + V veLippaTaiyaaka umaa makizhcciyaakat terikiRaaL umaa makizhcciyaakat terikiRaal veLippa Taiyaaka
NP + V.... + Adv 51 (definitely) Uma will like Usha definitely NP + V.... + Adv52 (perhaps and possibly) Perhaps Uma will like Usha	NP + Adv + NP-ai + V umaa ndiccayamaaka uSaavai virumpuvaaL Adv + NP + (NP-ai + V oruveeLai umaa uSaavai virumpuvaaL
Adv 53 (admittedly, frankly, honestly, etc), NP + V.... Honestly, Usha has won the first prize.	Adv + NP + (NP) + V unmaiyaaka uSaa mutal paricu peRRirukkiRaaL
Adverbs of degree NP + BE Adv6 (quite, almost, barely, completely, enough, quite, rather, etc.,) + Adj Usha is quite happy. Uma is extremely beautiful.	NP + Adv + Adj + iru usaa mikavum makizheciyaaka irukkiRaaL uSaa mikavum azhakaaka irukkiRaaL NP + Adv + ... + V
NP + BE + Adv 6 (quite, almost, barely, completely, enough, quite, rather, etc.) +V ... Kalaa was completely covered with mud NP + HAVE + Adv6 + V....	uSaa makizhcciyaaka irukkiRaal umaa mika mika azhakaaka iRukkiRaaL kalaa muzhuvatum tozhiyaal muuTappaTTaL
Bava had almost reached Chennai. NP + BE + Adj + Adv61 (enough) The knife isn't sharp enough That food is not good enough	NP + Adv + + V Bavaa kiTTattaTTa cennaiyai aTaindu viTTaaL NP + NP + BE Kattikku kuurmai pootaatu NP + Adj + BE caappaaTu ndanRaaka illai
NP + Adv 62 + V	NP + Adv + V

Uma almost fell down	umaa kiTTattaTTa vizhundtuviTTaaL
NP + V + Adv 63 (only) Usha ate only banana Kala only gave me her pen. NP + V + NP + PP + Adv 63 (only) Kala gave her pen to me only.	NP + + Adv + V uSaa vaazhaippazham maTTum caappiTTaaL kalaa maTTum Taan peenaa koTuttaal NP + ... + Adv + V Kala Peena koTuttaal enaakku maTTumTaan
NP + Aux + Adb 64 (Just) + V... Uma has just gone home Usha has just finished her work	NP + Adv + ... V + Aux umaa ippootu taan viTTukkup pooyirukkiRaaL uSaa ippootutaan veelaiyai muTittaal.

6.2.5. Transfer of prepositional phrases

Adposition is cover term used to incorporate preposition, postposition and cases markers. For the sake of correlation we have to take into account the case suffixes of Tamil also under adposition. The difference, as we are well aware of, is that the case suffixes are inflectional elements of nouns and pronouns, whereas postpositions are loosely added after the oblique forms or case inflected forms of nouns and pronouns. As both of them are used to express different case relations, they are not distinguished from one another for the sake of computation.

The following points are the out come of typological correlation of adpositional phrases in English and Tamil.

1. English generally makes use of prepositions to denote the case relation existing between Vern and noun phrase. But Tamil mostly makes use of case suffixes to denote various case relations. Of course, Tamil too makes use of postpositions at par with English prepositions.
2. Fairly obviously word order is an alternative to case marking in distinguishing subject from object in languages like English. In English the word order also distinguishes the patient object from the recipient or beneficiary object in double object constructions where the patient object always follows the other object:

She gave me good marks.

She cut me a bunch of dahlias.

3. It has frequently been observed that there is a correlation between the presence of case marking on noun phrases for the subject-object distinction and flexible word order and this would appear hold true for Tamil.

4. Typologically it appears that there is a tendency for languages that mark the subject-object distinction on noun phrases to have the basic order of subject-object-verb (SOV), and conversely a tendency for languages lacking such a distinction to have order subject-verb-object (SVO). This statement appears to hold true for English and Tamil.

The following table illustrates the transfer of prepositional phrases in English into Tamil.

Preposition + NP in English	Prepositional Relations / meaning	NP + Postposition in Tamil
At + NP He is standing at the bus stop.	Dimension type 0 position	NP-oblique+ - <i>il</i> Avan peerundtu ndilaiyattil ndiRkiRaan
To + NP He went to Chennai Give it to me.	Dimension type 0 Destination	NP-oblique + <i>ku/itam</i> Avan cennaikkuc cenRaam NP-oblique + <i>iTam</i> enniTam koTu
On + NP The book is on the table	Dimension type ½ position (line or surface)	NP-oblique + <i>il/meel</i> meecai il/meel puttakam irukkiRatu
On (to) + NP He fell on (to) the floor.	Dimension type ½ destination (line or surface)	NP-oblique+ <i>il</i> avan taraiyil vizhundtaan
In He is in the village. In (to).	Dimension type 2/3 position (area or volume)	NP-oblique+ <i>il</i> Avan kiraammattil irukkiRaam.
Kannan dived in (to) the water.	Dimension type 2/3 destination (area or volume)	NP-oblique + <i>il</i> kaNNan taNNiiril kutittaan
Away from (=not at) + NP He is away from Chennai	Dimension type 0 position	NP – oblique + <i>il + illai</i> avan cennaiyil illai
Away from + NP He went away from Chennai	Dimension type 0 destination	NP-oblique +accusative + <i>viTTu</i> svan cennaiyai viTTup poonaan
Off + NP The books were off (=not on) the shelves.	Dimension type ½ position (line or surface)	NP-oblique + - <i>il + illai</i> puttakangkaL SelpukaLil illai

Off + NP He took the book off the shelves Out of (=not in)+NP He is out of the office.	Dimension type ½ destination (line or surface) Dimension type 2/3 position (area or volume)	NP-oblique + - <i>il</i> + <i>irundtu</i> avan SelpukaLilirundtu Puttakattai eTuttaan Avan aluvalakattil illai NP-oblique +- <i>il</i> + <i>illai</i>
Out of + NP He went out of the office	Dimension type 2/3 destination (area or volume)	NP-oblique+- <i>il</i> + <i>irundtu</i> + <i>veLiyee</i> Avan aluvalakattilirundtu veLiyee poonaan
Above / over/ On top of + NP The lamp is hanging over the head.	SUPERIOR	NP-oblique + (dative) + <i>meel/meelee</i> talaikku meelee viLakkut tongkukiRatu
Below / under/ underneath/ beneath+ NP The dog is lying under the table. INTERIOR in front of +{ NP The house is in front of the temple. Behind + NP The house behind the temple Into / inside +NP He is inside the house Out of / outside + NP He went out of the house.	INFERIOR ANTERIOR POSTERIOR INTERIOR EXTERIOR	1. Inferior location 'under' NP-oblique+ <i>in</i> + <i>kiizh/kiizhee/aTiyil</i> 2. Inferior location 'below' NP-oblique + dative + <i>kiizh/kiizhee</i> meejaiyin aTiyil ndaay kiTakkiRatu NP-oblique + dative + <i>munnaal, munp/mun/munnar/mundti</i> Koovilukku munnaal viiTu irukkiRatu NP-oblique + dative + <i>pinnaal, pin, pinup, pinnar, pindti</i> Koovilukkup pinnaal viiTu irukkiRatu. NP-oblique+dative + <i>uL, uLLee</i> Avan viiTukkuL irukkiRaana NP-oblique + dative + <i>veLiyee</i> Avan viiTTuku veLiyee cenRaana.
Near / by / beside / by the side of / at the side of + NP He went near her	NEAR	NP -oblique+ dative + <i>arukil</i> Pakkattil/KiTTEE Avan avaL pakkattil cenRaana.
With + NP The onion is lying with potato.	In the same place as position	NP-oblique + <i>ooTul uTan</i> venkaayam uruLaikkizhankuTan kiTakkiRatu

With + NP He wants with her.	In the same place as Accompainment	NP-oblique + <i>ooTu / uTan / kuuTee</i> avan avaLooTu cenRaan
Betweenm, amid, amidst, among, Among + NP The Minister stood among the People.	BETWEEN	NP + dative + <i>iTaiyil/ ndaTuvil</i> mandtiri makkaLukku ndaTuvil ndiRkiRaar
Beyond + NP The school is beyond the temple.	ULTERIOR	NP-oblique + accusative + <i>taaNTi</i> NP-oblique + dative + <i>appaal</i> koovilukku appaal paLLikkuuTam irukkiRatu
Opposite to + NP The house is opposite to the temple	CITERIOR	NP + dative + <i>etiree / etiril / etirkku/etirttaaR</i> poola Koovilukku etiree viiTu irukkiRatu
Around +NP The trees are around the house.	CITERIOR CIRCUMFE- RENTIAL	NP-oblique + accusative + <i>cuRRi</i> ViiTTaic cuRRi marangkaL irukkinRana.
Across + NP They went across the river.	ACROSS	NP-oblique + accusative + <i>taaNTi</i> avarkaL aaRRait taaNTi cenRaarkaL. NP-oblique-in + <i>kuRukee</i> avarkaL aaRRin kuRukkee cenRaarkaL
Through + NP He went through The forest.	THROUGH	NP + <i>vazhiyaaka</i> avan kaaTTu vazhiyaakaP poonaan.
Along + NP He went along the road.	ALONG	NP + <i>vazhiyaaka</i> avan caalai vazhiyaakap poonaan.
Towards + NP He went towards The park	TOWARDS	NP-oblique + accusative + <i>ndookki.</i> <i>paarttu</i> avan puungkaavai ndookkic cenRaan.
From + NP He went from house.	SOURCE	NP-oblique + locative <i>il + irundtu,</i> NP + accusative + <i>viTTu</i> avan viiTTai viTTuc cenRaan.
To + NP He gave her money.	GOAL	NP-oblique + <i>ku/ iTam</i> avan avaLiTam paNam koTuttaan.
Because of + NP He came there because of her.	CAUSE	NP-oblique + <i>aal</i> avan avaLLal angku vandaan NP + <i>kaaraNamaaka</i> avan avaL kaaraNamaaka vandtaan.
For + NP	PURPOSE	NP-oblique + dative + <i>aaka</i>

He came there for seeing her.		avan avaLaip paarpataarkaaka angku vandaan
With + NP He treated her with respect.	MANNER	NP – oblique + <i>ooTu /uTan</i> NP + <i>aaka</i> avan avaLai mariyaataiyooTu ndaTattinaan.
By means of/ by + NP..I came by bus	MEANS	NP + oblique + <i>aal</i> ndaan pusil / pusaal vandteen
By + NP He beat the animal by a cane.	INSTRUMENT	NP-oblique + <i>aal</i> avan andta vilangkai pirampaal aTittaan. NP + accusative + <i>vaittu / koNTu</i> avan andta vilangkai pirampaal koNTu aTitaan.
About + NP He talked about her.	ABOUT	NP-oblique + accusative + <i>paRRi/kuRittu</i> avan avaLaip paRRi peecinaan
In connection with + NP He went to Chennai in connection with his business	CONNECTION	NP-oblique + accusative + <i>oTTi</i> avan tan viyaapaarattai oTTi cennai cenRaam
For + NP He struggled for her.	SUPPORT	NP-oblique + dative + <i>aaka, veeNTi</i> avan avaLukku veeNTi poora Tinnaan.
Against + NP He fought against them.	OPPOSITION	NP-oblique + dative + <i>etiraaka</i> avan avarkaLukku etiraaka caNTaiyiTTaan
Except for / with the exception of / excepting / except / but for/barring + NP All except Usha came to office.	EXCEPTION	NP + accusative + <i>tavira tavittuozhiya</i> usaavait tavira elloorum aluvalakattiRku vandaarkaL
Instead of + NP He drank coffee Instead of tea.	SUBSTITUTION	NP + dative + <i>patilaaka</i> avan teendiirukkup patilaaka kaappi arundinaan
But for + NP But for him I have not bought the gift.	NEGATIVE CONDITION	NP + <i>illaaviTTaal/allaamal</i> __avan illaaviTTaal ndaan inda paricai vaangki irukka maaTTeen.
With / out of - NP He walks with walking stick	INCREDIENT	NP-oblique + <i>aal</i> NP-oblique + (ai) + <i>koNTu/vaittu</i> avan ndaTakool koNTu ndaTandtaan

