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Communication, contextualization & cognition: Patterns & processes of frames' influence on people's interpretations of the EU constitution

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V

Frames in Communication

The second set of propositions advanced by the schematic network theory concerns the structure of information in communication. Public discourse offers a wide variety of internally diverse frames, aligned more or less coherently within wider narratives, which feed into the cognitive process investigated above. The structural properties of proliferated frames available for people forming an understanding about the EU constitution will thus be scrutinized below.

The study of frames in communication has mostly been regarded from two opposing points of view. On the one hand, scholars in linguistics, journalism studies and other fields concerned with message production have investigated discourse texts as a means to access the cognitive structures responsible for their production. Frames in discourse, hence, have been considered to reflect cognitive biases and selectivity patterns which were the primary concern of investigation (*instrumental analysis*, e.g., B.T. Scheufele, 2006). On the other hand, discourse frames have been considered within the study of communication effects as the material based on which message recipients form their opinions (*representational analysis*, e.g., Semetko & Valkenburg, 2000). In view of the schematic network theory sketched above, however, these two perspectives merge: Both the selectivity and focus exerted by message producers, and the re-contextualization and integration achieved by message recipients derive from objectified knowledge – social representations – shared by speaker and recipient (Luke, 1989). Simultaneously, the common interpretative background shared by discourse producers and readers alike derives from the very set of publicly communicated messages received and interpreted by both at some prior time.⁴³ As a consequence the biases and patterns made available to mass audiences via public discourse are the same patterns responsible for context references thinkable to all members of a group, and hence communicatable among them (Dewey, 1927; Feldman & Conover, 1983).

V.1. Expectations

Public message producers ground their narratives in widely shared schematic belief structures ensuring that their arguments are comprehensible and relevant to all recipients (Gamson, 1992; Kim & Rhee, 2009; Price *et al.*, 1997; Sibley *et al.*, 2006; van Dijk & Kintsch, 1983). The closer arguments cohere with frames already familiar to recipients, the easier can they be comprehended and accepted as credible (Noakes & Johnston, 2005; Tewksbury & Scheufele, 2009).

⁴³ For knowledge to form part of the social representations backdrop against which communication messages are crafted, it must be known to each participant in an act of communication that most others will possess the same knowledge. As a consequence, only publicly communicated frames can become parts of social representations (Moscovici, 1986).

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H1: All actors' accounts involve a range of diagnostic beliefs which are societally shared.

However, in line with the distinctions set out above, there are different strategies for crafting messages that fulfil these requirements.

Political framing strategies

On the one hand, speakers who wish to convey strategic, persuasive accounts of an issue – notably, political parties, movements and advocacy organizations – typically construct their frames around clear normative claims and treatment recommendations (de Vreese, 2006; Slothuus, forthcoming; Slothuus & de Vreese, forthcoming; Sniderman, 2000; Zhou & Moy, 2007). At the same time, they should be highly concerned about the coherence and integrative capability of their accounts: Since theirs compete against other, strategically crafted explanations, accounts that are incapable of integrating important data are liable to be rejected, and others' more persuasive accounts may be accepted instead (Druckman, 2010). Simultaneously, they need to link their explanations to their specific identity as public actor, building support from their ability to account persuasively for observed information (Benford & Snow, 2000; Petersen *et al.*, forthcoming). At least those actors well-established in public life can typically draw upon familiar master frames 'owned' by these actors. These 'para-ideologies' help define which kinds of aspects need to be considered for a relevant account while simultaneously signalling the identity of the respective actor (Benford & Snow, 2000; Brewer & Gross, 2010; Mitsikopoulou, 2008). Most political parties and movements are discursive arenas themselves, constantly developing frames within the common master frame to cover new events (Triandafyllidou & Kotic, 2002).

H2a: Political actors' discourses are semantically coherent.

H2b: Political actors' frames are structured around a central frame that defines the narrative structure.

H2c: In political actors' narratives, the central frame monopolizes normative and treatment references, while other frames mostly elaborate on the causal connections and situation definition.

H2d: Political actors' accounts are ideologically structured: Different actors' accounts organize things in systematically different ways.

Journalistic frame construction

On the other hand, speakers who do not wish to (be seen to) provide persuasive accounts – e.g., professional journalists – avoid unambiguous evaluations or treatment recommendations. Contrasting varying interpretations (conflict news framing), or presenting their own interpretations in factual terms (consequences news framing), they do not typically bother to instate coherence beyond the event(s) under discussion (Tewksbury & Scheufele, 2009). The credibility of their accounts depends less on their overarching capability to integrate diverse information, but on the appearance of balance, neutrality and objectivity. While also journalistic authors ground their accounts in familiar knowledge, their reference to prior frames should be much more eclectic and rarely follow overt ideological preselections of concerns. Coherence should mostly remain local (Tewksbury, Jones, Peske, Raymond, & Vig, 2000).

H3a: Journalistic media's discourses are not semantically coherent beyond the local context raised by frames.

H3b: Journalistic media's frames do not refer to a common narrative.

H3c: Journalistic media's frames are regularly structured by factual claims or an opposition of claims, while unbalanced evaluations and treatment recommendations are rare.

H3d: Journalistic media's accounts are structured by the course of events, not ideological preselections. Different journalists' accounts organize things in systematically similar ways.

V.2. Operationalization

Although the measurement of frames within discourse is well-established within the social sciences, the present study departs from the conventions of the field in at least two respects. First, in a comparative analysis of highly diverse discourse bodies, the *ex ante* definition of a set of well delimited frames for coding is impossible. Since there is not a priori reason why only specific frames are expected to occur, an inductive approach that pays equal respect to each of the investigated repertoires is mandatory (van Gorp, 2010). However, approaching each discourse with a separate, inductively created inventory of frames jeopardizes any possibility of rigorous comparative analysis (Tewksbury & Scheufele, 2009). For this reason, second, this study measures frames not as holistic entities, but as a systematic collocation of elements. Similar approaches have recently been introduced into the scientific debate – for instance, Matthes & Kohring (2008) defined frames as regular combinations of functional elements. However, their strategy merely devolves the problem to a lower level: Either the definitions of functional elements need to remain rather vague, or one ends up with an endless list of functions yielding highly discourse-specific frame definitions. In line with the conceptualization used in the schematic network theory laid out above, therefore, this study retreats to the level of propositions within discourse (Baden & de Vreese, 2008; Boudana, 2008; Kim & Rhee, 2009). Unfortunately, propositional coding – as it will be used in the study presented in chapter VI – quickly becomes forbiddingly laborious (B.T. Scheufele, 2004a). Therefore, van Atteveldt *et al.* (2006) have suggested a technique that relies on computer-codeable concept associations in a text. In their view, if propositions systematically co-occur to form frames, so must those concepts defining them. Based on the coded propositions, it is possible to compare the composition and alignment of frames even if different frames emerge from different discourses (van Atteveldt, 2008).⁴⁴

This approach also allows for overlapping frames with fuzzy boundaries, offering an alternative route to address the notorious difficulty in delimiting frames (Reese, 2010): Instead of searching for self-contained wholes that may sometimes not be wholly present – a strategy that both practically and logically poses more problems than it solves – it looks for patterns of concept associations (Donati, 1992; Matthes & Kohring, 2008; van

⁴⁴ Another advantage of the concept level coding of frames is that the referred-to frame can still be recognized if it is only mentioned incompletely, or merely alluded to in a text. To the degree that even single propositions unambiguously indicate a particular frame, the set of other concepts associated with them in other instances allows determining the referred-to context.

