EXPLORING DIFFERENCES IN NATO DISCOURSES USING THE READERBENCH FRAMEWORK

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This paper explores military discourse from a diachronic perspective focused on an in-depth linguistic analysis of the differences between the writing styles of NATO official documents. The approach consists of a quantitative investigation of the evolution of this specific language throughout two different periods—the Cold War (1949–1990) and the post-Cold War period (1991–2018)—, with explicit emphasis on the examination of discourse corresponding to power dynamics. The main aim of the paper is to describe and explain the manner in which two predominant power relations—integrative and adversarial—have been reified in the Alliance's discourse over a seventy-year time span, tightly correlated with the historical and political context. To this end, we employed the ReaderBench framework to compute a series of textual complexity indices that account for the differences in the writing style. Significant differences were identified, and our results illustrate, from a linguistic perspective, the fluid dynamics of the power relations embedded in NATO discourse.

Keywords: NATO discourse, differences in discourse, textual complexity assessment, Natural Language Processing, *ReaderBench* Framework.

1. Introduction

1.1 State of the art

One of the defining traits of linguistics in the last decades has been the increasing concern for the study of non-literary discourse types revealing various forms of power concentration, reproduction, and exercise. Especially after the publication of Teun A. van Dijk's seminal book *Discourse and Power* [1], these "official" discourses have stopped being seen by linguists as plain and inexpressive

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units, and they have started to be reread, first of all by using the instruments of critical discourse analysis (CDA) [2], as networks of tropes which, by the application of sometimes extremely sophisticated rhetorical strategies, seek to enforce, preserve or intensify the domination of some groups over others.

Under these circumstances, one could predict, to some extent, that the discourses of NATO—the planet's most powerful inter-state military organization—would capture the researchers' attention. Over the last decade, the Alliance's official documents have been analyzed, from the perspective of CDA, at times combined with political and security sciences elements, by numerous authors, such as Alexandra Kornilia Sowers [3], Andreas Behnke [4], Michelangelo Conoscenti [5], and Tal Dingott Alkopher [6]. By analyzing the implications of NATO documents, all these researchers sought to show the "real" intentions of these discourses or various unpredictable collateral effects.

Without challenging the utility of CDA as an instrument of linguistic analysis, we consider, however, that it would be erroneous if such a method were exclusive in the approach of NATO discourses, especially since the results it can generate are marked by the inherent limitations of any qualitative treatment. Therefore, in this article we propose an alternative method of approach, which involves the quantitative analysis of NATO documents by using the Natural Language Processing (NLP) techniques supplied by the *ReaderBench* framework. Even if the quantitative approaches of the Alliance's discourses seem to be merely incipient, the few investigations of this kind conducted until now [7] have shown that they can produce remarkable results.

1.2 The issue

The issue addressed by this article is the identification and analysis of NATO discourses traits by using the *ReaderBench* framework. In our opinion, this issue is characterized by three objectives:

a) *The descriptive objective*, which concerns the description of the specific characteristics of NATO discourses through the complexity indices of the *ReaderBench* framework: length, frequency and number of various elements of discourse, analyses of syntactic units, cohesion, complexity and strategies of structuring the discourse, etc. All these indices are briefly introduced in the next section of this article.

b) *The historical objective*, which relates to the evolution of NATO discourses over the organization's 70 years of activity. Given that NATO was created in 1949 "primarily to counter the perceived military threat from the Soviet Union and its allies" [8], it is obvious that the most important event in the organization's existence was the disappearance itself of its main military opponent—the Soviet Union and their equivalent organization, the Warsaw Pact

(1991)—, which led to the search of "a new diplomatic and military role for the Alliance" [8]. Consequently, we seek to follow the evolution of NATO discourses in the organization's two phases of existence: the Cold War phase (1949–1990) and the post-Cold War phase (1991–2018).

c) *The practical objective*, which relates to the variation of NATO discourses according to their addressee. Obviously, since this is a military organization, all its discourses handle power relations, but these relations are projected differently, according to the circumstances. In other words, NATO "talks" differently with the members of its own Alliance and with its potential enemies. Subsequently, by borrowing the typology proposed by Michael Karlberg [9], we can distinguish between "adversarial" and "mutualistic" power relations. However, while the former term does not need any explanation, perhaps a more appropriate term for the latter type of relations is "integrative", as intended by Kenneth Boulding, who used the phrase *integrative power* to designate "the capacity to build organizations, to create families and groups, to inspire loyalty, to bind people together, to develop legitimacy" [10]. Therefore, another objective of our study is to identify the differences between NATO's "adversarial" and "integrative" discourses.

