Sequence Analysis of Medium-Term Discursive Patterns

This presentation justifies and lays the groundwork for the use of sequence analysis in the study of parliamentary politics. Because parliamentary activity is deeply discursive, I present and defend a method for quantifying discourse and describing its evolution over a multi-year time period, a method that is sensitive to a) the fact that speaking is an event whose timing and quantity are subject to planning and control, and b) the order in which such events occur.

The ultimate goal is to describe how a certain kind of human (here, the deputy in the Romanian Chamber of Deputies) navigates a certain sphere of action (the Chamber of Deputies, the lower house of Romanian parliament). I begin by highlighting to which mode of analysis I key this method, then argue why parliamentary politics is an excellent domain for such a study, and continue with some background on the case of the Romanian parliament. Afterwards, I describe the data-set and give some aggregate counts, then demonstrate a way of categorising deputies according to their sequences, finishing off with three thoughts on the value-added of this approach.

Modes of Analysis

Studies of narrative and discourse often employ one of the following combinations of data \sim unit of analysis \sim scope:

- transcripts of conversation in natural settings ~ situation ~illuminate general interactional patterns (e.g, Gibson 2012)
- transcripts of interviews ~ life course/memory ~ changes in typical life patterns/ dynamics of memory and remembering; life course (e.g., Fasang 2012), oral histories (e.g., Bearman, Faris, and Moody 1999; Portelli 2015)
- texts edited and approved by organisations ~ the organisation ~ organisational behaviour (e.g., Strang and Siler 2015), ecological/"societal" changes (McAdam 2010 esp. Appendix 1)
- tightly crafted, often solo-authored texts (histories, novels, screenplays, etc.) ~ narratives and/or sets of symbols ~ deep structures of discourse (e.g., Wright 1977)
- transcripts of talk from entities whose job is to describe, judge, and convince (e.g., media, lawyers) ~ a particular institutional arena ~ the role of talk in a particular setting (for the courthouse, see Goodwin 1994)

This typology is useful insofar as it highlights the last category of social phenomena: people strategically using words in a formal arena where talk is the most legitimate mode of getting things done. Examples include the onstage performance of lawyers, priests, comedians, salespeople, and politicians. The data form is usually transcripts of talk and behavioural traces (e.g., bills of sale, venues at which one speaks), often formally gathered and curated ~ the unit of analysis is "person" ~ the scope is "understand how people navigate a stable but mutable sphere of action."

Pragmatically and analytically, I justify this data ~ unit of analysis ~ scope combination as follows:

- one can find well-kept records stretching back a long time. The record keeping of large organisations (state, church, business) is probably politicised (cf. Scott 1988), and is sufficiently detailed to allow empirical leverage on complex phenomena
- following human activity conforms to habitual, person-action thinking (she did this, he did that), which makes it "intuitive". Recourse to habit frees up thought-space for describing complex dynamics of things already understood.¹

While clarity and consistency are not the ultimate ends of scholarly analysis (Judith Butler or Harrison White are neither, and no less insightful for it), and can be abused (populist appeals to "common sense"), one mustn't try too many things at once. Callon's (1986) famous move of describing non-humans (here, clams) as having agency is

• studying how people navigate *one* sphere of action bounds the analysis, and lets us use time-marked records to trace the co-evolution of people, organisations, and fields. So long as we conceptualise our system of action as composed of both self-referential and outside-oriented processes, we can see when and how external affairs are refracted through internal dynamics².

This data ~ unit of analysis ~ scope combination also makes it easy to study human time. Temporality is often neglected in sociology (for exceptions see Zerubavel 1981, and scholars studying the life course, such as Wu and Martinson 1993 and Abbott 2001, Ch.6), and even more so the mingling of different temporalities. To take an example from Collins (2014, Ch.6), different processes at play in human sexual intercourse can be analysed at different time-scales: the split seconds of intimate signals, the fractions of hours of building up and cooling down, the (potential) hours from initiation of physical intimacy to its end, the days, week, or years of establishing rapport. It is not that these time scales are necessarily nested (some may be entirely absent) but that one can fruitfully analyse processes as playing out in multiple temporalities, analogous to saying that human action can be seen as simultaneously consequential for different spheres of analysis, from the family to the state. Here too the focus on people doing things bounds the study: the data often suggests which temporalities can be usefully (and rigorously) analysed. A useful comparison is the romance novel: we often find an entire chapter dedicated to a relationship's multi-year background, another to the days before a critical meeting, one chapter on those few, passionate moments, and another on the weeks after the encounter. While these are all different time-scales, each receives the same number of pages.