Atteveldt *et al.*, 2006; van Gorp & van der Goot, 2009). The semantic network approach to framing thus circumvents the necessity to know *ex ante* what elements or frames need to be coded and leaves the emergence of structure entirely to the patterns of language use (Baden & de Vreese, 2008; Johnston, 1995). Frames can be represented as areas of heightened density in a semantic network, while weaker associations may extend beyond the frame and overlap with related frames. The same analytic techniques can be used to trace shifts within the composition and differences in the external alignment of frames. The main challenge facing this approach is to demonstrate semantic coherence in systematic collocations of concepts (Matthes & Kohring, 2008; van Atteveldt, 2008). While manual approaches relying on higher level units – COIs – can check coherence in the coding process, the semantic network representation operates on a level where coherence needs to emerge, and cannot be controlled by the process (van Gorp, 2005). To the degree that systematic collocations of concepts in discourse texts allow forming semantically coherent COIs, however, this approach may liberate framing analyses from their notorious contingency on the researcher’s definition of elements and frames (Matthes & Kohring, 2008).

While the pattern of concept associations alone thus does not constitute the frame yet, it provides several necessary prerequisites for the formation of frames. Narrative coherence, for instance, requires that the same actors and objects recur across contexts. At the same time, the issues central to a narrative need to be located also at the centre of those frames constituting it. As a consequence, coherent sets of frames need to share a limited set of concepts, which participate in the cores of multiple frames. By contrast, non-narrative arrays of frames – such as episodic news frames – do not necessarily cast the same issues and actors as central to different news stories. While many concepts are likely to recur – due to the known biases of news reporting on familiar actors, settings, issues and frames – their roles within frames will differ. Hence, coherence between frames requires a systematic overlap between frames’ core elements, whereas non-coherent frames appear as potentially dense but indiscriminate pattern of overlaps. Moreover, if a central organizing frame is present that organizes coherent frames into an overall narrative, most overlaps between frame cores should occur toward this central frame, whereas overlaps among peripheral frames’ cores should be rare (Gamson & Modigliani, 1987; Gerhards & Rucht, 1992). As a consequence, Hypotheses *a* and *b* can be refined:

H2a: In political actors’ discourses, frames overlap predominantly with regard to their core concepts.

H2b: Political actors’ frames’ core concepts overlap predominantly with the core concepts of a COF.

H3a: In journalistic media’s discourses, any concepts within frames overlap regularly, but unsystematically.

H3b: Journalistic media’s discourses do not show a COF that organizes other frames.

The above expectations were tested based on the public discourse on the EU constitution and the referendum over it in the Netherlands. However, the data collected in this study serve a double purpose within the context of this dissertation: While they allow addressing the above hypotheses, they also serve to capture the range of frames communicated to voters in the Dutch referendum as a backdrop for the study of information acquisition in chapters VI and VII. Therefore, public discourse had to be

recorded as exhaustively as possible. While all findings were checked across all recorded discourses, the findings will be presented below using a few selected cases only. Where findings differ relevantly across discourses beyond the presented cases, this will be noted.

V.3. Method

Sample & data preparation

In order to capture the Dutch public discourse on the EU constitution as exhaustively as possible, I opted to include not only newspaper sources but also transcripts of selected television formats, as well as campaign publications (both print, speech and online) issued by the Dutch parties and other major campaign actors. The subsamples were constructed as follows:

Newspaper sample

For the collection of newspaper articles, the sample included both highbrow (Volkskrant, NRC Handelsblad, Trouw) and popular/tabloid newspapers (Algemeen Dagblad, De Telegraaf), two regional outlets (Dagblad van het Noorden, Brabants Dagblad), as well as the largest of the free newspapers in the Netherlands (Metro). For each of the former seven, a Lexis Nexis search was conducted for all synonyms of 'EU Constitution', as well as references to a referendum in conjunction with either the terms 'European'/'EU' or a synonym of 'Constitution'. For the free newspaper 'Metro', which is not available through Lexis Nexis, the same search phrases were applied manually, going through the full text archive back to the oldest available issue, which dates from December 2004. The total time range was set to include all articles published from the first presentation of the document drafted by the EU Constitutional Convention (at the EU Council meeting on 19-20 June 2003 in Thessaloniki, Greece) until the last day of data collection of the focus groups (chapter VI).

The sample was further subdivided into seven phases, which were identified in two steps: First, the frequency of publications in the newspaper sample was analyzed, determining when media coverage had been high. Subsequently, four events driving media attention were identified and phases constructed around them. The remaining periods characterized by scarce coverage constituted the other three phases. In the first phase (01.06.-31.10.03), publication activity was low (0.36 articles per day and outlet), and most articles concern the initial presentation of the draft EU constitution. Attention rose in the second phase (01.11.-31.12.03) due to a conflict over power balances and the preamble of the Constitution, notably involving the Polish and Spanish governments (0.70 articles). Thereafter the draft went back into negotiations and press attention ebbed (0.32 articles) for a whole year (phase III: 01.01.-31.12.04). Early in 2005, discussions over a possible referendum over the constitution commenced in the Netherlands and publication activity resumed (0.67 articles) on a steady level for three months (phase IV: 01.01.-31.03.05). Only then, first signs of a referendum campaign were seen, leading to a strong and fast build-up of press attention (phase V: 01.04.-01.06.05; 4.09 articles per day and outlet) and culminating at the referendum day on 1 June 2005. A brief postcampaign phase followed (phase VI: 02.06.-31.07.05) when mainly the referendum outcome and its

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implications were discussed. Attention declined gradually but in the end steeply from a high starting level, averaging at 2.19 articles per day and outlet. Thereafter, the topic virtually vanished again from the news until 12 May 2006, when another renegotiation and name change of the project was argued for, and the data collection for this project terminated (phase VII: 01.08.05-12.05.06; 0.36 articles per day and outlet). All taken together, 5334 articles were collected over a period of 1078 days, from eight press outlets, across the described seven phases.

Television sample

The same degree of exhaustiveness was not feasible for the treatment of television data. Instead, particular formats were selected based on their opinion leader status. The selected formats included the two most widely received news shows – NOS Journaal (public service) and RTL4 Nieuws (commercial) – as well as the most important political talk- and discussion-shows – NOVA/Den Haag Vandaag (public, daily), Buitenhof (public, weekly), and Barend & van Dorp (commercial, daily). Only broadcasts screened during the main campaign phase (phase V, see above), which mentioned the EU constitution or the referendum,⁴⁵ were included. In most other phases, TV attention to the issue was sporadic, yielding less than five relevant broadcasts per phase and outlet. Representing TV-discourse on the EU Constitution based on such anecdotal coverage did not appear credible. Based on the campaign phase, the final sample contained transcripts of 81 broadcasts, about half of which were news broadcasts.