6.2.6. Transfer of Phrasal Co-Ordination

There are different types of phrasal co-ordination

Type of coordination	In English	In Tamil
Coordination of noun phrases	<p>1. NP and NP Noun phrases are commonly conjoined Ram and Prem are brothers.</p> <p>2. NP or NP Ram or Prem will come</p> <p>3. Either NP or NP Either Ram or Prem did it.</p> <p>4. Neither NP nor NP Neither Ram nor Prem did it.</p>	<p>1. NP – <i>um</i> NP - <i>um</i> cakootarakaL raamum pireemum raamoo pireemooi varuvaarkaL</p> <p>2. NP – <i>oo</i> NP – <i>oo</i></p> <p>3. NP – <i>oo</i> NP – <i>oo</i> V – negative ramoo pireemoo atai ceyyavillai. (Note in Tamil the clitic <i>oo</i> can be replaced by negative element <i>allatu</i>.)</p> <p>4. raam allatu pireem iruvarumee ceyyavillai</p>
Coordination of more than two noun phrases	<p>NP, NP... and / or NP <i>And</i> and <i>or</i> can link more than two NPs, and all but the final instance of the conjunctions can be omitted. We congratulated Ram, Prem, and Beem, Det and / or Det</p>	<p>1. Conjunction NP – <i>um</i>, NP – <i>um</i>, NP – <i>um</i> ndaangkaL raamaiyum, preemaiyum, piimaiyum paaraaTTinoom.</p> <p>2. Disjunction NP – <i>oo</i>, NP – <i>oo</i> ndaangkaL raamaiyoo, preemaiyoo pimaiyoo paraaTTinoom.</p>
Coordination of determiners	<p>Demonstrative can be linked to each other or to other determiners in the NP. Take this and that Take this (pen) and that pen.</p>	<p>1. Det-<i>um</i> Det-<i>um</i> itaiyum ataiyum eTu</p> <p>2. Det + N + <i>um</i> + Det + N + <i>um</i> Indta peenaavai – <i>um</i> andta peenaavai – <i>um</i> eTu. Indta peenavaaiy – <i>oo</i> andta peenavai – <i>oo</i> eTu.</p>
Coordination of adjectival phrases	<p>Adj P and / or Adj P Adjectives both predicative and attributive can be conjoined. She is beautiful and smart.</p>	<p>AdjP + <i>um</i> / <i>oo</i> + AdjP+ <i>um/oo</i> avaL azhakaakavum keTTikaarattanamaakavum iRukkiRaaL</p>
Coordination of adverbial phrases	<p>Adv Pnd/or Adv P Adverbials and dependent clause can be conjoined. I can announce it loudly or by using a speaker.</p>	<p>Adv+<i>um/oo</i> + Adv + <i>um/oo</i> ennall itai captamaakavoo allatu olipperukki koNToo aRivikka iyalum</p>

Coordination of prepositional phrases	PP and / or PP Prepositional phrases can also be conjoined. He looks for his pen inside and outside the box The test in April and in May is postponed.	PP + um/oo + PP + um/oo avan tan peenaavai peTTikku uLLeeyum veLiyeeyum teeTinaan NP+maRRum+NP eppiral maRRum meey teervukaL ottivaikkap paTTirukkinRana.
---------------------------------------	--	--

6.3. Transfer of Clauses

Three important types of subordinate clauses and the four nonfinite sub classes that can be structurally identified for English are correlated with that that of Tamil.

Type	English	Tamil
Finite clause	As + S+S As she is ill, she cannot attend her class.	<i>atu</i> – clause – <i>aal</i> + S uTaIndalam illatataal avaLaal vakuppiRkucc cella iyalaatu
Non-finite clause	1. Infinitive clause with <i>to</i> It is better for you to do that work. 2. Infinitive clause without <i>to</i> All he did was open the door. 3. ing – participial clause Having arrived late, he was disappointed. 4. ed-participial clause They hurried home, the work is completed.	1. <i>atu-clause</i> + S ndii anda veelaiyaic ceyvatu ndallatu. 2. <i>atu</i> – clause + S avan ceytatu ellaam katavaitt tiRandtatu taan. 3. Verbal participle clause + S taamatamaaka vandtu avan eemaandtaan. 4. S [... V-finite + S [... V- finite] S avarkaL viraivaakac cenRaarkaL. Veelai muTindu viTTatu.
Verbless clause	[Although +]Verbless clause + S Although very cheerful, mary has many problems.	<i>aalum-clause</i> + S mika makizhcciyaaka irundtaalum, meerikku pala cikkalkaL uNTu.

Dependent clause may function as subject, object, complement or adverbial.

Dependent clause and they in English	Equivalent clauses and their functions in Tamil
[That ...] NP + VP Subject That he is lazy is a fact.	S + <i>enpatu</i> + NP Subject avan coompeeRi enpatu uNmai

NP V [that] NP Direct object I know that he likes you.	S + <i>enRu</i> + S Direct object avan unnai virumpukiRaen enRu enakkut teriyum.
NP BE [that ...] NP Subject complement The point is that he is your friend.	S + <i>enpatu</i> + NP avan unnuTaiya ndaNpan enpatu kuRippu.
NP + V interrogative clause {Io} + NP {o} Indirect object I gave whoever it was a cup of tea.	... V – aalum clause + S yaaraaka irundtaalum ndaan oru koopai teendiir koTutteen.
S + participle clause He found her excited with joy.	avaL makizhcciyaaka irukka avan kaNTaan
Adverbial clause + S Adverbial When we meet, I shall explain it.	V-um + pootu clause + S ndaam candtikkum pootu ndaan atai paRRi viLakkuveen

Subordinate clauses in English and Tamil can be correlated according to semantic criteria – whether their perspective on the content of the superordinate clause, as indicated by their subordinator, is one of time, location, manner, reason, etc.

Subordinate clauses in English	Perspectives	Subordinate Clause in Tamil
S + After + S ex. I questioned them after Usha met them.	TIME	... V + Past + adjectival participle + <i>pinnar/ piRaku</i> + S uSaa avarkaLai candtitta pimmar/piRaku ndaan avarkaLiTam keeLvi keeTeen
S + before + S I saw Ramu before he died	TIME	V + <i>um</i> + <i>mun</i> Raamu caakum mun ndaan avanaip paartteen
S + since + S I am in contact with them since I last met them.	TIME	... V- <i>atu</i> clause + <i>il+irundtu</i> + S ndaan avarkaLaik kaTaiciyaakac candittatilirundtu avarkaLiTam toTarpu vaittirukkiReen
S + until + S I will be staying in Chennai until we meet again	TIME	... V- <i>atu</i> clause + varai + S ndaam miNTum candtippatu varai ndaan cennaiyil iruppeen
S + when + S I hated you when you were in love with him.	TIME	Adjectival clause + pootu + S NdiI avaLiTam kaatal koNTirukkum pootu ndaan unnai veRutteen
S + while + S	TIME	Adjectival clause + pootu + S

I was watching them while they were eating.		avarkaL caappitukiRa <i>pootu</i> ndaan avarkaLaip paarttuk koNTirundteen.
S + where + S I don't know where Sujatha went.	LOCATION	...engku + V-finite + <i>enRu</i> + S cujaataa engku cenRaaL <i>enRu</i> enakkat teriyaatu
Since + S Since you didn't pay Money, we will not Give you books	REASON	<i>aal</i> -clause of ndii paNam kaTTaatataal ndaangkaL unakkup puttakam tara maaTTom
S + as if + S HC acted as if usha was Sick	MANNER	<i>atu</i> – clause + Pool + S Usaa uTal ndalamillaatatie Pool avan ndaTittaan
S + as though + S He acted as though Kannan hadn't seen him	MANNER	Atu-clause + <i>pool</i> + S kaNNan tannaip paarkkaatatu pool avan nda Tittaan.
S+need + S I need a bag so that I can take it safely.	PURPOSE	<i>ataRkaaka</i> -clause + S <i>atai</i> paatukaappaaka eTuttuc celvataRkaaka enakku oru pai veeNTum
S + in order that + S I encouraged Rajan in order that he would confer.	PURPOSE	...um-clause + <i>paTi</i> + S raajanaik kalandtaaloocikkum ndaan uRcaakap paTuttineen
S + so as to + V1... He went through a small lane so as to avoid the police	PURPOSE	<i>ataRkaaka</i> clause + S avan kaavalarait tavirppataRkaaka oru kuRukiya paatai vazhiyaakac cenRaam
S +in order to+V1... He went through a small lane in order to avoid the police	PURPOSE	<i>ataRkaaka</i> clause + S avan kaavalarait tavirppataRkaaka oru kuRukiya paatai vazhiyaakac cenRaam
S + as (many) as + S I had eaten as (many) apples as Uma had eaten.	COMPARISON	NP...ettanai + NP + V- finite-oo + attanai + NP +... + V-finite umaa ettanai appiL caappiTTaaLoo attanai aappiL ndaanum caappiTTeen.
S + more than + S I had eaten apples more than Uma had eaten.	COMPARISON	<i>atu-ai</i> clause + <i>viTa kuuTutal</i> + S umaa cappiTTatai viTa kuuTutal ndaan caappiTTeen
NP + BE + Adj (comparative degree) + than + NP I am taller than Usha.	COMPARISON	NP + NP-ai + <i>viTa</i> + Adj + pronominalizer + {-aay+iru} ndaan uSaavai viTa uyaramaanavan

S + although + S She thanked them although they refused her suggestion.	CONTRAST	adjectival clause + <i>pootilum</i> + S avarkaL avaL karuttai maRutta pootilum avaL avarkaLukku ndanRi kuuRindaaL.
S+ even though + S She behaved politely even though she was rich.	CONTRAST	adjectival clause + <i>pootilum</i> + S avaL paNakkaariyaay irundta pootilum avaL mariyaataiyaay ndaTandtu koNTaaL.
S + despite + S I ate two eggs despite (my) hating eggs.	CONTRAST	adjectival clause + <i>pootilum</i> + S Ndaan muTTaiyai veRutta pootilum iraNTu muTTaikaL caappiTTeen.
S + so (that) + S He had spent a lot of money on the project so (that) it was a success.	RESULT	V-infinitive + <i>veeNTum</i> + <i>enpataRkaaka</i> + S tiTTam veRRi peRaveeNTum enpataRkaaka paNam calavazhittaan.
Please get the letter from Raju if he had read it.	CONDITION	All-clause + S Raaju andta kaTitattaip paTittuviTTaal atai avaniTemirundtu vaangkit taravum.

The following are the different dependent clauses whose transfer is dealt here.

1. The nominal clauses
2. Adverbial clauses
3. Adjectival clauses
4. Comparative clauses
5. Comment clauses.

6.3.1. Transfer of Nominal / Complement Clauses

Clauses in English	Clauses in Tamil
1.1. That – clause functioning as subject That she is beautiful is true.	1.1. S + <i>enpatu</i> + NP avaL azhakaanavaL enpatu uNmai
1.2. that – clause Functioning as direct object I told him that she was beautiful	1.2. S + <i>enRu</i> + S ex. avaL azhakaanavaL enRu avaniTam kuuRineen.
1.3. That – clause functioning as appositive Your assumption, that things will improve, is understood.	S + <i>enRa</i> + S kaarayangKaL meenmaiyaTaiyum enRa unnuTaiya karuttu terikiRatu.
1.4. That – clause functioning as adjectival complement I am sure that things will improve.	S + <i>enRu</i> + S kaariyangKaL meenmaiYuRum enRu ndaan uRutiyaaaka ndampukiReen.
2.1. Wh-clause functioning as subject What he is searching for is a house.	<i>atu</i> – clause + S avanm teeTikkoNTirukkiRatu oru viiTu

2.2. Wh – clause functioning as direct object He wants to eat whatever is ready.	Interrogative <i>oo</i> -clause + S etu tayaaraaka irakkiRatoo atai avan caappiTavirumpukiRaana
2.3. Wh – clause functioning as indirect object She gave whoever came a cup of tea.	Interrogative <i>oo</i> -clause + S yaar vandtaarkaLoo avarkaLukkuavaL teendiir koTuttaal
2.4. Wh – clause functioning as subject complement The truth is what I guessed correct.	Interrogative <i>oo</i> -clause + S etu cariyenRy ndaan ndinaitteenoo atu taanuNmai
3. If / whether – clause functioning as direct object I don't care if/whether he is available.	<i>aalum</i> -clause + S avan irundtaalum ndaan ataippaRRi kavalaippaTavillai
4. Nominal relative clause introduced by wh – element. What he is looking for is a wife.	<i>atu</i> -clause + S avan teeTikkoNTiruppatu oru manaiviyai
5.1. To – infinitive nominal clause functioning as subject For a boy to do that is strange.	<i>atu</i> -clause + NP oru paiyan itaic ceyvatu aticayamaanatu
5.2. To-infinitive nominal clause as subject complement Her intention is to become a doctor.	<i>atu</i> -clause + NP oru maruttuvaraavatu avaLatu viruppam.
6. Nominal ing – clause as subject complement. His hobby is collecting stamps.	<i>atu</i> -clause + S anjcal villaikaL ceekarippatu avanuTaiyapozhutu pookku
7. Bare infinitive All he did was press the button	<i>atu</i> – clause + S pottaanai amukkiyatu taan avan ceytatu
8. Verbless clauses Mosaic flooring in every room is expensive	<i>atu</i> -clause + S ovvoru aRaiyaiyum mucaik tarai pooTuvatu perunjcelavaakum.