In what follows I introduce the field of parliamentary politics, which I use to illustrate my general approach. In the third section I discuss of the particularities of Romanian parliament, particular case I study.

Parliamentary Politics

Contemporary parliaments can be described in terms of formal rules and implicit norms, both of which may be decided a priori or emerge as representatives try and navigate this structure. The three most important sets of explicit rules in parliaments are a) the method by which they are staffed, viz. the electoral system, b) the rules of parliamentary procedure which determine whether, for example, a representative must receive permission to speak from a speaker of the house and c) how parliament relates to other branches of the state, outlined in laws, chief of which is a constitution.

At the same time, much regularity in parliament does not come from formal rules: representatives resign at some times and not others, some things in parliament are "simply not said", and spokespeople of the executive may be more or less recalcitrant in answering a summons to the House. Such rules may remain informal, or they may be made explicit: parliament is, usually and after all, the supreme law-making body.

Parliament, as the name indicates³, is a place where discourse is king, and expresses the belief that the best and most legitimate way of finding a solution is for interested parties to go through several rounds of being together in one place and talking things through. Assent to that solution is then given or withheld by deputies voting. Dialogic deliberation and unobstructed voting are the heart and soul of currently dominant political philosophies.

The representatives that staff parliaments are, by definition, politicians: people who have convinced voters and parties to back them, and are then tasked with convincing colleagues that

original, insightful, and confusing enough without describing multiple nested temporalities.

² Thereby avoiding the spuriousness of both a world of personless variables affecting one another, and studying a phenomenon in isolation.

³ A good rendering into English might be "The Talking".

some decisions are better than others. They are also expected to formulate and perfect solutions to common problems, to decide whether these solutions should be binding to large groups of people, and to monitor the implementation of these solutions through various specialised committees and by having the power to compel members of the executive to explain themselves in front of the representatives. All of this in addition to a representative's duty to their party and constituency.

With this aerial view in mind, let us see how the study of parliaments can address our scope of "understanding how people navigate a stable but mutable sphere of action." First, the data available on parliaments is among the best: public, detailed, often dating very far back, and curated by an entity that, unless it is a rubber-stamp body, usually has enough internal rivalry to mitigate against the wholesale fabrication of its own records.

Second, parliament is very obviously a semi-permeable system: it has its own rules and regulations, while at the same time being subject to outside influences: from the electorate, international affairs, the judiciary, tornadoes, etc. That is to say, in studying parliament we are forced to consider both internal dynamics and external linkages. Semi-permeable autonomy is a key trait of most spheres of social action, so by studying it we render more generalisable our findings.⁴ This is by design: parliament is meant to be the intersection of other spheres.

Third, the parliamentary record is full of people doing things, usually speaking and voting, but also changing parties, chairing committees, initiating laws, and occasionally participating in activities that do not respect normal procedure, like sit-ins. As previously mentioned, this gives us an intuitive marker to follow through the mangle of practice, just as attaching a radioactive marker to a blood cell allows us to trace circulation.

Fourth, parliament contains a number of mutually influencing units of analysis, most notably the deputy, the committee, the party, the house (lower or upper, if there be bicameralism), and parliament as a whole. Each of these is itself a semi-permeable system, and most deputies have activities in all of them. This is therefore an occasion to study simultaneity: not everything that a deputy will do as a party member affects their party's standing in parliament, while some things a party may do can affect a parliament's standing with the deputies, for instance by convincing them to leave an arena dominated by party bosses and start an NGO.

Fifth, parliamentary politics are a prime site to study multiple temporalities. In ascending order, one can list: the minutes of a vote, the hours of a session, the days after a natural disaster, the weeks of backroom negotiation, the months during which a law is stalled in committee, the years of the electoral cycle, the decades that span some parliamentary careers, the fractions of centuries that mark different constitutional orders. Not all these time scales need be treated in the same study, but to the extent that deputies themselves act with an eye on daily news-cycles, four-year electoral cycles, and everything beyond and in between, and to the extent that we have data on deputies throughout these periods, we can and should do our best to see how these temporalities are linked.

Sixth, regardless of how much we can generalise or abstract from our findings, or how much we can understand other fields by knowing this one, the fact is that in most places, most of the time, parliament, as the supreme legislator of a country, is important *sui generis*. Laws passed and repealed, careers built and shattered, and precedents set and ignored in parliament ripple out, and this can hold true even for deliberative bodies that are otherwise rubber stamps: parliaments are, among other things, a proving ground and socialisation area for elites.

