

Language Universals and Typology

Course project - Adverbial subordinate clauses

Interim Report

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Adverbial subordinate clauses are subordinate clauses that have an adverbial function (i.e like adverbs they answer questions such as How?, When? And Why?)

Subordinate clauses includes

Single words: When, since, while , after, because, unless, until, although,

Multiword members: as soon as, as if, in order, even though, as long as

Ex: She called him after she had finished her dinner

[main clause][Adverbial subordinate clause]

Tri-lingual annotated sentences :

<https://docs.google.com/spreadsheets/d/1fGsFmquQG2e975KheaCYZN4yCD3u8lAnD3wPPq4OgHA/edit?usp=sharing> **[50 parallel sentences]**

Analysis on English -Telugu Parallel Data:

1. In english and Telugu the position of the Adverbial Subordinate Clauses (ASC) might be contradictory in some cases.

Ex-1: The process of handing out application forms has been underway since February 17.

Ex-1: ఫిబ్రవరి 17 నుంచి దరఖాస్తు ఫారాలను అందజేసే పర్కర్యం జరుగుతోంది.

Note: Highlighted phrase with red and blue combinely refers to the ASC in a sentence and the highlighted part with red denotes the adverbial function of the sentence.

2. In few cases the ASC can be observed in the random position of a sentence

Ex-2: He also said that **since we have been unpaid for the last 36 months**, the official concerned will not get his salary until this is resolved," Manzoor Ahmad said.

Ex-2: దీనినా దయలొ ఉపాధాయాయ వంటి నాయకులు **ఎక్కడ ఉన్నా వారు** కన్సీరు కార్చుతున్నారనో నీను ఆశ్చర్యపూతున్నాను" అనొ ఆయన రాశారు.

3. In the ex-3 ASC not found in Telugu because in few cases there is no specific context available when 'where' kind of adverbial function occurs in english

Ex-3: For the CPI (M), Kerala is the only state **where the party is in power**.

Ex-3: సోపొ (ఎం) కోసం, హార్టో అధికారంలొ ఉన్న ఏక్కైక రాష్ట్రం కరేర [**ASC not found**]

4. In Telugu, more frequently adverbial function of the sentences is isolated with the verb.

Ex-4: **మీ తండ్రొ ఇక్కడకు వచ్చినప్పుడు**, మేము వాళ్ళతాము

Explantion: [వచ్చిన (came - verb) + అప్పుడు (when - adverbial function)]

5. In Telugu adverbial function can present more than once in a single sentence, whereas in english it occurs only once.

Ex-5: **Whether you like it or not**, you have to go to bed now.

Ex-5: **మీకు నచ్చచినా, ఇష్టపడకపోయినా**, మీరు ఇప్పుడు పడుకోవాలొ

6. In telugu the adverbial subordinate clause precede the main clause unlike in english

Ex-6: The fireworks show will start **after the sun goes down**.

Ex-6: సూర్యుడు అస్తమించిన తర్వాత బాణసంచా పోరదరశన పోరారంభమవుందొ.

ASC are usually classified into groups according to the relationship expressed by their subordinator. The main types of adverbial subordinate clauses are classes of time, manner, clause (purpose, reason), result, concession

7. The following subordinators ((as, before, once and as soon as) in ex-7, 8, 9 and 10 respectively) establish a time sequence relationship between the events or conditions in the main and subordinate clauses.

Ex-7: **As we bought the tickets**, the overture was beginning.

Ex-7: మేము టిక్కెట్లు కొనవోమి, ఓవర్చార్జ్ ఫరారంభమైంది.

Ex-8: Before we go on vacation, we must make reservations

Ex-8: మేము సొలమలకు వాళ్ళో ముందు, మేము తప్పనిసరిగా రిజర్వేషన్లు చేసుకోవాలి

Ex-9: Once they saw the car coming, the birds flew away from the road.

Ex-9: కారు రావడం చూసిన తర్వాత, పక్షులు రోడ్డు నుండి దూరంగా ఎగిరిపోయాయి.

Ex-10: As soon as I saw you, I knew something was wrong.

Ex-10: నీను చూసిన వంటన, ఏదో తప్పు జరిగిందని నాకు తెలుసు.

