

# Argumentation in speeches of the Security Council of the United Nations Organizations

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## Abstract

The thesis proposal represents the work in progress on defining, finding, and analyzing phenomena of linguistic representations of facts and attitudes in the diplomatic discourse of the United Nations Security Council based on corpus linguistics methodology. The selected theoretical approaches are the Appraisal theory and opinion mining. So far, the corpus of selected diplomatic speeches has been annotated with the attitudinal part of the scheme and the preliminary results of annotation were presented. This paper provides an overview of the suggested project workflow, the steps undertaken, and the future steps, as well as the problems and concerns and ways of their possible resolutions.

## 1 Introduction

This Ph.D. thesis proposal presents an interdisciplinary investigation into the representation of facts and attitudes in the diplomatic speeches of the United Nations Security Council (Schoenfeld et al., 2019).

We aim at finding out and describing the difference between facts and attitudes in diplomatic speeches, the typical formulations for these categories, and best solutions for their automatic identification. The outcomes of this research are going to be for example a corpus of annotated speeches, and its linguistic analysis.

The United Nations Security Council is an important forum for international diplomacy that not only enables the exchange of opinions and discussion of events but also allows for the making of decisions that are supposed to be able to help to end and prevent international conflicts. The diplomatic discourse of the UNSC offers valuable insight into how people communicate with each other in such high-stakes situations where a single word could have significant financial and human costs. The

pressure of these meetings leads to highly formalized and structured speeches that are usually carefully prepared.

The nature of diplomatic language would be best described by the particular form, style, manner, or tone of expression that are characteristics of this particular domain of language use. The words used are of great importance in diplomacy. Through the years, a very carefully balanced, restrained, and moderate vocabulary has been cultivated in order to have precise control over the subtle meanings of words – both when agreeing with one’s interlocutor (while taking care not to give the appearance of excessive enthusiasm) and when rejecting their views (while being mindful of not causing undesired offense). When interpreting the language of their interlocutor in a dialogue or correspondence, it is assumed that the words and phrasing used are intentional and carefully chosen. To be clear and concise, it is best to use short, simple sentences, especially if one is not proficient in the language being used. On the other hand, if the goal is to obscure one’s thoughts or avoid providing specific information, a more complicated style with complex sentences, digressions, and interruptions can be effective. This can leave the impression of being disorganized, but the main objective of withholding information can be achieved. Another common trait of diplomatic language is a subdued, understated tone (Stanko, 2001). In almost all speeches, government viewpoint is expressed, therefore the text alternate 1st person singular and plural and 3rd person to express government positions. Diplomats are rare to acknowledge the position of the opposing side, therefore the argumentation tends to be one-sided (Swain, 2017).

In this study we assume facts to be statements of events or actions presented as to have happened or to exist and attitudes as explicit or implicit ex-

pressions of one's opinions. In their speeches, diplomats are perceived to tend to stay neutral (C. M. Constantinou, 2016), (Bayram, 2019) and use various specific diplomatic phrases to avoid direct representation of opinions. However, their speeches have shown to be very informative not only of their country's position towards the events in question but in representing their emotional response to these events as well. There are, however, many factors that could influence the way a diplomat chooses to speak (J. Gray, 2021). As diplomatic speeches are usually carefully crafted in advance the possibility of accidental occurrence of attitudinal markers in these texts could be discarded.

The task of automatically defining facts and attitudes in natural texts separately has already been elaborated by various researchers and research groups. Usually, this task consists of either analyzing and identifying facts and argumentation (as in the argument mining approach (Cabrio, 2018)) or sentiment identification and evaluation (as elaborated in sentiment analysis (Pang and Lee, 2008) and the Appraisal theory (Martin and White, 2005)). However, as per our knowledge, these approaches have been applied independently of one another and the contrastive analysis of representations of these concepts in diplomatic speeches has not yet been elaborated on. The Appraisal theory has been applied to various text genres, including analysis of emotion in news reports of terrorism (De Pasquale, 2022), political debates (Aulya Puspa Rahmida, 2022), and gender studies (Adisti and Hasbi, 2022), as well as analysis of diplomatic discourse (Lian, 2018). The recent elaboration of diplomatic argumentation (Swain, 2017) is considered to be the piece of linguistic analysis, which is closest to our methodology.

