CSL1.204: Language Typology and Universals
Spring 2021

Course Project - Final Report
Adverbial subordinate clauses

course instructor
prof. Dipti Misra Sharma

Course TA
Atreyee Ghosal

Ashok Urlana -2020701023
ashok.urlana@research.iiit.ac.in
Veeral Agarwal - 2019114009
veeral.agarwal@research.iiit.ac.in

23rd April 2021

Introduction

Adverbial subordinate clauses (ASC) are **subordinate clauses** that have an **adverbial** function. These are word combinations that act like an adverb. They are dependent clauses. ASC goes before the main clause separated by comma (,) or after the main clause without comma.

Structure:
Adverb clause + (,) + Main clause... (or) Main clause + adverb clause ...

The words we use to introduce ASC are:

1. **For time:** as soon as, before, by the time, once, soon, until, when, whenever, while;
2. **For place:** here, there, wherever;
3. **For purpose:** as a result, consequently, hence, in order to, therefore, thus;
4. **For cause:** as, as much as, because, if, since.

Note: We use adverbial subordinate clauses to give information about time, place, purpose, and cause of action.

English Examples:

1. **Whenever** there is a clinic, there will be doctors as well.
   The full fat milk is finished **whenever** I go to the supermarket.
2. **Wherever** I go, I bump into people that I know.
   I order chicken breast **wherever** I go for dinner.
3. **In order to** have a successful business, you need to hire professionals.
   He underwent surgery **in order to** remove the cancer.
4. **If** you run too fast, you will twist your ankle.
   You will need to take a spoon **if** you want to eat the soup.

Telugu examples:

క్లినిక్ ఉన్నప్పుడల్లా వ్నైద్యులు కూడా ఉంటారు

Clinic unnappudalla vydulu kuda untaru

Whenever there is a clinic, there will be doctors as well.

Telugu ASC: ఫలితంగా, దొరికితే, అయితే, పలికితే, చేస్తే,

Hindi examples:

He may come <u>whenever</u> he wants.

वह <u>जब कभी भी</u> चाहे आ सकता है

vah <u>jab kabhee bhee</u> chaahe aa sakata hai

Problem statement

The aim of this project is to marking (identifying) and deep analysis of the adverbial subordinate clauses in English, Telugu and Hindi languages.

Corpora

We have scraped the 100 articles from ETV Bharat news website and formed the 500 sentences for English and Telugu respectively. And for Hindi we took the sentences from parallel corpus [1].

Issues with the Corpora:

1. Data preprocessing
   - Removed non-telugu and non-english tokens
   - html tags, hashtags, frequently added irrelevant words/phrases
2. Tokenized the data
   - Build our own tokenizer on top of the Indic NLP tokenizer for Telugu
   - For hindi we used the Indic NLP tokenizer and for English we used the NLTK tokenizer

Analysis

Tri-lingual annotated sentences :
https://docs.google.com/spreadsheets/d/1fGsFmquQG2e975KheaCYZN4yCD3u8IAnD3wPPq4OgHA/edit?usp=sharing **[50 parallel sentences]**

Annotation Format

S. No	TAGS	Description
1	English	English sentences which contains the adverbial subordinate clauses
2	Telugu	Telugu sentences which contains the adverbial subordinate clauses
3	Hindi	Hindi sentences which contains the adverbial subordinate clauses
4	TAG ID	Each sentence tag with a specific <u>analysis</u>
5	Red Marked	Identify the adverbial function in the sentence
6	Red+ Blue	Mark the adverbial subordinate clause in a sentence

1. **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 ప్రకర్రియ 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: దోని దయవాల్ ఉపాధ్యాయ వంటి నాయకులు ఎక్కడ ఉన్నా వారు కన్సోరు కార్ చుతున్నారని నేను ఆశ్చర్యపోతున్నాను" అని 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: సిపిఐ (ఎం) కోసం, పార్టీ అధికారంలో ఉన్న ఏక్కైక రాష్ట్రం కేరళ [ASC not found]

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

Ex-4: మా తండ్రి ఇక్కడకు వచ్చినప్పుడు, మేము వెళ్తాము

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 నచ్చినా, ఇష్టపడకపోయినా, మీరు ఇప్పుడు పడుకోవాలి

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 ప్రదర్శన ప్రారంభమవుతుంది.