8. The subordinations *when* and *while* can both introduce a clause that specifies a period during which the action in the main clause occurred. In ex-11, the subordinate (*while*) indicates the investigation period of case. Whereas in the ex-12, the subordinate (*when*) indicates the reached time instance of his/her father.

Ex-11: While the police is still investigating the motive behind the alleged attack on the the girl, a fortnight ago, she had approached the Lalbag police station and lodged a complaint against unknown persons for allegedly circulating her photos with obscene text on the web.

Ex-11: బాలికపై దాడి ఆరోపణల వాస్తవ పోలీసులు ఇంకా దర్యాప్తు చేస్తుండగా, పక్షం రోజుల క్రితం, ఆమె లాలబాగ్ పోలీస్ స్టేషన్ ను సంవరదించి, తన ఫోటోలను అశ్లీల వచనంతో వాబ్లలో పోషారం చేసినట్లు తెలియని వ్యక్తులపై ఫిర్యాదు చేసింది.

Ex-12: When your father gets here, we will go.

Ex-12: మీ తండ్రి ఇక్కడకు వచ్చినప్పుడు, మేము వాళ్ళతోము

9. The subordinate *whenever* means “regardless of time”. It can also be a relative adverb in indefinite relative clauses (for example, when it conveys the meaning “every time”).

Ex-13: Whenever it rains, my little sister loves to jump in the puddles

Ex-13: వర్షం పడినప్పుడల్లా, నా చిన్న చాలా లాలు గుమ్మడికాయలలో దూకడం చాలా ఇష్టం

10. When “though” is preceded by the “even”, the statement in the main clause is made to seem yet more surprising or unexpected. In the Ex-14, the main clause is unexpected even though the ASC is allowed to watch the movie.

Ex-14: I won't allow you to see that movie **even though you are old enough to go**.

Ex-14: మీరు పాదోదవయస్సు కలవారైనను మీరు ఆ సినీమా చూడటానికి నోను అనుమతించను.

11. In the light of the content of the clause introduced by “although”, the statement in the clause is unexpected. A key feature of concessive meaning is that the truth of the concessive clause would lead a person to expect that the main clause would be false. Here the Ex-15 indicates the main clause to be false (unbelievable).

Ex-15: **Although she has a business degree**, she is working as a retail clerk.

Ex-15: ఆమెకు బిజినెస్ డిగ్రీ ఉన్నప్పటికీ, ఆమె రిటైల్ గుమస్థానంగా పనిచేస్తుంది.

12. Adverbial subordinate clauses of manner are introduced by the compound subordinator “as if”. It answers the questions posted by how. In Ex-16, the subordinator (as if) answers the question like “how did they reach the class?”

Ex-16: We walked to class quickly **as if we were going to be late**.

Ex-16: మేము ఆలస్యం అమతుననటలుగా త్వరగా క్లాస్ కి నడిచాము

13. Clauses of cause answer a why question. Most grammarians recognise two kinds of causes - purpose and reason. Clauses of **purpose** imply some intention or plan by the subject of the main clause [Ex-17]. By contrast, clauses of **reason** do not imply some intention or plan by the subject of the main clause [Ex-18].

Ex-17: “We hope that whatever will happen will further lead to some negotiations at various levels **so that we take it forward and not do a repeat of what they (Pakistan) are doing all along**,” he said.

Ex-17: ఏదో జరిగినా అదో వ్యవస్థాపకాల కోసం చర్చలకు దారితీస్తుందని మేము ఆశిస్తున్నాము, **తద్వారా మేము దానిని ముందుకు తీసుకువెళితాము మరియు వారు (పాకిస్తాన్) ఏమీ చేస్తున్నారో పునరావృతం చేయరు అని ఆయన చెప్పారు.**

Ex-18: We will not have school today **because it snowed last night**.

Ex-18: నాన రోజు మంచు కురిసినందున ఈ రోజు మాకు పాఠశాల ఉండదు

14. The subordinator (before) in purpose clauses, introduces also adverbial clauses of time to mention an action that occurs after the action of the main clause. In Ex-8, the main clause i.e, “booking tickets” (reservation) should be done before “going to vacation” (ASC)
15. The main subordinators that introduce reason clauses are *because, for , as much as, seeing as/that, and since*

Ex-19: “We hope that whatever will happen will further lead to some negotiations at various levels **so that we take it forward and not do a repeat of what they (Pakistan) are doing all along**,” he said.