## 2 The course of work

### 2.1 Creating the corpus of speeches

The diplomatic speeches that we have selected for the project all come from the same dataset (Schoenfeld et al., 2019). We have then manually selected 100 diplomatic speeches based on specific criteria: topic (five international military conflicts discussed and debated at the Security Council within the time frame of the UN Security Council Debates dataset: the Palestinian conflict, the Yugoslav Wars, the Russo-Ukrainian War, the 1992–1993 War in Abkhazia and the

2008 Russo-Georgian War, and the Iraq War), time frame (we have included speeches from various stages of each conflict), and speaker position (sufferer, invader/aggressor, permanent UNSC member supporting the oppressed, and non-permanent UNSC member seemingly unrelated to the conflict (Anisimova and Zikánová, 2022)). In this way, we were able to maintain balance in the corpus, at least within the selected criteria.

### 2.2 Annotating the data

The selected speeches comprising our corpus are being annotated using the doccano annotation tool (Nakayama et al., 2018). Doccano is an open source text annotation tool. It provides the features necessary for the current project, such as sequence labeling and collaborative annotation. It also provides some feedback on statistics of the annotations, as well as the auto-labeling feature which is considered for further annotation.

After the annotation scenario for labeling attitudes is refined, we plan on continuing the annotation until we reach our goal of manually annotating for the whole corpus (100 texts) for using this data in further development of this part of the project. The annotated data would then be used for labelling the whole dataset (Schoenfeld et al., 2019) using a general-purpose language model, and manually evaluating the results as in (West et al., 2021). Another approach we are planning to pursue is developing a rule-based solution for identifying attitudes in diplomatic speeches.

As for annotating facts, we plan on pursuing the argument mining approach as in many cases the entities representing facts are the reasons in the argument structure. This assumption does not cover all the cases, and we are aiming at resolving this issue by creating a detailed manual for labeling facts.

## 3 Attitude

### 3.1 Definition of the term attitude

Although the meaning of the word "attitude" might seem simple and straightforward, it is important to remember that "attitude" is a polysemic word and the definition most applicable to this work is "a mental position or a feeling or emotion with regard to a fact or state" (att, 2022). Expressing attitudes is typically viewed as a natural human social behavior that is crucial for establishing and maintaining cooperation. In the context of the pro-

posed research, the term "attitude" can be understood as a synonym for "opinion," which is "a subjective statement as it describes the thinking or beliefs of a person about a particular thing. Opinion can be defined as a judgment or belief that lacks absolute conviction, certainty, or definitive knowledge. It concludes that certain facts, ideas, etc. are likely to be true or are true" (Bhattacharyya et al., 2020). Additionally, "attitude" can be defined as "an estimation of the quality or worth of someone or something" (Pang and Lee, 2008).

In diplomacy, attitudes can be understood as indicators of a diplomat's position (Swain, 2017) and, therefore, a country's stance on the events being discussed. However, this analysis is not focused on this higher level of understanding of diplomatic attitude. Instead, we are examining the specific linguistic expressions that an attitude may take at the sentence level in order to develop linguistic criteria for distinguishing between factual and attitudinal statements. Therefore, we are considering attitudes as individual expressions rather than the general attitude toward the event under discussion.

The ability to formally identify attitudes is particularly important in the context of natural language processing of diplomatic texts. Attitudes can be expressed in a variety of forms in diplomatic speeches, including adjectives (e.g. **a just war, the most difficult decision**), nouns (e.g. **ally**), verbal constructions (e.g. **I am afraid that**), clauses, and phraseological expressions (e.g. **the rats are abandoning ship**). There are certain recurring patterns of constructions that appear in different forms in every speech and can easily be identified (e.g. formal expressions of politeness such as "**let me welcome you to your new position...**" or "**it is a great pleasure to welcome...**"). These attitudes are expected to be found and annotated on the level of single expressions, therefore sentence-level, as well as the text-level, are not taken into account.

