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Semantic Frames of the Urdu Conjunct Verb *lagnā:* A Corpus-based Study

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Abstract

In this corpus-based study, we present semantic frames based on principles of FrameNet[1] of Urdu conjunct verb *lagnā*. In research studies on Urdu, while translating from Urdu to English or for grammatical analysis, *lagnā* is typically translated in English as 'attach' creating a perception that this is its prototypical meaning. However, Online Urdu Dictionary[2] (OUD) shows at least seven different senses in natural language. The sources for the theoretical framework of the study include frame semantics (Fillmore & Atkins, 1992), and polysemic meaning (Traugott & Dasher, 2002). This situates the study in the cognitive linguistic framework. The analysis examples are extracted from 95.4 million words Urdu monolingual corpus (Jawaid et al., 2014) which can now be accessed using CQPweb[3]. The frequency of occurrence of types of *lagnā* and observation of concordance lines of extracted examples helps in analysing to what extent the different patterns in which the verb *lagnā* generates different meanings. The preliminary analysis showed that there are two overarching patterns NOUN+ *lagnā* and VERB + *lagnā*. Within these two patterns, we observed and analysed twelve semantic frames, of which BEGIN is the most frequent frame followed by TOUCH with the second-highest frequency. This analysis also helps in understanding that certain verbs in Urdu also have polysemous use and their meanings are context-dependent that can be established through a corpus-based analysis. This analysis and its findings are especially beneficial for the Urdu language scholars who have an interest in translation studies or (descriptive) grammatical analysis to look for different interpretations as well as integrate semantic frame and corpus methods rather than relying on restrictive meaning of this verb (as well as other polysemous verbs) for data analysis.

Keywords: Cognitive linguistics, corpus-based, frame semantics, lexico-grammatical study, Urdu polysemous verbs

[1] https://framenet.icsi.berkeley.edu/fndrupal/
[2] http://202.142.159.36:8081/oud/default.aspx
[3] https://cqpweb.lancs.ac.uk/urmono/

Semantic Frames of the Urdu Conjunct Verb *lagnā:* A Corpus-based Study

One of the greatest impacts of using computerized data in linguistics studies has been the study of lexicon using corpus-based methods. Corpus linguistics has contributed not only to the development of English lexicographic works (see Biber et al., 2012; Granger & Paquot, 2012; Moon, 2007; Renouf & Sinclair, 1991; Rundell & Fox, 2002) but also in clarifying the relationship between grammar and lexis (see Sardinha, 2019). There has also been considerable corpus-based work on the polysemous nature of various verbs (e.g., Hsiao & Chung, 2018) and modal verbs (e.g., Viebahn & Vetter, 2016).

There has been ongoing work on lexicography in Urdu to digitize sources, especially major contributions are by the Center for Language Engineering[4] (CLE) and Urdu Lughat[5]. Similarly, considerable research on Urdu grammar (e.g., Butt & Geuder, 2011; Davison, 2014; Manetta, 2019), lexical sequence (e.g., Fazalehaq, 2019), lexicon and grammar relation (e.g., Davison, 2011) has been conducted. However, fewer works focus specifically on the polysemous nature of verbs in Urdu (e.g., Ahmed, 2010) and none focusing on the relation between polysemous verbs and varied senses in different contexts. The present research aims to highlight this identified gap and for this purpose, we have studied the Urdu polysemous verb *lagnā*[6] ('to attach') which in translation, especially for descriptive grammar studies of Urdu (e.g., ADD), is rendered in its prototypical meaning (i.e., to attach). Urdu Online Dictionary (OUD) shows *lagnā* 'to attach' can be used in a number of other senses. The purpose of focusing on *lagnā* 'to attach' is to not only examine and report its different senses and functional realization within clauses but also to raise the issue of rendering *lagnā* 'to attach' and other similar verbs in glossing only in their prototypical meaning. This work could serve as a groundwork for future corpus-based studies of polysemous Urdu verbs, and also help researchers in understanding the need to use the relevant meaning of the verb in the syntactic environment of its occurrence rather than a typical meaning that does not do justice to its meaning in context. We address the following questions in our paper:

1. What are the different senses of *lagnā* 'to attach' that data shows?
2. To what extent, the use of *lagnā* 'to attach' in clauses is context dependent?

This paper is structured as follows. In section 2 we briefly inform about verb *lagna* as defined in Urdu grammar and dictionaries. In section 3 we briefly discuss the theoretical underpinnings for this work, that is, frame semantics and lexico-semantics. This is followed by section 4 on research methodology. Then section 5 covers our analysis and findings. In section 6, we discuss and give the conclusion of this work.

Brief information on verb lagnā

Lagnā is a conjunct verb and typically functions as a transitive verb. Koul (2008, p. 102) defines the conjunct verb as a verb that occurs in a conjunct verbal construction, that is, construction that consists of a noun, or an adjective, and a verb (typically an auxiliary verb) and a conjunct verb that takes all the inflection as in (1).

1.	kām=mēṁ	lagā	hūā	hai
	work=in	busy.PFV.M.SG	be.PFV.M.SG	be.PRS.3.SG

[4] https://www.cle.org.pk/
[5] http://udb.gov.pk/
[6] Latinised/Romanised script used in this research follows ISO-15915 developed for Southeast Asian languages including Devanagari and Perso-Arabic script.

[he] is busy in work.

Lagnā can be an intransitive verb where the subject is marked with an oblique case, and the predicate is psychological as in (2).

2.	mujhe	pyās	laggī	hai
	1.SG.ACC	thirst	feel.IPFV.F.SG	be.PRS.3.SG
	I am [feeling] thirsty.			

As Urdu is a gendered language, forms of verbs "agree with their subjects in gender and person" (Koul, 2008, p. 93). In case an auxiliary verb (e.g., *hō* 'be') combines with *lagnā*, the auxiliary verb is inflected to show subject and gender marking. Aspect marking is taken by verb element in verbal conjunct constructions (Koul, 2008, p. 95). Urdu, similar to Hindi, has three tense forms: "present, past, future" (Koul, 2008, p. 4), and three grammatical aspects "habitual, progressive, and perfective" (Koul, 2008, p. 105). We present verb forms of *lagnā* in Table 1 and forms of *lagnā*, according to tense and aspect, in Table 2.