Campaign sample

For the composition of the campaign publications subsample, availability of documents was a major concern. Acknowledging that capturing the entirety of claims issued by campaigning parties and other actors would be impossible, I opted for a broad sampling strategy resting on three major sources: First, all materials hosted on the parties' (CDA, VVD, D66, PVDA, GroenLinks, SP, LPF, CU, SGP, Groep Wilders) and major non-party campaign actors' (Government, EU, Comité Grondwet Nee) referendum-dedicated homepages was accessed. If more than 50 documents were available per party, I selected those linked within three clicks from the starting page, and added further documents retrieved by searches for 'EU Constitution' within the website from the top until 50 were complete. Unfortunately, the Christian democratic and liberal parties (CDA & VVD) had already deleted their campaign websites at the time of data collection, leaving only a handful of documents available online. Second, all documents referring to the EU Constitutional referendum were retrieved from the DNPP, the Dutch archive for the political parties,⁴⁶ which collects everything published on paper by the major Dutch parties. This yielded between five and ten documents per party. Finally, I included all direct statements by Dutch politicians published within the journalistic media's coverage of the constitutional referendum (de Vreese, 2006): Direct quotes, statements and commentaries authored by Dutch politicians were identified within all included newspapers and television broadcasts. These passages were thus considered twice in the analysis: On the one hand, they are treated as part of the media's discourse, owing to the

⁴⁵ An attempt to include another private station, SBS6, failed because no more than three editions of the station's prime news format (Hart van Nederland) mentioned the EU constitution at all.

⁴⁶ Documentatiecentrum Nederlandse Politieke Partijen at the University of Groningen, the Netherlands

fact that they had been selected by the respective journalists for publication, and could be read/viewed by their audiences. On the other hand, they are treated as part of a political party's discourse, owing to the identity and strategic contribution of the author. In this subsample, the major government parties, CDA and VVD were somewhat overrepresented. When interpreting the data, it should be kept in mind that these discourses are reconstructed to a larger degree from statements published in (selective) journalistic media (van Gorp, 2005). The total sample composition is shown in annex IX.4.

Data preparation & modeling considerations

For the automated analysis, visual information was described using keywords, unless it was redundant with the text. Subsequently, the text structure was recognized and a number of tags were added to the text (van Atteveldt, 2008), marking syntactic breaks (interpunctuation and paragraph breaks), headlines and subheadings (in television broadcasts: inserts or anchor's opening sentences announcing a new item), bullet point lists as well as direct quotes. These tags were needed to model the text's context structure: When reading a text, individuals draw upon information provided elsewhere in the text, which is not necessarily limited to information provided in close succession. Also higher level macrostructures are required to build an understanding of the text's meaning (Esser & D'Angelo, 2003; Graesser *et al.*, 1995; Kim & Rhee, 2009; van Dijk, 1985, 2008). Decoding the text's (macro-)syntactic structure is thus necessary for modelling which terms are likely to be related.

For most parts, the probability of two concepts being related is dependent on their distance in the text (Tapiero, van den Broek, & Quintana, 2002; van Dijk, 1985). Thus, I opted against more common, unit based approaches, which record co-occurrences of concepts within a sentence, paragraph, or whole article (Donati, 1992; Pan & Kosicki, 1993). In my view, such approaches are implausible: Sentence- or paragraph-bound approaches assume that contextual relevance does not span unit boundaries – an assumption led ad absurdum by anaphora, which serve to extend semantic contexts across syntactic boundaries (Johnston, 1995; van Dijk, 2008; van Dijk & Kintsch, 1983). Article-based approaches, by contrast, assume that the internal structure of the text does not matter at all, and treat all raised concepts as related – which is implausible particularly for longer texts. Furthermore, all unit-based measures react strongly to writing style: The length of a text, paragraph or sentence length determines the number of associates a focal concept co-occurs with, and thus of the density of any derived relatedness matrix. In taking a distance based approach, I reflect Kintsch and van Dijk's (1983) argument that most meaning construction in discourse processing is local. Concepts co-occurring in close succession are likely to be related, whereas distant concepts are usually not required for comprehension.

Within the local context of a focal concept, syntactic breaks structure comprehension (Hellsten *et al.*, forthcoming): Concepts within the same paragraph, sentence or clause are more likely to be contextually relevant than those outside. However, these syntactic breaks are 'soft boundaries' that can be transgressed (Kintsch, 1998). Implementing this logic, I used a word distance based co-occurrence algorithm, which considers which

concepts occur within 30 words' distance⁴⁷ of a focal concept. In order to reflect the bias introduced by syntactic breaks, the algorithm applied penalties whenever a clause, sentence or paragraph border is transgressed (i.e., periods, commas etc. count as multiple 'words' in the distance algorithm). Thereby, co-occurring concepts can be separated by relatively many 'real' words if they occur in the same sentence, but each intervening syntactic break diminishes the distance allowed for co-occurrence. Since I could find no theoretical points of reference as to how much of a penalty the different structural breaks should introduce, I used an ordinal approach: I distinguished minor (commas, semicolons, colons), medium (periods, exclamation and question marks) and major breaks (line breaks) and tested the coding algorithm using different sets of evenly spaced penalty values. The model finally implemented was chosen for its parsimony and the most plausible results, and uses penalties of one, three and five words respectively. Note that, since paragraph breaks are usually preceded by a period, paragraph breaks effectively reduce the distance permitted for co-occurrences by eight words. Given the frequency of commas, periods and paragraph breaks, the algorithm's 30 words' distance translates into about 20 'real' words, or even less in dense journalistic writing.

However, not all discourse processing is local. Global thematic information, as well as a text's 'regional' macrostructure also inform comprehension (Graesser *et al.*, 1995; Kim & Rhee, 2009; van Dijk, 1985, 2008). Words in the headline are part of a text's global thematic macrostructure and are therefore relevant context for all propositions within an article. Subheadings further specify which aspects of this global theme are discussed in the subsequent paragraphs. They thus amend and differentiate the global context model for all subsequent propositions until the next subheading introduces another focus shift (Johnston, 1995; Kintsch, 1998). Bullet point lists enumerate specific aspects of claims that have been introduced before. Usually, the sentence preceding a bullet point list informs the reader about what the following points are examples of, or evidence for. Thus, the sentence preceding a bullet point list is included as relevant context for each point in the list. Lastly, the author of a direct quote is part of the relevant context for the whole following turn or statement. In the sketched model, the context relevant to comprehending a concept's meaning thus comprises the text's global (headlines) and 'regional' macrostructures (subheadings, bullet point rationales and the author of a statement, if applicable), as well as the local context determined by proximity (Esser & D'Angelo, 2003; Hellsten *et al.*, forthcoming; Kintsch, 1998; van Dijk, 2008).