2. Method

2.1 Corpus

The corpus was selected from NATO's archives, available online as public documents. The selection of the corpus was managed by taking into consideration a few important criteria: the type of power investigated (integrative versus adversarial), the time span (1949-2018), the relevance of pertinent texts carefully chosen from a comprehensive collection of documents (more than 1000), the size and accessibility of the archives (some of which are outdated or contain missing links), and the topical variety of the texts (over 25 thematic categories and more than 150 topics).

The choice of specific documents was based on an intertextual reading of the materials, which focused on how texts relate to other texts by simultaneously constructing legitimacy for discursive re-presentation and re-interpretation. Much of the research was dedicated to identifying patterns among different interventions across a timeline, and therefore intertextuality here allows for a better documentation of how different discourses of power relate to each other.

The empirical material used as basis for the analysis is primarily composed of NATO official documents resulted from 114 Ministerial Meetings (63 at the level of the Ministers of Defense and 51 at the level of Foreign Ministers) and 30 Summits, which occurred between 1949 and 2018. We chose to investigate this type of texts in an attempt to locate specific communicative events through which

official actors use language to express power. The timeframe that covers the studied material starts with the Washington Treaty, the document that reified the military ideology of the emerging military organization that became the North Atlantic Treaty Organization in 1949 and ends in the present, with the latest NATO event, the July 2018 Summit. The covered timespan is of almost seventy years, an extensive period which has yielded a collection of approximately 1000 documents, in the form of Strategic Concepts, Final Communiqués, Declarations, Statements, Plans, Basic Texts, Official Texts, etc.

The two periods investigated with the help of quantitative analysis tools cover 184 official texts produced between 1949 and 1990, and 1991 and 2018 respectively, with specific emphasis on the summit and ministerial meetings final communiqués which are imbued with discursive conceptualizations of integrative and adversarial power. Given the magnitude of the collection of primary source documents, only texts that emerged as relevant for the analysis of power dynamics have been selected. Starting from the premise that context is of paramount importance, especially when conducting a three-level critical discourse analysis (social, cognitive, and linguistic), we have first established key events on the timeline and supplemented the diachronic approach with the synchronicity generated by simultaneous discourses.

The relevant examples were selected based on topical categories, assembled after running keyword searches and extracting sets of key items that occurred with a relevant frequency. From these categories, pertinent samples have been carefully chosen in relation to the social, political and historical context which generated them and used as significant illustrations of the patterns that constitute the common thread in each type of discourse: integrative and adversarial.

In order to perform a thorough analysis of the differences encountered in the writing style, we first filtered the documents and we kept only the ones having at least 3 paragraphs and at least 100 words. Table 1 presents the general corpus statistics, with mean and standard deviations in terms of paragraphs, sentences, and word counts.

Table 1

General corpus statistics (M – mean; SD – standard deviation)

Type	Period	N	Paragraphs M (SD)	Sentences M (SD)	Words M (SD)
Adversarial	1949-1990	41	17.71 (7.47)	50.32 (21.46)	1,323.22 (571.86)
	1991-2018	37	12.49 (6.02)	47.16 (21.18)	1,233.22 (531.95)
Integrative	1949-1990	40	16.08 (4.99)	48.93 (17.03)	1,270.40 (416.79)
	1991-2018	66	12.02 (5.38)	43.53 (22.32)	1,168.88 (597.34)

2.2 Textual Complexity Indices reported by the *ReaderBench* Framework

ReaderBench is an advanced Natural Language Processing framework, which integrates various multi-lingual services aimed to process texts for extracting relevant information [11, 12]. *ReaderBench* relies on Cohesion Network Analysis (CNA) [13] which is the core component of the framework, in order to evaluate text cohesion based on semantic similarity between units of text, at different granularity levels: word, sentence, paragraph and document. Based on CNA, multiple analyzes are performed: topics' extraction, textual complexity indices computing, conversations' analysis, online communities processing (blog communities, MOOC - Massive Open Online Courses) [14, 15, 16], perform automated essay scoring, etc. Multiple languages are supported by *ReaderBench*, such as: English, French, Spanish, Dutch, and Romanian. Two more languages are partially supported (only for pre-processing steps): Italian and Latin. *ReaderBench* integrates three semantic models: Latent Semantic Analysis (LSA) [17], Latent Dirichlet Allocation (LDA) [18] and word2vec [19].

ReaderBench framework integrates advanced NLP techniques, and multiple complexity indices, divided in five category [20, 21]: 1) indices generated at *surface and lexical level* which include word/sentence count, sentence/paragraph length, punctuation marks, as well as vocabulary statistics; 2) *syntactic indices* refer to word- and sentence-based analyses, and include syntactic dependencies and part-of-speech tagging (POS); 3) *semantic indices* are focused on text's meaning and are centered on local and global cohesion; 4) *word complexity* that analyses the difficulty of constituents from multiple facets, and 5) *discourse-centered elements* which, for this study, consist of specific discourse connectors. The indices applied to the current investigation of NATO documents are briefly described below.

More than 800 complexity indices, including all word-list indices, were computed using the *ReaderBench* framework. The underlying semantic models were trained using The Corpus of Contemporary American English (COCA) corpus [22].

2.3 Statistical Analyses

Statistical analyses were conducted to investigate differences in the writing styles of NATO discourses based on the type and time period (2 intervals between 1949 and 2018) in which they were produced. Our analysis focused on the lexical, semantic and cohesive properties of the analyzed documents.

First, all variable indices reported by *ReaderBench* were checked for linguistic coverage (i.e., if an index is representative for at least 20% of the documents) and for normality, and those that were not representative or demonstrated non-normality were removed. Afterwards, multicollinearity was

assessed as pair-wise Pearson correlations ($r > .90$); if textual complexity indices demonstrated multicollinearity, the index with the strongest effect size was retained for the follow-up analyses. Finally, three multivariate analyses of variance (MANOVAs) [23] were conducted to examine whether the textual complexity features indicative of writing styles differed across discourse type and time period.

3. Results

First, 91 textual complexity indices computed by the *ReaderBench* framework were eliminated due to a low linguistic coverage, as the underlying text elements were not frequently encountered in NATO discourse (i.e., they were not present in at least 20% of all documents). Based on the specificities of the discourse, our corpus does not contain a significant number of occurrences of certain cue phrases or lexical dependencies. For example, the following categories of indices were disregarded, and the absence of the underlying text elements is debated in the discussions section:

- Words pertaining to specific word lists with low coverage of at least 1% and below 20%:
  - Pleasure/Enjoyment, Disappointment, Happiness, Gratitude, Feeling love, Disgust, Surprise, Relief, Anxiety, Lust, Pride, Sadness, Hatred, Desperation, Shame and Negative categories from GALC [24];
  - Affect loss and indifference (Affloss), gain in well being (Wlbgain), words "that show the denial of one sort or another" (Notlw), religion (Rcrelig), well-being (Wlbpt), nihilism, disappointment and futility (Anomie), enlightenment loss (Enlloss) and Rectitude loss (Rcloss) categories from Lasswell [25];
  - Arousal dimension from ANEW [26];
  - Adjectives referring to relations between people (Ipadj), Male/ Female, presence or absence of rational thought, Animals, moral imperatives (Ought), Food, infants through adolescents (Nonadlt), Cardinals and Say categories from the General Inquirer [27];
- Words pertaining to specific word lists that have no occurrences:
  - Envy, Guilt, Joy, Contempt, Jealousy, Irritation, Compassion, Admiration/Awe, Humility, Dissatisfaction categories from GALC;
  - Self, Color, You and Our categories from the General Inquirer;
- Lexical dependencies according to the taxonomy used within the Universal Dependencies corpora v2 with a low frequency of occurrence (http://universaldependencies.org/u/dep/all.html): unspecified dependency which could not be automatically determined (19%), concessions (15%), clausal subject (4%), and parataxis (3%);

- Lexical dependencies which are not encountered in any document, for example: second person pronouns, case marking, copula, foreign phrases, "goes with" relations, indirect object, lists of comparable items, multiword expressions, names, remnant, overridden disfluency, root, vocative, discourse and dislocated elements.

Second, normality was checked in terms of Kurtosis and Skewness whose absolute values need to be below than or equal to 2; all variables exhibiting higher values were disregarded in follow-up analyses.

Third, all variables were tested using Levene's test of equality of error variances and those indices for which the resulting p-values are significant ($p < .05$) were disregarded as they exhibited a difference between the variances in the population. Thus, 341 indices were retained and were entered into a Multivariate Analysis of Variance (MANOVAs) which was conducted to examine whether the documents' properties differ across document's type (integrative and adversarial) and period (1949-1990 and 1991-2018). There was a significant difference, Wilks' $\lambda = .693$, $F(14, 167) = 5.274$, $p < .001$, and partial $\eta^2 = .307$. The textual complexity indices from Table 2 present in descending order of effect size the variables that were significantly different between the two types and time periods. In order to better understand the differences, we present in Figure 1 the profile plots computed using the estimated marginal means for the most representative textual complexity indices. These values, corroborated with their visual representation from Figure 1, are the foundation for the detailed discussions from the following section. The most predictive indices explained considerably more variance in terms of period (partial $\eta^2 = .473, p < .001$) in contrast to type (partial $\eta^2 = .208, p < .001$), denoting that there were higher differences in time than between types.

Afterwards, a stepwise Discriminant Function Analysis (DFA) was performed to predict the type and period of a given text based on the underlying writing style properties. The DFA retained five variables as significant predictors:

- Sentence standard deviation in terms of unique content words;
- Average number of words within specific list per sentence (Academic GI);
- Average word length (characters);
- Average number of words within specific list per sentence (Virtue GI);
- Weighted average start-middle cohesion (Wu-Palmer semantic distance in WordNet).

Table 2

Tests of between-subject effects for significantly different indices (M – mean; SD – standard deviation)

Textual complexity index	Adversarial		Integrative		F	p	Partial η2
	49-1990 M (SD)	91-2018 M (SD)	49-1990 M (SD)	91-2018 M (SD)			
Means GI words per sentence (M)	0.84 (0.20)	0.71 (0.20)	0.77 (0.22)	0.88 (0.24)	12.459	.001	.065
Unique content words per sentence (SD)	6.70 (1.22)	6.18 (1.45)	5.77 (0.92)	6.36 (1.28)	8.819	.003	.047
Academic GI words per sentence (M)	0.06 (0.06)	0.06 (0.05)	0.08 (0.05)	0.05 (0.04)	7.844	.006	.042
Word length in characters (M)	7.50 (0.16)	7.72 (0.17)	7.56 (0.15)	7.64 (0.18)	7.316	.007	.039
Space GI words per sentence (M)	0.29 (0.13)	0.22 (0.12)	0.25 (0.10)	0.26 (0.10)	6.423	.012	.034
Virtue GI words per sentence (M)	1.23 (0.34)	1.24 (0.33)	1.37 (0.33)	1.65 (0.43)	6.043	.015	.032
AOA Bird score per paragraph (M)	399.43 (14.48)	389.46 (14.38)	390.96 (15.85)	393.45 (19.73)	5.987	.015	.032
Start-middle cohesion using Wu-Palmer sem. dist. (M)	0.57 (0.07)	0.62 (0.06)	0.52 (0.08)	0.62 (0.07)	5.867	.016	.032
Overstated GI words per sentence (M)	1.06 (0.28)	0.96 (0.33)	1.06 (0.27)	1.21 (0.4)	5.648	.019	.030
Strong GI words per sentence (M)	2.88 (0.57)	2.88 (0.52)	2.75 (0.56)	3.13 (0.59)	4.978	.027	.027
Quantity GI words per sentence (M)	0.33 (0.11)	0.28 (0.10)	0.28 (0.10)	0.31 (0.11)	4.842	.029	.026
Economic GI words per sentence (M)	0.43 (0.14)	0.50 (0.19)	0.48 (0.18)	0.68 (0.24)	4.74	.031	.026
Sentence relevance score (SD)	6.37 (1.38)	6.35 (1.78)	5.42 (1.28)	6.39 (1.86)	4.025	.046	.022
Unique verbs per paragraph (M)	8.48 (2.15)	11.57 (3.35)	8.97 (2.06)	10.42 (2.96)	3.992	.047	.022