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 టికెట్లు కొన్నప్పుడు, ఓవర్చర్ ప్రారంభమైంది.

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

Ex-8: మేము సెలవులకు వెళ్ళేలో ముందు, మేము తప్పనిసరిగా రిజర్వేషన్లు చేసుకోవాలి

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

4

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: నిన్ను చూసిన వెంటనే, ఏదో తప్పు జరిగిందని నాకు తెలుసు.

8. The subordings *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 వెనుక పోలీసులు ఇంకా దర్యాప్తు చేస్తుండగా, పక్షం రోజుల క్రితం, ఆమె లాల్ బాగ్ పోలీస్ స్టేషన్ ను సంప్రదించి, తన ఫోటోలను అశ్లీల వచనంతో వెబ్ లో ప్రసారం చేసినట్లు తెలియని వ్యక్తులపై ఫిర్యాదు చేసింది.

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

Ex-12: మీ తండ్రి ఇక్కడకు వచ్చినప్పుడు, మేము వెళ్తాము

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 చెల్లెలు గుమ్మడికాయల్లో 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 పెద్దవయస్సు కలవారైనను మీరు ఆ సినిమా చూడటానికి నేను 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 రో ఉన్నపప్పటికీ, ఆమె రిట్నైల్ గుమస్తాగా పనిచేస్తోంది.

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 అమతున్నటట్లుగా 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 అది వివిధ స్థాయిలలో క్రాస్ని చర్చలకు దారి తోస్తుందని మేము ఆశిస్తున్నాము, తద్వారా మేము దానిని ముందుకు తీసుకువెళతాము మరియు వారు (పాకిస్తాన్) ఏమి చేస్తున్నారో పునరావృతం చేయరు అని ఆయన చెప్పారు.

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

    Ex-18: నిన్న రాత్రి 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.

6

Ex-19: ఏదో జరిగినా అది వివిధ స్థాయిలలో కొన్ని చర్చలకు దారి తీస్తుందని మేము ఆశిస్తున్నాము, తద్వారా మేము దానిని ముందుకు తీసుకువెళతాము మరియు వారు (పాకిస్తాన్) ఏమి చేస్తున్నారో పునరావృతం చేయరు అని ఆయన చెప్పారు.

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

Ex-20: మాకు చేయడానికి ఏమో లేనందున ఈరోజు చాలా కాలం అనిపించింది.

16. Special cases

For the below examples, we haven't found any pattern in the existence of adverbial subordinate clauses.

Ex-21: "One party is playing politics of 'tushtikaran' (appeasement), while second does politics of 'nafrat' (hate).

Ex-21: "ఒక పార్టీ తుష్టీకరణ '(ప్రసన్నం) రాజకీయాలు ఆడుతుండగా, రెండవది' నఫ్రాట్ '(ద్వేషం) రాజకీయాలు చేస్తుంది.

Ex-22: Playing football is dangerous if you don't have the right equipment.

Ex-22: మీకు సరైన పరికరాలు లేకపోతే ఫుట్ బాల్ ఆడటం ప్రమాదకరం.

Ex-23: If you pay your bills on time, you can have a good credit score.

Ex-23: మీరు మీ బిల్లులను సకాలంలో చెల్లిస్తే, మీరు మంచి క్రెడిట్ స్కోరు పొందవచ్చు.

Ex-24: Unless you run fast, you will miss the bus.

Ex-24: మీరు వేగంగా పరిగెత్తకపోతే, మీరు బస్సును కోల్పోతారు.

Ex-25: Since I'll be working late, I'll eat downtown.