6.3.2. Transfer of Adverbial Clauses

The following tables show the correlative features of adverbial clauses in English and Tamil.

Clause structures in English	Type of clause	Equivalent clause structures in Tamil
1.1. S + after + S I went to Madurai after she left Chennai.	1. Clause of time	Adjectival clause + <i>piRaku</i> , <i>pinnaal</i> , <i>pinup</i> , <i>pinnar</i> , <i>pin</i> avaL cennaiyai viTTu Poona pinnar ndaan maturai cenReen.

1.2. S + before + S She left the college before she finished her education.	“	<i>ataRku</i> –clause + <i>munnaal</i> , <i>munpu</i> , <i>munner</i> , <i>mun</i> + S <i>avaL tan paTippai muTippataRku munnaal kalluuruyai viTTup pooyviTTaaL</i> .
1.3. S + Since + S I am working as teacher since we last met.	“	<i>atu</i> clause + <i>il</i> irundtu Poona taTavai ndaam candittatilirundtu ndaan aaciriyaraakap paNiyaaRRukiReen.
1.4. S + until + S I will be at Chennai until we meet again	“	Adjectival <i>um</i> – clause + <i>varai</i> + S ndaam miiNTum candtikkum varai ndaan cennaiyil iruppeen.
1.5. S + When + S I met you when you were in Chennai.	“	Adjectival clause + <i>pootu</i> ndii cennaiyil irundta pootu ndaan unnaic canditteen.
1.6. While... V-ing He watched them while they were eating	“	Adjectival clause (i.e.RC) + <i>pootu</i> avarkaL caappiTTukoNTirundta pootu avan avarkaLai kavanittaa.
2.1. S+ where + S I met her where she was working	2. Clause of place	... <i>engku</i> ... V-finite – <i>oo angku</i> V-finite <i>avaL engku veelai ceykiRaaloo angku avan avaLaic candtittaa</i> . Or Adjectival clause + <i>iTam</i> avan <i>avaL</i> veelai ceykiRa iTattçk <i>avaLaic candtittaa</i> .
2.2. S +wherever + S He accompanied her wherever she went.	“	... <i>engkellaam..</i> V-finite <i>oo</i> + <i>angkellam</i> . V- finite. <i>avaL engkellam cenRaaLoo angkellam avanum kuuTac cenRa</i> . Adjectival clause + <i>iTanttiRkellaam</i> <i>avaL cenRa iTattiRkellam avanum kuuTac CenRa</i> .
3.1. If + S + S If he performs well, He will win the prize. If you wait, (then) You can meet him. 1. Real condition if she comes, I'll talk to her.	3. Clause of condition	<i>aal</i> -clause + S avan ndanRaaka ceyalpaTTaal, paricu peRuvaan. ndii kaattirundtaal avanaic candtikkalaam 1. Real condition <i>avaL vandtaal ndaan avaLiTam peecuveen</i> .
If it rains, the picnic will be cancelled.	“	<i>mazhai vandtaal piknik rattu ceyyappaTum</i> .

2. Unreal condition if she came, I'd talk to her.		2. Unreal condition avaL vandtirundtaal, ndaan peeciyruppeen.
3.2. Unless + S S Unless it rains, the crops will die.	“	V + aa + viTTaal – clause + S Mazhai peyyaaviTTaal, payirkaL iRanduviTum.
3.3. Had + S + S Had I been there, I'd have congratulated you.	“	aal – clause + S ndaan angku irundtaal, unnai paaraaTTiyiruppeens
4.1. although + S + S Although he tried hard, he failed.	4. Clause of concession	Adjectial + <i>pootilum</i> – clause + S avan mikundta ciramappaTTa pootilum tooRRuviTTaan
4.2. if + S + S if he's poor, at least he's happy	“	Adjectival + <i>pootilum</i> – clause + S Avan ezhaiyaaka irundta pootilum makizhcci yaaka irukkiRaana
5.1. because + S I could not meet Uma, because she was ill.	5. Clause of reason or cause	Adjectival clause + kaaraNattaal + S umaa uTal ndalamillamal irundta kaaranataal ndaan avaLaic candtikka muTiyavillai.
5.2. S + since + S I did not work hard since you didn't give me salary.	“	Adjectival clause + <i>kaaraNattaal</i> ndii enakkuc campalaM taraata kaaraNattal ndaan kaTinamaaka uzhaikkavillai.
6.1. Since + S + S Since the rain has stopped, we shall go out.	6. Clause of circumstances	aal-clause + S Mazhai ndinRuviTTataal, ndaanm veLiyee poovoom.
6.2. As + S + S As it was dark, she hesitated to go out.	“	aal-clause + S iruTTaaka irundtaTaal, avaL veLiyee pooka tayangkinaaL
7.1. S + so that + S He worked hard, so that he could succeed.	7. Clause of purpose	U-clause enpataRkaaka + S veRRi peRaveeNTum enpataRkaaka avan kaTinamaaka uzhaittaan.
7.2. S + in order that + S We eat well, in order that we may be healthy.	“	Um-clause + enpataRkaaka raaju kuRRattai oppukkoLLaTTum enpataRkaaka kattirunteen
7.3. S + to-infinitive clause He walked fast, to catch the train	“	Infinitive clause + S avan rayilaip piTikka viraivaay ndaTandtaan
7.4. S + so as + infinitive – clause She studied hard. So as to get the scholarship	“	veeNTum-clause + enpataRkaaka + S avaL uukkattokai kiTaikka veeNTum enpataRkaaka ndanRaakap paTittaaL

7.5. S + in order + infinitive – clause He went through the narrow lane in order to avoid the police.	“	<i>VeeNTum</i> – clause + <i>enpataRkaaka</i> + S Ex. kavalariTamirundtu Tappa veeNTum enpataRkaaka paatai kuRukiya paatai vazhiyaakac cenRaam.
7.6. S + in order that + S We eat well, in order that we may be healthy	“	<i>veeNTum</i> – clause + <i>enpataRkaaka</i> aarookiyamaaka irukkaveeNTum enpataRkaaka ndaam ndanRaakac caappiTukiRoom
8. S + so that + S He practiced well, so that he could perform well. The dog barked so loudly that the thief fled	Clause of result	<i>um</i> -clause+ <i>paTikku</i> +S avan taan ndanRaaka ceyalpaTum paTikku ndanRaaka payiRci ceytaan tiruTan ooTum paTikku ndaay kuraittatu
S + as if + S Raja acted as if he was sick	Similarity	<i>atu</i> -clause + <i>poola/pool</i> raajaa uTalndalamillaamal irundtatu poola ndaTittaan
S + as though + S He acted as though Usha has not seen him	Similarity	<i>atu</i> -clause + <i>poola/pool</i> uSaa avanaip paarkkaatatu poola avan ndaTittaan.
... as ... as Ramesh came as frequently as Raja.	Similarity	NP ai + <i>viTa kuuTutal</i> raajaa umaavaivtha kuuTutai celavazhitt aaL
... more than + S Raja spent more than Uma had spent.	Difference	NP – ai + <i>ViTa</i> Raajaa rameeSai viTa viraivaaka ndaTandtaan
(al) though + S He gave them money although they refused to accept it.	“	Adjectival clause + <i>irundta pootilum</i> avaL paNakkaariyaaka irundta pootilum ndanRaaka ndaTandtukoNTaaL.
So (that) + S He spent lavishly so (that) he became pauper soon.	Reason	<i>ataRkaaka</i> – clause avan vaRiyavanaavataRkaaka taaraaLamaaka celavazhittaan

6.3.3. Transfer of Adjectival Clauses

Adjectival clause or relative clauses are clauses linked to a noun in their container clause, frequently with a WH form like the relative pronoun *which* and *whom*. As relative clauses qualify an NP, it performs the function of an adjective.

The girl who is clever

The following points have to be remembered while transferring a relative clause construction in English into Tamil.

1. In English the relative construction occurs in the finite form whereas in Tamil the verb in relative construction occurs in the non-finite form.
2. In English the verb follows the head noun whereas in Tamil, it precedes the head noun.
3. In both the languages, the verbal form in the relative construction has time relation.
4. In English the relative pronoun has always a co referential noun whereas in Tamil, there is no co referential noun to the head noun.
5. In English, the relative construction occurs in conjunction to qualify the co referential noun whereas in Tamil, the relative participle occurs in succession to qualify the head noun.
6. In Tamil, an adjective may intervene between the non – finite verb and the head noun.

The following table gives the three types of relative clauses in English and their parallel clauses in Tamil.

Types of relative clauses in English	Their equivalents in Tamil
<p>1. Restrictive relative clause as post modifiers:</p> <p>1.1. [NP + [relative word +S]] NP The boy that is eating is her friend.</p> <p>1.2. [NP + S] NP The table we bought was strong.</p>	<p>[[.... V+ Tense /negative+relative participle]+ NP] NP caappiTTukkoNTiruppatu avaLuTaiya ndaNpan.</p> <p>Ndaam vaangkina meecai valimaivaayndtatu.</p>
<p>2. Non restrictive relative clause as post modifiers</p> <p>[[NP + [relative word +S]] NP The boy drawing the picture is my son.</p>	<p>[[... V+ Tense/negative + relative participle] + NP]] NP vaazhttu terivitta kaNNanai avaL candittaaL</p>
<p>3. Non finite relative clause as post modifiers</p> <p>3.1. (NP + [V-ing....]) NP The boy drawing the picture is my son</p> <p>3.2. [[NP + [V3...]] NP The man rejected by you is my uncle.</p> <p>3.3. [[NP [infinitive clause]] NP The next girl to sing is my daughter.</p>	<p>[[V+Tense/Negative + Relative Participle] + NP] NP paTattai varaindu kiNTirukkiRatu ennuTaiya makan unnaaL taLLappaTTa manitar enmaamaa. aTuttu paaTairukkum ciRumi enmakaL.</p>

6.3.4. Transfer of comparative clauses

The following table correlates the comparative elements used in English and Tamil.

Meaning	Comparative elements in English	Comparative elements in Tamil	Comment
Similarity	as... as so ... as She is as clever as her brother.	<i>pool, poola</i> avaL tan cakootaranaip poola aRivuLLavaL avaL tan cakootariyaip poola aRivuLLavalaay irukkiRaaL	Tamil makes use of pronominalized forms of adjectives instead of adjectives while denoting the present state/ quality. The formation can be captured by the following rule : [[Adj + [pronominalizer] NP + {aay}Adj+iru]]
Dissimilarity	Than She is cleverer than her brother.	<i>vita, kaaTTilum</i> avaL tan cakootaranai viTa/ kaaTTilum aRivullavaL. avaL tan cakootariyai viTa/ kaaTTilum aRivuLLavaLLay irukkiRaaL	“

6.3.4.1 Comparative clause of quality

The following table illustrates the transfer comparative clauses of quality.

