Amendment RST Annotation Guidelines for Diplomatic Speeches in the UNSC: RST Labeling

Anonymous submission

Abstract

This document includes additional rules for RST relation annotations for speeches given in the United Nations Security Council (UNSC). We base our relation set mainly on the ones described in Stede et al. (2017), but included four new relations and joined one. Additionally we provide a labels mapping for both labels set for RST-DT and the RST layer in the GUM corpus.

Contents

1 Introduction

RST Mann & Thompson (1988) is a theory for analyzing the organization of texts and looks at discourse from its purpose-driven perspective. It represents the structure of text in terms of coherence relations between text spans and captures the 'plan' the author devised to influence their audience. The annotation of discourse structures using RST includes several steps, from which discourse segmentation into so called Elementary Discourse Units (EDUs) and discourse tree-building are the two primary components. The result of an RST analysis is the text represented as a tree with hierarchically weighted EDUs capturing the importance of each unit to another. Annotating texts with RST consists of two main steps: 1) segmenting the text into so-called Elementary Discourse Units (EDUs) and 2) organizing EDUs into a single, hierarchical tree-structure.

The first step in characterizing the discourse structure of a text is to split it into EDUs, which are sentences or smaller (mostly clauses). We adopt the EDU segmentation given by the UNSCon, also to allow the alignment of RST and Conflicts annotations. The second step in RST annotations consists of choosing discourse labels to relate EDUs which basically define which function a EDU holds in relation to another EDU. We use the label set of Stede et al. (2017), and include four additional labels (all taken from RST-DT, except for Topic-Comment, which is from GUM): Same-Unit, Attribution, Textual-Organization, and Topic-Comment.

This amendment serves to describe the relations in more detail (see Section corpora RST-DT and GUM. therefore we propose an labels mapping 2) and was given to our annotators for reference. Additionally, we wanted to make our new RST corpus interoperable with other RST corpora and propose a mapping for the class set of RST-DT Carlson et al. (2002) and the RST layer of the GUM corpus Zeldes (2017).

We include a variety of examples from the corpus to explain the usage of the labels for diplomatic speeches. In the examples, the parts we want to highlight are in bold. Orthographic mistakes coming from the original data are marked with *sic*. The span of annotations in RST are Elementary Discourse Units (EDUs), which are marked by parentheses in the example.

2 Rhetorical Relations in the UNSCon

2.1 Relation Set in UNSCon

We follow the labels as defined in Stede et al. (2017), but additionally include four labels taken from RST-DT, which are explained in the following.

2.1.1 Same-Unit (multinuclear, NN)

We include Same-Unit, a pseudo-relation used as a device for linking two discontinuous text fragments that are really a single EDU, but which are broken up by an embedded unit. Examples of embedded units that can break up other EDUs include: relative clauses, other nominal postmodifiers, parentheticals, participial clauses, etc. By convention, this relation is always multinuclear.

> [But maintaining the key components of his strategy] [– **a stable exchange rate and high levels of imports** –] [will consume enormous amounts of foreign exchange.]
>
> [United Nations peacekeeping operations should,] [**within the purview of their respective mandates,**] [assist host countries] [in safeguarding the security of women in conflict] [and should effectively implement a zero-tolerance policy toward sexual violence.] (UNSC_2016_SPV.7658_spch015_sentsplit_China.txt)

We allow units to be interrupted by complex embedded unit, meaning more than one EDU can break up a legitimate EDU. In the next example the EDUs in bold interrupt the legitimate EDU *Undertakings must be upheld.*

> [Undertakings] [**brokered by the trilateral contact group with armed separatists**] [**who control the territory in which the crash occurred**] [**to allow access**] [must be upheld.] (UNSC_2014_SPV.7219_spch009_sentsplit_Australia.txt)

2.1.2 Attribution (mononuclear, SN)

Normally, clausal complements of verbs are not considered to be EDUs. Adapting the Attribution relation from RST-DT, we make an exception in the case of clausal complements of attribution verbs, including both speech acts and other cognitive acts. The attribution predicate is the satellite and the attributed material, also called reported message, is the nucleus. Excluded from the annotation

are infinitival complements from attribution relations, attribution predicates that do not identify a source and passive constructions.