Ex-25: నేను ఆలస్యంగా పని చేస్తాను కాబట్టి, నేను డౌన్ టౌన్ తింటాను.

Ex-26: Now that everyone has left the party, we need to start cleaning.

Ex-26: ఇప్పుడు ప్రతి ఒక్కరూ పార్టీని వదిలిపెట్టినందున, మేము శుభ్రపరచడం ప్రారంభించాలి.

Ex-27: Unless you put in more hours, I cannot recommend you for the promotion.

Ex-27: మీరు ఎక్కువ సమయం శ్రమించకపోతే, పర్మిషన్ కోసం నేను మిమ్మల్ని సిఫార్సు చేయలేను.

Ex-28: While Munawar was the first to get ad-interim bail from the Supreme Court, Prakhar Vyas and Edwin Anthony were granted relief by the High Court on February 12 after they pleaded for parity with the Supreme Court's order.

Ex-28: సుప్రీంకోర్టు నుండి మొట్టమొదటిసారిగా తాత్కాలిక బెయిల్ పొందిన మునవర్ కాగా, సుప్రీంకోర్టు ఆదేశంతో సమానత్వం కోసం అభ్యర్థించిన తరువాత ఫిబ్రవరి 12 న ప్రఖర్ వ్యాస్ మరియు ఎడ్విన్ ఆంథోనీలకు హైకోర్టు ఉపశమనం ఇచ్చింది.

Tools used for automatic analysis

1. Telugu POS tagger and lemmatizer
   [https://bitbucket.org/sivareddyg/telugu-part-of-speech-tagger/src/master/]
2. Shallow parsers [https://ltrc.iiit.ac.in/download.php]
3. Telugu tree banks [https://github.com/ltrc/telugu_treebank]

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 'SCONJ' POS tag.
4. Identification of the starting and ending boundaries would be the challenging part.

2. Analysis on English - Hindi Parallel Data:

1. In English and Hindi the position of the Adverbial Subordinate Clauses (ASC) might be opposite 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 3: Elephants, although they are large, are not predators.
   हाथी, हालांकि वे बड़े हैं, शिकारी नहीं हैं।

   Ex 4: The process of handing out application forms has been underway since February 17.
   आवेदन फॉर्म सौंपने 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 in most of the cases it is isolated with the verb
   Ex 5: (with the verb)
   Give us a call when you get back from your trip.
   अपनी यात्रा से वापस आने पर हमें कॉल करें।
   Ex 6: (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 7: 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 8: 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 9: 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 10: Unless you run fast, you will miss the bus.

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

Ex 11: 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, adverbiual subordinate clause precede the main clause unlike english and most of the cases it is like in english

Ex 12 (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 13 (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 उन्होंने हमें इंतजार करने के लिए कहा था।

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

Ex 14 : 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.

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 15: When your father gets here, we will go.

जब तुम्हारे पिता यहां पहुंचेंगे, हम जाएंगे।

8. The subordinate whenever means "regardless of time".

   Ex 16: 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 17: (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 18: (same order)

   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।

   Ex 19 (different orfer)

   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 20: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 21: Because they removed Keshubhai Patel as CM, our family stayed away from the BJP.

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

12. Special cases

For some sentences we couldn't find any relevant points mentioned above.

Ex 22:

While Kaur was on February 15 granted bail by a judicial magistrate in the first case, a Sessions Court in Sonipat had denied her bail in the second case, after which her counsel moved High Court for bail.

