

An Empirical Turn in Studying Ethos in Argumentation

Katarzyna Budzynska and Marcin Koszowy¹

Ethos, the character of the speaker, is a powerful tool used to influence others through communication. Together with logos (arguments) and pathos (emotions of the audience), they constitute the key elements of Aristotle's Rhetoric [1]. This position paper introduces *The New Ethos*, a theory of ethotic structures, empirically derived from and verified on real-life argument data, which is applied to several domains with the ultimate goal of implementing technologies such as ethos mining and ethos analytics.

In our approach, ethotic structures are studied using the linguistic method of agile corpus analysis [9]. A text in natural language in a selected domain is first analysed within the framework of Inference Anchoring Theory IAT [3] and its ethotic extension [2] which allows for unpacking the structures of arguments, dialogue, illocutions, their ethotic conditions (such as sincerity conditions in speech act theory [8]) and relations amongst all of these structures [7]. Then, the basic ethotic structures are modified in order to adapt them to strategies used specifically in this domain. The result of such an analysis is a map (a directed graph) similar to argument maps which are used in a traditional approach in argumentation theory. The set of maps are stored as a corpus which then can be searched to define patterns in rhetorical strategies used by speakers in this domain as well as their linguistic features.

The analysis of parliamentary debates revealed that politicians frequently use structures of ethotic supports such as Ex. (1) and ethotic attacks such as Ex. (2). Data analysed in such a way allow us to develop technologies of mining ethos to automatically identify and extract ethotic references in natural language texts, and ethos analytics to make sense of the large amount of data and provide an insight into ethotic dynamics during, e.g., the whole period of Thatcher's government [2, 5]. These techniques use linguistic surface as a cue for recognising positive and negative sentiment expressed toward a person (underlined fragments in examples below).

- (1) Mr. Moore: *I bow to my hon. Friend's [Miss Widdecombe's] distinguished past and detailed knowledge of these matters.*
- (2) Mr. Forsyth: *When the hon. Gentleman [Mr Canavan] was the Member for part of my constituency, he fled the field because he was scared that he would lose.*

The annotation resulted in the largest publicly available corpus of appeals to ethos [6]. Statistics derived from this corpus showed, e.g., that attacks are significantly more frequent in ethotic structures than in the structures of logos featuring 74% of ethotic attacks vs. 20% of logotic conflicts and 26% ethotic supports vs. 80% logotic supports (inferences) in two of our corpora. We then refined the annotation scheme to account for different grounds for attacks or supports [4]: practical wisdom, if she possesses practical knowledge or experience; moral virtue, if she possesses good character traits; and goodwill, when she shares information with others, if she knows it.

The application of this research to different domains results in the collection of variety of ethotic strategies used in natural communication. Currently, we investigate: Hansard, the UK parliamentary debates record; cultural heritage, where we discovered a new type of ethos by looking at historical figures associated with cultural objects (historical ethos); and deliberative democracy, where speakers tend to use ethotic structures that allow them to establish their own ethos during public consultation meetings.

In summary, new technologies enable us to look at ethos from a perspective which complements the traditional approaches by delivering resources, theories and technologies of ethos that are: (i) Empirical: We are studying ethos interactions in real debates wherever they occur in order to understand how people refer to each other in natural communication; (ii) Scalable: We are creating large-scale datasets of ethos in order to uncover the patterns of ethos strategies used in specific discourse genres or by specific speakers; (iii) Formal: We are developing theories of ethos structures in order to capture forms of language which speakers use to support, attack or establish ethos; and (iv) Impactful: We are building ethos technologies upon these results in order to enhance constructive, reasonable and responsible engagement of the general public, companies and governments through sense-making of ethos dynamics.

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¹ Laboratory of The New Ethos, Warsaw University of Technology, Poland