All remaining variables were removed and considered non-significant predictors. The results prove that the DFA using these five indices significantly differentiated texts, Wilks' $\lambda = .849$, $\chi^2(df = 3) = 29.301$, $p < .001$. The DFA correctly allocated 104 (21+21+23+39) of the 184 documents from the total set, resulting in an accuracy of 56.50% (the chance level for this analysis is 25%; see Figure 2 and Table 3). For the leave-one-out cross-validation (LOOCV), the discriminant analysis allocated 101 (20+20+23+38) of the 184 texts for an accuracy of 54.90% (see the confusion matrix reported in Table 3 for detailed results). Figure 2 presents in a visual manner the separation, as well as the partial overlap, between the texts using two canonical discriminant functions from the DFA.

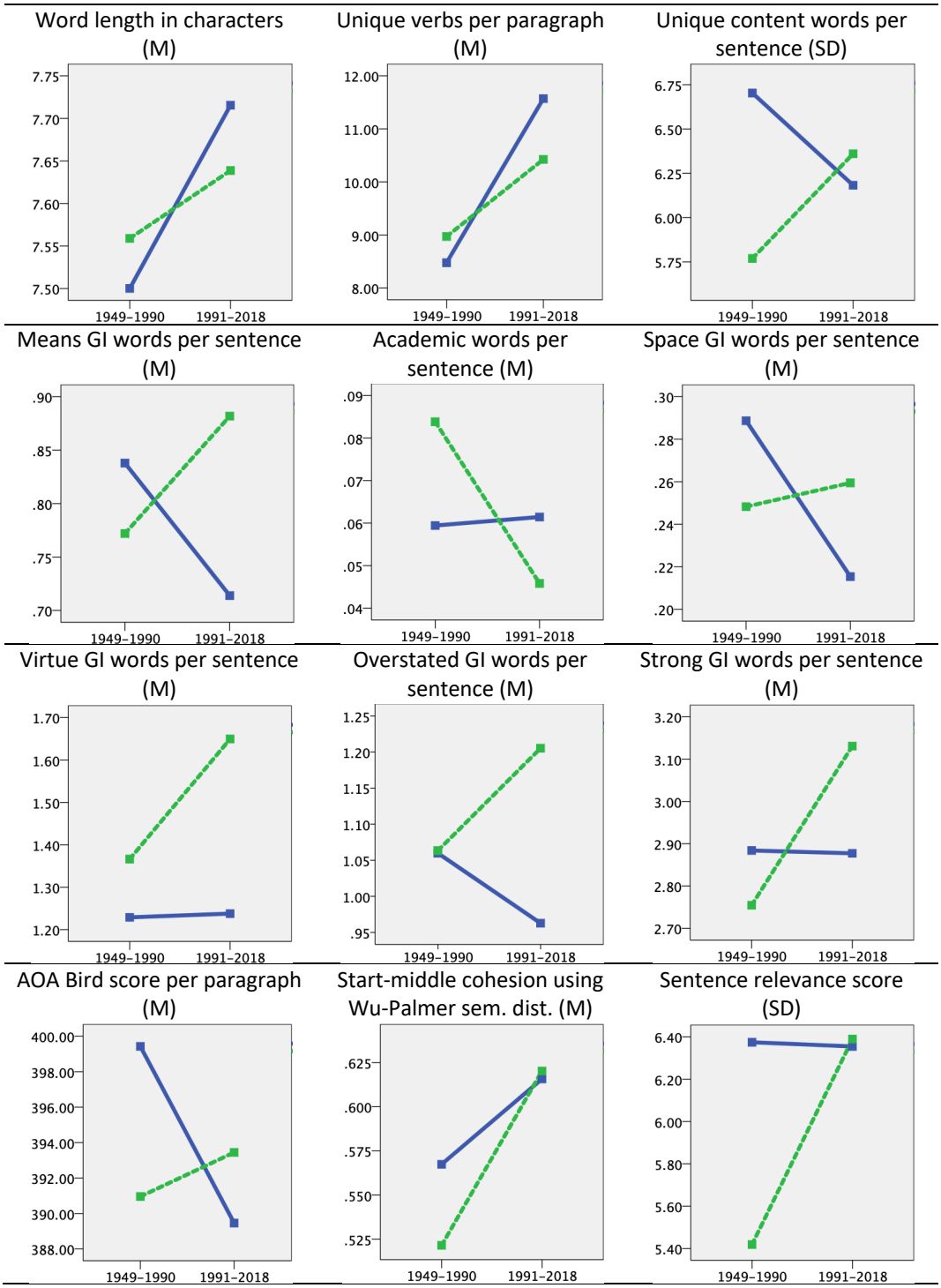