जबकि कौर 15 फरवरी को न्यायिक मजिस्ट्रेट द्वारा पहले मामले में जमानत दी गई थी, सोनीपत में एक सत्र न्यायालय ने दूसरे मामले में उसकी जमानत से इनकार कर दिया था, जिसके बाद उसके वकील ने जमानत के लिए उच्च न्यायालय का रुख किया।
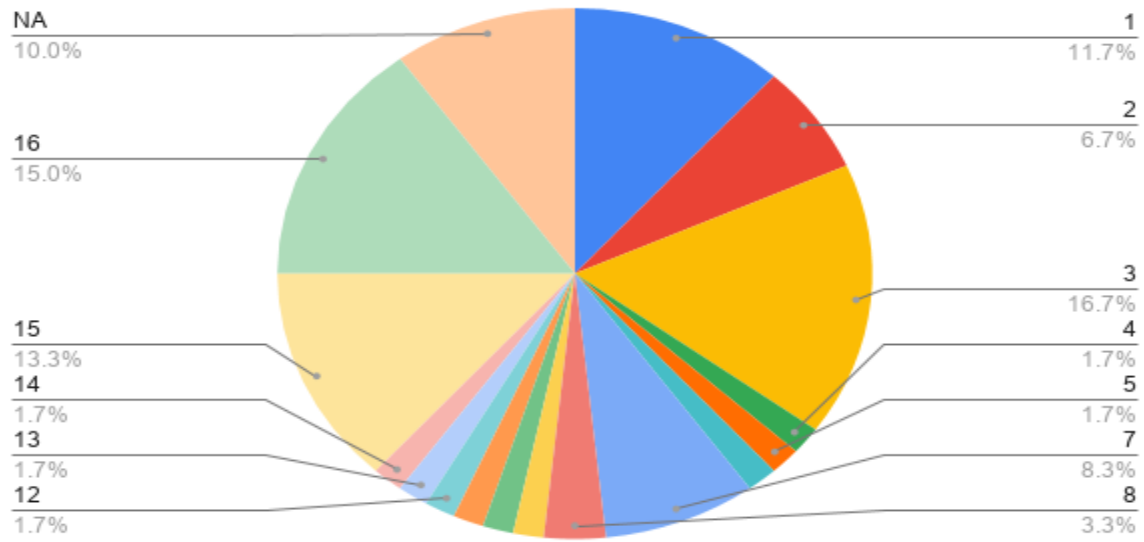
POS tagging and dependency parsing analysis:

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.
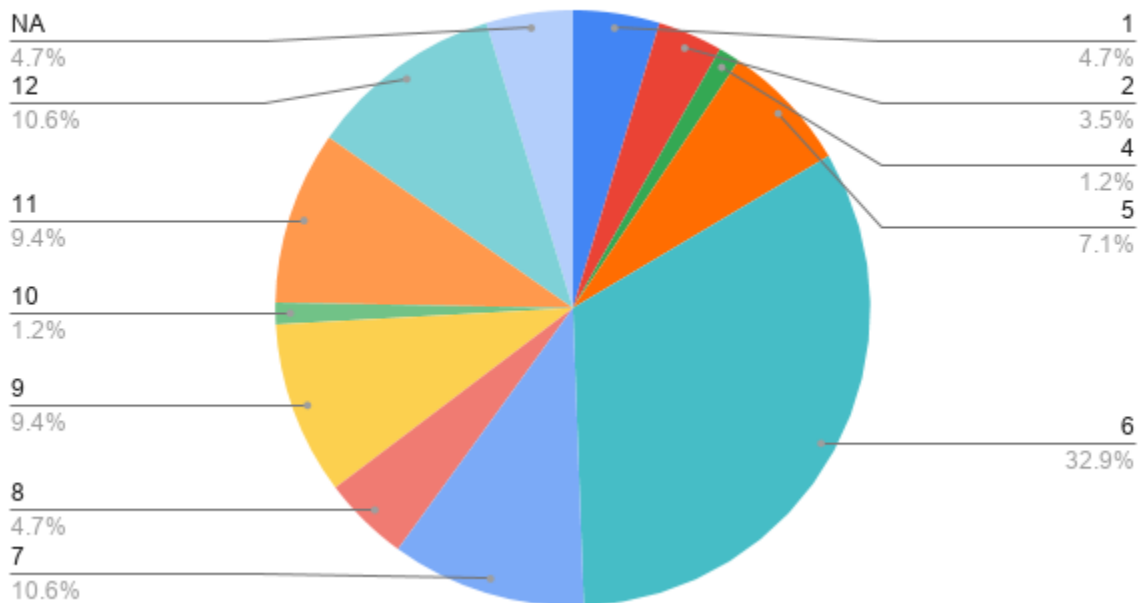
Qualitative Analysis and Conclusions