### 3.2 Theoretical framework: Introduction to the Appraisal theory

The analysis of attitudes in diplomatic speeches requires a framework that considers the speaker's position as well as the speaker's reaction to events from multiple perspectives. One such framework is Appraisal Theory (Martin and White, 2005), developed at the beginning of the 2000s in Australia

within the framework of Systemic functional linguistics (M.A.K.Halliday, 2004). This approach to analyzing and classifying attitudes views them as being one of the parts of the more global viewpoint of appraisal of the "language of evaluation". The perspective adopted in this proposal is that expressed attitudes are resources for evaluating the "social intersubjective perspective on evaluation" (Oteíza, 2017).

There are various methods for analyzing attitudes and it was important to compare them when applied to the chosen type of data (Anisimova, 2021). This allowed us to understand the differences between the approaches and determine the most appropriate annotation scheme. The theoretical approaches we have considered included sentiment analysis, opinion mining, and Appraisal theory. Each of the methods provided established methodologies, some of them offered specialized annotation tools. After conducting introductory analysis (Anisimova, 2021), we decided to use the Appraisal Theory by Martin and White (Martin and White, 2005) as it is superior in terms of the complexity of the annotations scheme and the received output, which is important for our study. Careful consideration of the terminology and our research questions has also shown that sentiment analysis would not provide significantly less information regarding the representation of attitude as it was concluded that sentiment and attitude do not refer to the same linguistic concepts.

The Appraisal theory views appraisal as "the language of evaluation" and focuses on the meanings in context and towards rhetorical effects rather than towards grammatical forms conveyed through language, and, therefore, focuses on analyzing such meanings as positivity/negativity, meanings by which intensity and directness are strengthened or weakened, as well as meanings of engagement. The Appraisal Theory scheme may be seen in Figure 1.

The authors (Martin and White, 2005) propose that appraisal can be analyzed in three interactional domains: engagement, attitude, and graduation. "Attitude is concerned with our feelings, including emotional reactions, judgments of behavior and evaluation of things. Engagement deals with sourcing attitudes and the play of voices around opinions in discourse. Graduation attends to grading phenomena whereby feelings are amplified and categories blurred" (Martin and White,

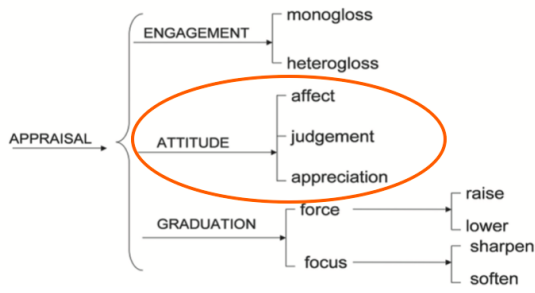


Figure 1: An overview of appraisal resources (Oteíza, 2017)

2005, p. 35). In this study, we focused on only one dimension of the Appraisal theory: analyzing attitudes in diplomatic speeches. This category is divided into three subfields: affect (e.g. **"We are hopeful"**), judgment (e.g. **"Your talented management"**), and appreciation (e.g. **"A disastrous event"**).

The attitude analysis scheme is shown in Figure 2.

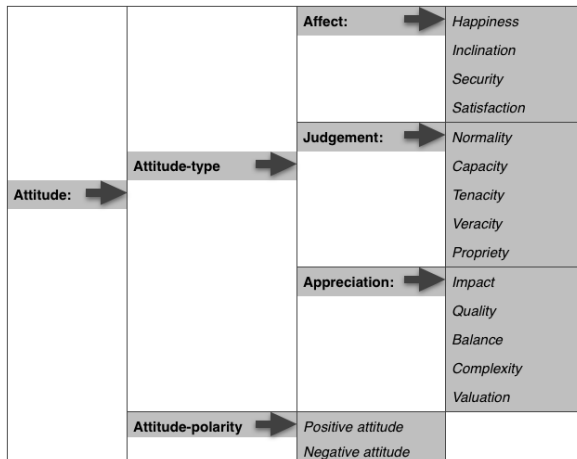


Figure 2: Attitude only analysis scheme (Martin and White, 2005)

The represented scheme further elaborates that the subfield of affect refers to formulating emotional reactions or disposition (**"let me reiterate my satisfaction"**, **"we are deeply concerned"**, **"we are happy to announce"**). The category of affect could be found in the form of:

- happiness (**"We are glad to announce"**);
- inclination (**"We would like to reiterate our willingness to participate"**);
- security (**"This situation is a clear threat to international security"**);
- satisfaction (**"We would like to thank the Secretary General for their service"**).