Having described parliament in terms of the data \sim unit of analysis \sim scope combination at hand, let us turn to the specificities of parliament in Romania.

To see the analytic dangers of describing our phenomenon as impermeable and/or non-autonomous, consider, on the one hand, the criticism that mono-national studies are implicitly ethnocentric and give the impression that the "nation formed itself" (Wimmer and Glick Schiller 2002), and on the other the now-tired claim that "globalisation changes everything", while ignoring the heterogeneity of its effects (Connell 2007, Ch.3).

Romanian Parliament

Romania has a parliamentary history stretching back to the late-19th century⁵, when portions of Romanian-speaker-majority areas gained self-rule, a constitution, a parliament, and a king. Building on traditions of consultative, electoral monarchy (where nobles voted non-hereditary rulers), this constitutional monarchy survived a number of crises and short periods of suspension until its abolition in 1947. While undergoing a number of major changes in this period (notably a progressive extension of the franchise and the sudden expansion of its population following the First World War), the character of parliamentary politics was remarkably consistent: bicameralism, predictable alternation of power between the main parties, an active and involved king, and representatives largely drawn from the Bucharest-residing elite.

This tradition was rudely interrupted with the imposition of Stalinist socialism in 1947. The king was exiled, free and fair elections were halted, the political elite was killed, jailed, or banished, and bicameral parliament was reduced to a single-chamber Grand National Assembly that became a rubber-stamp body for the group centred around the secretary of the communist party. Turnover in the membership of this Assembly was very high and, in line with broader socialist principles, women, peasants, and industrial workers were given priority in representation (Crowther and Roper 1996).

In December of 1989 two generations of socialist rule ended: mass street protests, though initially met with resistance from the regime, ultimately led to the dictator and his wife fleeing the capital, before being summarily tried and executed. There immediately sprung up the National Salvation Front⁶, a loose coalition of top socialist officials that had fallen out of favour with the erstwhile dictator, reform-minded intellectuals, and army generals. The first task of this body was to convene an assembly (which it dominated) to draft a post-socialist constitution. The assembly largely returned to the pre-1947 order of affairs, combining almost equal bicameralism with Frenchstyle semi-presidentialism and a closed-list, proportional representation voting system for the legislature.

Romanian politics since 1989 have been highly dynamic⁷, which can be seen in the three kinds of practice that define parliament: elections, procedure, and relations between different branches of the state. Electorally, there has been consistent and peaceful alternation of power following elections that were free and and largely fair, albeit skewed toward the communist successor party during the 1990s, due its continuing influence with the state apparatus and related patronage systems. Legislative electoral law has changed a few times: a major revision in 2004 went from a closed-list, proportional representation system (where citizens in a constituency vote for a party list – the more votes the party gets, the more people on that list make it to parliament) to a mixed system which also included single-member districts (where people voted for individuals running in a certain riding). This electoral law was operative for the 2008 and 2012 legislative elections, but was later repealed, and the 2016 legislative elections took place under the old, closed-list, proportional representation system. The other main change in electoral law has been a consistent increase in the barrier to entry for new political parties – it has become more difficult to both register new parties and to get them into parliament.⁸

Parliamentary procedure has also changed, notably in 2006⁹. How to submit a summons to members of the executive, what changes a committee may make to a law before being submitted to for a general vote, and how to update transcripts on the websites of parliament are some examples.

⁵ The content of this paragraph is drawn from Gherghina 2013.

The portion from this sentence to the end of the paragraph is drawn from Bugajski 2002; Crowther and Roper 1996; Stefan and Grecu 2014.

⁷ This paragraph is based on Kopeck 2013; Stănciulescu 2010; Ștefan and Grecu 2014.

⁸ The partial exception is parties representing minority communities, which have a guaranteed seat in the lower house of Romanian parliament if they can collect at least 5000 votes.

⁹ The following comes from Stănciulescu 2010; Teodorescu and Sultănescu 2006.

In fact, one of the main political battles of the mid-2000s was about changing the powers of the presidents of the Chamber of Deputies and the Senate, as competing parties used these positions to place procedural road-blocks in each other's paths.

Lastly, the Romanian constitutional order is very fluid¹⁰. A raft of laws were changed or accepted in the run-up to EU accession, the constitution itself was overhauled in 2003 (which included a renewed definition of the competence of the Chamber of Deputies and Senate), and there has been extensive institutional rivalry between President and Parliament, to the extent that parliament twice voted to impeach the president, a move which twice failed at the popular vote¹¹. All this in addition to the Constitutional Court consistently (re)defining inter-institutional relations, including the judiciary's ability to prosecute sitting parliamentarians.