Table 1

Verb forms of lagnā

FORM	**EXAMPLE**
Stem	Lag 'attach/feel'
Imperfective	Lagtā(m.sg)/ Lagtī(f.sg)/ Lagtē(m/f.pl)'attach/feel'
Infinitive	Lagnā m.sg)/lagnī (f.sg)/lagnē(m/f.pl) 'to attach/to feel'
Infinitive oblique (with clitic mēṁ)	Lagne=mēṁ 'in attaching/in feeling'
Infinitive oblique (with clitic se)	Lagne=se 'from attaching/from feeling'
Infinitive oblique (with clitic ko)	Lagne=se 'for attaching/for feeling'
Perfective	Lagā(m.sg)/Lagī(f.sg)/Lagē(m/f.pl'attached/felt'
Subjunctive	Lagūṁ(1.m/f.sg)/Lagō(m/f.sg/Lagēṁ (m/f.pl)'may attach/may feel'

Table 2

Verb forms of lagnā with tense and aspect inflected for gender and numbers (defining details adapted from Koul, (2008, pp. 105-200).

Form	**Masculine**		**Feminine**	
TENSE	**Sg**	**Pl**	**Sg**	**Pl**
Present (Represents ongoing action, repetitive habit/characteristic/action)	Lagtā hai ‘feels to be’	Lagtē haiṁ ‘feels to be’	Lagtī hai ‘feels to be’	Lagtīṁ haiṁ ‘feels to be’
Past	Lagtā thā ‘felt to be’	Lagtē thē ‘felt to be’	Lagtī thī ‘felt to be’	Lagtīṁ thīṁ ‘felt to be’
Future	Laggē gā ‘will feel to be’	Laggē gēṁ ‘will feel to be’	Laggē gī ‘will feel to be’	Laggē gīṁ ‘will feel to be’
	GRAMMATICAL ASPECT			
	Masculine		**Feminine**	
	Sg	**Pl**	**Sg**	**Pl**
Habitual	Lagtā hai ‘feels to be’	Lagtē haiṁ ‘feels to be’	Lagtī hai ‘feels to be’	Lagtīṁ haiṁ ‘feels to be’
Presumptive habitual (Habitual and presumed actions; not known definitely)	Lagtā hōṁgā ‘would seem/feel to be’	Lagtē hōṁgae ‘would seem/feel to be’	Lagtī hōṁgī ‘would seem/feel to be’	Lagtīṁ hōṁgīṁ ‘would seem/feel to be’
Subjunctive habitual (Both habitual and hypothetical/speculative actions; not a direct guarantee to happen)	usē laggē ‘he might feel/think’	unhīṁ laggē ‘they might feel/think’	Usē laggē ‘she might feel/think’	unhēṁ laggē ‘they might feel/think’

Progressive (Formed by addition of auxiliary verb immediately after stem form of verb; auxiliary verbs agree with/inflected for person, number gender)	Lag rahā hai(present) 'feeling' Lag rahā thā (past) 'feeling'	Lag rahē haiṁ (present) 'feeling' Lag rahē thē (past) 'feeling'	Lag rahī hai (present) 'feeling' Lag rahī thī (past) 'feeling'	Lag rahīṁ haiṁ (present) 'feeling' Lag rahīṁ thīṁ (past) 'feeling'
Presumptive progressive (Action or state of affairs extended in time and presumed to be occurring)	Lag rahā hogā 'must be feeling'	Lag rahē hoṁgē 'must be feeling'	Lag rahī hogī 'must be feeling'	Lag rahīṁ hoṁgīṁ 'must be feeling'
Subjunctive progressive	Lag rahā ho 'possibly/would feel/seem'	Lag rahē hōṁ 'possibly/would feeling/seem'	Lag rahī hō 'possibly/would feel/seem'	Lag rahīṁ hōṁ 'possibly/would feel/seem'
Perfective (indicates action or state of affairs has been completed)	Lagā hai (present) 'has felt/attached' Laga thā (past) 'had felt/attached/applied'	Lagē haiṁ 'have felt/attached' Lagae thē (past) 'had felt/attached/applied'	Lagī hai 'has felt/attached' Lagī thī (past) 'had felt/attached//applied'	lagīṁ haiṁ 'have felt/attached' lagīṁ thīṁ (past) 'had felt/attached/applied'
Presumptive perfective	Lagā hōgā (present) 'would have felt/attached/applied'	Lagē hōṁgē 'would have felt/attached/applied'	Lagī hōgī 'would have felt/attached/applied'	lagīṁ hōṁgīṁ 'would have felt/attached/applied'
Subjunctive perfective	Lagā ho 'may/might have felt/attached/applied'	Lagē hōṁ ' may/might have felt/attached/applied'	Lagī hō ' may/might have felt/attached/applied'	Lagīṁ hōṁ ' may/might have felt/attached/applied'

Theoretical framework

One area of focus in corpus-based descriptive grammar research is collocations (i.e., co-occurrence of searched word with other words) and how meaning is created through the interaction of lexicon (vocabulary/semantics) and grammar (structures). Halliday and Webster (2009, p.63) say that speakers and writers make linguistic choices that show "relations between an element and what goes together with it". Sinclair (1991, p.164) says that in a linguistic analysis grammar and lexicon are not an integration of the two fields, rather it is an interaction, that is, "it is fundamentally grammar with a certain amount of attention to lexical patterns within the grammatical frameworks". Sinclair (1991, p.83) further points out that we need to start our analysis from an element and look at corpus evidence to observe the patterns that word occurs and resulting meanings and functions of that element within various structures.

Frame semantics broadly characterises the integration of lexis and syntactic patterns and resulting lexical meanings in terms of semantic frames, that is, lexical units evoke certain meanings that represent specific situations (Verdaguer et al., 2020, p. 62). Fillmore (1985) explains that

> The feature-based approaches using primary categories are not likely to demonstrate the semantic manifestation and fullness of meaning of words because the meanings of words consist of vast information about the words enveloping us which can never be displayed within a few numbers of primary categories (p.383).

This concept is rephrased by Fillmore and Atkins' (1992) in their notion of frame semantics, who propose that each sense of an element evokes a certain conceptual structure (i.e., semantic frame). Verdaguer et al. (2020, p.62) give the example of *concern* to show that a polysemous element "can evoke other semantic frames". They say that the verb *concern* evokes the frame "Topic" when it occurs in a sentence "*These questions concern rhetorical issues*" and evokes the frame "Cause_emotion" when occurs in "*it concerns me that people are not getting enough help*" (Verdaguer et al., 2020, p.62).