The subfield of judgment refers to assessing attitudes towards someone's behavior, which could be done in two ways, by:

a) assessing someone's *social esteem* such as normality (how normal someone's actions are), tenacity (how resolute someone is), or capacity (how capable they are), or

b) assessing *social sanction* by judging veracity, (how truthful someone is), propriety (how respectful they are of the behavioral and social norms).

The third subfield of appreciation deals with evaluation the semiotic and natural phenomena by their value (category of *valuation*), their influence (*impact*), assessing their properties (*quality*), stability and symmetry (*balance*), and their complexity (*complexity*).

Each category is then assigned a positive or negative polarity. The scheme shown here is a simplified version of the full attitude analysis scheme developed by Martin and White (Martin and White, 2005). For the purposes of our project, the subset of speeches is being annotated (Anisimova, 2022) for *attitude-type* and *polarity*, while the categories of *appraiser*, *appraised*, and *explicitness* were not included.

### 3.3 Our way of application of the theory to the data

As the current stage of research we are refining the annotation scenario and proceeding with the manual annotation. As the results of the analysis of our first introductory analysis of annotations has shown (Anisimova and Zikánová, 2022) particular cases where the annotations were consistent and the annotation process was less doubtful, as well as unclear and doubtful cases. These results were structured according to these categories provided the new data about the presence, distribution and particularities of attitudes in the diplomatic speeches of the UNSC.

### 3.4 Preliminary conclusions: clear cases

Among the classes of the data that was considered among the clearer cases of annotation were examples of attitudinal lexemes and expressions, such as evaluative adjectives (e.g. **"The representatives of Brazil, Djibouti, New Zealand, Pakistan and Spain all, in an excellent [appreciation - quality - positive] manner, contributed their talents to the conduct of the business in the Council"**), action nouns (**"which define abuse [judgment - propriety - negative] of Chapter VII of the Charter of**

the United Nations”), verbs, and adverbs that express appraisal (e.g. “This would certainly **hamper** [affect - security - negative] the work of the Co-Chairmen”).

Many of the attitudinal expressions we encountered are recurring and can be considered attitudinal patterns in diplomatic speeches of the UNSC, as they are often found in the same structural spots of the speeches and are connected to the functions of the structural entities of the speech. These expressions include greetings (e.g. “I should also like warmly to **welcome** [affect - happiness - positive] The Foreign Minister of Italy”), congratulations (e.g. “May I at the outset **congratulate** you [affect - inclination - positive], Sir, on your assumption of the presidency of the Security Council”), and expressions of condolences or concerns (e.g. “The Pakistan delegation once again **expresses its deep concern** [affect - security - negative]”). These attitudes are often found at the beginning and end of texts, as diplomats tend to begin and end their speeches in a more formal way, but they rarely convey true attitudes towards the discussed problems and are often just diplomatic clichés. Therefore, an additional pair of tags (“diplomatic/-content”) has been created to distinguish between these clichés and other attitudes found in the corpus.

### 3.5 Preliminary conclusions: unclear cases

During the annotation process, several recurring challenges were identified that provide insight into the prominent features of diplomatic texts that should be taken into account in future analysis. One notable feature is the distinct attitudes expressed through many proper names and phrases used to name entities connected to the UNSC and describe events. For example, the proper name “Security Council” is inevitably interpreted positively context is not being taken into account, because “security” can only be seen as a positive trait. Proper names and phrases may carry attitudinal meanings and can be analyzed out of context, but annotating them may depend on the subjective perception of the annotator. To address this issue, one potential solution is to create a list of such names and phrases and analyze their inner appraisal structure at the level of lexeme meaning, then avoid annotating them in the speeches.

Context also can significantly impact the meaning and evaluation of an attitudinal expression, as

the formula “x = -” and “x in y = +” demonstrates how the context can change the meaning of an expression to be the opposite of its original interpretation. For instance, “exerting pressure” may be seen as inappropriate and having a negative implicit attitude, but “exerting pressure towards terrorists” may be viewed as valuable and good.

These instances present a challenge for formally annotating the scenario and are also a part of the sentiment analysis approach. To overcome this issue, we need to capture the context and syntactic frames of words in the annotation, including the intensification or diminution of meaning when an adjective is preceded by an adverb, such as “a very bright day” or “a tremendously bad decision.” By identifying these cases and giving them more attention, the annotation precision can be improved and the time spent can be reduced. The use of negation elements “no” and “not” is also likely to present similar challenges.

Diplomatic discourse often employs rhetorical devices, such as metaphors, to implicitly express attitudes (see Table 1). The representative of Bosnia and Herzegovina compares the UNSC to a near-sighted cat that does not seem to notice violations by the opposing side, who are referred to as rats and given a very strong negative appraisal. The speaker then extends the metaphor of the UNSC session as a ship that all states are on together, implying that it is a common good that requires cooperation to succeed. They encourage all parties to cooperate by bailing out water, plugging leaks, and keeping the ship on course, meaning that everyone should be involved, interested, and actively participate in finding a solution to the conflict.

The analysis of the first batch of annotated data has provided the conclusion that Appraisal theory annotation scheme can often identify attitudes through the use of nouns, adjectives, adverbs, and verbs that convey attitudinal meanings. Some lexemes and phrases were found in multiple texts and are considered to be patterns for expressing attitudes in diplomatic texts, such as greetings, congratulations, condolences, and farewells. These phrases often remain unchanged in form and placement and are used by speakers as classical diplomatic devices for structuring the discourse, including welcoming the Secretary and guests and expressing excitement or condolences about the topic under discussion. Analysis and



thorough description of such expressions would require taking into account their form and function in a text, we therefore are planning on analyzing them from the point of view of formal politeness, following for example (P. Brown, 1978).

The two most frequently found attitude types in the speeches are currently thought to be connected to two features of the analyzed data. The "Affect-inclination-positive" subcategory is believed to mostly reflect formal expressions of attitudes following diplomatic protocol, while the "Judgement-propriety-negative" subcategory is suggested to reflect the prevailing attitude in the content of the speeches, which may be influenced by the purpose of the meetings, the events being discussed, and the differing political orientations of the speakers.

There are some cases that may cause imprecision in future annotations because they are considered doubtful. These include:

(1) Proper names and attitudinal expressions used to name UNSC events or documents (e.g. "peace plan");

(2) Identifying intensifiers and syntactic frames that can have double meanings depending on the perspective (e.g. "exerting pressure" versus "exerting pressure on terrorists"), which should be evaluated in the broader context. To address this issue, we consider only one layer of meaning. A potential solution would be to provide additional layers of annotation, including POS tags and syntactic roles of lexemes, to clarify the context; and

(3) Identifying appraisal by decoding rhetorical devices in multi-word expressions, such as metaphors (e.g. "rats who are abandoning the ship"), which requires considering the context of the entire text.

The first stage of annotation has produced pilot data for analyzing the specificities and challenges of the annotation process. To improve the annotation scenario for this task, it may be necessary to consider the broader context of attitudes, annotate attitudes with an additional set of tags (e.g. "diplomatic" and "content") to distinguish between diplomatic clichés and content attitudes, and identify proper names to avoid annotating them as attitude entities.

The final annotation manual would be published at the repository of the project (Anisimova, 2022) together with the annotated dataset. So far, a bigger half of the speeches have already been labeled.

Metaphor	Attitude
It is analogous to <i>allowing the rats to guard the cheese from the mice</i> while a <i>near-sighted cat</i> is asked to report as to how much cheese is being taken and who is stealing it.	Judgement-tenacity-negative judgement-capacity-negative
We therefore do not look <i>to drill holes in the hull of this ship.</i>	Judgement-propriety-negative
(...) we will look, as any passenger would, <i>to bale out water, plug the leaks</i> and <i>keep the course steady.</i>	Judgement-normality-positive

Table 1: Examples of metaphors expressing attitudes in the speeches of the UNSC

### 3.6 Assessing subjectivity of interpretations

As any linguistic annotation is considered a complex and often subjective activity, we have also tried to find a way to prove the viability of our approach by inviting external annotators and editors to our project. One of these collaborations has resulted in a yet unpublished data on a set of speeches. This data consists of input from two annotators. The data was annotated by one of them, and then reviewed and newly annotated by another annotator.