Fig. 1. Profile plots based on the estimated marginal means of each textual complexity index *(Adversarial type is blue, whereas Integrative is dotted green)*

Table 3

Confusion matrix for DFA classifying texts pertaining to different types and periods

	Type and Period	Predicted Group Membership			
		Adversarial 1949-1990	Adversarial 1991-2018	Integrative 1949-1990	Integrative 1991-2018
Whole set	Adversarial 1949-1990	21	5	9	6
	Adversarial 1991-2018	5	21	4	7
	Integrative 1949-1990	10	4	23	3
	Integrative 1991-2018	11	10	6	39
Cross-validated	Adversarial 1949-1990	20	6	9	6
	Adversarial 1991-2018	4	20	6	7
	Integrative 1949-1990	10	4	23	3
	Integrative 1991-2018	11	11	6	38

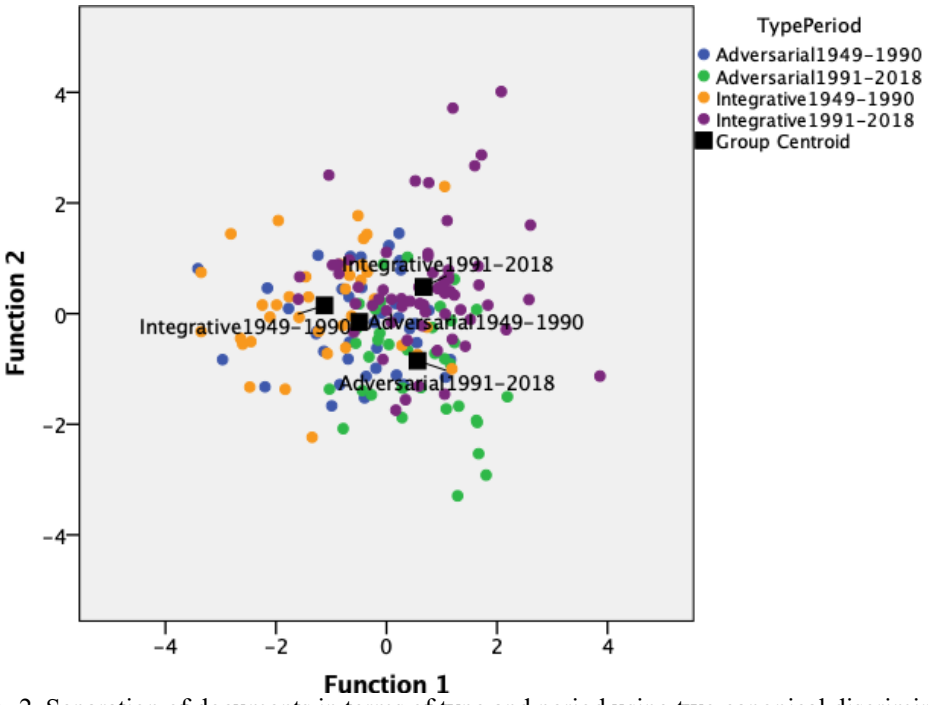

Fig. 2. Separation of documents in terms of type and period using two canonical discriminant functions obtained from the DFA.