Coding

Coding proceeded in three main steps: First, concepts were identified within the texts using a long list of coding rules constructed as follows: A set of key words was created based on a) a subsample of texts that were coded inductively, b) those categories developed by Baden and de Vreese (2008) to capture focus group discussions about the EU constitutional referendum (see chapter VI), c) the code book used by Takens (2006) for her analysis of press coverage about the same, and d) word frequency lists from the

⁴⁷ The distance is relatively arbitrary and mainly affects the type I/type II error rate. The large window size aims to include all relevant concepts in a concept's surrounding, at the cost of including also irrelevant concepts which will be filtered out later (see below). It uniformly affects the density of all constructed networks and is neutral towards their structure.

newspaper subsample. Expressions were grouped as equivalent if they were used interchangeably, or in the same semantic function (e.g., different examples of Dutch liberties were coded jointly unless their relevance was differentiated, Baden & de Vreese, 2008). Synonyms and circumscriptions were added and disambiguated utilizing a thesaurus and, in difficult disambiguations, an analysis of concordances in the sample texts.⁴⁸

Each concept was coded searching for occurrences of one or several keywords in combination with a number of disambiguation criteria specifying which other expressions must or must not be found within a defined distance of the focal word (van Atteveldt, 2008). For instance, ‘positive (subjective evaluation)’ was coded if the focal word ‘good’ (‘goed’) was found within 5 words distance of the word stem ‘to find’ (‘vind*’ or ‘vond*’), nearby (distance: 10 words) a self-reference (‘ik’) and not immediately pre- or succeeded (distance: 2 words) by a negation (‘niet’, ‘geen’). In total, 1205 concepts were coded using 3267 keyword-disambiguation-combinations.

Those concepts recognized in macrostructure-relevant parts of the texts were extracted and stored as attributes of those parts of text they referred to. For each word recognized as a concept, every attribute-stored concept constituted a co-occurrence relation between the focal concept and the respective element of the macrostructure. Finally, co-occurrence was determined for all concepts within the local text structure using the described word distance based algorithm. As a result, each article can be represented by a vector listing each concept’s occurrence frequency, and a symmetric matrix containing the frequencies of co-occurrences between any pair of concepts (Diesner, 2004; Hellsten *et al.*, forthcoming; van Atteveldt, 2008). The entire coding procedure was implemented within the software environment of the ‘Amsterdam Content Analysis Toolkit (AmCAT)’ (van Atteveldt, 2008).

Transformation & analysis

For analysis, the derived article matrices had to be aggregated and transformed. Articles were grouped by source and, where applicable, by phase, and the frequencies of occurrences and co-occurrences were added. However, these frequency based matrices do not yet allow a direct analysis: First, co-occurrence frequencies are heavily dependent on the occurrence frequencies of the involved concepts. Frequency matrices are dominated by relatively few concepts that occur very often in language use – e.g., pronouns (self-references, ‘we’, etc., Steyvers & Tenenbaum, 2005). However, the information value of concepts is inversely related to their frequency: The most interesting concepts occur relatively infrequently (Lowe, 2001).

Second, the coding procedure opted to include relatively many nearby concepts in an attempt to capture most related concepts. Thereby, it inevitably recorded a sizeable share of spurious co-occurrences. Thus, in order to distinguish co-occurrences that (are likely to) follow from the semantics of the text from those random entries, I compared the observed co-occurrence frequencies to those expected if there was no systematic relation between concepts (Griffiths & Steyvers, 2002).⁴⁹ The expected frequency of co-

⁴⁸ The entire code tree is available upon request. The disambiguation rules can be obtained from the author, as well, but remain subject to restrictions in use.

⁴⁹ The expected frequency can be calculated assuming a random distribution of all recorded occurrences of a given pair of concepts over the texts, and considering the probability of both occurring within the same

occurrences between a pair of concepts is binomially distributed and depends on the concepts' occurrence frequencies as well as the summed frequency of all concepts in a corpus. Determining the observed co-occurrence frequencies' z scores on this expected distribution, one obtains a measure of the certainty that a co-occurrence is systematic. For analysis, I eliminated all links that failed to reach significance at a .001 level (two tailed).

The last remaining problem concerns statistical power. While the normalization procedure is robust for frequent concepts, some concepts occurred very infrequently in some matrices. Following the binomial logic above, their expected co-occurrence frequencies were well below one, and any coincidental co-occurrence would register as statistically significant. In order to avoid mistaking single co-occurrences of rare concepts for important associations, I eliminated all concepts with less than five occurrences. Deleting also those concepts showing no significant links with any other concepts, I obtained a set of binarized, reduced and much sparser matrices retaining around 200-300 concepts and 2000-5000 systematic, probably meaningful links (Hellsten *et al.*, forthcoming). A few networks which, after these reductions, contained less than 25 concepts (the coverage of the newspaper Metro from phases III, IV, & VII as well as the party discourses of SGP and LPF) were excluded from further analysis.

Within the reduced networks, I identified regions of heightened interconnection density by searching for cliques (complete subgraphs: subsets of the network for which each concept is linked to all other concepts. Only cliques of a size of four or above were considered, Wasserman & Faust, 1994). Weighting links by the number of cliques they participate in, I obtained a network that reflects the density of local clustering. The strength can be interpreted as the participating concepts' number of common associates which are themselves linked, as well. A hierarchical cluster analysis was subsequently applied to determine cohesive subsets of concepts regularly co-occurring in common contexts (Kim & Rhee, 2009). Both the clique search and the hierarchical clustering algorithms are implemented in the software package UCInet 6.0 (Borgatti, Everett, & Freeman, 2002). The graphical representations presented in this paper are obtained using the Kamada-Kawai algorithm, which interprets the presence or value of a link as proximity measure and optimizes stress in a two-dimensional projection (Hellsten *et al.*, forthcoming). The visualization algorithm is available within the software package Pajek (de Nooy, Batagelj, & Mrvar, 2005).