Each speech has been manually labelled with the tags corresponding to the attitude-type and polarity. After the annotations were obtained, an F1 score was calculated assuming the texts annotated by us to have the golden annotations. The results of this test were at first quite surprising as the initial mean F1 for all categories was only 0.26. It was then decided to narrow down the categories by excluding the internal category of the attitude-type, therefore only labelling an attitude and if it is an affect, judgement, or appreciation. This adjustment led to a significant improvement of the F1 to 0.69. Taking into an account all of the above, the next step was comparing the agreement on the most general category — Attitude. This time, the F1 has again improved (to 0.71) but this improvement was not as significant as in the previous stage of the experiment. The results of this experiment could be also seen in the Table 2. This test

has shown, that even though, the annotations were subjective (as per results of the F1 measure), they should be considered as a supportive argument towards our chosen approach to annotation. In our case, the disagreement between annotators is considered valuable source for further analysis (Basile et al., 2021), which is planned to be presented in the future.

	Complete	Core	General
F1	0.265	0.691	0.713

Table 2: F1 measure for the experiment with an external annotator

### 3.7 Future steps

After the manual annotation is completed, the annotated corpus then to be extended using ML modeling. First, a sequence labelling model will be trained on the initial annotated corpus. After the model is trained, a much bigger part of yet unannotated corpus will be labeled using the model. Lastly, as the model’s annotation may have incorrect or partially correct labels, the model-annotated corpus will be reviewed by one or more reviewers to filter out such elements.

As for the first part, a sequential labeling model is a model that receives clear text sequence as its input and for each text sequence produces one or a list of labels with their respective start and end locations in the text. Such an ML model could be obtained by fine-tuning a large general purpose language model, such as GPT-3.

After the model is produced, the part of the larger corpus that is not annotated could be processed by this model. As a result, each sequence would have a label, e.g.: ”attitude”, starting from word 5 till word 15. However, the resulting corpus might contain errors, as the initial training set is of limited size. Still, after additional check and filtering out the incorrect or partially incorrect predictions the model-annotated corpus could be further used along with human-annotated.

For the filtering, each text sequence from the model-annotated corpus is presented to one or more reviewers. Its annotation is then classified as correct/partially correct/incorrect or rated in other way. After that, the sequences for which annotations the reviewer(s) give a positive review could be added to the human-annotated corpus.

The benefit of this approach is a bigger corpus

size with smaller effort, as it is supposed that reviewing the annotations would be a less complicated task in comparison to creating new. Alternatively, (West et al., 2021) describes an approach where human reviewers are not needed at all, but requires a much more sophisticated solution.

We are also planning on creating the rule-based scheme for identifying and classifying attitudes, which would be based on the linguistic interpretation of the results of the annotation. For example, a baseline rule-based system might be designed to identify statements of attitude by looking for certain keywords or phrases (e.g. by identifying such phrases as ”let me reiterate my satisfaction”, ”the Council must immediately respond”, or ”The appropriate and timely response of the Mission”), or by using context clues to determine whether a statement is likely to be attitudinal or not (e.g. by identifying negation, and metaphors).

## 4 Fact

We have not yet started the practical part of work concerning identification of facts in diplomatic speeches as we have decided to first concentrate on identifying attitudes, and therefore don’t yet have an established methodology for the task. Although, we have already considered some of the existing approaches, such as argument identification, and have tested a few existing tools for argument mining and manual argument annotation, we have not yet made our final decision on the workflow framework we would pursue.

This section summarises our definition of fact in diplomatic discourse, the literature review and experience with existing approaches to argument mining and identification.