For verbs of attribution that occur in the middle of a stream of reported speech, select an embedded attribution relation if the source breaks up a single EDU, as in Example (1). Select a non-embedded attribution relation if the source occurs between two separate EDUs, as in (2) (both examples are synthetic and neither is from the UNSC speeches). In both cases, the attribution satellite is linked to the first segment of the split EDU.

(1) ["Seeing Michelle up there,"] [she added,] ["was like watching myself or my daughter."]

(2) ["When Sears has a sale at a special price,"] [the woman in the ad declares,] ["it's something you don't want to miss."]

Speech acts – verbs that are used to report both direct and indirect speech – should be segmented (examples: say, tell, state, announce, declare, suggest, advise, report, indicate, point out, explain, ask). They are marked for the rhetorical relation of ATTRIBUTION, if there is an explicit source of the attribution. We mark the attribution (the clause containing the reporting verb) as the satellite, and the content of the reported message (which must be in a separate clause) as the nucleus.

Cognitive predicates, including verbs that express feelings, thoughts, hopes, etc., should also be segmented and marked for the rhetorical relation of ATTRIBUTION (examples: think, believe, know, imagine, suppose, conjecture, wish, hope, predict, fear, estimate, calculate, anticipate, expect, dream).

2.1.3 Textual-Organization (mononuclear, SN)

TEXTUAL-ORGANIZATION is a relation used to link elements of the structure of the text, for example, to link a title with the body of the text, a section title with the text of a section, etc. The role of the relation is primarily that of enforcing a tree structure on the representation. We follow GUM in that a heading can be seen as a preparation text for the body, where the first is the nucleus and the former the satellite. Therefore in those cases TEXTUAL-ORGANIZATION is used mononuclear. Summarizing, we use TEXTUAL-ORGANIZATION for:

- section headings (mononuclear);
- included meta-info from the speech (like the language the speaker speaks) (mononuclear);
- and parts of speeches from other speakers (mononuclear).

2.1.4 Topic-Comment (mononuclear, SN)

We use TOPIC-COMMENT for EDUs not contributing propositional content to the discourse, including backchanneling, incomplete or repaired/aborted utterances, and fillers. For those cases, we follow GUM that the interrupting sequence is the satellite of the main EDU.

TOPIC-COMMENT is also used for relating questions and their answers, where one textual span poses a question (not necessarily realized as an interrogative sentence), and the other text span answers the question. For those cases, the nucleus is the answer to the question posed in the satellite. We also use TOPIC-COMMENT for rhetorical questions, where no answer is expected but used to emphasize a point made. We also use TOPIC-COMMENT when one segment is a statement and the other span makes some sort of response to it.[1]

For more theoretical thoughts on questions and rhetorical questions handled in RST, please refer to the next section 2.2.1.

[1] In RST-DT, TOPIC-COMMENT always states a multinuclear relation, as usually both spans are necessary to understand the context (Carlson et al. (2002)[70] p. 70). Nevertheless, we follow GUM in this stating that a hierarchical nucleus-satellite relation can be established for the mentioned cases.

Summarizing, we use TOPIC-COMMENT (all mononuclear) for:

- backchanneling, incomplete or repaired/aborted utterances. Ex.: [I mean,]$_{\text{TOPIC-COMMENT}}$ [I had to do it].; [There was no other option,] [you know.]$_{\text{TOPIC-COMMENT}}$;
- question-answers;
- when one segment is a statement and the other span makes some sort of response to it.

2.1.5 Join Justification and Reason

REASON and JUSTIFY both describe EDUs that aim to change the attitude of the reader. The only difference is that for REASON the claim is supported by a subjective assessment, and JUSTIFY describes a basic attitude of the writer Stede et al. (2017). Because of this minor semantic difference, we decided to merge both relations and labels and keep REASON.

2.2 Further Considerations on RST Labeling in UNSCon

2.2.1 (Rhetorical) Questions handled in UNSCon

We decided to label questions with the TOPIC-COMMENT relation **when they do not provide any additional information to the content.**[2] For those cases we adopt the TOPIC-COMMENT class for questions from RST-DT, which includes the labels question-answer (similar to GUM's topic-question label). In GUM, when a question is a filler-formulation (like "You know?") they are marked as *organization-phatic*, which is mapped to RST-DT again with *Topic-Comment* Class in the mapping made in Liu et al. (2023), which we follow.