Adjectival form in English	Degree	Parallel form in Tamil
NP + BE + as + positive form of adjective + as + NP Uma is as beautiful as Usha.	Similarity positive degree	NP + NP- <i>ai</i> + <i>poola</i> + Adjective + <i>iru</i> umaa uSaavaip poola azhakaay irukki RaaL.
NP + BE + more + adjective + than + NP Uma is more beautiful than Usha.	Dissimilarity comparative degree	NP + NP – <i>ai</i> + <i>viTa</i> + Adjective + <i>iru</i> umaa uSaavai viTa azhakaay irukkiRaaL

NP + BE + Comparative form of adjective + than + all Raja is the tallest among all.	Dissimilarity comparative degree	NP + NP + <i>ai</i> + <i>viTa</i> + Adjective + <i>iru</i> ex. <i>rajaa rameesai viTa uyaramaaka irukkiRaan.</i>
NP + BE + the + Superlative form of adjective + among all Raja is the tallest among all	Dissimilarity Superlative degree	NP + NP + <i>elloorilum</i> / <i>ellaavaRRidam</i> + Adjective + <i>tiru raja avarkaL elloorilum uyaramaay irukkiRaan.</i>

6.3.4.2. Comparative clause of quantity

The following table illustrates the transfer of comparative clauses of quantity.

Adjectival form in English	Degree	Parallel form in Tamil
... NP + HAS + as + many + NP + as ... Ram has as many shirts as Sam has.	Positive degree clause of similarity	NP – <i>iTam</i> + <i>ettanai</i> + NP <i>iru</i> + Tense + PNG-oo + <i>attanai</i> + NP + NP – <i>iTam</i> <i>iru</i> + Tense + PNG <i>RaamiTam ettanai caTTaikaL irukkinRanavoo attanai caTTaikaL caamiTamum irukkiRana.</i>
NP... + HAVE + more + NP + than + NP + HAVE Ram has more shirts than Sam has.	Comparative degree Clause of difference	NP – <i>iTam</i> + <i>ettanai</i> + NP <i>iru</i> + Tense + PNG-oo + <i>atai viTa kuuTatal+NP+NP- iTam</i> + <i>iru</i> + Tense + PNG <i>RaamiTam ettanai caTTaikaL irukkinRanavoo atai viTa kuTatal caTTaikaL caamiTam irukkiRana</i>

6.3.4.3 Comparative clause of adverbs

Adverbial comparative construction varies based on the three degrees of comparison. The three forms of adverbs, positive, comparative and superlative forms, can be referred from the DEWA.

English	Tamil
POSITIVE DEGREE With the positive form <i>as ... as</i> in the affirmative and <i>as/so... as</i> in the negative are used Uma shouted as loudly as she could. It didn't cost her so much, as she feared.	umaa avaLaal muTindta aLavukku urakka captamilTTaaL avaL kavalaippaTTatu pool atu avaLukku KuuTutalaana vilai alla.
COMPARATIVE DEGREE With comparative form <i>than</i> is used. Uma walks faster than Usha. Kannan screamed louder than I expected.	NP + NP – ai + ViTa + Adv + V Umaa uSaavai viTa veekamaaka ndaTandtaaL Ndaan etirpaarttatai viTa kaNNan kuukuraliTTaan
SUPERLATIVE DEGREE With superlative it is possible to use <i>of</i> + noun Usha worked hardest of the labourers.	NP + NP –il Adv + V uSaa veelaiyaaTkaLil kuuTutalaaka veelai ceytaaL.

6.3.5. Transfer of clausal co-ordination

The following table depicts the points to noted while transferring coordination in English to Tamil.

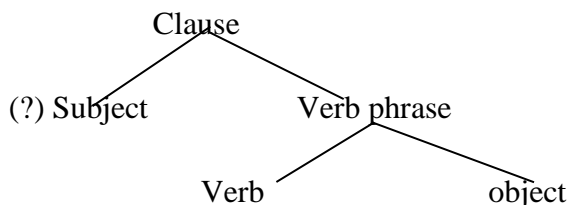
English	Tamil
In expressing coordination. English being an SVO language, place particles before the coordinated element, typically the last. Mathematics, physics, chemistry and zoology.	Tamil as a SOV language, by contrast, place such particles after the coordinated elements. kaNitamum, iyeRpiyalum, veetiyalum vilangkiyalum
Coordination is often accompanied by ellipses when two clauses are coordinated. Usha sat still and said nothing.	In this type of coordination, Tamil does not make use of the coordinator <i>um</i> . Intead it makes use sunordination by verbal participle form. uSaa acaiyaamal uTkaarndtukoNTu onRum peecavillai

6.4. Transfer of sentences

English relies on word order as a means of expressing grammatical relationships within constructions. In Tamil, word order is more flexible, as grammatical relations are

A TRANSFER GRAMMAR FOR ENGLISH-TAMIL MACHINE TRANSLATION
 Prof. Rajendran Sankaravelayuthan and Dr. P. Kumaresan

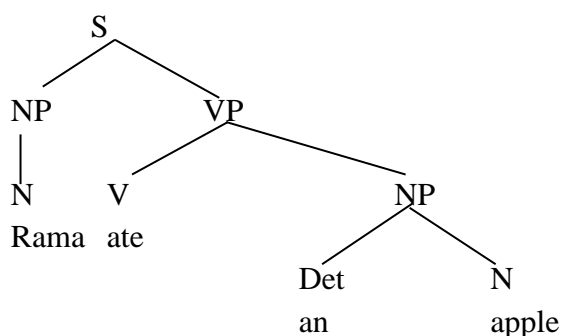
signaled by inflections. In generative linguistics, English with fixed word order is called configurational language and Tamil with fairly free word order is called non-configurational language. The core of the configurationality issue is about the question of special grammatical relation of subject and a different one of object, whatever these relations correspond to different positions in the hierarchy of the sentence. In Tamil, there is little or no evidence for a hierarchy as given below, but very often Tamil differentiates subjects and objects in crucial ways.



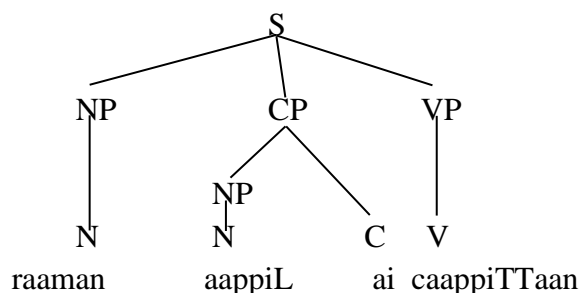
It has been taken for granted that in English there is a syntactic VP node. It is generally believed that Tamil lacks VP constituency. So, generally Tamil sentences are given a flat structure without VP being at a different hierarchical level.

Subathra Ramachandran (1975) strongly argues that Tamil is a configurational language possessing a VP node. Even if it is true, we cannot compromise on the fact that Tamil is different from English as English is an SVO language whereas Tamil is an SOV language in which 'S' and 'O' can be shuffled. Tamil is not strictly a configurational language. The object is decided by position in English whereas in Tamil by case markers.

English: Rama ate an apple



Tamil: *raaman aappiLaic caappiTTaan.*



Many interesting points will be revealed for the purpose of transferring English language structure into Tamil, if we look at the correlating features of the two languages from the point of view of their typological characteristics as SOV and SVO languages respectively.

1. Syntactically, English and Tamil are perhaps most saliently different in the basic word order of verb, subject and object in simple declarative clauses. English is an SVO language, meaning that the verb tends to come between the subject and object and Tamil is an SOV language, meaning that the verb tends to come at the end of basic clauses. So the two languages differ in their ordering of certain functional units. For example, English being an SVO language has prepositions, whereas Tamil being SOV language has postpositions.

2. The affirmative sentence in English which are in SVO order becomes aux + SVO to form interrogative sentences which is a discontinuous order. In Tamil, the interrogation does not change the word order.

3. English is a highly consistent SVO language. The government constructions observe SVO patterns, as do the nominal modifying constructions – with the exception of descriptive and limiting adjectives in an archaic order. As a consistent language, English exemplifies characteristic features of SVO languages, such as the many patterns that have been developed in the verbal modifying constructions, the wide use of substitutes, and the grammatical processes used to highlight elements of sentences. The verbal patterns make heavy use of auxiliaries, which are also involved as substitutes and in interrogative and negative constructions, differentiating English in this way from (S)OV languages like Tamil. The grammatical process involves function words, again in distinctive constructions like clefting.

Tamil is a typical (S)OV language in which the verb occurs at the final position of a sentence. Word order in the sentence is relatively free, as long as the sentence ends with a main verb. For example, the sentence *Kannan introduced Uma to Raja* in Tamil can have the following word- order- variants.

1. kaNNan umaavai raajavukku aRimukappa Tuttinaan.
1 2 3
2. kaNNan raajaavukku umaavai aRimukappa Tuttinaan.
1 3 2
3. umaavai raajaavukku kaNNan aRimukappa Tuttinaan.
2 3 1
4. raajaavukku umaavai kaNNan aRimukappa Tuttinaan.
3 2 1
5. raajaavukku kaNNan umaavai aRimukappa Tuttinaan.
3 1 2
6. umaavai kaNNan raajavukku aRimukappa Tuttinaan.
2 1 3

ai and *kku* are accusative and dative case markers and nominative is unmarked in Tamil. The above sentences are identical in logical content, but are different in discourse presupposition in a very subtle way. Ordinarily, constituents that represent older information precede those that represent newer information. The subject – initial sentence pattern is the most common among the various word order patterns. In declarative sentence with nominal subject and object, the dominant order is almost always one in which the subject precedes the object.

4. Simple, unmarked clauses in English agree with the SVO pattern, and require representations for the three constituents: subject, verb, and object. Neither the subject nor the verb nor the object of a transitive verb may be omitted.

Uma folded her hands.
*Her hands Uma folded.

5. English does not permit any order other than the above in unmarked sentences occurring as single utterances. This constraints applies also in subordination, as in the following sentences:

Kannan shouted while Uma folded her hands.

6. In English the verbal qualifiers must precede verbs. This position conflicts with the optimum position for subjects. To express negation, for example, the negative element might be prefixed to the verb.

Uma does not fold her hand
*Uma folded not her hand
In Tamil the negative element follows the verb
*Umaa tan kaikaLai maTikkavillai Uma did not folded her hands'
*Umaa tankaikaLai illaimaTittaaL

7. Government operates strongly in English, both in predicates and in other government constructions.

Her hands are folded.
Two of her hands are folded.
This is case with Tamil too.
avaL kaikaL maTikkappaTTana 'Her hands are folded'
avaL iru kaikaLum maTikkappaTTana 'Two of her hands are folded'

8. In comparison of inequality the adjective precedes the standard.

Uma is more beautiful than Usha.

9. In titles, the name follows, functioning like a standard for the ‘variable’ title.

Queen Uma.

Tamil allows both the possibilities.

raaNi umaa ‘Queen Uma’

umaa raaNi ‘Queen Uma’

In personal names the surname follows as standard to the given name.

John, F Kennedy.

10. In numerals in the teens, the form of ten follows, as ten follows, as in the other constructions of this kind furnishing a sturdier for the simple numerals from three to nine in Tamil pattern is ten numeral.

Thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen.

patinonRu ‘eleven’, panniraNTu ‘twelve’, patimuunRu ‘thirteen’, patinaanku ‘fourteen’, patinaindu ‘fifteen’, patinaaRu ‘sixteen’, patindeezhu ‘seventeen’, patineTTu ‘eighteen’, pattonpatu ‘nineteen’

11. English has been characterized by functional syntacticians as a language in which the initial segment, or theme, often using old material, sets the scene for the new material, or rhyme.

Uma folded her hands.