4. Discussions

The object of our analysis is a form of institutionalized discourse which is subordinated to a composition structure and fixed conventions. To this aim, the research focused on a detailed statistical study conducted so as to compare NATO discourses between 1949 and 2018 in terms of specificities of their writing style.

The complexity indices detailed in Table 2 reflect the variables that were significantly different between subjects. The results reveal statistically significant and interesting differences with regards to the degree of word elaboration (length and polysemy count), the number of unique verbs per paragraph, the Age of Acquisition (AoA) score per paragraph, as well as the number of words within multiple lists, per such as: Means GI (words denoting methods, acts or objects utilized to attain goals), Academic GI (words related to academic, intellectual or educational matters), Space GI (references to spatial dimensions), Virtue GI (culturally-defined virtues, values, goals), etc.

In time, some differences were observed between the integrative and adversarial discourses based on the words lists extracted from the GI dictionary. The average number of words from list Means GI used in integrative discourses has increased over the years, while in adversarial discourse fewer words regarding motivation for goals' attaining were used. Such dynamics are indicative of a more specific focus placed on the power of cooperation and coordination between NATO member states in what regards their shared utilization of resources and methods to attain common goals. As predicted, the NATO's discourse is characterized by an increased augmentation of linguistic references to cooperative defense and shared responsibility for peace and security as the Alliance has grown and expanded over time. Conversely, adversarial type documents registered lower reference to shared practices and common objectives, given that motivational discourse is rather unifying and relates to integrative power and not to discourses that target confrontational power relations.

Words related to academic field, intellectual or educational matters (Academic GI), have declined drastically in integrative discourses after 1991. This might be interpreted as a powerful indication that NATO considered the public of its discourses had received enough education in terms of abstract concepts and values related to security, stability and cooperation throughout the 41 years since the foundation of the Alliance. After 1991, the focus shifted on more practical procedures (especially mentioned in the Strategic Concepts) and hands-on measures that would stabilize the fluid post-Cold War environment. Nevertheless, the adversarial discourses started to use more words related to this category over the years, and, although the increase was not high, it directs to a valid belief that countries situated outside the traditional NATO framework needed to be educated about what the Alliance represents in order to better understand its role and relevance for global security. This linguistic manifestation of referent and expert power is directly correlated with the increased use of words indicating a knowledge of location in space and spatial relationships in integrative discourses (Space GI list) which pinpoint specific nations and countries as recipients of NATO's integrative power. The increase is mainly located in the discourses after 1991, when

the Alliance sought to expand its area of operations towards Eastern Europe (the ex-Communist bloc), the Mediterranean and the Middle East.

As expected, integrative discourses use more words related to virtue, with an increased occurrence over the years, especially after 1991, when the linguistic expression of common principles, ideals, and beliefs typifying the Alliance registered a surge that testifies for the importance of the core values promoted by NATO (Virtue GI list). Language makes visible the evolution of the Alliance from interdependence, to community, then to partnership; from collective defense to integrated defense; from increased cooperation to international cooperation. In contrast with the discourse of unity, adversarial power discourses do not use so many words, indicating an assessment of moral approval or good wealth. The focus here is more on how to discourage detrimental behavior through military actions while the attitude implicit in the text of the documents emanates disapproval and condemnation of different terrorist acts.

At the beginning of the analyzed period (1949-1990) both the discourses of unity and those of opposition used approximatively the same number the words indicating emphasis in terms of speed, frequency, causality, accuracy or validity. Over the years, these two types of discourses go in completely opposite directions: while the integrative discourses started using more and more words from overstated list, their usage in adversarial discourses began to reduce drastically (Overstated GI list). As expected, words indicating power, control or authority were abundantly employed in the two types of discourses, with an increase in both over time (Strong GI list). We can observe that the growth of strong words became more accelerated in integrative discourses after 1991, while the adversarial discourses registered a very slow progress. This discrepancy can be attributed to the changes of power dynamics that manifested after the end of the Cold War. Multiple references to control and authority are used in the discourse of unity as a conceptual glue relating the existence of the Alliance to its enduring role for the preservation of peace and stability. Especially after 9/11, when the global security environment was radically transformed and reshaped by the surge of terrorism, the language of the official documents needed to produce a stronger impact both within and outside the Alliance.