When it comes to non-codified parliamentary dynamics, both change and continuity is harder to perceive, even though these might be highly consequential. For instance, by the 2016 elections nearly none of the legislators of the 1990s have remained in office. This could mean that socialist or transition-era habits have died out, or perhaps a socialisation system of political elites successfully passes some traditions on to the next generation. Likewise, while the total amount of talk in parliament has increased over the 1996-2016 period, it is unclear where this is consequential to the passage of laws, or is largely a tool for parliamentarian self-promotion, a way for them to maintain media presence until the next elections.

It is to these dynamics that I turn to next, presenting first the data-set and some descriptive statistics, and then turning to a sequence analysis of parliamentary careers as seen through rhetorical patterns.

Data and Some Trends

The data for this study comes from the website of the Romanian Chamber of Deputies, the lower house of Romanian parliament¹², and consists of the transcripts of the Chamber from December 1996 to December 2016. This period covers: activity in and of five legislatures; negotiation, accession, and active presence in both the EU and NATO; four constitutional referenda; five local, legislative, and presidential electoral cycles; pivotal events in world politics (e.g., 9/11, the Iraq War, the Great Recession, the European Migrant Crisis); and nationally important events (e.g., anti-corruption protests, large-scale floods, privatisation of the national petroleum company).

In addition to the transcripts, the data set includes biographical information on members of the Chamber: date of birth, civil status, level of education, the constituency they represent, political affiliation, number of laws initiated, voting record, and membership in committees, among other information. Here the unit of observation is politician-legislature (Voinescu-2004, and Voinescu-2008 link to data on the activity of the same human in two different legislature), so one can trace changes in deputies' profiles over legislatures – whether they were re-elected, stayed with the same party between legislatures, divorced, etc.

Let us take a first pass at some changes in Romanian Chamber of Deputies since 1996. First, the number, types, and sizes of parties in parliament has changed [Table 1]. The Social Democratic Party (the successor party to the pre-1989 socialists) has remained the main force on the left, while the right has continuously fractured into several formations. Moreover, we see a consistent alternation of power in the lower house, usually between the Social Democrats and a coalition of right-leaning parties. The Hungarian minority party as well as the national minorities bloc¹³ have

¹⁰ What follows is from Andreescu 2011; Gherghina 2013; Teodorescu and Sultănescu 2006.

¹¹ Since presidents in Romania are elected by popular vote, so too must their mandate be revoked.

^{12 &}lt;a href="http://www.cdep.ro/pls/dic/site2015.home?idl=2">http://www.cdep.ro/pls/dic/site2015.home?idl=2. Data on the upper chamber, the Senate, is also available, and it will feature in future analyses

¹³ Under Romanian electoral law a registered group claiming to represent a national minority gains a seat in the lower house of parliament if it passes a certain electoral threshold, usually between five and ten thousand votes. These include such parties as the Pro Europa Party of Roma and the Polish Party Dom Polski.

been a consistent feature, with the ability to break deadlock between Romanian-majority parties¹⁴. Lastly, while a deputy must be in a party in order to be elected, one can disaffiliate (and reaffiliate) during the course of the legislature. The "unaffiliated" category captures both those deputies that are in transition between parties, as well as those who remain disaffiliated – in either case, free agents.