The subject Uma is one of the important elements of the preceding discourse, while the predicate folded her hands introduces a new action. SVO order provides a convenient basis for such organization of sentences. The same can be said for Tamil too.

umaa tan kaikaLai maTittaaL ‘Uma folded her hands’

12. For the basic sentential structures identified for English, the corresponding Tamil structures are given.

English	Tamil
SVA Arul is in the reception hall	S AV aruL varaveeRpaRaiyil irukkiRaana
SVC Arul is clever	SCV aruL puticaali aavaan
SVO	SOV

Arul threw the ball	aruL Pandtai eRindtaan
SVOA Arul kept the ball on the table	S O A V aruL pandtai meecai meel vaittan
S V O C Arul has proved her wrong	S enRu-clause V aruL avaL tavaRu enRu ndiruupittaan ‘Arul has proved that is wrong’
S V O I O Arul taught her music	S I O O V aruL avaLukku icai kaRpitaan
SV The baby cried.	SV Kuzhandtai azhutatu

(Here in this context A = Adjunct, C = Complement, I O = indirect Object, O = Object S = Subject, V=Verb)

In both English and Tamil simple, compound and complex sentences have been identified traditionally

Sentence	English	Tamil
1.Simple sentence	He goes to market	avan maarkedTTukkup pookiRaana
2. Compound sentence	He went to market and bought some vegetables	avan maarked TTukkup poonaan kaaykaRikaLai vaangkinaan
3. Complex sentence	He is going to market to buy vegetable	Avan kaaykaRivaangka candtaikkup pookiRaana

Though the distinction of sentences into simple, compound, complex is traditional, it is crucial from the point of view of translation. We can expect a simple sentence in the source language having an equivalent simple sentence in the target language. For example, for a simple sentence in English, we can expect a simple sentence as its translation equivalent in Tamil. Similarly for a compound sentence in English we can expect a compound sentence as its translation equivalent in Tamil. Also we can expect a complex sentence as a translation equivalent in Tamil for a complex sentence in English.

English	Tamil
He went to market NP V to-NP	avan candtaikkup poonaan NP NP-ukku V
He went to market and bought vegetable	avan candtaikkup poonaam

NP V to – NP V NP	maRRum kaaykaRikaL vaangkinaan. NP Np-ukku V maRRum NP V
He went to market to buy vegetable. NP V to-NP V NP	avan kaaykaRikaL vaangkad Candtaikkup poonaan NP V-INF NP-ukku V

But this idealization of getting translation equivalent as mentioned above may not be true always. One can expect a complex sentence for a simple sentence or vice versa.

English	Tamil
Arul has proved her wrong NP V NP Adj	arul avaL tavaRu enRu Ndiruupittaan ‘AruL has proved that she wrong’ NP [NP NP] S enRu V

This complexity should be kept in mind while looking for translation equivalents of English sentences in Tamil.

Traditionally in both English and Tamil the following types of sentences are identified.

Sentence type	English Sentence	Corresponding Tamil sentence
Affirmative or assertive sentences	He went to market	<i>avan candtaikkup poonaan</i>
Question or interrogative sentences	Is he going to market?	<i>avan candtaikkup pookiRaana?</i>
Negative sentences	He is not going to market	<i>avan candtaikkup pookavillai</i>
Imperative or command Sentences	Go to Market	<i>candtaikkup poo</i>
Exclamatory sentences	How beautiful the building is!	<i>aa!evvaLavuzhakaana kaTTiTam itul</i>

This functional distinction of sentences is also crucial to our venture in finding translation equivalents in Tamil for English sentences. It should also be noted that the word order plays a crucial part in converting affirmative sentences into interrogative sentences in English. In Tamil word order does not play a crucial role while transforming an affirmative into an interrogative sentences, it makes use of clitics.

6.4.1. Transfer of affirmative sentences

English has an explicit link verb ('be' verb) to equate the subject NP with the complement, NP, Adj, and Adv. Explicit link verb is lacking in Tamil. But there are contexts in which we make use of 'be' verb, which can be equated with English 'be' verb. The 'be' verb *iru* can complement an NP through an adverbial particle *aaka*.

avaL oru maruttuvaraaka irukkiRaaL

'She is a doctor'

avaL azhakaaka irukkiRaaL

'She is beautiful'

avaL cennaiyil irukkiRaaL

'She is in Chennai'

Adjective in Tamil cannot occupy the predicate position as in English. (In English adjective is supported by the 'be verb'). In Tamil *aaka* helps in the formation of an adjective when followed by the verb *iru*. The following table will depict the mechanism of transfer of equative sentences in English into Tamil.

Structure of English equative sentences	The corresponding structure of Tamil equative sentences
NP + 'Be' verb + NP Kala is a girl	NP + NP Kalaa oru ciRumi
NP + 'Be' verb + NP Kamala is a doctor	NP + NP-aaka + iru-T-PNG Kamalaa maruttuvaraaka irukkiRaaL
NP + Be verb + Adj. Kamala is beautiful	NP + NP-aaka + iru-T-PNG Kamala azhakaaka irukkiRaaL NP + NP-aana-PN Kamala azhakaanavaL
NP + Be verb + Adv. Kamala is there	NP + Adv. + iru-T-PNG kamala angkee irukkiRaaL
NP + Become + NP Kamala became a teacher	NP + NP + aaku-T-PNG Kamala aaciriyar aanaaL

In Tamil, the equative sentences of NP + NP type are used in the present context. If the equation is made in the future and past contexts, Tamil needs the help of the 'be' verb *iru*, which can be inflected for past and future.

Kamalaa oru maruttuvar

'Kamala is a doctor'

Kamalaa oru maruttuvaraaka irundtaaL

'Kamala was a doctor'

Kamalaa oru maruttuvaraaka iruppaaL

Kamalaa will be/may be a doctor.

6.4.2. Transfer of interrogative sentences

An auxiliary is proposed before the subject to express interrogation in English.

Did he come yesterday?

Do cats eat bats?

Such questions require an answer of either yes or no, and as a result they are often labeled yes-or-no- questions.

In accordance with the general principle, the interrogative marker should stand close to the sentence boundary, whether initially in VO languages or finally in OV languages. English makes use of a special set of words, which may combine with the interrogative with a substitute for the subject, the so-called wh-words. For yes-or-no questions it has lead to the introduction of auxiliaries. Among the auxiliaries *do* is the most remarkable in having today only a grammatical function, whether as interrogative marker or as a device for the indication of negation or emphasis. Other auxiliaries combine uses as grammatical markers with expression of modality, aspect and tense.

The second set of questions in languages is characterized by a question word. These often referred as wh-question words after wh-segment in many English interrogative words, because they include an ‘unknown quantity’. Initial position of the interrogative element accords with the expectation of this order for the theme as well as with the general ordering principle.

What’s the French word for cuckoo?

What right has you to call me uncle?

How is bread made?

English, as an SVO language, permits only one wh-word before finite verb, whether this is a noun, an adjective, or an adverb.

Besides wh-questions and yes-or-no questions, English includes devices indicating presupposition in yes-or-no question. One such device is tag question, consisting of a positive auxiliary when a negative answer is presupposed, and a negative auxiliary for a presupposed positive answer. The auxiliary corresponds in form to that of the principal verb, as in the following idiosyncratic statement.

I speak English, don’t I?

Interrogative expressions are then closely related to expressions for sentence negation, though negation may be used for syntactic rather than pragmatic purpose.

The three types of interrogation found in English have to be correlated with that of Tamil for the purpose of developing MTA.

6.4.2.1. Transfer of yes-no questions

Contrasting characters pertinent to the transfer of yes-no questions in English into Tamil needs close scrutiny. As we have already noted, the yes-no questions can be sub divided into three types in English:

1. Those with 'be' verb
2. Those with 'modal' auxiliary
3. Those with 'do' verb

The table below correlates the question with 'be' verb in English with Tamil.

English pattern	The corresponding Tamil pattern	Comments
1.Question with be verb 1.1.Be + NP + NP Is she a teacher? 1.2.Be n't + NP + NP <u>Isn't she a teacher?</u> 1.3.Be + NP + ADj Is she beautiful?	1.1.NP + NP-aa avaL oru aaciriyaraa? 1.2.NP + NP + allav/illaiy-aa? avaL aaciriyar allav/ ilaiy-aaI .3.NP + NP-aana- PNG-aa avaL azhakaanavaLaa	In the case of negative sentence with <i>not</i> , the short form n't will be placed after the 'be' verb. The movement of English 'be' verb to the initial position, is matched by adding of clitic <i>aa</i> in Tamil.
2.Question with modal auxiliary 2.1.Modal + NP + Main verb + (NP) Can he be a doctor? 2.2. Modal + NP+V Can I sing? <u>Should I write?</u>	<i>NP-aal + NP-aaka +</i> <i>iru + Modal-aa</i> <i>avanaal</i> <i>maruttuvaraaka</i> <i>irukka muTiyumaa?</i> <i>NP-aal + V-INF +</i> <i>Modal-aa</i> <i>ennaal paaTa</i> <i>muTiyumaa?</i> <i>ndaan ezhuta</i> <i>veeNTumaa?</i>	
3.Question with do verb 3.1.Do + Tense + NP + V + (NP) Did write the story? 3.2. Don't + Tense + NP + V + (NP)	3.1.NP + (NP) + V-T- PNG-aa raaNi katai ezhutinaaLaa? 3.2.NP + (NP) + V-INF iilaiy-aa	The movement of English <i>do</i> to the initial position (or do insertion) is matched by adding of clitic <i>aa</i> in Tamil

Didn't Rani write the story?	raaNi katai ezhutavillaiyaa?	
------------------------------	---------------------------------	--

Interestingly to trigger all the three types of interrogation in English, Tamil makes use of the clitic *aa* with the relevant units. It can be summarized that for the question type in English where the 'be' verbs such as *is, am, was, are, were, will be, shall be* are proposed to the subject to frame questions, we can expect two types of equivalents in Tamil.

The interrogative structure of type 'be' verb + NP+NP in English will be matched by 'NP + NP-aa' in Tamil.

Is she a girl?
avaL oru ciRumiya

For the interrogative structure of the type "be' verb + NP + Adj' in English, Tamil makes use of NP + [NP-aana] Adj-PN-aa. Note that in Tamil adjective is pronominalized when it is used as a predicate.

Is she beautiful?
avaL azakaanavaLa
Is he poor?
avan eezhaiyaa

The yes-no question of the type "be' verb + NP + adv' in English is matched by 'NP + Adv + iru-T-PNG-aa' in Tamil.

Is he here?
avan inkee irukkiRaanaa

6.4.2.2. Transfer of wh-questions

The 'wh' questions of Tamil are similar to 'wh' questions in English. As in English, interrogative pronouns, adverbs, etc in Tamil introduce them. Since the word order is flexible the question word can be introduced anywhere in the sentence. As we have noticed already, English question sentences are formed by the movement of the operator verb followed by the movement of interrogative words (noun, adverb, adjective). Tamil does not have operators to be fronted although it has counterparts for 'wh' words in English. These counterparts do not move to the front of the clauses. As we noted already 'yes/no' questions in Tamil differ from their declarative counterparts by suffixing a clitic to the concerned elements to be questioned.

The following table shows the correspondence between interrogative words in English and Tamil.

Interrogative words in English	Interrogative words in Tamil
Who	yaar, evan, evaL, evar
Which, What	etu, evai, enna
How much	evvaLavuvu
How many	ettanai
How	eppaTi, evvaaRu
Where	engku
When	eppootu, eppozhutu
At what (time)	endndeeram, eppootu
On which (day)	e(endaaL), enRu
At what (place)	engkee
In which (town)	e(endakaril)
To which (country)	e(endaaTTil)
By whom	yaaraal
With whom	yaaruTan
With which (friends)	enta (ndaNparkaLuTan)
Whose (house)	yaaruTaiya (viiTu)
Why	een, etaRku

The following table shows the correspondence between interrogation in English and Tamil.

Interrogation in English	Interrogation in Tamil
In English interrogation is framed by shifting the auxiliary verbs to the initial position of the construction or by introducing the interrogative words or by adding super segmental morphemes to any statement.	Interrogation is framed by the addition of interrogative particles or by the introduction of interrogative words or by adding super segmental morphemes to any statement.
Interrogation framed by auxiliary for yes-or-no type.	Interrogation is framed by interrogative particles for yes-or-no type
In English the auxiliary verbs and the interrogative words occur in the initial position.	In Tamil the interrogative particles occur in the final position of any word in the construction, the interrogative words occur in the initial, medial or final position of the construction.
Tag questions are framed by auxiliary movement.	Tag questions are framed by suffixing the interrogative clitic the concerned units.
In interrogative sentences, interrogative words occur in isolation.	In Tamil too, the interrogative words occur in isolation in interrogative sentences.