Filmore et al. (1992) in their pioneering work have created FrameNet[7] which is a digitised, corpus-informed system. On FrameNet, various English semantic frames (based on mental/cognitive concepts that are evoked from lexical units occurring in patterns) have been indexed and made available. Each of these semantic frames is "a description of an event, association and its participants which are called elements of the frame" (Safari & Rahmatinejad, 2018, p. 64; see also Boas, 2020). FrameNet is a good source to be used as a reference for corpus-based English examples which have been marked both semantically and syntactically. Each frame has some core elements that are labelled according to the semantic role which the subject or the object has with the main verb (e.g., agent). These core elements are referred to as core frame elements (CFEs).

Fillmore and Atkin's first lexical resource FrameNet project (1992) on their Frame Semantics theory (1992) has by now diversified from English only to other languages. For instance, Sanacore et al., (2019) research on French derivational relation by application of frame-like structures inspired by Frame Semantics and FrameNet. Another example is of

[7] https://framenet.icsi.berkeley.edu/fndrupal/

Safari and Rahmatinejad (2018) who developed a frame-based lexicon of Persian words on tourism and touring using FrameNet.

This paper also follows distributional theory in the lexico-semantic approach. Metayard and Vigliocco (2018) say that large data can be used to understand how meanings of words formalize their different relationship with other words in diverse contexts. They say that such relations that words have with each other can be reconstructed through the compilation of distributional information from data. Various methods to compile distributional information is by plotting links between words networks (e.g., Collins & Loftus, 1975), that is, by marking association of words based on how frequently certain words appear near certain other words (e.g., Shaoul & Westbury, 2010). Metayard and Vigliocco (2018, p. 72) say that as corpus methods are used to examine words at phrase or clause level and also to compute the frequency of occurrences of words in different patterns statistically, distributional patterns "formalize what a word means by how often and in what typical patterns it occurs with other words".

Finally, we take into account the role of context in lexico-semantic approach. Hanks (2006, p.75) says that the meaning of a verb "is determined by the totality of its complementation" (i.e., part of the sentence which completes the meaning of a verb) patterns it occurs in. By application of the lexical semantic approach, "mapping between the semantics of verbs and their associated syntax is discussed in terms of … feature selection" (Stringer, 2019, p. 180). In other words, the speaker's choice of verbs involves their inherent meaning as well as the contextual features of the constructions they occur in (Stringer, 2019, p. 188). Therefore, context is an extraneous process that takes place when a word is used by speakers to convey specific semantic information.

In Urdu, there is an increase in corpus-based descriptive studies of grammar. For example, a study of hypotactic and paratactic thematic relations in Urdu clause complex (Yaqub & Shakir, 2019), description of Urdu affixes (Tanveer et al., 2021), a crosslinguistic study of meta-discourse markers in English and Urdu E-newspaper editorials (Shahid et al., 2020, and semantic inventory of collocations of NOUN+VERB in Urdu (Abdullah et al., 2021). However, there still needs to study on the interrelation of lexical items, their semantic meaning, and functions based on syntactic patterns that can be observed through collocational information.

Methodology

This section presents the data used in this study, the method of extraction of the examples, and the data analysis procedure.

Data sources

For this study, we use Charles University Urdu Monolingual Corpus 2014 (CUUMC) can be accessed on CQPweb[8], as our primary source for data retrieval. CUUMC is a monolingual written corpus of approximately 95,000,000 Urdu tokens and open sourced for download[9] by Jawaid et al. (2014). The data has been compiled from Urdu material from

[8] https://cqpweb.lancs.ac.uk/urmono/index.php
[9] https://lindat.mff.cuni.cz/repository/xmlui/handle/11858/00-097C-0000-0023-65A9-5#

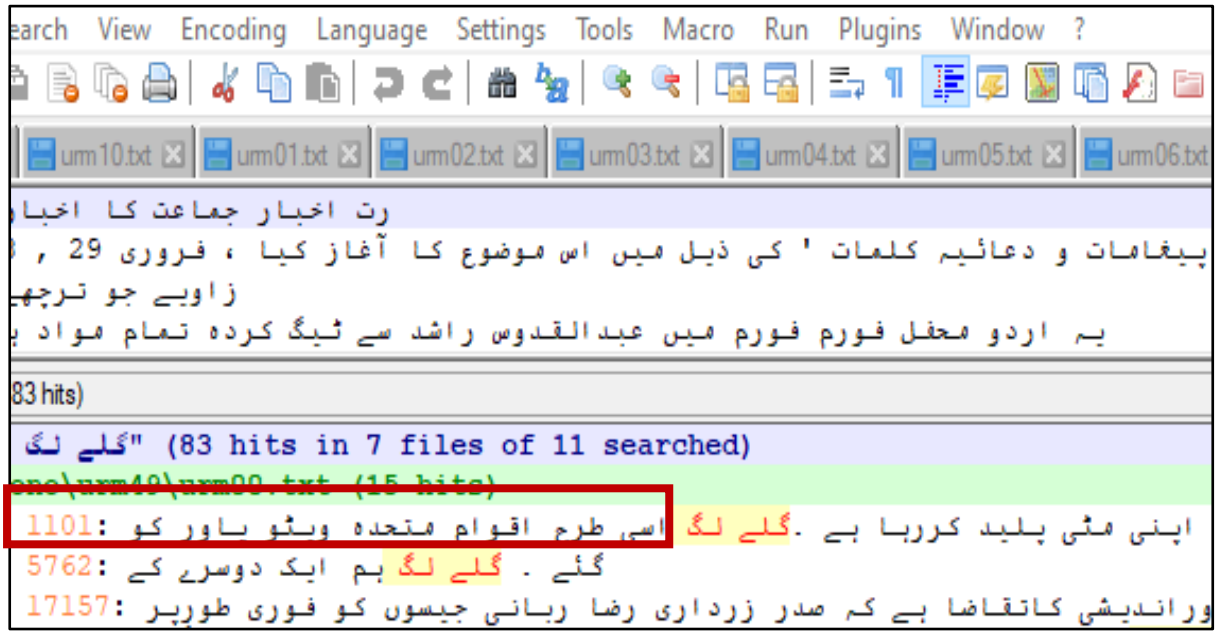
various websites[10]. The text of data consists of both formal and informal writings online (e.g., news, blogs, literature). It has been POS-tagged (annotation with parts of speech) by Sajjad and Schmidt's (2009) Urdu POS tagging scheme.

In addition, we have consulted an online dictionary by the Center for Language Engineering (CLE) which has provided meanings for words with examples from corpus. The online Urdu dictionary has helped us in establishing the most common senses of *lagnā* in use. These examples of *lagnā* in the Online Urdu dictionary were later used for cross referencing for the meanings we identified while we observed concordance lines of the data used in this study.