1996			2000)	
<u>Party</u>	<u>Orientation</u>	Number of Seats	<u>Party</u>	Orientation	Number of Seats
National Peasant and Christian Democratic Party, Civic-Eco	ologist Centre Right	70	Social Democratic Party	Left	158
Social Democratic Party of Romania	Left	82	Greater Romania Party	Romanian Nationalist	70
Social Democratic Union – Democratic Party	Centre Right	36	Democratic Party	Centre Right	27
National Liberal Party	Right	37	National Liberal Party	Right	27
Democratic Alliance of Hungarians in Romania	Hungarian Minority	25	Democratic Alliance of Hungarians in Romania	Hungarian Minority	26
Greater Romania Party	Romanian Nationalist	20	National Minorities	minorities bloc	18
National Minorities	minorities bloc	15	Unaffiliated Deputies	diverse	15
Romanian National Unity Party	Romanian Nationalist	12			
Unaffiliated Deputies	diverse	38			
Totals		335			341
2004			2008	3	
<u>Party</u>	<u>Orientation</u>	Number of Seats	<u>Party</u>	Orientation	Number of Seats
Social Democratic Party	Left	105	Democratic-Liberal Party	Centre Right	95
National Liberal Party	Right	60	Social Democratic Party	Left	89
Democratic-Liberal Party	Centre Right	67	National Liberal Party	Right	57
Greater Romania Party	Romanian Nationalist	21	Democratic Alliance of Hungarians in Romania	Hungarian Minority	20
Democratic Alliance of Hungarians in Romania	Hungarian Minority	22	National Minorities	minorities bloc	16
Conservative Party	Right	19	Parliamentary Group of Progressives	Centre Left	12
National Minorities	minorities bloc	18	Unaffiliated Deputies	diverse	13
Unaffiliated Deputies	diverse	13			
Totala		325			302
Totals		325			302
2012					
Party	<u>Orientation</u>	Number of Seats			
Social Democratic Party	Left	116			
National Liberal Party	Right	113			
Union for the Progress of Romania	Centre Left	33			
Alliance of Liberals and Democrats	Right	29			
Democratic Alliance of Hungarians in Romania National Minorities	Hungarian Minority minorities bloc	16			
		16 24			
Unaffiliated Deputies	diverse	24			
Totals		347			

Table 1: Parties in the Chamber of Deputies since 1996

Second, we can see some changes in the structure of rhetoric in Romanian parliament. Here I use a very simple metric: number of words spoken, both per deputy and for an entire legislature. This metric is justified for two reasons: it is easy to understand, and it operationalises a key idea of modern political theory, namely that the amount of talk itself matters, with more usually being better. Quantity *does* reflect something about quality, since, all else equal, one would expect a parliament with real power to be much chattier than a rubber-stamp body.¹⁵

Indeed, consulting Table 2 we find that the total number of words said in a given legislature nearly doubles between 1996 and 2012, with an inflection point around the 2004 legislature, which saw a change of power from the former socialists to a coalition of right-leaning parties, and during which the parliamentary and presidential elections were decoupled¹⁶. The consistent growth in the mean of this distribution mirrors this trend, as does the growth in the 10th percentile of words spoken and the median (i.e., the 50th percentile). Most indicative is the growth in the minimum number of words: while in earlier legislatures one could legislate without saying anything on the

¹⁴ Recently (June 2017) a vote of no-confidence passed by eight votes, which saw intense courting of the vote of national minorities.

¹⁵ Note that I have excluded both the biographies and utterances of politicians which held speaker-type positions in a certain legislature. In other words, this data set *does not* include formal talk, such as roll-calls, "the stand now goes to…", etc. As a rule, this talk makes about a quarter of all words said in any given legislature.

¹⁶ Parliamentary and presidential elections were held together in 2000 for the last time. The successful 2003 referendum on constitutional amendments gave presidents a five year term, in contrast to the four years of the legislature.

record, as time goes even the least talkative deputies start saying *something*.

.egislature	Total Words	Avg Words/Deputy	St. Dev. Words/Deputy	Min Words/Deputy	Max Words/Deputy	10th Perc.	Median	90th Perc.
1996	4203787	13648.7	22389	0	167782	15	5105	37988
2000	4473820	13275.4	26987	0	262428	83	4793	35097
2004	5912708	18305.6	23987	75	136723	150	8678	52019
2008	7054267	21975.9	26322	84	199701	1688	13242	56601
2012	7695882	19049.2	27069	83	307126	1145	10952	41605

Table 2: Word Count Metrics Across Legislatures

The consistent figure for the standard deviation of words per deputy, along with the fluctuations in the maximum number of words, indicates a power law: most say little, some say very, very much. The wordiest parliamentarians speak up to ten times as much as the average, while the ninetieth percentile speaks at least twice as much as the average. In sum, Romanian parliament has become wordier – the discursive tide raising all boats.

Finally, Table 3 shows the turnover rate in parliament. While it varies between eleven and twenty-eight percent, it is worth noting how small the figure is. Even smaller is the core of deputies that remain for more than one legislature. A high turnover rate combined with low multi-legislature incumbency leaves one wondering how much tacit organisational knowledge passes from one cohort of politicians to the next. If there is indeed stability in norms and informal practices, it remains to be seen how it occurs, since on-the-job training from one generation of deputies to the next seems unlikely.