In RST-DT, rhetorical questions are labeled as *Rhetorical-Question*, which is a sub-type of TOPIC-COMMENT. Nevertheless ideally, rhetorical labels should express the purpose it has for another discourse unit and not just be a description of the text segment itself. Additionally, RST-DT only defines that the *Rhetorical-Question* is a satellite, but it was not clear to us how to detect the nucleus since there is no answer to be related.

Rhetorical questions emphasize a particular idea or persuade the audience of a point, giving an answer within the question raised. Since rhetorical questions often have the purpose to emphasize for example a REASON for a claim, or the EVALUATION of a situation or statement, etc., functions that can be mapped to our RST-labels, we decided to use the labels expressing this underlying function, instead of a general TOPIC-COMMENT class. We only use TOPIC-COMMENT, if it would be possible to exclude the question without loosing much of the content.

2.3 References

The speeches in the corpus often refer to other speeches or documents like resolutions including a speech-ID in parenthesis in the texts. We treat those references roughly as citations in GUM and RST-DT, where citations and dates in parenthetical are usually segment. Only when they are syntactically integrated in the sentence they are not segmented. Following GUM, references forming an EDU (i.e. non-syntactically integrated, see segmentation guidelines) typically function as EVIDENCE:

> [That was evident at last week's open debate on conflict prevention in the Great Lakes region] [(see S/PV.7653).] $_{\text{EVIDENCE}}$
>
> [On Thursday, we heard a clear message from the Prime Minister of Ukraine] [that Ukraine was willing to engage in dialogue with Russia] [to address its stated concerns] [(see S/PV.7134).]$_{\text{EVIDENCE}}$ (UNSC_2016_SPV.7643_spch002_sentsplit_Egypt.txt)

[2] Questions and rhetorical questions are not mentioned in P-V RST guidelines but appear in the UNSCon speeches.

Other possible relation for references is CIRCUMSTANCE, when they include dates describing events, years, etc.

> [Russia backed the adoption of resolution 2272] [(2016),]$_{\text{CIRCUMSTANCE}}$ [on sexual exploitation and abuse in peacekeeping operations.] (UNSC_2016_SPV.7643_spch007_sentsplit_Russian_Federation.txt)

2.4 Acronyms and Translations

Following GUM, if an acronym for an expression within a sentence is specified in parentheses, it is considered a satellite partial restatement, and marked with RESTATEMENT relation.

> [The way that peacekeeping troops and troop-contributing countries] [(TCCs)]$_{\text{RESTATEMENT}}$ [have been libeled is completely unacceptable.] (UNSC_2016_SPV.7643_spch005_sentsplit_Egypt.txt)

3 Relations used for UNSCon and Mapping with other frameworks

Table 1 lists all labels used for UNSCon and maps them according to the Corresponding GUM V8 and RST-DT Classes, taken from Liu & Zeldes (2023). The notations is also taken from their paper: We use → if a relation can only point forward by definition; ← if only backward; →← if either forward or backward; NN for multi-nuclear and NS for nucleus-satellite relations.

Most of the labels could be mapped to both RST-DT and GUM RST labels. Nevertheless there are some exceptions where a mapping is not straight forward.

Mapping RST-DT to UNSC RST labels the only label we don't have a mapping for is 'Topic-Change' from our labels set. 'Joint" would be the closest choice but the label is already mapped to 'Joint'. For the GUM relation 'topic-question' (GUM Class 'Topic') cannot be mapped for every usage case because we have redefined how to annotate questions and rhetorical questions. UNSC relation 'interpretation' (where the satellite shifts the content of the nucleus to a different conceptual frame) is hard to map to both RST-DT and GUM labels. We decided to choose the more general "elaboration" as a mapping to provide partial semantic coverage for the mapping.

References

Lynn Carlson, Daniel Marcu, and Mary Ellen Okurowski. RST Discourse Treebank. 2002. URL https://catalog.ldc.upenn.edu/LDC2002T07.

Yang Janet Liu and Amir Zeldes. Why can't discourse parsing generalize? a thorough investigation of the impact of data diversity. In Andreas Vlachos and Isabelle Augenstein (eds.), Proceedings of the 17th Conference of the European Chapter of the Association for Computational Linguistics, pp. 3112–3130, Dubrovnik, Croatia, May 2023. Association for Computational Linguistics. doi: 10.18653/v1/2023.eacl-main.227. URL https://aclanthology.org/2023.eacl-main.227.