6.4.3. Transfer of negative sentences

A TRANSFER GRAMMAR FOR ENGLISH-TAMIL MACHINE TRANSLATION
Prof. Rajendran Sankaravelayuthan and Dr. P. Kumaresan

Under this title the transfer of negation in equvative sentences and non-equvative sentences and transfer of negative pronouns and determiners are dealt here.

6.4.3.1. Transfer of negation in equvative sentences

In the following table, negation in equvative sentences in English is correlated with that of Tamil.

English	Tamil
NP + BE-V +not + NP She is not a school teacher	NP + NP + <i>illai</i> avaL oru paLLi aaciriyar illai
There + BE-V + no + NP There is no God	NP + <i>illai</i> kaTavuL illai
NP + BE-V + not + PP He is not in Chennai	NP-LOC + <i>illai</i> avan cennaiyil illai
There + BE-V + no + NP There are no girls	<i>angkee</i> + NP + <i>illai</i> <i>angkee</i> maaNavikaL yaarum illai
It + is + not + ADJ-to-clause It is not easy to go there.	S-atu + adjectival noun + <i>alla</i> / <i>illai</i> <i>angkee</i> poovatu eLitallal/eLitu illai

6.4.3.2. Transfer of negation in non-equvative sentence types

In the following table, negation in non-equvative sentences in English is correlated with that of Tamil.

English Negative forms	Corresponding Tamil forms
Did not +MV1 He did not go	MV-INF + <i>illai</i> avan pookavillai
Does not + MV1 He does not go	MV-atu + <i>illai</i> Avan poovatillai
Cannot + MV1 I cannot go	MV-INF + <i>iyalaatu</i> /muTiyaatu ennaal pooka iyalaatu / muTiyaatu
Could + MV1 I could not go	MV-INF + <i>iyalavillai</i> /muTiyavillai ennaal pooka iyalavillai / muTiyavillai
Shall not + MV1 I shall not go	MV-INF + <i>maaTTu</i> + PNG/muTiyaatu ndaan pooka maaTTeen
Should not + MV I should not go	MV-INF + <i>kuuTaatu</i> ndaan pooka kuuTaatu
Will not + MV 1 I will not go	MV INF + <i>maaTTu</i> + PNG ndaa Pooka maaTTeen

Would not + MV ₁ I would not go	MV INF + <i>maaTTu</i> + PNG ndaan Pooka maaTTeen
Will not + MV ₁ It will not go.	MV- <i>atu</i> atu pookaatu
Must not + MV I must not go	MV-INF + <i>kuuTaatu</i> ndaan pooka kuuTaatu

6.4.3.3. Transfer of negative pronouns and determiners

English makes use of negative pronouns such as *none*, *nothing*, *neither*, *nobody*, *none* and negative determiner *no*. Tamil does not have negative pronouns; instead it makes use of *um*-suffixed interrogative pronouns such as *yaarum*, *etuvum*, *evaram* that do not possess any negative feature; the negation is expressed by adding *illai* to the verb.

Negative pronouns in English	Corresponding pronouns in Tamil
Person = no one, nobody No one come Nobody come	<i>yaarum</i> <i>yaarum varavillai.</i>
Non-person = nothing I ate nothing	<i>onRum</i> <i>ndaan onRum caappiTavillai</i>
None None of the students is good. None of the students here arrived	<i>Oruvarum/yaarum</i> <i>maaNavarkaLil oruvarum</i> <i>nallavarillai</i> <i>maaNavarkaLil yaarum</i> <i>varavillai.</i>

Tamil does not have a negative word equivalent to addition adverbial negative form *neither... nor*. Tamil makes use of negative verb form such as *illai*, *muTi*, *kuuTaatu*, V-aatu. The noun phrases or pronouns will be added with the disjunctive clitic *oo*. Similarly Tamil does not have the equivalent of *never* which is a negative adverb. Tamil makes use of Gerundive form of the type V-T/N-atu.

English	Tamil
Neither ... nor Neither Usha nor Uma came today	NP- <i>oo</i> NP- <i>oo</i> MV-INF _ <i>illai</i> uSaavoo umaavoo inRu varavillai
Never Never I met him	V-T-RP- <i>atu+illai</i> ndaan avanai candtittatillai Note : The adverb <i>orupootum</i> which can be equated with English <i>never</i> also need the support of the negative verb <i>illai</i> . <i>orupootum</i> can be compensated by the emphatic clitic <i>ee</i>

	<p>added to the VN.</p> <p>ndaan avanai orupootum candittatillai.</p> <p>ndaan avanai cantittatee illai.</p>
--	--

The following table sums up the corlative features of English and Tamil for the sake of computation.

Negation in English	Negation in Tamil
Negation is effected by the addition of segmental word or suprasegmental morphemes to the affirmative construction.	Negation in Tamil. In Tamil too, negation is effected by the same method.
Forms like <i>no, not, nothing, nobody, none, not only, rarely, scarcely, seldom, few, little</i> , etc. are the negative words which are used to bring in negation.	The negative roots <i>al, il, maaTTu</i> are the negative words which bring out negation in Tamil.
The negative words do not show concord with the subject of the negative construction.	Except the negative verbs <i>alla and illai</i> , all other inflected negative words (ex. <i>maaTTu</i>) show concord with the subject of the negative construction.
Monomorphemic negative words in pure negative constructions occur with auxiliary verbs and others occur without any auxiliary verbs.	The negative words follow the nouns, a few adverbs or the infinitives.
The negative words in pure negative constructions occur in the initial position of the construction	The negative words in near negative constructions occur in the medial position.
A construction with a main verb can be negated only after introducing an auxiliary verb.	
The monomorphemic negative word in pure negative constructions is moved with the auxiliaries to form negative interrogative constructions whereas the negative words in near negative constructions are not moved with the auxiliaries.	

6.4.4. Transfer of imperative sentence

Imperative sentences are associated mostly with the second person commands, instructions and requisitions. Both Tamil and English make use of verb root to express

impetration. As English does not have overtly marked separate terms for singular and plural second persons and the verbs do not inflect for subject, it does not have separate verbal form for singular imperative and Plural imperative. As Tamil has two or three distinct second person pronouns, one expressing singular (*ndii*), another expressing plural (*ndiir*) and honorific (*ndingkaL*), it reflects this distinction in the imperative forms of verbs too. So, for English *you*, depending upon the context, Tamil may have at least two forms, one is verbal root and another is ‘verb root + ungkaL’. The following table correlates different ways of bringing imperative sense in English and Tamil:

Imperative type	English pattern	Corresponding Tamil pattern
Imperative positive	Non honorific: V1 (i.e. verb root) Go Emphasis: Do + V1 Do go Honorific Please + V1 Please go Be + adjectival Compliment Be quiet Be serious Be seated	Imperative singular: Verb root Poo V-Past participle + <i>viTu</i> <i>/koL</i> <i>pooyviTu</i> , <i>pooykkoL</i> Imperative plural / Honorific Verb root + <i>ungkaL</i> <i>poongkaL</i> <i>N-aaka + iru</i> <i>Amaitiyaay iru</i> <i>Kavanamaaka iru</i> <i>uTkaarungkaL</i>
Imperative negative	Don’t + V1 Don’t go Don’t sit	Verb root –aat- ee <i>pookaatee</i> <i>uTkaaraatee</i>
Let command	Let + object pronoun (1 st & 3 rd)/ Proper Noun + V1 Let him go Let me go Let Rama go	Sub (1 st & 3 rd person) /Proper noun _ V-INF – <i>aTTum</i> <i>avan pookaTTum</i> <i>ndaan pookaTTum</i> <i>raaman pookaTTum</i>
Positive <i>should</i> command	2 nd person + should + V1 You should go	Sub (all three persons) + V-INF + <i>veeNTum</i> <i>ndii pooka veeNTum</i>
Negative <i>should</i> command	Sub (all three persons) + should not + V1 I should not go	Sub (all three persons) + V-INF + <i>kuuTaatu</i> <i>ndaan pookak</i> <i>kuuTaatu</i>
Positive must command	2 nd person All person +	Sub (all person) + V-INF

	must + V1 You must go	
Negative must command	Sub (all three persons) + must not + V1 You must not go	Sub (all three persons) + V-INF + kuuTaatu ndii/ndiingkaL Pookakkuu taatu
Positive has to/ have to command	Sub (all three persons) + has to/ have to + V1 + You have to go He has to go	Sub (all three persons) + V-INF ndaan pooka veeNTi irukkum avan pooka veeNTi irukkum
Negative have to command	Sub (all three persons) + don't/doesn't have to + V1 I don't have to go He doesn't have to go	Sub (all three persons) + V-INF + veeNTiyirukkaaatu ndaan pookaveeNTirukkaatu avan pooka veeNTirukkaatu
Positive need command	Sub (all three persons) + need + infinitive He need to go	Sub (all three persons) + V-INF + veeNTum ndii pooka veeNTum
Negative need command	Sub (all three persons) + need not + V1 He need not go	Sub (all three persons) + V-INF + veeNTaam ndii pooka veeNTaam

6.5. Conclusion

The mechanism of transferring English sentences in to Tamil has been explored by correlating the syntactic structures of the two languages. The correlative study tried to explore the commonalities and differences in the structure of English and Tamil from the point of view of computation to build a machine translation aid to translate English into Tamil. It has been noticed that the two language deviate from one another from the point of view of English as language of SVO and Tamil as language of SOV, i.e., verb final language. While English makes use of preposition to link nominal arguments with verbs, Tamil makes use of postposition and case markers to serve the same purpose. The absence of regular case inflection in the case of English makes it rigid in its word order and the presence of case inflection in Tamil makes it more flexible in its word order. English distinguishes subject from object by means of the position, i.e., word order, where as Tamil does it by case inflection. Relative clause in English is after the head noun, which is attributed and in Tamil it comes before the head noun. The infinitive clause in English comes after the main clause, whereas in Tamil it is comes before the main clause. That-clause complement occurs at the right side of the main clause in English, whereas it occurs at the left side of the main clause in

Tamil. Interrogation is effected by changing the order of the words, i.e., by moving an auxiliary verb to the initial position before subject. In Tamil interrogation is effected by suffixing interrogative clitic or by making use of interrogative pronouns. In English, the auxiliary verbs and the interrogative words occur in the initial position of the construction. In Tamil, the interrogative particles occur in the final position of any word in the construction. All these correlative features have to taken into account while marking transfer module to restructure English as per Tamil sentential structure.

CHAPTER 7 CONCLUSION

The preceding chapters fulfill the aim of the research work by correlating the syntactic Structure of English with that of Tamil from the point of view preparing a transfer grammar for developing English-Tamil Machine Translation. Preparation of a transfer grammar to facilitate machine translation among English and Tamil is the main motive behind this research work that has been accomplished now. It has been found out that English being predominantly an SVO language and Tamil being predominantly an SOV patterned language show unique characteristics, which differentiate them drastically from one another. So it is possible to manipulate these differences to form transfer rules that can be exploited to map English structure into Tamil and vice versa.

The first chapter is 'introduction' in which the aim of the thesis, the hypotheses to be tested, methodology, plan of the thesis, and the uses of the thesis are discussed.

The second chapter deals with the syntactic structure of English, which is nothing but a computational analysis of syntactic structure of English. English is a configurational language in which the structures of words, phrases, and clauses are more or less fixed, that is, they occur in certain predictable positions in sentences. Compared to Tamil, English is a fixed word order language. The functional interpretations of constituent elements of English depend more on the positions rather than inflections. English shows the characteristics features of SVO language. It is a prepositional language in which the elements marking the relation between noun and verb come before the noun. Here in this chapter the constituent structures of sentences in English are elaborated upon to make it available for creating a transfer rules. The rules involved in the analysis of English sentences are identified so as to compare them with the rules involved in analyzing Tamil sentences and thereby to understand the intricacies involved in the transfer of the source language structure into the target language structure.

The constitutional structure of English has been worked out and the ways by which parsing can be performed on the English text to get the needed parsed tree structures for lexical and structural transfer has been framed. The analyses at the level of word, phrase, clause and sentence have been organized. The constituent structures of NP, VP, Adj. P, Adv. P and PP have been worked out. All the sentential patterns of English have identified. With the help of these patterns, English sentence have been parsed into words, phrases, and clauses. As a result the parsed trees have been prepared for different types of sentences in English.