V.4. Results

Coherence

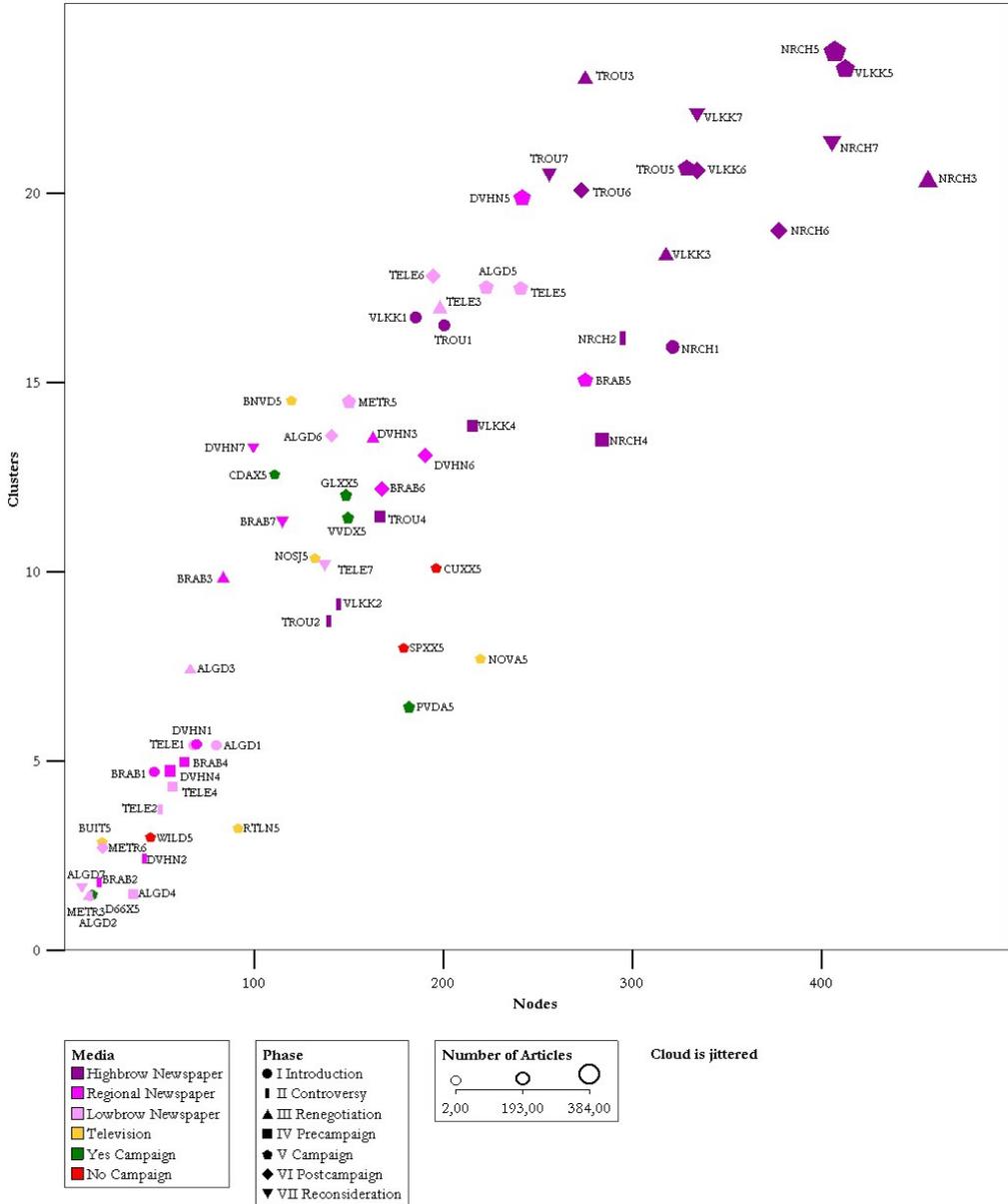
Based on the described clustering algorithm, between 2 (D66) and 13 (CDA) cohesive structures of a size of four or above were identified in the parties' discourse networks. In journalistic discourse, clustering ranged from 3 (RTL Nieuws) to 14 (Barend & van

window, or within another's macrostructure context, respectively. Unfortunately, this formula is forbiddingly complex. The approach I take conditions on the observed density of co-occurrences in a matrix (which is arbitrary and neutral towards structure) and assesses whether the observed distribution of links deviates from a random distribution. In the simulations run, differences between the results obtained by the different approaches were negligible.

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Dorp) cohesive structures on television and 2 (Algemeen Dagblad, phases II, IV & VII, and Brabants Dagblad phase II) to 24 (NRC Handelsblad, phase V) in the newspaper discourses; The descriptive properties of the considered networks are shown in Figure V.1.

Figure V.1: *Descriptive properties of analyzed discourse networks*

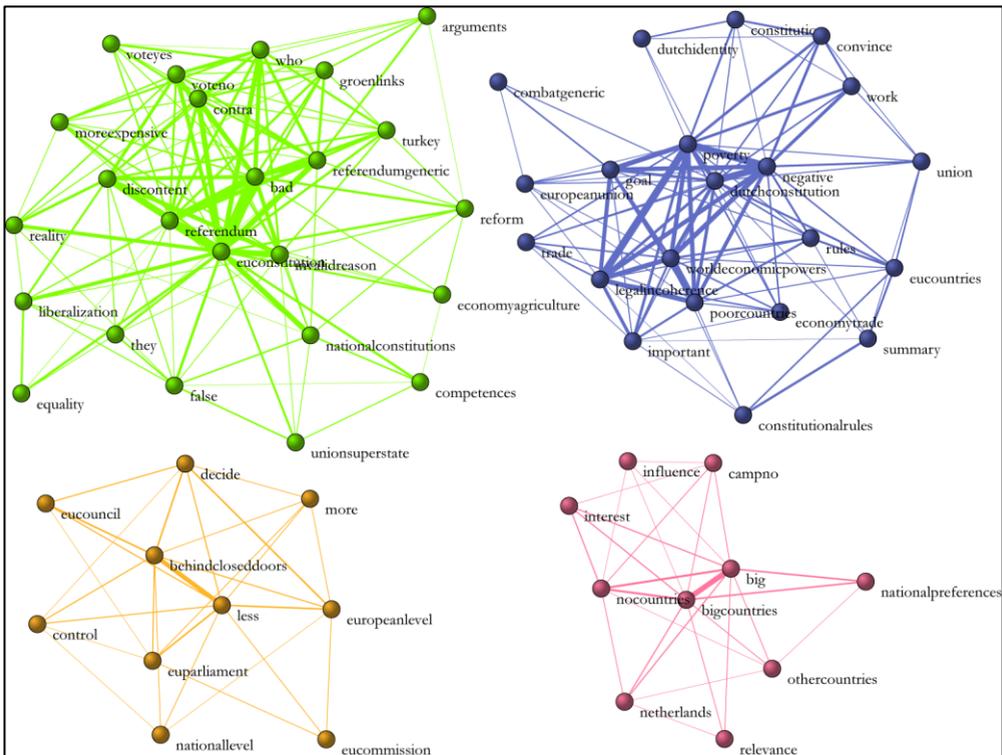


Notes: Numbers in labels indicate phases (I-VII); Acronyms are resolved in annex IX.14

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Each structure groups concepts that are semantically coherent and readily interpretable, lending credibility to the validity of detected structures. Clusters with more than six concepts typically contain a recognizable core which can be interpreted as the ‘central organizing idea’ of the frame, and is surrounded by concepts with decreasing association strength. For instance, figure V.2 shows the four largest cohesive structures identified within the green party’s (GroenLinks) discourse.⁵⁰ At the centre of each cluster, areas of increased interconnection density are clearly visible. In each discourse except for the television broadcasts, there are one or two clusters that are larger and are internally differentiated by up to two local cores representing distinct aspects within the frame. In the first shown cluster, the bottom four concepts (‘superstate’, ‘competences’, ‘national constitutions’ and ‘false’) were more similar to one another than to the rest of the frame; the same is true for the pair ‘liberalization’ and ‘equality’, as well as the five concepts at the bottom right of the second cluster (‘constitutional rules’, ‘summary’, ‘EU legislation’ (=‘rules’), ‘EU countries’ and ‘community of European states’ (=‘union’). Annex IX.6 lists the frames’ central organizing ideas and subdivisions, as well as the concepts constituting the frames (presented in the order established by the hierarchical cluster decomposition).