A high variance was observed between the two types of discourses concerning the use of words that express quantity, including also numbers (Quantity GI list). While in the integrative discourses these types of words started to be more and more used, in adversarial discourses their number decreased. In practical terms, this difference can be translated, for instance, by the accent placed by NATO, at different time periods, on the specific quantities of conventional and nuclear capabilities, whose numbers oscillated from period to period, depending on the various treaties the Alliance was involved in (Nuclear Non-Proliferation Treaty – 1968, Intermediate-Range Nuclear Forces Treaty – 1987, Mutual Balanced Force

Reduction – 1973-1989, Treaty on Conventional Armed Forces in Europe – 1990, Arms Trade Treaty – 2014, etc.).

Words of an economic, commercial, industrial, or business orientation, including roles, collectivities, acts, and references to money were used in both adversarial and integrative discourses, with a rapid growth for integrative discourses, and an easy growth for adversarial discourses (Econ GI). The usage of such words attests NATO's increased implication in economic assistance programs both within and outside the Alliance and the enlarged number of activities and list of recipients over the years, and especially after 1991.

In addition to using various word lists to analyze the dynamics of lexical properties in NATO, the statistical analysis has revealed other features that differentiate between the two types of discourses. For instance, the number of unique verbs per paragraph increased over time in both adversarial and integrative discourses, allowing for an interpretation related to the significance placed on speech acts and on transmitting attitudes and standpoints. The occurrence of verbs of opinion, of positive or negative appreciation, injunction verbs, verbs of demanding and verbs of enunciative modality has registered an increased frequency especially in the discourse of opposition, where an accelerated and high growth was identified. In addition to their semantic value, these verbs contribute to the structural complexity and elaboration of adversarial discourses, where the manifestation of power is more concentrated on expressing the Alliance's condemning and disapproving attitude towards its adversaries and their deeds.

The AoA (Age of Acquisition) score illustrates the complexity of words in relation to the age at which they are acquired. During the first analyzed period, adversarial discourses used more complex words, but their complexity decreased over the years, ending with the employment of simple words in 2018. NATO realized that pretentious language may not be effective when communication has to be straightforward and clear and gradually gave up using complex abstract notions by 2018. Conversely, the complexity of words increased in the case of integrative discourses, which were formulated in simpler terms in 1949, but become more and more elaborate, in direct correlation with the complexity of the topics NATO needed to address in its discourses of unity.

The cohesion indices reveal a slow and steady evolution of the adversarial discourse throughout the period, while the integrative discourses recorded a radical boost since 1949. The visible evolution in the language of unity accounts for a more organized discourse characterized by an increasingly efficient use of linking devices, connectives and subordination mechanisms, which offer the more recent NATO texts a better local and global cohesion, and ultimately optimized comprehension and readability.

5. Conclusions

The main goal of the quantitative analysis was to demonstrate that the operationalization of the concepts of integrative and adversarial power has suffered discursive modifications visible in NATO documents produced during the Cold War and in the years after the end of the Cold War.

Paralleled with a qualitative analysis of the target documents, the diachronic examination of NATO discourses could offer a broader image of the evolution of the language employed by the Alliance and might explain the dynamics of power as illustrated in integrative and adversarial discourses.

The findings of a critical discourse analysis of NATO discourse could provide an explanation of the reason why these changes occurred and locate them on the Alliance's historical, social and political timeline. As internal and external power dynamics intertwine with the evolution of the Alliance and ultimately shape its development, discourse adapts, adjusts, alters, diversifies or evolves, revealing a direct and active relation between language, power and ideology.

In terms of future extensions, our aim is to provide timeline visualizations of discourse trends correlated with political events, similar to the evolution of topics across time captured by Neagu et al. [28]. Such an approach could be used to cross-correlate historical triggers with changes in the discourse type, as well as to visually validate our methodology.

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