The third chapter deals with the over all syntactic structure of Tamil language, which is noting but the computational analysis Tamil structure. Tamil is a verb final language and it shows the characteristic features of SOV language. Tamil nouns are inflected for case markers. So the noun phrases can be shuffled before the predicate verb. Unlike English,

which is a prepositional language, Tamil is a postpositional language. When compared with English, Tamil is a free word order language. The constitutional structures of Tamil have been worked out so as to compare them with the constituent structures of English. The syntactic structure of Tamil is dealt under the following headings: 1. Noun Phrase, 2. Post Positional Phrase, and 3. Verb Phrase, 4. Adjectival Phrase, 5. Adverbial Phrase, and 6. Sentence Types (based on the structure and function). The word analysis has been outlined to facilitate lexical transfer. Analyses of major phrases such as noun phrase, verb phrase, adjectival phrase, adverbial phrase and postpositional phrase have been studied with an eye on transfer mechanism. The clause construction by subordination has been thoroughly explored. Different types of dependent and independent clauses have been identified and their structural patterns have been designed to facilitate transfer mechanism. The coordination of phrases and clauses has been dealt under the relevant heads. The formation of different types of Tamil sentences and their word order has been studied with the aim of transferring the English sentences into Tamil.

The fourth chapter gives an outline of the formal grammars commonly used for syntactic parsing in Machine Translation Systems. The fundamental idea of machine translation is to transfer source language text into target language text. For that, the source language structure at the level of morphology, syntax and semantics have to be analyzed and the information gathered from the analysis to be transferred into target language by a generator. The analysis and generation are based on certain grammatical formalisms. The predominantly used formalisms are the following: phrase structure grammar, context free grammar, context sensitive grammar, government and binding theory, lexical functional grammar, Paninian grammar, case grammar, generalized phrase structure grammar, head driven phrase structure grammar, and finite state grammar. A few of these formalisms have been outlined and their merits and demerits have been pointed out. Each of the grammatical formalism has its own merits and drawbacks. We have to choose one of the formalisms for our purpose. The choice of the formalism decides upon the parsing technique to be used. For transferring English texts into Tamil, syntax plays a central role. English being an SVO language and Tamil being an SOV language differs crucially from each other in their syntactic make up. For example, English has postpositions, where as Tamil has prepositions. So syntactic parsing is a must to transfer English into Tamil and vice versa. For this various types of grammatical formalisms are used. The CFG (context free Grammar) formalism is the most exploited one. The fundamental idea of machine translation is to transfer source language text into target language text. For that the source language structure at the levels of morphology, syntax and semantics have to be analysed and the information gathered from the analysis have to be transferred into target language by a generator.

“Translating Languages with Computer” – Machine Translation (MT) has been one of the greatest dreams in computer applications. The fifth chapter deals with the MT System development in and outside India. The steps to be followed in the developing of a deployable MT system have been discussed elaborately. The development of MT systems outside India, especially in European and America is remarkable. Machine Translation systems acts as a

bridge to access cross lingual information by making the documents available in one language to another language. Such systems are inexpensive, instantaneous and multiplicative when compared to human translation. Building such a system across a pair of languages is nontrivial. Fully automatic high-quality translation of an arbitrary text from one language to another is far too hard to automate completely. The level of complexity in building such a system depends on the similarities and difference among the pairs of languages.

But the dream of building a deployable MT system is gradually becoming a reality. Research on MT is an intellectual challenge with worthy motive and practical objective. The challenge is to produce translations as good as those made by human translators. The motive is the removal of language barriers. The practical objective is the development of economically viable systems to satisfy growing demands for translations. Contrary to general belief, there is a considerable shortage of human translators even for technical translations. To fill this vacuum there is an increasing demand, worldwide, for MT systems.

India is also making attempts to develop MT system for Indian Language to Indian Language transfer as well as English to Indian languages transfer. Ministry of Communication and Information Technology and Ministry of Human resources give financial support to these programs. Of course we have to travel a lot to achieve this goal. Though such attempts are expensive, at least for the development of Research and Development and from the experimental point of view we have try to build such systems. The present thesis explores one such possibility.

The sixth chapter aims to explicate the transfer grammar behind rendering English text into Tamil while preparing a machine translation aid. Of course, the theory of contrastive study is very relevant in this context. Contrastive study is an analysis, which tries to unearth the typological commonalties found between the languages being compared or contrasted. There is minute difference between comparative study and contrastive study. Comparative study is made between two genetically related (cognitive) languages of a particular linguistics family in order to bring out their family affiliation. But contrastive study is undertaken between any two languages in order to bring out the corresponding features between them without bothering about their family affiliation, if there is any. It is a common notion that there is logic behind it. When two languages are compared expecting the commonalties, it is quite natural that the two sister languages will share common properties as they have originated from a common source (proto language). But in one sense, it is illogical and unwise to expect similar linguistic traits between two languages that are believed to have been originated from different sources. Chomsky's assumption that there are linguistic universals exists among languages, leads us to expect shared features between two unrelated languages. Contrastive analysis indirectly helps to frame the theory of linguistic universals, although the contrastive study has basically been made for language teaching purpose. However the contrastive study yields many a fruit in the domain of translation too.

The mechanism of transferring English sentences into Tamil has been explored by correlating the syntactic structures of the two languages. The correlative study tried to explore the commonalities and differences in the structure of English and Tamil from the point of view of computation to build a machine translation aid to translate English into Tamil. It has been noticed that the two languages deviate from one another from the point of view of English as language of SVO and Tamil as language of SOV, i.e., verb final language. While English makes use of preposition to link nominal arguments with verbs, Tamil makes use of postposition and case markers to serve the same purpose. The absence of regular case inflection in the case of English makes it rigid in its word order and the presence of case inflection in Tamil makes it more flexible in its word order. English distinguishes subject from object by means of the position, i.e., word order, whereas Tamil does it by case inflection. Relative clause in English is after the head noun, which is attributed and in Tamil it comes before the head noun. The infinitive clause in English comes after the main clause, whereas in Tamil it comes before the main clause. That-clause complement occurs at the right side of the main clause in English, whereas it occurs at the left side of the main clause in Tamil. Interrogation is effected by changing the order of the words, i.e., by moving an auxiliary verb to the initial position before subject. In Tamil interrogation is effected by suffixing interrogative clitic or by making use of interrogative pronouns. In English, the auxiliary verbs and the interrogative words occur in the initial position of the construction. In Tamil, the interrogative particles occur in the final position of any word in the construction. All these correlative features have to be taken into account while marking transfer module to restructure English as per Tamil sentential structure.

The application and use of the present research is many fold. First a strong base is made by identifying transfer rule to facilitate rendering English into Tamil and vice versa. This helps in furthering research in this line of thinking. The present state of affairs in the development of MT system points to us that parallel corpus are prepared for the source and target language to build such system using statistical methods. For that the computer needs to be trained. The transfer grammar comes handy to serve this purpose. A hybrid approach, which partly makes use of rule governed methods and partly statistical methods, appears to do well in machine translation. For this purpose transfer grammar is the only answer. As a byproduct, computational analyses of English and Tamil structures have been achieved. Such analyses are crucial for building MT systems.

Bibliography

1. Agesthialingam, S. 1967. A Generative Grammar of Tamil (A Fragment of Tamil Syntax). Annamalai Nagar: Annamalai University.
2. Akhsar Bharati, Vineet Chaitanya and Rajeev Sangal. 2004. Natural Language Processing. Pentice-Hall of India Private Limited.
3. ALPAC. 1966. Language and Machines: Computers in Translation and Linguistics. Washington D.C.: National Academy of Sciences.
4. Andronov. M.S. 1969. A Standard Grammar of Modern and Classical Tamil. Madras: NCBH.
5. Annamalai, E.
6. Arden, A.H. 1954. A Progressive Grammar of Common Tamil. Madras: CLS.
7. Asher, R.E. 1982. Tamil. *Lingua Descriptive Studies*. Amsterdam: North Holland Publishing Company.
8. Bakiyavathi T.. 2010. "Syntactic Structure Transfer in a Tamil to Hindi MT System - A Hybrid Approach". In A. Gelbukh (ed), *Computational Linguistics and Intelligent Text Processing*, Springer LNCS Vol. 6008. 2010a. pp 438 – 450.
9. Barathi, Akshar, Chaitanya, V. & Sangal, R. 1994. *Natural Language Processing: A Paninian Perspective*. New Delhi: Prentice-Hall of India.
10. Barton, G. Edward, Robert C. Berwick and Eric S. Ristad. 1987. *Computational Complexity and Natural Language*. MIT Press, Cambridge, MA.
11. Berwick, Robert C., S.P. Abney and C. Tenny (Eds.) 1991. *Principle Based Parsing: Computation and psycholinguistics*. Kluwer Academic, Boston.
12. Becker, C.L. *Introduction to Generative Transformational Grammar*. New Jersey: Prentice Hall.
13. Blake, B.J. 1994. *Case*. Cambridge: Cambridge University Press.
14. Bresnan, Joan (Ed.) 1982. *The Mental Representation of Grammatical Relations*. MIT Press, Cambridge, MA.
15. Brown, G. & Yule, G. 1993. *Discourse Analysis*. Cambridge: Cambridge University Press.
16. Buchmann, B. 1987. *Early History of Machine Translation*. In: King, M. (ed.) 1987. *Machine Translation: The State of the Art*. Edinburgh: Edinburgh University Press.
17. Catford, J.C. *A Linguistic Theory of Translation*. London: Oxford University Press.
18. Chomsky, N. 1965. *Aspects of the Theory of Syntax*. Cambridge: The MIT Press.
19. Chomsky, N. 1981. *Lectures on Government and Binding*. Foris, Dordrecht.
20. Chomsky, N. 1986. *Knowledge of Language: Its nature, origin and use*. Praeger Publishers, New York.
21. Cort, W. 1993. *Typology and Universals*. Cambridge: Cambridge University Press.
22. Crystal, D. 1971. *Prosodic Systems and Intonation in English*. Cambridge: Cambridge University Press.

23. Crystal, D. 1971. *Linguistics*. 2nd Edition 1985. Harmondsworth: Penguin.
24. Crystal, D. and Davy, D. 1969. *Investigating English Style*. London: Longman.
25. Darbyshire, A.E. 1971. *A Grammar of Style*. London: Andre Deutsch.
26. Deshpande, W.R. 1994. *Machine Translation: State of the Art* (manuscript). Department of Electronics, Government of India.
27. Dakshinamurthy, R. 1983. *A Contrastive Analysis of Complementation in English and Tamil*. Ph.D. Thesis. Annamalainagar: Annamalai University.
28. "Dependency Grammar". Downloaded from Wikipedia.
29. Di Pietro, R. J. 1971. *Language Structures in Contrast*. Rowley, Mass.: Newbury House Publications.
30. Edward, W.T. 1973. *A Contrastive Analysis of Tamil and English*. Ph.D. Thesis. Annamalainagar: Annamalai University.
31. Enkvist, N.E. et al. 1964. *Linguistics and Style*, London: Oxford University Press.
32. Fillmore, C.J. 1968. "The Case for case." In E. Bach and R.T. Harms (Eds.). *Universals of Linguistics Theory*. Holt, Rinehart and Winston, New York, 1968, pp. 1-88.
33. Frisiak, J. (ed.) 1981. *Contrastive Linguistics and the Language Teacher*. Oxford: Pergamon Press.
34. Ganesan, S.N. 1975. *A Contrastive Grammar of Hindi and Tamil*. Madras: University of Madras.
35. Geetha, K. 1985. *Subsystems of Principles: A Study in Universal Based on Tamil Syntax*. Ph.D. Thesis. Kanpur: IIT.
36. Gilman, W. 1961. *The Language of Science*. London: The English University Press.
37. Gleason, H. Allan. 1955. *An introduction to descriptive linguistics*. New York: Henry Holt and Company..
38. Greenberg, et al. (eds.) 1978. *Universals of Human Language*. Vols. 1-4. Stanford: Stanford University Press.
39. Gopal, A. 1981. *Adjectives in Tamil*. Ph.D. thesis. Annamalainagar: Annamalai University.
40. Halliday, M. A. K. (2005 [1995]) *Computing meanings: Some reflections on past experience and present prospects*. In J. J. Webster (ed.) *Computational and Quantitative Studies*. Volume 6 in the *Collected Works of M. A. K. Halliday*, 239–267. London and New York: Continuum.
41. Halliday, M. A. K. *Introduction to functional grammar*. Routledge.
42. Harris, Z. 1954. *Transfer Grammar*. In: *International Journal of American Linguistics* vol. 20, pp 259-270.
43. Haugen. Einar 1966. *Language Conflict and Language Planning: The Case of Modern Norwegian*. Cambridge, Massachusetts: Harvard University Press.
44. Hawkins. J.A. (ed.).1992. *Explaining Language Universals*. Oxford & Cambridge: Blackwell.