### 4.1 Defining facts

We are assuming facts to be “a piece of information presented as having objective reality” (fac, 2022). This means that a fact is something that is accepted as being true, based on evidence and objective observations, rather than being a matter of opinion or belief.

There are many different ways in which facts can be presented and conveyed, including through written texts, spoken language, and visual media. Facts can be used to support arguments, provide evidence for a particular claim, or simply to convey information about the world.

In some contexts, including the diplomatic dis-

course, the distinction between facts and opinions can be important, as facts are considered to be objective and unbiased, while opinions are subjective and may be influenced by personal beliefs or biases. In many fields, including science and journalism, it is important to carefully distinguish between facts and opinions in order to ensure that information is presented accurately and objectively. In diplomatic discourse, argument structures representing facts are often interlinked with the negotiation process (Amgoud and Vesic, 2012). Diplomatic argumentation can be found in both historical and contemporary settings, and may not always be the main focus of the communication, as it is in formal debates, academic essays, and newspaper editorials. Despite the fact that diplomatic argumentation can occur in many different contexts, including some that are public, it has not yet achieved a significant amount of attention from scholars (Kerr, 2010).

In the diplomatic texts of the UNSC, the structure of presenting 'facts' is very particular, as many texts in the corpus open with a brief preamble describing the 'facts' of the case. Sometimes these preambles take the form of a speech act or a statement expressing government's emotional response to some event or situation: "We hereby condemn...", "Let us reiterate our deep gratitude..." (Swain, 2017). These phrases, evaluational in their nature, and thus carrying certain attitudes themselves, signal the iteration of a fact by referring to the events and actions in discussion, real or fake.

## 4.2 The selected approaches to annotating facts

After we have evaluated various existing approaches which include extraction of information that could be called factual as per our approach (Anisimova, 2021), we have selected argument extraction to be our preferred considered methodology for this task. Argument analysis aims at identifying arguments by turning unstructured text into structured argument data, giving an understanding not just of the individual points being made, but of the relationships between them and how they work together to support (or undermine) the overall message (Lawrence and Reed, 2019). Argument analysis is a process of identification of the elements of an argument, namely: claim, reason, support, and warrant. For the sake of our analy-

sis we are especially interested in the opposition of claims and reasons. Claim is the main idea of the argument, it is a statement that is being made about what one believes to be true and appropriate, that is potentially arguable. Reason is a statement that support a given claim, making it more than a mere assertion, which typically includes examples by providing proofs, statistics, and references.

### 4.2.1 Manual argument analysis

The manual argument analysis is a very time-consuming task, that requires deep understanding of the methodology. The precision it gives, however, is much higher in comparison to automatic identification of the arguments (Lawrence and Reed, 2019).

The annotation could be completed by using various workspaces, even pen and paper, although, there is a number of specialized tools for manual annotation of arguments that are freely available for users and facilitate the annotation process.

We have considered a few of these tools for our task, namely Araucaria (Reed and Rowe, 2004), Rationale (van Gelder, 2007), and OVA (Bex and Reed, 2013), and concluded them to be too specialized for the task we aim at as they only allow to create complete structures of arguments, whereas we seek a solution for identifying claims and reasons.

### 4.2.2 Argument mining and automatic argument labelling

Argument mining refers to the process of automatically identifying, extracting, and representing arguments within a text. This can involve extracting the main claims or reasons being made, as well as the evidence or reasoning used to support those claims, and relationships between them. There are many different approaches and techniques that can be used for argument mining, including machine learning algorithms, rule-based systems, and natural language processing techniques.

The technique was recently created and being developed by Natural Language Processing and the Knowledge Representation and Reasoning specialists. NLP serves as a mean of identification arguments and their components (i.e., claims and reasons), while KRR contributes to the analysis of reasoning in the retrieved components so that fallacies and inconsistencies could be automatically detected (Cabrio, 2018). Argument mining is a rather new interdisciplinary approach in automatic



speech analysis. It has been defined as “the general task of analyzing discourse on the pragmatics level and applying a certain argumentation theory to model and automatically analyze the data at hand” (Habernal and Gurevych, 2017) and is based on applying the Argumentation Theory by means of Natural Language Processing.