Figure V.2: *Composition of the four largest cohesive structures in the campaign discourse of GroenLinks.*



Note: Line strengths represent local interconnection density.

⁵⁰ Due to space restrictions, graphical representations are presented only for the discourse of GroenLinks, where representations were most accessible visually. All other representations are available upon request.

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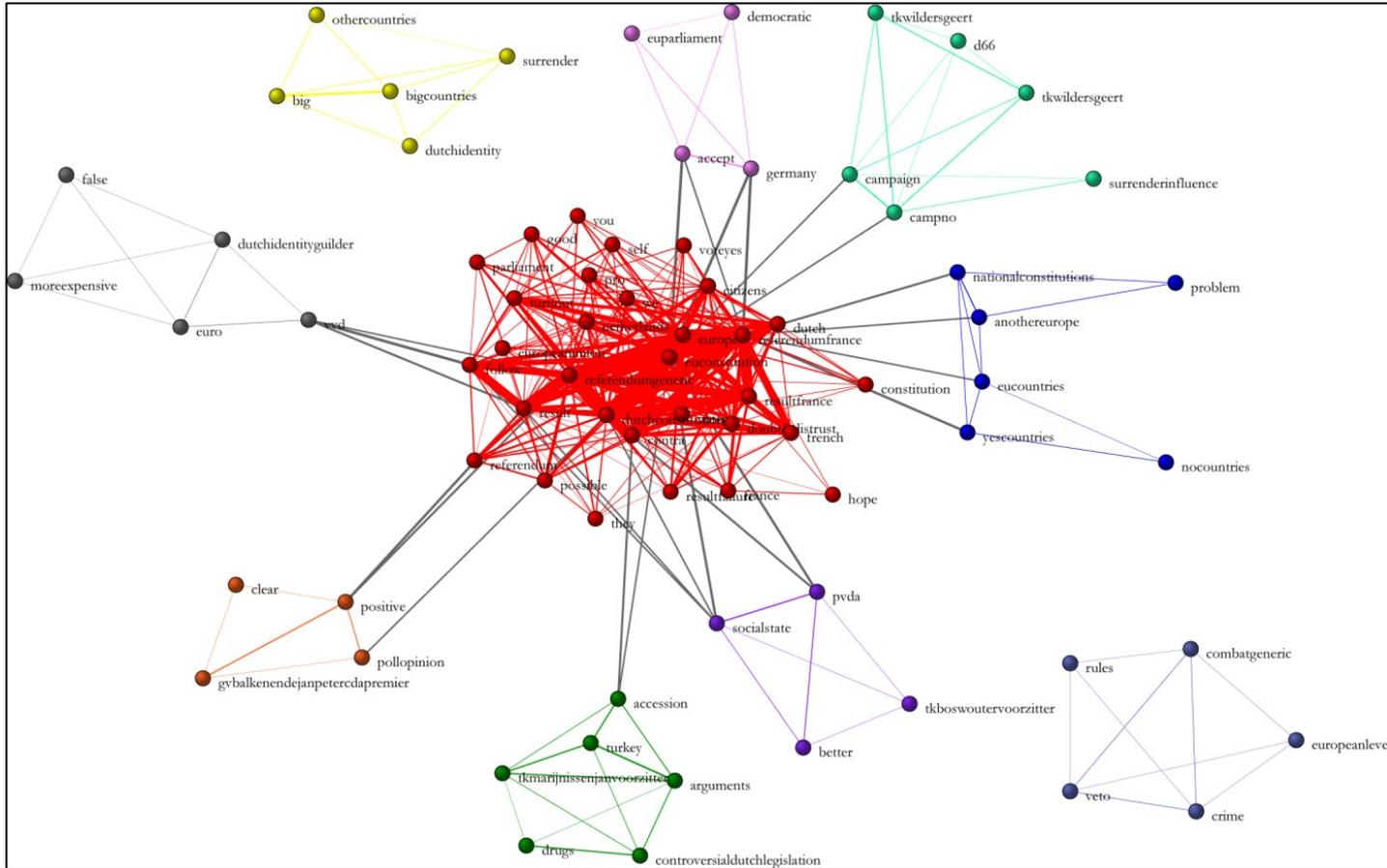
Although the clustering procedure assigns each concept to precisely one cluster, frames regularly share concepts. This is expressed by strong links emanating from one cluster targeting selected concepts included in another one. Link strength reflects the number of interconnected concepts that regularly co-occur in the context of both concepts in the dyad: Strong links can be interpreted as cluster membership extended beyond the maximally cohesive structure. The grey links in figures V.3 and V.4 connect pairs of concepts located in different clusters that share membership in multiple clusters. While a multitude of weak links exist between frames' peripheral elements (not shown), most strong ties between frames in the political discourse network connect core components, corroborating *H2a*: Coherence is instated by reference to other frames' COIs. By contrast, the range of concepts participating in more than one cluster in the journalistic discourse networks is much more diverse: In line with *H3a*, news media do not systematically craft coherence between the various frames applied to reported information.

The two largest clusters take in a central position in either kind of discourse. However, both the internal structure and external alignment of these core clusters differs between journalistic and political discourse: In political discourse (exemplified by the discourse of GroenLinks shown in figure V.3), the central clusters contain the party's core arguments, which – by means of coherence links to other frames – structures the whole narrative: In line with *H2b*, the majority of concepts shared by multiple frames links peripheral frames to definitions advanced by the COF. However, not all clusters primarily link to the central clusters. The bottom left cluster in figure V.3, for instance, is only weakly directly related to the COFs, and coheres more directly with the adjacent blue cluster. Across all political discourses, only about a third of smaller clusters shows direct strong ties with the central frames. Another half is strongly connected to other smaller clusters, while a few structures are tied in only by weak links. While on the whole, coherence is established by frame overlaps around a discursive core, several frames cohere only indirectly with the core. While most frames indirectly support and cohere with the central frames' functional dimensions, the alignment is not necessarily direct. *H2b* must be refined.

While also in journalistic discourse (exemplified in the discourse of NOS Journal shown in figure V.4) many links between frames target the central clusters, these links do not instate coherence between frames: They do not regularly involve either frame's cores. Moreover, there are some entirely disconnected clusters that are not even related by weak links to the remaining network. These clusters group commonly co-occurring concepts which do not appear regularly in any other context. Looking at the semantic content of inter-cluster links, peripheral frames do not regularly pick up and elaborate upon claims defined in the core clusters. Rather, most links spanning clusters simply indicate that the same object is considered in two different, but otherwise largely disconnected contexts. *H3b* is supported.

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Figure V.4: *Overlap patterns between cohesive structures in the campaign coverage of NOS Journaal.*



Note: Grey lines link concept pairs from different structures with five or more common associates.

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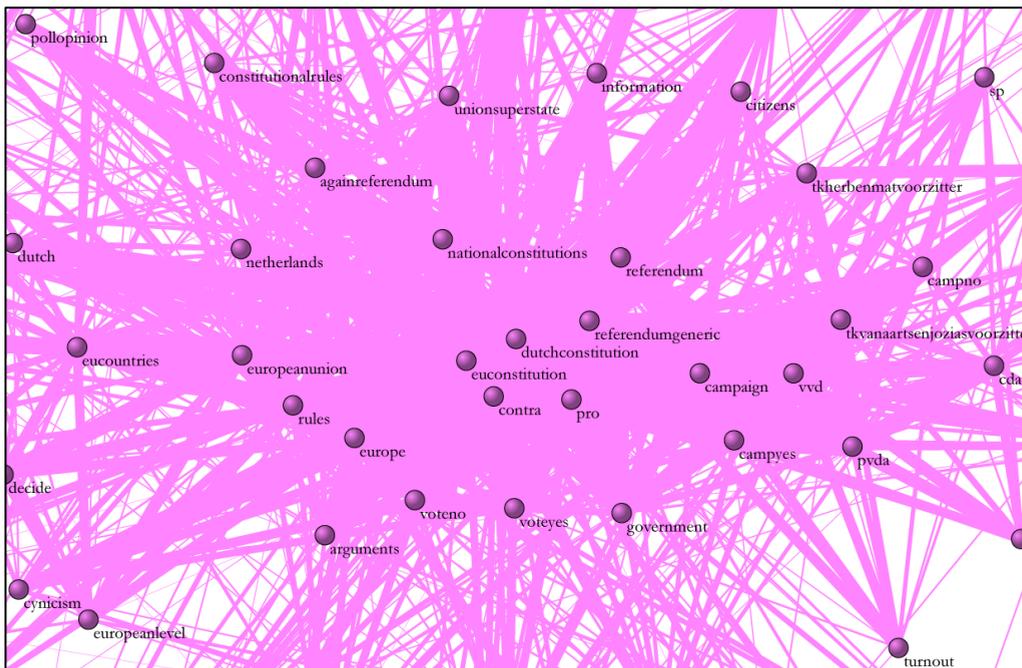
In line with *H2c*, the parties' respective voting recommendations belong to the central clusters in almost all of the political discourses, along with most evaluative statements supporting their stance. Only in the SP's discourse, voting No plays a peripheral role: While the central clusters raise negative evaluations and connotations ('contra arguments', 'threat', 'war'; 'discontent'; 'problem'), they do not expressly draw the link to voting No. This is in line with the SP's campaign slogan, 'Weet waar je ja tegen zegt' (Know what you say yes to): Sketching a negative scenario of alleged implications of the EU Constitution, the party left the (obvious) conclusion about vote choice to the voters' reasoning. Similarly, vote choice is never a core component of the COF within the other parties' discourses, either. The recommended vote choice is presented as a direct consequence, but not as an integral component of the main argument.

By contrast, and in accordance with *H3c*, clusters in journalistic discourse hardly ever features unique evaluations or vote recommendations. Either stance reliably co-occurs with the opposite stance or evaluation. With increasing proximity to the time of the referendum, the tendency for both vote recommendations and explicit evaluations to occur within the central clusters increases. For instance, the core of the central frame in the NRC Handelsblad's campaign coverage shown in figure V.5 contains the concept pairs 'pro'-'contra', 'vote Yes'-'vote No' and 'Yes camp'-'No camp'. The clusters typically do not contain any kind of coherent argument for either side, but mostly loosely connected inventories of arguments advanced by both camps. Clusters, and certainly the central ones, cannot be described as coherent arguments. Unlike the political narratives, where the cores were held together by semantically and evaluatively coherent claims, clusters in journalistic discourse are constituted mostly by semantically and evaluatively diverse claims held together by common objects. Almost every journalistic discourse network contains also some clusters that merely group salient political actors or countries. Only smaller clusters take argumentative form. When they do, they often indicate a specific author to whom this argument is credited. The complete list of frames is reprinted in annex IX.6.

In order to assess the degree of agreement across discourses, I determined the range of concept associations that were contained within maximally different networks, as well as the subset of associations contained within the networks' cohesive clusters. I selected four parties with radically different ideological standpoints, belonging to different campaign camps: While the rightwing-liberal party VVD (part of the government coalition at the time) and the alternative green party GroenLinks (in the opposition at the time) supported the EU constitution, the Christian conservative ChristenUnie and the socialist SP (both opposition parties at the time) rejected it. Among the news media, I selected one public service TV news show (NOS Journaal), a commercial channel political talk show (Barend & van Dorp), and the broadsheet newspaper NRC Handelsblad. In addition, I also checked for agreement over time, including the NRC Handelsblad coverage both from phases I (Introduction) and V (Campaign).

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Figure V.5: Core structure of the central cluster in the coverage of NRC Handelsblad (phase V)



As figure V.6 shows, agreement is generally low, even considering the maximally different networks chosen: Around 90% of all significant concept associations were unique to either of the respective four networks. Hardly any associations (less than 1%) occurred in all networks. Comparing the agreement on associations between political and journalistic discourse in general (*all lines*), contrary to the expected higher similarity between journalistic accounts (*H2d* and *H3d*), there are no striking differences. However, in line with the same hypotheses, the agreement in political discourse more than halves if the organization of accounts (*clusters only*) is considered; for journalistic discourse, it is nearly unchanged. Political parties agree on several propositions but organize them into different contexts, whereas journalistic claims tend to occur in similar contexts.

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Figure V.6: *Agreement on concept associations within political and journalistic discourse.*