45. Hervey, S. & Higgins, I. 1994. Thinking Translation: A Course in Translation method: French to English. London & New York: Routledge.
46. Hendricks, W.O. 1976. Grammar of Style and Style of Grammar. New York: North-Holland Publishing Company.
47. Hornby, A.S. 1975. Guide to Patterns and Usage in English. London: Oxford University Press.
48. Hough, G. 1969. Style and Stylistics. Amsterdam/New York/Oxford: Routledge & Kegan Paul.
49. Hudson, R. 1995. Word Meaning. London & New York: Routledge.
50. Hutchins, W.G. 1986. Machine Translation: Past Present and Future. Ellis Horwood.
51. Hutchins, W.J. 2003. "ALPAC: the (in)famous report." In: Nirenburg et al (2003), 131-135.
52. Hutchins, W.J. Machine translation: a concise history. Journal of Translation Studies, vol.13, nos.1-2 (2010). Special issue: The teaching of computer-aided translation, ed. Chan Sin Wai. (Chinese University of Hong Kong, 2010); pp.29-70. [PDF, 216KB]
[Website: <http://ourworld.compuserve.com/homepages/WJHutchins>]
53. Hwee-Boon, L. 1993. Some Lessons Learnt by a New Comer (manuscript). Japan: MT Smmit IV.
54. Isabelle, P. 1993. Machine-Aided Human Translation and the Paradigm Shift (manuscript). Japan: MT Smmit IV.
55. Jakson, H. 1988. Words and Their Meaning. London: Longman.
56. Jensen, K, Heidron, G.E.& Richardson (ed.). 1993. Natural Language Processing: The PLNLP Approach. Boston/Dordrecht/London: Kluwer Academic Publishers.
57. Jurafsky, D. & Martin, J. H. 2000. Speech and Language Processing New Jersey: Prentice Hall.
58. Kaplan, R.M. and Joan Bresnan. 1982. "Lexical Functional Grammar: A formal system for grammatical representation." In Joan Bresnan (Ed.). The Mental Representation of Grammatical Relations, MIT Press, Cambridge, MA.
59. Kamakshi, S. and Rajendran, S. 2008. Preliminaries to the Preparation of a Machine Aid to Translate Linguistic Texts in English into Tamil. Dravidian Linguistics Association publication.
60. Kay, Martin. 1979. Functional grammar. Proc. 5th Annual Meeting of the Berkeley Linguistics Society, 1979, pp 142-158.
61. King, M. 1987. A Tutorial on Machine Translation. ISSCO Working papers No. 53. Geneva: ISSCO.
62. King, M. (ed.) 1987. Machine Translation: The State of the Art. Edinburgh: Edinburgh University Press.
63. Kothandaraman, Pon. 1997. A Grammar of Contemporary Literary Tamil. Chennai: International Institute of Tamil Studies.

64. Kothandaraman, R. 1990. Tamil Syntax. Pondicherry: Podicherry Institute of Linguistics and Culture.
65. Leech, G.N. 1989. An A-Z of English grammar and usage. London: Edward Arnold.
66. Leech, G.N. et al. 1975. A Communicative grammar of English. London: Longman.
67. Lehmann, T. 1993. A grammar of modern Tamil. Pondicherry: Pondicherry Institute of Linguistics and Culture.
68. Lehmann, W.P. (ed.) Syntactic Typology: Studies in the Phenomenology of Language. Austin: University of Texas Press.
69. Levine, J.R. Mason, T. and Brown, D. 1999. Lex and Yaac. Mumbai, Calcutta: Shroff Publishers & Distributors Pvt. Ltd.
70. Lado, R. 1957. Linguistics across Cultures. University of Michigan Press, Ann Arbor, Mich.
71. Lado, R. 1968. Contrastive Linguistics in a Mentalistic Theory of Language Learning James E. Alatis (ed.) Report of the Nineteenth Annual Round Table Meeting on Linguistics and Language Studies. Georgetown University Press Washington, D.C. 20007
72. Matthews, P.H. 1991. Morphology. Cambridge: Cambridge University Press.
73. Newmark, P. 1988. A Text Book of Translation. New York: Prentice Hall.
74. Nida, E.A. 1974. Theory and Practice of Translation. Leiden: United Bible Societies.
75. Nida, E.A. 1975. Language Structure and Translation. Stanford, California: Stanford University Press.
76. Nirenberg, S. (ed.) 1987. Machine Trasnlstation. Cambridge: Cambridge University Press.
77. Osborne, Timothy. 2019. A Dependency Grammar of English. Publishing status: Available © John Benjamins. <https://doi.org/10.1075/z.22>
78. Palmer, F.R. 1986. Mood and Modality. Cambridge: Cambridge University Press.
79. Palmer, F.R. Grammatical Roles and Relations. Cambridge: Cambridge University Press.
80. Quirk, R., Greenbaum, S. 1988. A University Grammar of English, London: ELBS, Longman.
81. Quirk, R., Greenbaum, S, Leech, G.N. and Svartvik, J. 1972. A Grammar of Contemporary English. London: Longman.
82. Quirk, R., Greenbaum, S., Leech, G.N. and Svartvik, J. 1985. A Comprehensive Grammar of the English Language. London: Longman.
83. Quirk, R., Greenbaum, S. Leech, G.N. and Svartvik, J. 19 .Comprehensive Grammar of English.
84. Radford, Andrew. 1988. Transformational Grammar. Cambridge University Press, London.

85. Radhakrishnan. S. 1983. Noun Phrase in Tamil. Ph.D. Thesis. Annamalaiagar: Annamalaiagar.
86. Rajendran S. & N. Gejeswari. 2019. Word Order Typology and Its Implication in Translation. Language in India www.languageinindia.com ISSN 1930-2940 Vol. 19:4 April 2019
87. Rajendran S. & G. Vasuki. 2019. English to Tamil Machine Translation System Using Parallel Corpus. Language in India www.languageinindia.com ISSN 1930-2940 Vol. 19:5 May 2019
88. Ramasamy, K. 1981. "Correlative Relative Clauses in Tamil." In: Agethalingom, S. and N. Rajasekharan Nair (eds.).
89. Ramasamy, K. 1988. A Contrastive Analysis of the Relative clauses in Tamil and English. Phd Thesis, Annamalai University.
90. Rangan, K. 1972. A Contrastive Analysis of the Grammatical Structures of Tamil and English. Unpublished Ph.D. Dissertation. Delhi: University of Delhi.
91. Rangan, K. & Chandrasekaran, G. 1994. A Glossary of standardized technical terms in Linguistics English-Tamil. Thanjavur: Tamil University.
92. Rangan, K., Suseela, M. & Rajendran, S. 1999. Some issues on the Relative Clause Constructions in Tamil (manuscript). Trivandrum: 27th All India Conference of Dravidian Linguistics.
93. Renuga Devi, V. 1997. Grammatical comparison of Tamil and English: A Typological Study. Madirai: Devi Publications.
94. Rohrer, C. 1993. The Future of MT Technology (manuscript). Japan: MT Summit IV.
95. Rosenbaum P.S. 1967. The Grammar of English Predicate Complement Constructions. Cambridge: MIT Press.
96. Savory, T.H. 1967. Language of Science. London: Andre Deutsh.
97. Schiffmann, H. 1976. A Grammar of Spoken Tamil. Madras: CLS.
98. Schank, R.C. 1975. Conceptual Information Processing. New York: Elsevier.
99. Shanmugam Pillai, M. 1965. Interrogatives in Modern Tamil. IL vol. 26, 139-145.
100. Simmons, Robert F., Sheldon Klein and Keren McConlogue. 1994. "Indexing and dependency logic for answering English questions." <https://doi.org/10.1002/asi.5090150306>
101. Sobha Lalitha Devi, V. Kavitha, Pravin Pralayankar, S. Menaka, T. Bakiyavathi and R. Vijay Sundar Ram. "Nominal Transfer from Tamil to Hindi". In International Conference on Asian Language Processing (IALP), Harbin, China. 2010b. pp. 270 – 273.
102. Sobha Lalitha Devi, Pravin Pralayankar, S. Menaka, T. Bakiyavathi, R. Vijay Sundar Ram and V. Kavitha. "Verb Transfer in a Tamil to Hindi Machine Translation System". In International Conference on Asian Language Processing (IALP), Harbin, China. 2010c. pp. 261 – 264.
103. Shopen, T. (Ed.). 1985. Language Typology and Syntactic description. vol i-iii. Cambridge: Cambridge University Press.

104. Sinha, B.K. 1986. Contrastive Analysis of English and Hindi Nominal Phrase. New Delhi: Bahri Publications.
105. Sivakumar, S. 1980. Complementation in Tamil. Ph.D. Thesis. Annamalaiagar: Annamalai University.
106. Sobha Lalitha Devi, Sindhuja Gopalan and Vijay Sundar Ram. "Transfer Grammar in Tamil Hindi MT System." 2013. International Conference on Asian Language Processing.
107. Spencer, J. (ed.). 1965. Linguistics and Style. London: Oxford.
108. Sreedevi, B. 1991. Syntactic Patterns of Malayalam and Telugu. Thiruvananthapuram: Vivek Publications.
109. Stockwell, R.P. Schachter, P. & Paree, R. 1973. The Major Syntactic Structure of English. New York: Rinehart and Winston, Holt.
110. Subbaiah Pillai, K. 1983. A Contrastive Analysis of Interjections in Tamil and English. Ph.D. Thesis. Annamalaiagar: Annamalai University.
111. Suseela, M. 1981. A Contrastive Analysis of Relative Clauses in Tamil and Hindi. Ph.D. Thesis. Annamalaiagar: Annamalai University.
112. Syamala, V. 1992. A text book of English Phonetics and Structure for Indian Students. Trivandrum: Sharath Ganga Publication.
113. Syamala, V. 1994. A Textbook of English Phonetics and Contemporary Grammar. Trivandrum: Sharath Ganga Publication.
114. Theivanatham Pillai, K. 1970. A Comparative Study of the English and Tamil Auxiliary Verb Systems and Prediction of Learning Problems for Tamil Students of English. International Review of Applied Linguistics, vol 8, pp. 21-47.
115. Theivanatham Pillai, K.. 1974. Contrastive Linguistics and Language Teaching. Annamalaiagar: Annamalai University.
116. Thiyagarajan, K. 1881. Modal System of English and Tamil. Ph.D. Thesis. Madras: University of Madras.
117. Turner, G.W. 1973. Stylistics. Harmondsworth: Penguin.
118. Thirumalai, M.S. 1979. Language in Science. Mysore: Geetha Book House.
119. Ullmann, S. 1966. Language and Style. Oxford: Basil Blackwell
120. Verma, M.K. 1971. The Structure of the Noun Phrases in English and Hindi. Delhi: Motilal Banarsidas.
121. Wasdow, T. 1979. Anaphora in Generative Grammar. E. Story-Scientica P.V.B.A. Scientific Publishers, Brussels.
122. Wilks, Y. 1973. "The Standard Machine Translation and Understanding Project." In R. Rustin (ed.) Natural Language Processing, pp 243-290, Algorithmic Press, New York.
123. Wilks, Y. 1975a. "An Intelligent Analyser and Understanding of English." Communication ACM 18(5)264-274.
124. Wilks, Y. 1975b. "A Preferential Pattern Seeking Semantics for Natural Language Inference." Artificial Intelligence 6:53-74.

125. Zribi-Herz, Anne,. 1989. Anaphora, Binding and narrative point of view: English reflexive pronouns in sentences and discourse. *Language* 65, 695-727.