Legislature	Total Deputies 1	L More Leg (percentage)	2 More Leg	3 More Leg	4 More leg
1996	335	73 (22%)	24	3	7
2000	341	46 (13%)	19	12	
2004	325	37 (12%)	38		
2008	302	85 (28%)			

Table 3: Multi-legislature Deputy Survival Rates

To recapitulate, the Romanian Chamber of Deputies since 1996 has a fairly stable party system (unified left, fractitious and fluid right), with consistent alternation between political poles, and a sizeable bloc of ethnic minority parties which can act as kingmakers. Across the board there is more talk: everybody speaks more, with the windbag category (the 90th percentile) speaking several times the average. Finally, there is very high turnover rate in the Chamber, from seventy-two to eighty-nine percent, with very few deputies continuing their careers for more than one legislature. Let us then transition to the specifics of deputy behaviour.

Sequences of Action-Rhetoric Careers

The information above pertains to party structure, deputy tenure, and deputy talk – we now take a closer look at each deputy's month-to-month word counts. Here we want to uncover patterns in deputy-talk that are not mentioned in parliamentary procedure, and which emerge over a four-year legislative cycle. First, however, a brief introduction to sequence analysis.

Sequence analysis is a data-representation and analysis technique developed in biology for the study of genetic sequences, and was introduced to sociology by Andrew Abbot (1995). The underlying intuition is that the *order* of events matters; that being married and then divorced is different from being divorced and then married. One way to operationalise this is via a sequence of states. For instance, if we have a set of three states – employed (E), unemployed (U), and not seeking work (N) – a sequence representation of an adult's work history might look like "EEEUUEUEUNNUEE", where each letter represents the person's work status during one year; the

above sequence represents a person's work history over fourteen years.

In the present case of chattiness in Romanian parliament, for any given month in which the Chamber of Deputies was in session we count the total number of words that a deputy said, then place that number in one of five categories: not in legislature¹⁷, did not speak, in the bottom nine percent of speakers by number of words, in the 10-29 percentile range, the 30-49 range, the 40-69 range, the 70-89 range, or in the top 90 percent of speakers. For an eight month period, we might get a sequence like "NO - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10 - <10

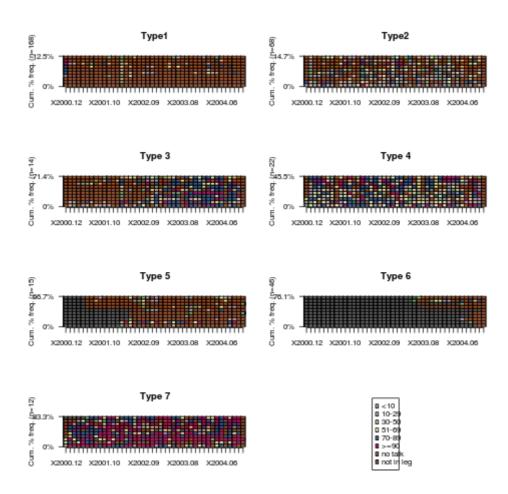


Figure 1: Seven Cluster Solution for Talk-Quantity Sequences

focused on people doing things (viz., deputies talking), and which accounts for the changing field in which these politicians operate: because our categories are defined as *percentiles*, the metric normalises for the total number of words said in any given month. This is important, because social categories are usually defined in relative terms – a windbag is a windbag because they talk much more than the people around them, regardless of the absolute quantity of talk.

Nonetheless, the size of this data set makes it difficult to extract patterns: we want meaningful groups of talk-quantity sequences. At the very least, our method should put together people who talk little at the beginning of a legislature and much at the end of it, and likewise cluster into another group those who talk much at the beginning and little at the end. This is achieved through a combination of a distance matrix and agglomerative hierarchical clustering. Specifically, we use optimal matching to calculate a matrix of pairwise distances between each

¹⁷ Some deputies end their mandate before the next legislative election, and are replaced by another party member.

sequence¹⁸, then cluster¹⁹ those sequences which are closest to each other according to the distance matrix.

The result is a graphical representation of clusters, an example of which is given in Figure 1, which shows ten most frequent sequences from seven clusters derived from the 2000-2004 legislature. The horizontal axis of each box-plot shows time, while the vertical shows what percent of the cluster is represented by the ten sequences shown. Finally, the top-left corner of each plot gives the number of sequences per cluster. Visual inspection shows that cluster "Type 7"²⁰ is the windbag group: deputies that consistently spoke more than seventy, if not ninety, percent of their peers.