1. For all the three languages positioning of the adverbial subordinate clauses are different (start, center, end).
2. Obtaining suitable sentences, which contains ASC is trivial task [having the ratio of 1: 10]
3. It is clearly evident that, for automatic marking the ASC for Indian languages, marking tools were still in the starting phase
4. Detailed analysis of the adverbial subordinate clauses presented with statistics [https://tinyurl.com/wxn46wk4 - Sheet name: Statistics] as shown in below Figure.

English - Telugu Analysis

- NA: 10.0%
- 16: 15.0%
- 15: 13.3%
- 14: 1.7%
- 13: 1.7%
- 12: 1.7%
- 1: 11.7%
- 2: 6.7%
- 3: 16.7%
- 4: 1.7%
- 5: 1.7%
- 7: 8.3%
- 8: 3.3%

English - Hindi Analysis

- NA: 4.7%
- 12: 10.6%
- 11: 9.4%
- 10: 1.2%
- 9: 9.4%
- 8: 4.7%
- 7: 10.6%
- 1: 4.7%
- 2: 3.5%
- 4: 1.2%
- 5: 7.1%
- 6: 32.9%

13

References

1. https://www.cfilt.iitb.ac.in/~parallelcorp/iitb_en_hi_parallel/
2. Comrie, Bernard. Language universals and linguistic typology: Syntax and morphology. University of Chicago press, 1989.
3. https://open.books4languages.com/english-b1-grammar/chapter/adverbial-subordinate-clauses/
4. https://www.slideshare.net/BrahimMezgar/adverbial-subordinate-clauses
5. https://link.springer.com/content/pdf/10.3758/s13428-020-01456-7.pdf
6. https://examples.yourdictionary.com/examples-of-adverb-clauses.html
7. https://www.englishgrammar101.com/module-10/clauses/lesson-4/adverb-clauses#:~:text=An%20adverb%20clause%20is%20a,raining%2C%20we%20will%20stay%20inside
8. https://www.slideshare.net/BrahimMezgar/adverbial-subordinate-clauses
9. https://github.com/nirupampratap/telugu_nlp
10. 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.)
11. https://stanfordnlp.github.io/stanza/
12. Geis, Michael Lorenz. *Adverbial subordinate clauses in English*. Diss. Massachusetts Institute of Technology, 1970.
13. Diessel, Holger. "The ordering distribution of main and adverbial clauses: A typological study." *Language* (2001): 433-455.
14. Chafe, Wallace. "How people use adverbial clauses." *Annual Meeting of the Berkeley Linguistics Society*. Vol. 10. 1984.
15. https://d1wqtxts1xzle7.cloudfront.net/56467987/W17-7616.pdf?1525194064=&response-content-disposition=inline%3B+filename%3DA_Dependency_Treebank_for_Telugu.pdf&Expires=1615829755&Signature=LZGcqjPW77XeTzlXAdZ0RW20zftxhdqD0WMYYxejtps5MA~42-dx3MqkzIuSWnB7vcJoJwHFu-vSGSOeTGawRl4kjhVHOjs0f4QdpKur-iL5p03Ko-FsvVzUVhWvm4n2JsQ~A5gIi33DWIX9x0O-NqK7nwVPwYrlAve48INK8bTlk8fuyLvW1OYPB5ISnQDZSvnh3ryPqVbt9DgG-sUkM~z13jX05jkKePCT9s4Ryncv19ZD~vKbE~vQ5vcl2hk75HRU8lhP-AKBfvb7G9XO2h3MhNL9Bz5iz5NFtHXs5TESCS2gczQ18YQwjuLQiFAdsPl6br~FSXzzJyh50mUUBg__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA