

Review

New Mathematical Methods for Analyzing Political Discourse.

Functions and Graphs for Political Speeches.

by Bogdan Pătruț, Monica Pătruț

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The title of the book reveals the interdisciplinary framework used by Bogdan Pătruț and Monica Pătruț: mathematical methods, computer science, social and political sciences. This interweaving of domains has a very challenging outcome, namely the designing of “new and original methodological tools to facilitate a thorough and impartial analysis” (p. 5) of political discourses.

The book is structured on three chapters: mathematics for political discourses, mathematical functions for measuring the loyalty of a candidate to the doctrine of the party, and political discourse analysis through graph theory.

The first chapter includes the literature review on the mathematical tools used in the analysis of political discourses: game theory, statistics and SPSS, graph theory, and policy maker. As it can be observed, approaches on political discourses have surpassed the disciplinary borders since these mathematical tools embed elements of syntax and semantics.

The second chapter focuses on the outlines provided for the framework of concordance theory. Starting from mathematical functions, the two authors present a formal tool through which the concordance and discordance between the platform of a party (the

doctrinal discourse) and the speech of the respective party's candidate can be grasped. The empirical data used to show the functionality of this approach are the political program of the Social Democrat Party in Romania and the program of the SDP candidate who ran for the position of Mayor of Bacău in the 2004 local election campaign. The authors start from the premises that a political program embeds some (economic, social, political, cultural) issues that should be solved. In other words, every political program is formed of a set of couples $\{(T_1, S_1), (T_2, S_2), (T_3, S_3), \dots (T_n, S_n)\}$, where T stands for a theme, and S, for a solution. At the same time, the political candidate should come with his own political program which can also be structured on a set of couples $\{(t_1, s_1), (t_2, s_2), (t_3, s_3), \dots (t_n, s_n)\}$, where t stands for the theme identified by the political candidate, and s, for the solution proposed by the respective candidate. Since there is an inclusion relation between the candidate and the party, the authors identify a threefold instance of loyalty: thematic loyalty (common or contradictory issues), action loyalty (common or contradictory solutions), and axiological loyalty (common or contradictory values). After thorough explanations provided for the thematic, action, and axiological (lack of) concordances, Bogdan Pătruț and Monica Pătruț reach the conclusion that each type of loyalty has two instances: P-thematic/ action/ axiological concordance (a quantification of the themes taken over by the candidate from the party program) and C-thematic/ action/ axiological concordance (a quantification of the common solutions provided both by the candidate and by the party).

The third chapter focuses on the use of graph theory in the analysis of political discourses. Using the Political Analyst program developed by programmers from the University of Bacău, the two authors mention the following objectives: to highlight the dominant value(s) in a political speech, to pinpoint the interrelated groups of values, to provide the order in which political values should be set in order to obtain an equivalent but a more synthetic speech, and to highlight the links between the "core" values promoted in the respective political speech. After presenting the structure of a graph (set of nodes, set of edges, a path, a tree), the two authors provide the example of a circuit with minimum cost, having "education" as its starting point. In order to provide the order in which political values should be set in order to obtain an equivalent but a more synthetic speech, the authors present the minimum cost partial tree.

After presenting the working procedure of the Political Analyst program, Bogdan Pătruț and Monica Pătruț provide a case study for the National Liberal Party in Romania during the 2004 election campaign. They identified 17 dominant values promoted by this party. The hierarchy of these values is the following: NLP, party, liberal, political,

economic/ economy, active/ activity, state, social/ society, Romanian, public, development, private, local, government, citizen, property, national. The graphs presented in this book render the nuclei of interest for the National Liberal Party in Romania during the 2004 election campaign, where the governing position is assigned to the party itself.

Pleading for interdisciplinarity, Bogdan Pătruț and Monica Pătruț have provided concrete examples regarding the way in which some abstract mathematical tools can be used in the analysis of some social practices, e.g. political discourses. Through the functions of axiological, thematic and actional concordance and the graph theory as a means of solving axiological problems in political discourses, the two authors succeeded in including elements of morphological, syntactical, and semantic analysis within a challenging and comprehensive analysis of political discourses.