All the examples given in the analysis section are from CUUMC. As the data has been gathered from online sources, therefore, the corpus builders of CUUMC data have scrambled and then split the sentences at clause level before making it available for the public to avoid any ethical or copyright issues. Thus, we split the whole data into 49 files of approximately equal size of 14 MBs. Then for each example from the CQPweb, we searched the files on Notepad++ (see Figure 1) and then added the reference number to the example. So, each example has a reference number as follows (00_123456) where 00 is the file number and 123456 is the line number as displayed in Figure 1. Figure 1 shows that once a phrase from example (20) is searched in multiple files (in image11files), the result shows (see in the left bottom highlighted part) that the searched example occurs on 00 file out of 00-10 files, in line number 5762.

Figure 1

Search for example in multiple files of CUUMC in Notepad++



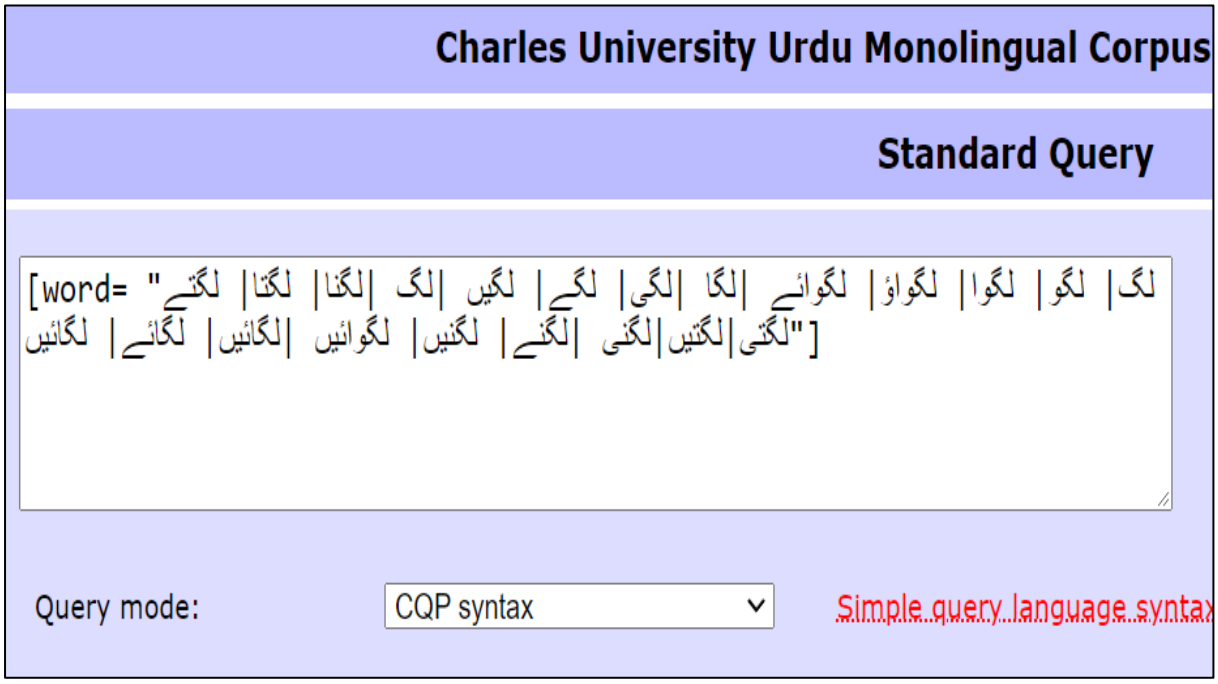
[10] Web sources: http://www.bbc.co.uk/urdu/; http://www.urdulibrary.org/; http://www.urduweb.org/planet/; http://shahfaisal.wordpress.com/; http://awaz-e-dost.blogspot.cz/; http://www.minhajbooks.com/urdu/control/txtformat/

Data extraction and creation of frames

As an initial step, we retrieved all candidate examples that have various forms of *lagnā* using CQP syntax Query option in the search window of CQPweb as shown in Figure 2. This yielded us a total number of the verb *lagnā* in its all-possible forms which is 188,687 words.