Ex-19: ఏదో జరిగినా అదో వాస్తవిక స్థితి. ఏదైనా కారణం వల్ల ఏదైనా చర్య చలకు దొర
తీసుకుందామని మేము ఆశిస్తున్నాము, **తద్వారా మేము దానిని ముందుకు**
తీసుకువచ్చతాము మరియు వారు (పాకిస్తాన్) ఏమీ చేస్తున్నారో మనరావృతం
చేయరు అని ఆయన చెప్పారు.

Ex-20: The day felt long **because we had nothing to do.**

Ex-20: మాకు చేయడానికి ఏమీ **లేనందున** ఈరోజు చాలా కాలం అనీపించిందో.

POS tagging and dependency parsing analysis:

We have used the ‘stanza’ library to get the POS tagging and dependency parsing of each sentence.

1. In Telugu most of the adverbial functions are marked with ‘VERB’ POS tag.
[using [Stanza](#) library]
2. With this the [reference](#), the adverbial functions in Telugu sentences are marked randomly with RB, PSP, NST, VM, CC, NN, JJ tags.
3. For english most of the adverbial functions are marked with ‘CONJ’ POS tag.
4. Identification of the starting and ending boundaries would be the challenging part.

Analysis on English -Hindi Parallel Data:

1. In English and Hindi the position of the Adverbial Subordinate Clauses (ASC) might be contradictory in some cases.

Ex 1 : Marty kept his schedule open **in case his wife went into labor.**

मार्टी ने अपनी पत्नी के श्रम में चले जाने की स्थिति में अपना कार्यक्रम खुला रखा ।

Ex 2: You must keep practicing the song **until you get it right**.

जब तक आप इसे सही नहीं कर लेते तब तक आपको गीत का अभ्यास करते रहना चाहिए।

2. In few cases the ASC can be observed in the random position or in middle of a sentence

Ex 1: Elephants, although they are large, are not predators.

हाथी, हालांकि वे बड़े हैं, शिकारी नहीं हैं।

Ex 2: The process of handing out application forms has been underway **since February 17**.

आवेदन फॉर्म संपने की प्रक्रिया 17 फरवरी से चल रही है।

3. In Hindi, there isn't any cases which has no specific context available of adverbial functions occurs in English
4. In Hindi, at some of the places the adverbial function is with the verb, and most of the cases it is isolated with the verb

Ex: (with the verb)

Give us a call **when you get back from your trip**.

अपनी यात्रा से वापस आने पर हमें कॉल करें।

Ex 2: (isolated with the verb)

We need to find the bar **where they asked us to wait**.

हमें उस बार को खोजने की जरूरत है जहां उन्होंने हमें इंतजार करने के लिए कहा था।

5. In Hindi adverbial function can present more than once (which act as a single type of adverbial function) in a single sentence, whereas in English it occurs only once.

Ex 1: He also said that **since we have been unpaid for the last 36 months**, the official concerned will not get his salary until this is resolved," Manzoor Ahmad said.

उन्होंने यह भी कहा कि **चूंकि हम पिछले 36 महीनों से अवैतनिक हैं, इसलिए** जब तक यह तय नहीं हो जाता, तब तक संबंधित अधिकारी को उनका वेतन नहीं मिलेगा।

Ex 2: Playing football is dangerous **if you don't have the right equipment**.

यदि आपके पास सही उपकरण नहीं है तो फुटबॉल खेलना खतरनाक है।

Ex 3: **If you pay your bills on time**, you can have a good credit score.

यदि आप समय पर अपने बिलों का भुगतान करते हैं, तो आपके पास एक अच्छा क्रेडिट स्कोर हो सकता है।

Ex 4: **Unless** you run fast, you will miss the bus.

जबतक आप तेज नहीं दौड़ेंगे तब तक आप बस को नहीं पकड़ पाएंगे

Ex 5: You must keep practicing the song **until** you get it right.

जब तक आप इसे सही नहीं कर लेते तब तक आपको गीत का अभ्यास करते रहना चाहिए।

6. In Hindi, adverbial subordinate clause precede the main clause unlike English and most of the cases it is like in English

Ex 1 (different sequence from English)

Marty kept his schedule open **in case** his wife went into labor.