•			
Name	# of Legislatures Term of Windbaghood	Name	# of Legislatures Term of Windbaghood
'Birchall Ana'	1 '2012'	'Giurescu Ion'	2 '2004'
'Boc Emil'	1 '2000'	'Lakatos Petru'	2 '2008'
'Bosneac Valentin Samuel'	1 '2004'	'Leonachescu Nicolae'	2 '2000'
'Brudascu Dan'	1 '2000'	'Mohora Tudor'	2 '2000'
'Busoi Cristian Silviu'	1 '2004'	'Olteanu Bogdan'	2 '2008'
'Campeanu Mariana'	1 '2008'	'Plumb Rovana'	2 '2004'
'Cernea Remus-Florinel'	1 '2012'	'Popa Nicolae'	2 '1996'
'Chereches Catalin'	1 '2008'	'Raduly Robert Kalman'	2 '2000'
'Corlatean Titus'	1 '2004'	'Raicu Romeo Marius'	2 '2004'
'Cretu Gabriela'	1 '2004'	'Stativa Irinel Ioan'	2 '2004'
'Iacoban Sorin-Avram'	1 '2012'	'Surdu-Soreanu Raul-Victor'	2 '2008'
'Iane Ovidiu-Cristian'	1 '2012'	'Tataru Florin-Cristian'	2 '2008'
'Ilie Cristian'	1 '2004'	'Vlase Petru Gabriel'	2 '2012'
'Mihai Aurelian'	1 '2012'	'Anastase Roberta Alma'	3 '2004'
'Olteanu Ionel'	1 '2000'	'Balaet Mitica'	3 '1996'
'Paul Maria-Andreea'	1 '2012'	'Dan Martian'	3 '1996'
'Popescu Emil-Teodor'	1 '1996'	'Dobrescu Smaranda'	3 '2000'
'Preda Ion'	1 '2004'	'Gheorghe Valeriu'	3 '2004'
'Racoceanu Viorel'	1 '2004'	'Gheorghiof Titu Nicolae'	3 '2004'
'Radulescu Adrian'	1 '2008'	'Iacob Ridzi Monica Maria'	3 '2004'
'Stirbu Monica-Mihaela'	1 '2004'	'Mircovici Niculae'	3 '2012'
'Tanasescu Mihai Nicolae'	1 '2004'	'Stanisoara Mihai'	3 '2004'
'Trandafir Teodora Virginia'	1 '2008'	'Tudor Marcu'	3 '2000'
'Valean Adina Ioana'	1 '2004'	'Turlea Petre'	3 '1996'
'Zegrean Augustin'	1 '2004'	'Iordache Florin'	4 '2012'
'Boghicevici Claudia'	2 '2012'	'Nastase Adrian'	4 '2000'
'Bolcas Lucian Augustin'	2 '2000'	'Popa Daniela'	4 '2008'
'Ciuhodaru Tudor'	2 '2012'	'Tabara Valeriu'	4 '1996'
'Dumitrescu Liana'	2 '2008'	'Timis Ioan'	4 '2008'
'Gaspar Acsinte'	2 '2000'	'Stanciu Anghel'	5 '1996'
'Gavra Ioan'	2 '1996'	'Stanciu Anghel'	5 '2000'
'Gheorghe Tinel'	2 '2012'	'Marton Arpad-Francisc'	7 '2012'
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Table 4: Windbags by Number of Legislatures Served and Term of Windbaghood

¹⁸ Optimal matching (OM) is a method of calculating the distance between two character strings by seeing how easy it is to transform one string into another: "AABAC" is "closer" to "AABAD" than to "AABDD" because it takes a one letter substitution to make the first two equivalent, while we need a two-letter change to achieve parity between the first and third. The key to OM distance calculations is defining a cost matrix: is turning an "A" into a "D" as "cheap" as going from "B" to "D"? Here I weigh costs by frequency of occurrence, i.e., the more frequent, the less it costs; the "cheapest" letter above is "A". I set the insertion/deletion cost at a constant cost of 1.

¹⁹ Here Ward's method, which agglomerates clusters based on the minimum variance *within* a new cluster: try every possible combination of two clusters, and pick that cluster whose points have the smallest variance.

²⁰ Determining the optimal number of clusters is the Achilles heel of this type of analysis. In this case I relied on old-fashioned eye-balling: across the five legislatures, using fewer than seven clusters seemed to collapse meaningful groups, while using more than seven created groups that did not seem meaningful. Furthermore, with a seven-cluster solution the windbag group is always in the teens, a consistency that is difficult to interpret: it may be that the group actually is small because of the way percentiles normalise, or it may be an arbitrary limit imposed by the seven-cluster solution. I look forward to suggestions on a principled way of selecting a cluster number across separate cases.