Figure 2

Syntax query of all forms of the verb lagnā in CQPweb in CUUMC

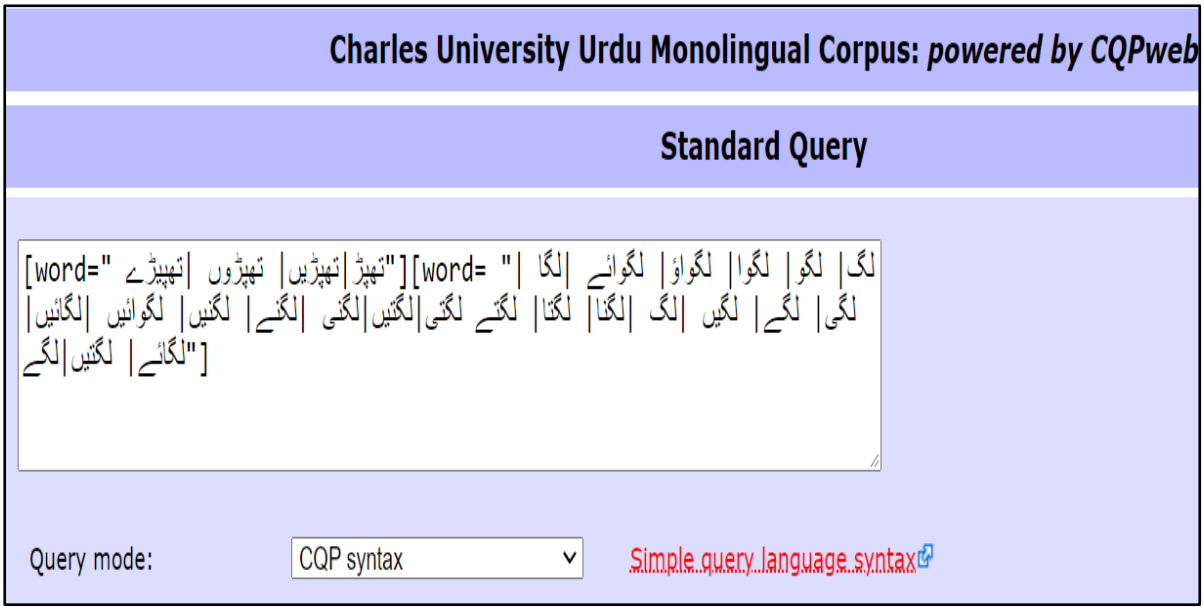


Then we observed two major patterns NOUN+ *lagnā* and VERB + *lagnā*. For instance, phrases *samjh laggī* 'understand' *Ali kō laggā* 'it seemed to Ali' come under NOUN+ lagnā constructions; *thapaṛ lagāyā* 'slapped', *āg laggī* 'fire started' come under VERB + lagnā[11]. Observation of these patterns along with the Online Urdu Dictionary, helped us to make our initial categories for analysis. Then after concordance lines examination, we manually separated each example into a group according to their syntactic realisation. We then assigned semantic frames to each form of *lagnā* according to their contextual function to highlight the relation between syntactic and semantic patterns which influence the meaning conveyed by the lexical item (here *lagnā*). For this purpose, we identified a particular group of words in particular semantic fields (e.g., body parts occurring with *lagnā*). Then we ran a query for each word in each semantic field occurring with all forms of *lagnā*. To do this, we again ran the query in CQP syntax window as in Figure 3.

[11] It is pertinent to mention here what one of our esteemed Reviewers has pointed out: As this is not a descriptive study on syntactic and semantic realisation of verb *lagnā* as a light verb '*lag'*, we have not included any such discussion of those patterns. Where verb *lagnā* also functions as light verb, (e.g. example 14 in this study), we have explained the semantic frame such constructions form and not usages of 'lag' as a light verb which is beyond the scope of this study.

Figure 3

CQP syntax query of various forms of thapaṛ ‘slap’ with all forms of lagnā in CUUMC



This resulted in all the concordances of the searched word with all forms of *lagnā*, of which the first 24 lines as visible in Figure 4.

Figure 4

Concordances of samjhnā ‘understand’ co-occurring at the distance of single space with lagnā in CUUMC

Before assigning the frames, a manual evaluation of each concordance line was conducted to ensure “total accountability” (see Leech, 1992, p. 112; McEnery & Hardie,

2012, p. 14) and to account for any example giving different sense in their correct frame. Also, within each category we assessed, for the sake of description, whether the patterns evoke the meaning in a literal sense or metaphorical one as in Figure 5, word *āg* 'fire' can be seen to occur in both types. Though for this study we have not separated the senses according to their literal and metaphorical meaning. We rather classed them according to the meaning these phrases evoke in the context they occur in.

Once frames are assigned based on syntactic and semantic properties of *lagnā* patterns, the coordination between meanings and semantic environments (based on lexico-grammatical environments, Tucker, 2001) of *lagnā*, the association of distribution (defined as how often words appear with other words by Shaoul & Westbury, 2010) and frequencies of each sense was analysed.

Figure 5

Concordance result of āg 'fire' cooccurring with lagnā in CUUMC

Analysis

Core semantic meanings of Urdu verb lagnā

Corpus evidence shows that there are twelve core semantic meanings of the Urdu verb lagnā. According to FrameNet[12] the twelve frames that use of verb lagnā evokes, are presented with their description and core frame element (CFE) in this section.

The verb *lagnā* evokes the frame of ATTACH[13] as ATTACH_physical and ATTACH_emotional. Frame ATTACH always occurs in Noun + lagnā (with various tense forms). It is ATTACH_physical when CFE Agent[14] physically connects one thing to another, or an entity is physically connected to another thing as in (3). ATTACH_physical also includes

[12] https://framenet.icsi.berkeley.edu/fndrupal/
[13] All frames are written in capital in this paper
[14] All Core FEs are written with a capital first-letter

the sense of an entity joining some organisation for job as in (4). Some common elements in the frame are *phūl* 'flower', *iśtēhār* 'advertisement', *tālā* 'lock', *darwāza* 'gate', *niśāna* 'target', *jagha* 'place'.

3. Tālāb=mēṁ **filtar** **laggē** hūē
   pond=in **filter** **attach**.IPFV.M.PL.OBL be.PFV.M.PL
   haiṁ
   be.PRS.3.PL
   "The pond has filters" (34_79133).
4. Behrqēf ūskī **nōkarī** **lag** gaī
   Anyway his **job** **attach** go.PFV.F.SG
   "Anyway he got a job" (26_70079).

ATTACH_emotional frame is evoked when CFE Experiencer emotionally attaches themselves to people, places, or things. The elements in the frame are *jī/dil/mann* 'heart', *caskā* 'addiction'.

5. Iqrā=kā **dil** **lag** gēā
   Iqra=GEN.M.SG **heart** **attach** go.PFV.M.SG
   pūrī tarah yahān
   completely way here
   "Iqra has adjusted here very well" (44_ 23507).

Three common patterns of ATTACH_emotional frame are *lag gēā* 'got attached', *dil lag līā* '(consciously made effort) to get adjusted', and *lag hī jāē gā* 'will eventually get attached', as in example (5).

The verb *lagnā* is used to evoke the frame of BEGIN where CFEs of BEGIN including all those action verbs that are used when a process, event, or activity is started at a particular time and place as in (6).

6. cāi **pīnē** **laggā** hūṁ
   Tea **drink**.INF.OBL **begin**.IPFV.M.SG be.PRS.1.SG
   "[I] am about to drink tea" (19_7974).

Frame BEGIN is evoked when any kind of action such as *qahqahā lagayā* 'started to laugh', *jūstajū mēṁ lag gēā* 'begin to investigate', *paṛhanē lagī hī thī* 'was about to begin reading'.

The verb *lagnā* is used to evoke the frame of CATCH_FIRE. It has a very specific element in its frame, that is, fire. It is evoked when something catches fire. This phrase is used both literally and metaphorically. For instance, in example (7) it is a literal fire where a physical thing is put to fire deliberately or accidentally. Metaphorically, in Urdu, it is usually used in the sense of motivation, love, hate, jealousy, inflation, or lawlessness. Sometimes, these terms are mentioned in the sentence along with fire as in (8) but often these feelings can be perceived from the context as in (9).