मार्टी ने अपनी पत्नी के श्रम में चले जाने की स्थिति में अपना कार्यक्रम खुला रखा।

Ex 2 (similar as in English)

We need to find the bar **where** they asked us to wait.

हमें उस बार को खोजने की जरूरत है जहां उन्हें हमें इंतजार करने के लिए कहा था।

7. The subordinators *when* and *while* can both introduce a clause that specifies a period during which the action in the main clause occurred.

Ex 1: **While** the police is still investigating the motive behind the alleged attack on the girl, a fortnight ago, she had approached the Lalbag police station and lodged a complaint against unknown persons for allegedly circulating her photos with obscene text on the web.

जबकि पुलिस अभी भी लड़की पर कथित हमले के पीछे की मंशा की जांच कर रही है, एक पखवाड़े पहले उसने लालबाग पुलिस स्टेशन का दरवाजा खटखटाया था और अज्ञात व्यक्तियों के खिलाफ उसकी तस्वीरों को वेब पर अश्लील पाठ के साथ प्रसारित करने के लिए शिकायत दर्ज की थी।

Ex 2: **When** your father gets here, we will go.

जब तुम्हारे पिता यहां पहुंचेंगे, हम जाएंगे।

8. The subordinate *whenever* means “regardless of time”.

Ex 1: **Whenever** it rains, my little sister loves to jump in the puddles

जब भी बारिश होती है, मेरी छोटी बहन पोखर में कूदना पसंद करती है

9. In Hindi, in some of the cases the order of main clause and subordinate clause are different but in most of the cases it is same as in English

Ex 1: (different order)

You must keep practicing the song **until you get it right**.

जब तक आप इसे सही नहीं कर लेते तब तक आपको गीत का अभ्यास करते रहना चाहिए ।

Ex 2: (same order)

We need to find the bar **where they asked us to wait**.

हमें उस बार को खोजने की जरूरत है **जहां** उन्हें हमें इंतजार करने के लिए कहा था ।

Ex 3 (different order)

Give us a call **when you get back from your trip**.

अपनी यात्रा से वापस आने पर हमें कॉल करें ।

10. Adverbial subordinate clauses of manner are introduced by the compound subordinator “as if”, “as though”, “as”. It answers the questions posted by how.

Ex : The cat made herself at home in the apartment **as if she had always lived there**.

बिल्ली ने खुद को अपार्टमेंट में घर पर बनाया **जैसे कि** वह हमेशा वहां रहती थी ।

11. The adverbial subordinate reason clauses are ‘because’, ‘for’, ‘as much as’, and ‘since’

Ex : **Because they removed Keshubhai Patel as CM**, our family stayed away from the BJP.

क्योंकि उन्हें केशुभाई पटेल को सीएम के पद से हटा दिया, इसलिए हमारा परिवार भाजपा से दूर रहा ।

POS tagging and dependency parsing analysis:

For Hindi we have used the `stanza` library to get the POS tagging and dependency parsing of each sentence.

1. In Hindi most of the adverbial functions are marked with 'SCONJ'-'PART','PRON'-'ADP' POS tag. [using [Stanza](#) library]
2. For english most of the adverbial functions are marked with 'SCONJ' POS tag as mentioned above also.
3. For Hindi as well identification of the starting and ending boundaries would be the challenging part.

Conclusion:

In this report we presented the thorough analysis of the marking for the adverbial subordinate clauses in Telugu, English, Hindi. And also presented the comparisons between the languages.

References:

1. https://github.com/nirupampratap/telugu_nlp
2. [https://en.wikipedia.org/wiki/Adverbial_clause#:~:text=An%20adverbial%20clause%20is%20a.an%20adjective%2C%20or%20another%20adverb.&text=\(In%20the%20examples%20below%20the,the%20subordinating%20conjunction%20is%20bolded.\)](https://en.wikipedia.org/wiki/Adverbial_clause#:~:text=An%20adverbial%20clause%20is%20a.an%20adjective%2C%20or%20another%20adverb.&text=(In%20the%20examples%20below%20the,the%20subordinating%20conjunction%20is%20bolded.))
3. <https://stanfordnlp.github.io/stanza/>