Once more, the key advantage of categorising according to sequences is that similarity is seen longitudinally. Looking at the Type 7 cluster, we see that there are some months in which many windbags do not say anything at all, and others in which they are universally chatty, which is exactly the level of detail we want our grouping method to take into account: one is not simply a windbag because one speaks more relative to others, but also because the timing of one's effusiveness is similar to that of other windbags. This is a longitudinal analogue to the recursive definition of social categories found in sociometric research. In network studies, a node is popular if the nodes it is linked to are also popular, while here one is a windbag because one's activity is ordered like that of other windbags²¹.

Because we know the membership of these clusters, we can once more ask the question of incumbency, this time of role: if one is a windbag in one legislature, is it likely to also be a windbag in the next? Table 4 shows that this is *not* the case: only one person (Anghel Stanciu) was a heavy talker in two different legislatures, those starting in 1996 and 2000²². Still, we see from the second column (number of legislatures served) that, as a group, windbags do have much higher incumbency rates than the general mass of deputies: over a twenty-year period, sixty percent of windbags served at least two terms, while thirty percent served three or more²³. With regards to the question of whether there is a stable core of deputies that pass on parliamentary know-how between legislatures, these results are ambivalent. On the one hand, incumbency in the role of "windbag" is highly unstable, so to the extent that "windbag" is an important role, it seems that one has to learn by doing. On the other hand, given legislature-on-legislature incumbency rates of no more than twenty percent, the fact there the heavy talkers are much more likely to be among those that stay means that, at least when it comes to discourse, the next generation of deputies has someone to show them the ropes. There is, therefore, use in analysing the Chamber of Deputies through the roles they fulfil, in this case "windbag", defined via sequence analysis.

Conclusion

This analysis has culminated in a time-sensitive method for formalising and describing roles, in particular "the windbag", which allows us speak about the evolution of role membership over time. This is motivated by a desire to be trace discursive activity in a field in which talk is supposed to be the preponderant way of getting things done – we assume that deputies are aware that discourse is a highly legitimate way of navigating this sphere of action. I close with three thoughts on the value added of this combination of parliamentary transcripts ~ sequence analysis ~ understand how humans navigate a stable but mutable field of interaction.

First, the present operationalisation of discourse, while rough, nonetheless lets us capture a key component of narratives: the fact that parts of a story succeed one another, and their order is important. Though this method ignores the content of the parliamentary speeches, still it gives life to the idea that humans *live* narratives: when thinking about my own activity, and describing and justifying it to others, it matters whether I can say that I was the only one speaking up after a major event, or was quiet when everyone else jumped on the bandwagon. Sequences of discourse quantities let us tap into this.

Second, studying discourse in this way allows us to tackle multiple time-frames

²¹ Note that while logically analogous, this operationalisation of similarity is substantively poorer than the network version: one is almost certainly an aristocrat if one dines and goes to the opera with aristocrats, while merely eating and entertaining like they do and in their order can qualify one as an aristocrat, or as a *bourgeois parvenu*.

NB: I use here a restricted definition of "windbag" as "member of type 7 cluster", of which there are about thirteen per year. The stability of this figure can be very useful: a precondition of vacancy chain models of career mobility is a more-or-less constant number of positions to be occupied.

²³ These figures say nothing of causality, since we do not know if they were windbags at the beginning or end of their career. The next step is to investigate the timing of first-windbag status on subsequent developments, for which single-shot survival analysis might be best suited.

simultaneously, partly through aggregation (to create the monthly percentiles), partly through chaining (to create the four-year sequences) and partly through block (pre-2004 to post-2004 patterns). The periods discussed in this presentation are often absent from studies of narrative and discourse, which tend to fall in the very small scale of conversation analysis, the multi-day scale of time-diaries, or the epochs of careers, human memory, and shifts in societal tropes. A most promising aspect of the current effort is that it lets us bring months and years back in, which is, after all, the time-frame in which people tell the stories which make up their most salient and stable future plans.

Lastly, creating deputy discourse sequences lets us study tacit and non-codified patterns of legislative activity. That windbags might kick into high gear around electoral season anyone could suspect; that the windbag role is highly unstable over multiple legislatures is something that even deputies themselves might not know, especially given how few have been in the Chamber since the 1990s. Thus, studying parliaments through sequence analysis allows us to uncover patterns in elite politics that may be hidden, either on purpose or because the actors themselves are not aware of such regularities.

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