

UNIVERSAL SEMANTIC REPRESENTATION GUIDELINE

VERSION 4.2

DISCOURSE CONNECTIVE

Language as a mode of communication always occurs as a discourse in which a sentence or elements within a sentence can have a connection with the previous and following sentence. This ensures cohesion and coherence in the discourse. We annotate the following discourse information in this row:

- **Discourse Connective Relation-** In this section, we discuss how we annotate intra-sentential discourse relation. See [here](#) for the list of discourse connective relation or sangati relation decided so far.

Example

Since USR annotation of complex sentences is difficult and automated USR generation for complex sentences is a challenge as observed through several experiments, we have decided to first segment complex sentences into discourse units without losing information. In USR, we capture the connection of the segmented sentences in terms of some Discourse Connective Tag. This tag ensures that even after the split of a complex sentence into simple sentences, the connective information is not lost. Here is the strategy for **discourse connective annotation**:

Case 1: Originally the segmented sentences are connected through a single connective:

- Complex sentences are segmented into two simple sentences with one of them containing the connective in the sentence level

Sent_ID: Sent_1

- rāma skūla nahīm gayā kyomki vaha bīmāra hai
‘Ram did not go to the school because he is sick.’
- Sent_1a rāma skūla nahīm gayā ‘Ram did not go to the school’
- Sent_1b. kyomki vaha bīmāra hai ‘**because** he is sick’

The USRs Sent_1a and Sent_1b are as follows specifying that the two sentences are connected through **kāryakārana** relation

Sent_1	#rāma skūla nahīm gayā kyomki vaha bīmāra hai			
Sent_1a	#rāma skūla nahīm gayā			
concept	ramā	skūla_1	nahīm_1	jā_1-yā_1
index	1	2	3	4
Sent_1b	#kyomki vaha bīmāra hai			
concept	\$wyax	bīmāra_1	hai_1-pres	

index	1	2	3	
Discourse element	Sent_1a.1: coref		Sent_1a.4:kAryakAraNa	

Table 1. Single Connective in complex sentence

Notes:

- The connective present in Sent_1b does not appear in the concept row of its USR.
- Instead, the discourse relation tag (**kAryakAraNa**, in this case) is annotated on the main verb of Sent_1b.
- That Sent_1b is connected to Sent_1a is expressed by specifying the index of the main finite verb of Sent_1a along with the relation tag.
- The format is: Sent_ID.Verb_Index:Relation_Name

Case 2: Originally the complex sentence is formed with a paired connective and one of the clauses is subordinate to the other called main clause segmented sentences are connected through a paired connective

- The sentence is segmented into two.
- The main finite verb of the subordinate clause is chosen for discourse relation annotation
- The connective does not appear in the USR
- The discourse relation tag conveys the relation between the two segmented sentences.
- The format is: Sent_ID.Verb_Index:Relation_Name

Sent_2	#yadi āpa mujhe āmamṛita karate haiṁ to maiṁ āpake ghara āūṁgā			
Sent_2a	# āpa mujhe āmamṛita karate haiṁ			
concept	\$addressee	\$speaker	āmamṛita+kara_1-tā_hai_1	
index	1	2	3	
Discourse element			Sent_2b.4:AvaSyakawApariNAma	
Sent_2b	# to maiṁ āpake ghara āūṁgā			
concept	speaker	addressee	ghara_1	ā_1-gā_1
index	1	2	3	4
Discourse element				

Table 2. Paired connective

Here is another example of complex sentences with more than one embedding:

Sent_3	yadi āpa acchā khānā khāoge aura āpa vyāyāma karoge to āpa svastha rahoge aura āpa bīmāra nahīṁ hooge			
Sent_3a	āpa ācchā khānā khāoge			
concept	\$addressee	ācchā_1	khānā_1	khā_1-gā_1
	e			

index	1	2	3	4
Discourse element				
Sent_3b	aura āpa vyāyāma karoge			
concept	\$addresse e	vyāyāma+kara_1-gā_1		
index	1	2		
Discourse element		Sent_3a.4:samuccaya Sent_3d.4:AvaSyakaw ApariNAma		
Sent_4c	to āpa svastha rahoge			
concept	\$addresse e	svastha_1	raha_1- gā_1	
index	1	2	3	
Discourse element				
Sent_4d	aura āpa bīmāra nahīm hooge			
concept	\$addresse e	bīmāra_1	nahīm_1	ho_1-gā_1
index	1	2	3	4
Discourse element				Sent_3c.3:samuccaya

Table 3. Paired connective with coordination and subordination

List of Discourse Connectives

Name of discourse relation	Marker	Tag	Example	Explanation
Avaśyakatā pariṇāma	yadi...to/ agara...to/ yadi...t aba	AvaSyakaw ApariNAma	yadi rāma āegā to maiṃ jāūṃgī. agara rāma ātā hai to maiṃ jāūṃgī. ‘If Ram comes then I will go.’	The marker indicates that the occurrence or truth of one clause depends on a specific condition stated in the other clause.
Avaśyakatā pariṇāma.nahī	nahīm...to/	AvaSyakaw ApariNAma.	rāma āegā nahīm to maiṃ jāūṃgī.	This relation presents a condition where one

m	agara... to/ to	nahIM	‘If Ram does not come then I will go.’	action will occur if a specified condition is met, and an alternative outcome will happen if the condition is not fulfilled.
virodhī	para/ lekīna/p arantu/ kintu	viroXI	rāma kā ghara choṭā hai lekīna śyāma kā ghara baḍā hai. ‘Ram’s house is small but Shyam’s house is big.’	Proposition or clause presents information or a viewpoint that contradicts or stands in opposition to another proposition or clause.
samuccaya	Ora/ evaM/ tathā	samuccaya	rāma ko seba pasamda hai aura mohana ko anāra pasamda hai. ‘Ram loves apple and Mohana loves pomegranate	It serves to connect and coordinate elements that are grammatically equal in importance, such as words, phrases, or clauses.
anyawara	yā/atha bā	anyawara	āpa bājāra jāemge yā maim jāūṃ. ‘Either you will go to the market or I will.’	It signals that the propositions or clauses being connected are mutually exclusive or present alternative options.
vyabhicāra	yadyapi ...tathā pi/ yadyapi ...phir bhi/ isake bāvajZu da	vyaBicAra	yadyapi rāma paḍhāī mem acchā thā lekīna vaha pāsa nahīm ho sakā. ‘Although Ram was good at studying, he could not pass.’	It involves the expression of a concession or acknowledgment of a contrary or unexpected fact, condition, or viewpoint, while still maintaining the overall argument or main point.
uttarkāla	phira, isake bAxa, bAxa meM	uwwarakAla	pahale sunūṃgā, phira likhūṃgā ‘First I will listen, then I will write.’	The simultaneous temporal occurrences of two events, the connective is attached with the later event.

kāryakāraṇa	cūṃki/kyom̐ki	kAryakAraṇa	rāma skūla nahīm gayā kyom̐ki vaha bīmāra hai 'Ram did not go to the school because he is sick.	This relation explains the reason or basis for an event or action, showing why something happens. It connects a specific cause to its resulting effect.
pariNāma	isalie, isake pariNAm asvarUpa, isake kAraNa	pariNāma	rāma bīmāra hai isaliye vaha skūla nahīm gayā 'Rama is sick, thus, he did not go to school.'	This relation connects two parts of a sentence where one part (the cause) leads to or produces a specific outcome or consequence (the result).
samuccaya.awirikwa	isake atirikta	samuccaya	rāma āḍaṇī calātā hai isake atirikta , vaha saṃgīta bhī sunatā hai	When additional information is added to an existing one, stated before, we use samuccaya relation as discourse information and the discourse particle which brings the speaker's view, will be represented in the speaker's view row. Such as- for the discourse connective, isake awirikwa, samuccaya will be the relation name in discourse element row and awirikwa will be the information encoded in speaker's view row.
samuccaya.alAvA	isake alāvā	samuccaya	yaha jñāna ko viśṛta karane kā prayāsa karatā hai aura ādhārabhūta saṃkalpanāom ke sātha-sātha takanīkī śabdom̐ kī vyākhyā karatā hai, jo bhaugolika jñāna ke ghaṭaka haiṃ isake alāvā avadhāraṇāom ko kramabaddha va vyavasthita	When additional information is added to an existing one, stated before, we use the samuccaya relation. alAvA information encoded in the speaker's view row.