Yang Janet Liu, Tatsuya Aoyama, and Amir Zeldes. What's hard in english rst parsing? predictive models for error analysis. arXiv preprint arXiv:2309.04940, 2023.

William C. Mann and Sandra A. Thompson. Rhetorical structure theory: Toward a functional theory of text organization. Text - Interdisciplinary Journal for the Study of Discourse, 8(3): 243–281, 1988. doi: doi:10.1515/text.1.1988.8.3.243. URL https://doi.org/10.1515/text.1.1988.8.3.243.

Manfred Stede, Maite Taboada, and Debopam Das. Annotation guidelines for rhetorical structure. 2017. URL https://www.sfu.ca/~mtaboada/docs/research/RST_Annotation_Guidelines.pdf.

Amir Zeldes. The GUM corpus: Creating multilayer resources in the classroom. Language Resources and Evaluation, 51(3):581–612, 2017. doi: http://dx.doi.org/10.1007/s10579-016-9343-x.

GUM V8 Relations	GUM V8 Classes	RST-DT Classes	**UNSC RST relations**
adversative-antithesis	Adversative	Contrast	Antithesis (NS, →←)
adversative-concession	Adversative	Contrast	Concession (NS, →←)
adversative-contrast	Adversative	Contrast	Contrast (NN, →←)
attribution-positive	Attribution	Attribution	Attribution (NS, →←)
attribution-negative	Attribution	Attribution	Attribution (NS, →←)
causal-cause	Causal	Cause	Cause (NS, →←)
causal-result	Causal	Cause	Result (NS, →←)
context-background	Context	Background	Background (NS, →←)
context-circumstance	Context	Background	Circumstance (NS, →←)
contingency-condition	Contingency	Condition	Condition (NS, →←)
contingency-condition	Contingency	Condition	Unless (NS, →←)
contingency-condition	Contingency	Condition	Otherwise (NS, →←)
elaboration-attribute	Elaboration	Elaboration	Elaboration-E (NS, →←)
elaboration-additional	Elaboration	Elaboration	Elaboration (NS, →←)
explanation-evidence	Explanation	Explanation	Evidence (NS, →←)
~~explanation-justify~~	~~Explanation~~	~~Explanation~~	~~Justify (NS, →←)~~
explanation-justify	Explanation	Explanation	Reason-S (NS, →←)
explanation-justify	Explanation	Explanation	Reason-N (NS, →←)
explanation-motivation	Explanation	Explanation	Motivation (NS, →←)
evaluation-comment	Evaluation	Evaluation	Evaluation-S (NS, →←)
evaluation-comment	Evaluation	Evaluation	Evaluation-N (NS, →←)
evaluation-comment	Evaluation	Evaluation	Interpretation (NS, →←)
joint-disjunction	Joint	Joint	Joint (NN)
joint-list	Joint	Joint	List (NN)
joint-conjunction	Joint	Joint	Conjunction (NN)
joint-sequence	Joint	Temporal	Sequence (NN)
joint-other	Joint	Topic-Change	Joint
mode-manner	Mode	Manner-Means	Means (NS, →←)
mode-means	Mode	Manner-Means	Means (NS, →←)
organization-phatic	Organization	Topic-Comment	Topic-Comment (NS, →←)
organization-preparation	Organization	Textual-Organization	Preparation (NS, →)
organization-heading	Organization	Textual-Organization	Textual-Organization (NS, →←)
purpose-attribute	Purpose	Enablement	Purpose (NS, →←)
purpose-goal	Purpose	Enablement	Enablement (NS, →←)
restatement-partial	Restatement	Summary	Summary (NS, →←)
restatement-repetition	Restatement	Summary	Restatement (NS, →←)
topic-question	Topic	Topic-Comment	Topic-Comment (NS, →←)
topic-solutionhood	Topic	Topic-Comment	Solutionhood (NS, →←)
same-unit	same-unit	Same-Unit	Same-Unit (NN)

Table 1: Relation Mapping for UNSCon between different RST frameworks, mapping between GUM's GUM and RST-DT is taken from Liu & Zeldes (2023).