7. Bārūd=ko **āg** **lag** gaī
   Dynamite=DAT **fire** **catch** go.PFV.F.SG
   "Dynamite caught fire" (00_11784).
8. Vō dil=mēṁ **āg** **lagānē=kī** bāt

They heart=in **fire** **catch.INF.OBL=GEN.F.SG** talk
kartē haiṁ
do.IPFV.M.PL be.PRS.3.PL
"He talks about kindling the fire in the heart" (34_95781)

9. Mērī zātī sōc jō ke maiṁ
1.SG.DIR personal thought.PL REL COMP 1.SG
bēyān kar dūṁ tō buhat soṁ=kō
state do give.SBJV.1.SG CONJ many of=ACC
āg **lag** jātī
fire **catch** go.IPFV.F.SG
"My personal thoughts which if I express then it would offend/anger many" (01_2666).

The verb *lagnā* evokes the frame of ENGROSS with Experiencer or Agent as CFEs. The CFE is Experiencer, the subject in an NP of a sentence, who has a stimulus that brings about a particular experience/emotion causing Experiencer to focus on or that the Experiencer is engaged in some activity as in (10). Whereas the subject of a sentence is an Agent attempts to attain an explicitly mentioned goal as in (11). In case the sentence is passive, it may not explicitly mention the Agent but he can be inferred from the context as in (12). Common elements are *kām* 'work/job', *bātēṁ* 'talk/gossips', *dēnē* 'to give', *banaānē* 'to make'. A common pattern is *NOUN+ lagā hūā* VERB 'NOUN am/is/are/was/were busy/engaged in VERB, *NOUN+ lagā hai/haiṁ/thā/thē/thī/thīṁ* 'NOUN busy/engage AUX'

10. Sab aurateīṁ apnē **kām=mēṁ** **laggī**
All woman.F.PL they.OBL **do=in** **busy**.PFV.F.PL
theīṁ
be.PST.F.PL
"All [*Experiencer:* women] were busy in their work" (00_65914).

11. Maiṁ is=kē bajāē is **kośiś**=mēṁ **lug**
1.SG DEM=GEN.M.PL instead DEM **effort**=in **busy**
gāī ke kisī tarah diprēśan=sē
PFV.F.SG COMP some way depression=from
chuṭkārā hāsil karūṁ
rid.of get do.SBJV.3SG
"Instead of that [*Agent:*I] started trying to get rid of depression" (01_52579).

12. Kuch arjanṭ=kē ārdar thē un=kō fāinal
Some urgent=GEN.M.PL order.PL be.PST.3.PL DEM=DAT final
karne=mēṁ **laggā** huā thā
do.INF.OBL=in **apply**.IPFV.M.SG be.PP.M.SG be.PST.3.SG
"There were some urgent orders, [*Agent*: I] was busy in completing them" (03_100651).

Lagnā evokes the frame of EMOTION_of_mental_activity where CFE Experiencer undergoes some kind of emotion or emotional state as induced by some form of Stimulus as in (13). The stimulus can be another person, circumstance/event, or a state of affair that evokes a certain emotional reaction in the Experiencer. These emotions are psychological feelings but may be reflected in words or expressions of the Experiencer. Common elements used to express EMOTION_of_mental_activity are nouns such as ġussa 'anger', *khuśī* 'happiness', *burrā* 'bad', *achā* 'good', *afsos* 'sadness', *dukh* 'sadness' *dar* 'fear' which when occuring with *lagā* read as psychological experience.

13. Pehlē mujhē tumhārī bātōṁ=par ġussa
First.OBL 1.SG.ACC 2.SG.DIR talk.PL=on anger
ātā thā phir yūṁ hūā ke
come.IPFV.M.SG be.PST.M.SG then so be.PFV.M.SG COMP
hansī ānē **laggī** phir afsos
laughter come.INF.OBL **feel.**PFV.F.SG then sorry
hōnē ***laggā*** phir khāmōśī=kō
be.INF.OBL ***feel.***PFV.F.SG then quiet=ACC
fōqīyat dī
prefer give.PFV.F.SG
"At first I used to feel anger at your words, then it so happened that I felt your talk laughable, then I started to feel sorry [for you], then I preferred to keep quiet" (29_ 40311).

The verb *lagnā* can evoke two types of PERCEPTION frames: PERCEPTION_active and PERCEPTION_evaluation. *Lagnā* evokes the frame of PERCEPTION_active where CFE Perceiver or Agentive performs some sort of activity to have a perceptual experience as in (14). Typical elements that occur in these frames are *dēkhnā* 'to watch/look', *sūngnā* 'to smell', *cakhnā* 'to taste', *sūnanā* 'to listen'. Typically, *lagnā* occurs in an oblique form of the verb (i.e., *lagnē*) followed by auxiliary inflected for the gender and numbers, that is, *lagī* (F.SG), *lagā* (M.SG), *lagē*(M.PL), and *lagīṁ* (F.PL)

14. Ham ūs=par khaṛē hō kar
1.PL DEM=on stand.PFV.M.PL be.PRS.1.PL do
tamāśa **dēkhnē** **laggē**
performance **watch.**INF.OBL **start.**PFV.1.PL
"We stood on it to watch the performance" (24_71844).

Lagnā evokes the frame of PERCEPTION_evaluation in which CFE Perceiver typically undergoes an emotional state that is accounted as an internal experiential state. Most commonly *aēsā* 'such' with *lagnā* to give the meaning of 'it seems that' or lagnā is used in imperfective form *lagtā* followed by *hai/thā* 'be' and also sometimes *ke* (*that*-complementiser) meaning 'seems/seemed or seems/seemed that'. Typically, constructions *lagtā/ lagtī hai/thā/thī* 'it seems/seemed' and *lagtā/ lagtī hai/thā/thī ke* 'it seems/seemed that' give an epistemic possibility reading that is, these constructions also convey a speaker's judgement about the truth value of the statement or drawing an inference from the given circumstances as in (15) and (16).

15. Fahīm tō **lagtā** **hai** rāt=kā
Faheem EMPH **seem.**IPFV.M.SG **be.**PRS.3.SG night=GEN.M.SG
idhar hī hai
here EXC be.PRS.3.SG
"It seems Faheem has been here since night" (00_1727).

16. Kum-sē-kum dō din=kā khēl mukamal
Less-from-less two day=GEN.M.SG game complete
hōnē=kē bād tō aēsā hī **lagtā**
be.INF.OBL= GEN.M.PL after EMPH such.that EXC **seem.**IPFV.M.SG
hai ke Garēm Ismith=kā Emrān Ṭāhir=kō
be.PRS.3.SG COMP Graham Smith=GEN.M.SG Imran Tahir=ACC
na khilānē=kā faēsla ṭhīk nahīṁ thā.
NEG play.OBL=GEN.M.SG decision right NEG be.PST.3.SG

"At least after completion of the two-day game, it seems that Graham Smith's decision to not let Imran Tahir play was not a good decision" (01_34200).

The verb *lagnā* is used to evoke the frame of PHYSICAL which can also be divided into two parts: PHYSICAL_sensation and PHYSICAL_action. PHYSICAL_sensation includes those bodily or psychological sensations that are experienced by Perceiver. These include *bhūkh* 'hunger', *pēās* 'thirst', *dard* 'pain', *thanḍ/thanḍā* 'cold', *garam* 'hot, *garmī* 'heat'.

17. **Bhōkh** **laggī** hō tō ghussā buhat
Hunger **feel**.IPFV.F.SG be CONJ anger much
ātā hai
come be.PRS.3.SG
"If you feel hungry then you get very angry" (03_110782).

PHYSICAL_action includes those physical actions that occur when CFE Impactor makes a sudden and usually forceful physical contact with an Impactee. This also includes bodily harm such as *cōṭ* injury that are experienced by the sentient. The elements that cooccur with *lagnā* include *thapaṛ* 'slap', *capēṛ* 'slap', *mukkā* 'punch', *jūtē* 'shoes', *dakkā* 'shove'.

18. farāns=mēṁ ēk aurat=ne pīcce bhāg kar
France=in one woman=ERG after run do
mard=kō ***thapaṛ*** ***laggāyā***
man=ACC ***slap*** ***hit***.PFV.M.SG
"In France, a woman ran back and ***slapped*** a man" (43_83055).

It also includes metaphorical use of *dil kō dakkā/ghūnsa lagā* 'it pained/shocked my mind' and (*dil*) *kō lag gēā/gēī* 'it affected/impacted my thoughts'.

The verb *lagnā* is used to evoke the frame of QUEUE. Semantic frame QUEUE is not part of any existing frames on FrameNet. However, as this is a recurring frame in this Urdu data, we have added it. The CFEs of QUEUE in Urdu are lāin 'line' or *qaṭār* 'queue' that sentient entity makes by standing in an ordered sequence for an event. Some common core elements are tickets, bill, fee, customer. In Urdu, this frame can be evoked when *lagnā* is used after core elements occur in a noun phrase (NP) and *lag* follows a postpositional *mēṁ* 'in' such as in (19).

19. Maiṁ=nē Sājid bhāī=kō buzurgh
1.SG=ERG Sajid bhai=ACC elderly
samajhtē hūē ūnhēṁ ēk taraf
consider.IPFV.M.PL be.PFV.M.SG him.ACC one side
bēthanē=kā kahā aur khud jā
sit.INF.OBL=GEN.M.SG tell.PFV.M.SG and self go.PFV.M.SG
kar ***qaṭār***=*mēṁ* ***lag*** gēā.
do ***line***=in ***queue*** PFV.M.SG
"I told Sajid bhai, considering him an elderly, to sit on a side and went to stand in the queue myself" (03_6188).

The verb *lagnā* evokes the sense of TOUCH where Impactor comes in contact physically with Impactor. The role of Impactor and Impactee (CFEs) is realised in a noun phrase (NP). Sentient entities such as pronouns (e.g., *mēṁ* 'I', tum/āp 'you'), *aurat* 'woman', *sahib* mister, are common. Common patterns are of perfective form, such as *galē lag gāē*

'hugged', *galē lagā līā* 'embraced', imperative *galē lagā lēṁ/līǰīē* 'do hug', or subjunctive *galē lagā lēṁ gaē* 'would hug'.

20. Hum aik dusre=kē ***galē*** ***lag*** gāē
    We one other.INF.OBL=GEN.M.PL ***embrace*** ***touch*** go.PFV.M.PL
    "We **hugged** each other" (00_5762).

Results and discussion

Our findings show that all twelve frames of *lagnā* are used in Urdu but not necessarily in a uniform manner. This can be seen in the distribution of *lagnā* across the twelve frames as given in Table 3 which is followed by the graphic visualisation of the values in Figure 6.

Table 3

Distribution of lagnā 'attach/feel' across various frames in CUUMC

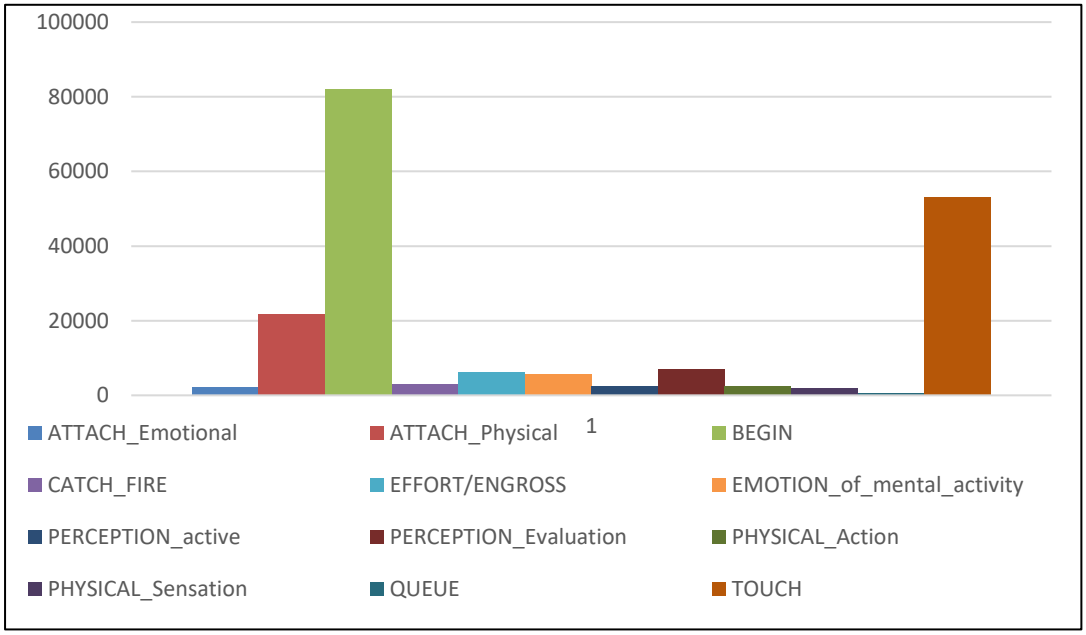
S.NO.	FRAME	NUMBERS	PERCENTAGE
1.	ATTACH_Emotional	2241	1.2%
2.	ATTACH_Physical	21852	11.6%
3.	BEGIN	82040	43.5%
4.	CATCH_FIRE	2862	1.5%
5.	EFFORT/ENGROSS	6284	3.3%
6.	EMOTION_of_mental_activity	5551	2.9%
7.	PERCEPTION_active	2577	1.4%
8.	PERCEPTION_Evaluation	7023	3.7%
9.	PHYSICAL_Action	2562	1.4%
10.	PHYSICAL_Sensation	2017	1.1%
11.	QUEUE	487	0.3%
12.	TOUCH	53191	28.2%
	TOTAL	**188687**	**100.0%**