The argument mining process consists of two stages:

- \* The first stage is called ‘argument extraction’ and consists of the identification and extraction of arguments in the natural text provided. This stage is further split into the detection of argument components, and further identification of their textual boundaries (and then boundaries between different components) (Cabrio, 2018).

- \* The second stage of the process is predicting relations between arguments identified. This step requires high-level knowledge of representation and reasoning techniques as relations between arguments may be of heterogeneous nature (Cabrio, 2018) (i.e., discreditation and support). During this stage, the relations between arguments and internal relations between their components are being predicted (Stab and Gurevych, 2017).

#### **4.3 Identifying facts in diplomatic speeches by applying argument mining: our preliminary conclusions**

Applying the argument mining to the diplomatic texts should be fruitful as this approach has already been used in the data-driven analysis of political debates and speeches by different researchers. It is expected that these texts often contain a high density of argumentative content. Diplomatic texts, such as speeches and official statements, are often used to persuade or influence others, and may contain explicit arguments or implicit arguments that are implied through the use of language and rhetoric. By analyzing these texts using argument mining techniques, it may be possible to gain insights into the arguments being made and the strategies being used to persuade others.

There have been several studies in which argument mining has been applied to political debates and speeches, with the aim of extracting and analyzing the arguments contained within these texts. These studies have demonstrated the potential of argument mining as a tool for understanding the structure and content of argumentative texts,

and have suggested that it could be a useful approach for analyzing a wide range of texts, including diplomatic texts. Lippi and Torroni (Lippi and Torroni, 2016a) have conducted corpus-based research on detecting claims in the 2015 UK political election debates.

As the diplomatic discourse of the UNSC is monologic, another useful referential research example is the analysis of the corpus of speeches from the Canadian Parliament by Naderi and Hirst (Naderi and Hirst, 2015) as well as an example by Menini (Menini et al., 2018), where the source data used for prediction were monologic political speeches. The argument mining technique is preliminary seen as a good solution for identifying and classifying language entities with a function of facts in the diplomatic speeches.

#### **4.4 Description of the planned workflow for annotating facts**

We are planning to start labelling the data with argument labels soon after the majority of the work is completed for annotating the data with the attitude-types. Within the argument mining framework we are particularly interested in the opposition of the claims and reasons, mainly focusing on the latter. Reasons that support the assertions are conveying information which a speaker represents to be factive, and therefore, uses it as an evidence of their position.

As of now, we have concluded an introductory evaluation of argumentative structure of the selected diplomatic speeches from our corpus. This overview has shown that not all diplomatic speeches are argumentative. Instead, they may take form of expressing a stance and completely avoid inclusion of any reasons into the structure of a speech. As per our experience, purely factual speeches are the rarest in the corpus, and this form of argumentation is only applied in particular situations. These situations usually happen during the initial stages, or during the active developments of the selected conflicts. They were also noted to be mostly presented by speakers, representing the invaded country.

We are now considering different options, including the ready-to-use tools for argument mining. As our task does not require a sophisticated argument structure, we are leaning towards minimalistic solutions which would help identifying claims and reasons.

One of such solutions, that we have recently tested is the MARGOT tool for argument mining (Lippi and Torroni, 2016b). As of now, we have not found our experiments with the tools successful enough to consider using it for our task. The main reason for such conclusion is that as per our experience, the tool seen to be inconsistent with the results it provides based on the volume of text that is being provided as an input.

We will continue searching for the suitable tool or will attempt implementing argument mining ourselves.

## 5 The oppositions of facts and attitudes in the diplomatic speeches

This section's aim is to demonstrate our vision of the future corpus and how the two annotations could be aligned.

Below is an excerpt from one of the texts in the corpus. The facts are marked in **bold**, and the attitudes are in *italics* with the assigned categories of attitude-type and polarity in square brackets.

*We were shocked and appalled [affect-security-negative] by the disproportionate use of force, in particular the use of heavy weapons [affect-judgement propriety-negative], by the Israel Defence Forces and by police against Palestinian civilians, **which claimed the lives of more than 60 people, including Palestinian children, and left more than 1,500 people wounded or injured.** We are similarly shocked [affect-security-negative] by the casualties on the Israeli side.*

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