			vyavahāroṃ meṃ vikasita karane kā prayāsa karatā hai	
samuccaya.BI	na kevala.. balki	samuccaya	nā kevala rāma paḍhaḥāī meṃ acchā hai balki khela kūda meṃ bhī bahuta āge hai	This relation connects two related actions or ideas, where the first part introduces one action or fact, and the second part adds another action or fact that complements or reinforces the first. We use samuccaya relations. BI information encoded in the speaker's view row.
samuccaya.sam AveSI	isake sāth sāth	samuccaya	rāma khānā banātī hai isake sātha-sātha , vaha ghara kā kāma bhī karatī hai	When additional information is added to an existing one, stated before, samuccaya is the discourse element tag and samAveSI is the speaker's view tag
virodha.dyotaka a	jabaki	viroXa.xyowa aka	sāmānyataḥ prākṛtika tatvoṃ jaise parvatom, nadiyom, jhīlom ādi meṃ dhīre-dhīre parivartana hotā hai jabaki sāṃskṛtika tatvoṃ jaise bhavanom, saḍakom, phasalom ādi meṃ tejī se parivartana hotā hai	When the discourse connective states a contrast between two arguments, also known as antithesis.
kārya.dyotaka	tāki	kArya.xyowa ka	mānacitrakāroṃ ko bhūgaṇita ke sātha-sātha ādhunika gaṇita meṃ bhī pāraṃgata honā cāhie tāki ve samajha sakeṃ ki pṛthvī kī ākṛti, parīkṣaṇa ke lie caurasa sataha para prakṣepita mānacitra ke cinhom kī vikṛti ko kisa prakāra prabhāvita	This relation connects an action to its intended goal or objective. It shows that one action is done with the intention of achieving a specific result or purpose.

			karatī hai	
arWAwa	dūsare śabdom mem/arWAwa	arWAwa	Geo “pṛthvī” aura Graphy “varṇana karanā’ bhūgola kā śābdika artha hai, jo pṛthvī ke dharātaliya satahom kā varṇana karatā hai dūsare śabdom mem bhūgola vistrta paimāne para sabhī bhautika va mānavīya tathyom kī antaḥkriyāom aura ina antaḥkriyāom se utpanna sthalarūpom kā adhyayana karatā hai	When the second argument shifts the content of the previous argument to a different conceptual frame or reinterpret the first argument.
uxAharaNasvarUpa	udāharaṇa ke lie/udāharaṇasvarupa	uxAharaNasvarUpa	bhūgola kā eka anya pakṣa kṣetrīya vibhinnatā ke kāraṇom ke samajhane mem hai ki kisa prakāra sāmājika, sāmśkr̥tika, ārthika aura janāṃkikī kāraka bhautika sthala rūpa ko parivartita kara rahe hai aura mānavīya hastakṣepa ke phalasvarūpa navīna sthala rūpom kā nirmāṇa ho rahā hai udāharaṇa ke lie mānava, vana yā baṃjara bhūmi kā prayoga mānavīya adhivāsa ke rūpa mem kara rahā hai	When the second argument provides examples, details or more information on the state of a affairs described in the previous argument.

Link to the original guideline

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