The most common frame is BEGIN (43.5%), followed by TOUCH (28.2%) and ATTACH_Physical (11.6%). The rest of the frames are not as frequent as the first three, but they are regularly used to evoke a particular meaning in a given context. All these frames point out that in Urdu there are certain verbs such as *lagnā* that when used in certain construction may evoke a different meaning. Two broader constructions are of NOUN+ *lagnā* and VERB+ *lagnā*. These then get further divided into all the twelve categories. All three major frames are of VERB+ *lagnā* constructions. However, the use of the presumed prototypical meaning of verb lagnā as 'attach' cannot be justified. Therefore, it is the responsibility of the researchers to use a particular translation of the word that is closest to the sense *lagnā* conveys in the constructions it is occurring in and the lexical items it is co-occurring with.

Our study conforms with Hank's (1996) viewpoint that the meaning of a verb such as *lagnā* can be understood in its totality in the patterns it occurs in. Moreover, this study also proves that the lexical items *lagnā* cooccurs with and the tense used in the construction, also influences the diverse contexts in which the meaning of *lagnā* is construed (Metayard & Vigliocco, 2018).

Figure 6

Percentage frequency of lagnā 'attach/feel' frames in CUUMC



Interestingly, the analysis shows that *lagnā* occurs in constructions to give literal, idiomatic as well as the metaphorical meaning of the sense created through those patterns. For instance, for construction NOUN [body part] + *lagnā* the construction may be literal if it is pāõṁ *lagā* 'foot touched', but idiomatic if it is *ānkh lagī* 'lit. eye touched' which means 'to shut eye' or 'sleep'. Similarly, an extended context needs to be considered in some cases. Such as if the phrase is *par lag gaē* 'got the wings' it can have a metaphorical reference to high speed with which a piece of news or hearsay is spread (e.g., *is khabar kō par lag gaē haiṁ* 'the news spread very fast'), sudden rise in prices (e.g., *qīmatōṁ kō par lag gaē* 'there is a meteoric rise in the prices'). The separation of phrases into literal and idiomatic is beyond the scope of the present study. We have accounted for the idiomatic phrase according to the frame it evokes.

Conclusion

In this study, we have primarily followed Fillmore and his fellow researchers and used their FrameNet English frames in the field of frame semantics. We have analysed Urdu polysemous conjunct verb *lagnā* which in glossing is translated in English as 'attach'. All in all, it is our finding that the meaning of *lagnā* as 'attach' is one of the predominant meanings, however, it is not the most frequent one. Therefore, it does not seem appropriate to consider it as a representative of all types of meanings that *lagnā* evokes when it occurs in various constructions. For each pattern that the verb *lagnā* occurs in, it expresses specific semantic information. This information is important especially for the researchers who use corpus-based Urdu examples and then gloss and translate them into English for their readers that correct sense of the verb *lagnā* is used to avoid any ambiguity for the reader who does not know the language.

This study answers the two questions proposed in the introductory section. In the analysis section, we have briefly described each of the twelve frames the verb *lagnā* creates. Each description includes CFEs, typical patterns, and at least one example. All these

descriptions are strictly corpus-based evaluations. The descriptions have also explicitly clarified that the use of the verb *lagnā* and the senses it evokes is context dependent. On its own, the conjunct verb *lagnā* in any of its forms may not be meaningful.

As pointed out in the discussion section, our study proves Stringer's (2019) analysis that speakers while using polysemous verbs do mentally process feature selection that results in specific verbs in particular contexts. This may be of significance in future research because the data analysis in this study shows that Urdu speakers are well aware of the contextual meaning verb *lagnā* evokes because it is regularly being used in both literal and metaphorical meanings.

It is mentioned in section 3, about the use of FrameNet (Fillmore et al, 1992; Fillmore & Baker, 2015) by researchers for research on languages other than English by aligning the semantic frames in their respective languages with original FrameNet frames in English. Similarly, for this study we have not used any translations, rather we glossed and translated original Urdu examples from natural language data into English to successfully apply the semantic frames provided on FrameNet without distorting the meaning in the source text (Urdu) or target text (English). This has significance for future studies on Urdu and other regional languages because the other researchers can also utilise FrameNet as a resource which has approximately 1200 semantic frames and 13,600 lexical units. Similar to the method we followed, other researchers can also create alignment of semantic frames evoked by their researched natural language examples with those provided on FrameNet. It can also help in identifying any additional semantic frames not mentioned on FrameNet or a frame that is specific only to Urdu (or any language researched). Semantic frame QUEUE is one such example that is not specifically mentioned in any of the semantic frames on FrameNet. There are examples on FrameNet of *standing in sequence*, *waiting in sequence* but *queuing* has not been added to those frames till the writing of this paper. Semantic frame QUEUE establishes the usefulness of corpus-based analysis because natural language data not only validates the use of language as authentic but also helps establishing frames specific to a language that may have gone unnoticed if researchers rely only on intuition or follow the already existing frames.

However, this study is very broad in its nature. This can be further refined in future research by taking one particular frame or some particular set of frames to analyse, for instance how apparently similar NOUN+ *lagnā* constructions may evoke different senses, both literal and idiomatic. Another topic for future research can be on verb *lagnā* used for the modal meaning of epistemic possibility (see examples 15 and 16 in this paper). Our aim is to introduce this strand of research in the corpus-based descriptive analysis of Urdu and other regional languages.

Abbreviations

=	clitic boundary
1	first person
2	second person
3	third person
ACC	accusative
COMP	complementiser
CONJ	conjunction
DAT	dative
DEM	demonstrative
DIR	direct
EMPH	emphatic
ERG	ergative
EXC	exclusive particle *hī*
F	female
FUT	future
GEN	genitive
INF	infinitive
INS	instrumental
IPFV	imperfective
M	masculine
NEG	negation, negative
OBL	oblique
PFV	perfective
PL	plural
PRS	present
PROG	progressive
PST	past
SBJV	subjunctive
SG	singular

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