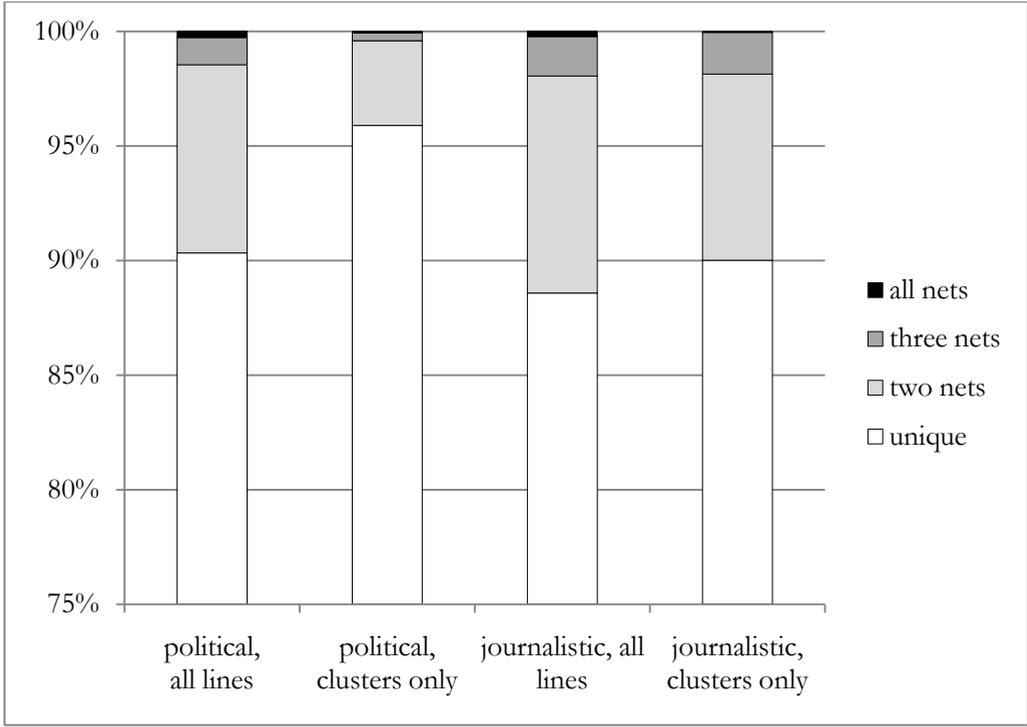
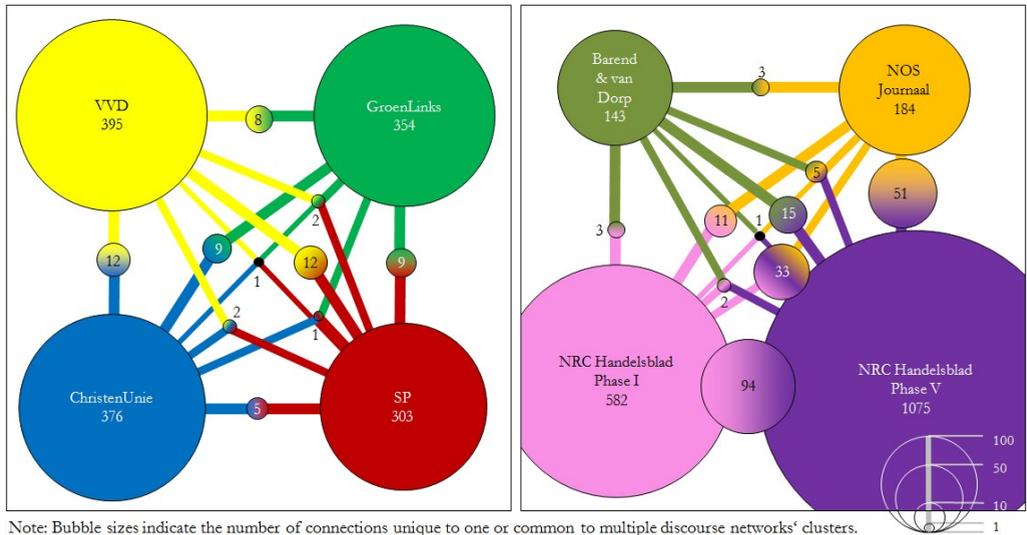
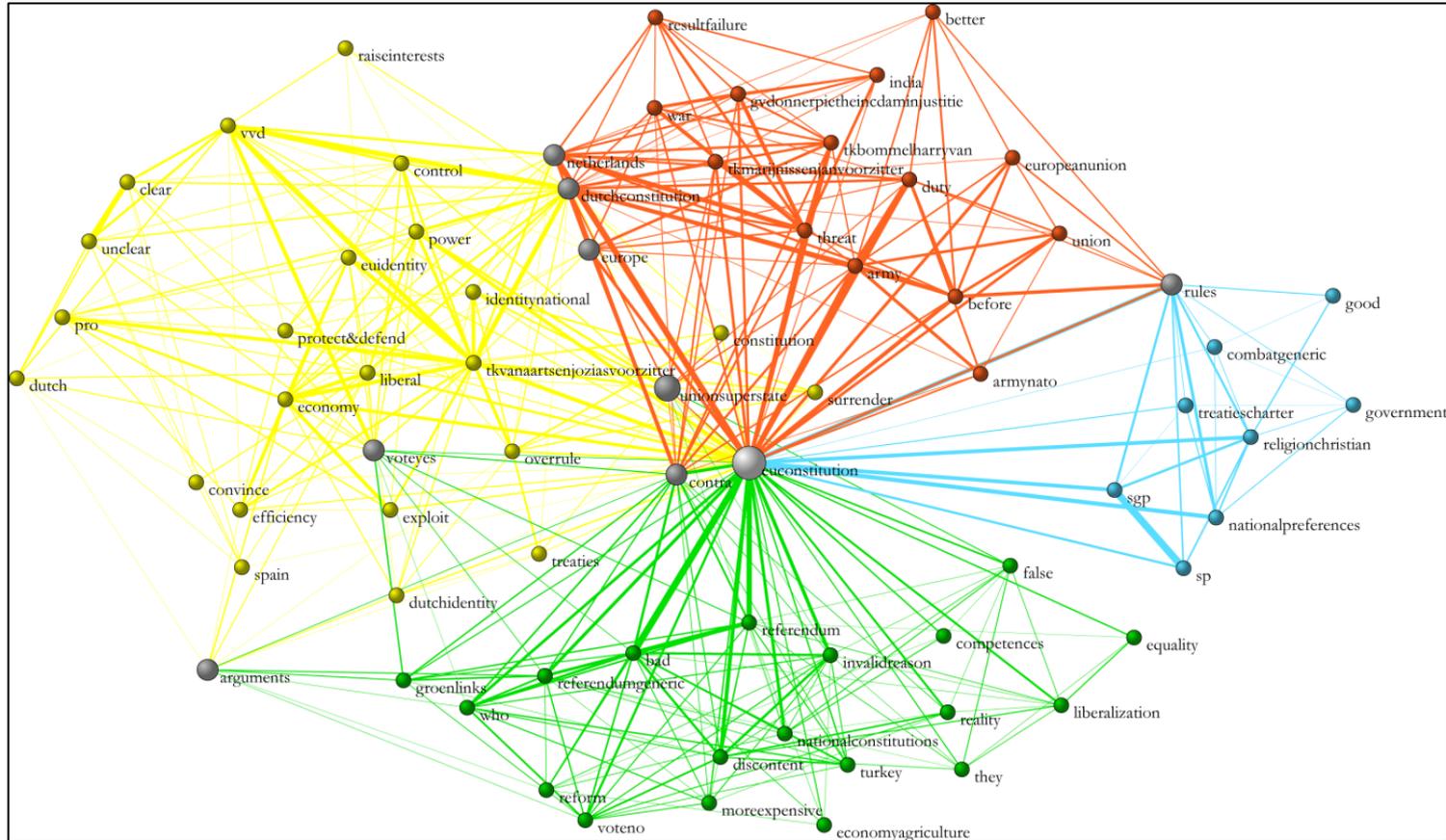


Figure V.7: *Patterns of agreement on concept associations within political and journalistic discourses.*



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Figure V.8: Clusters pertaining to the EU Constitution in the discourses of VVD, GroenLinks, ChristenUnie & SP



Note: VVD – yellow, GroenLinks – green, ChristenUnie – blue, SP – red; Colored vertices represent concepts associated with the EU constitution only by either of the parties; Grey vertices represent concepts used by multiple parties, vertex size representing the number of parties.

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Considering also the specific patterns of agreement across discourses, which are shown in figures V.7 to V.9, expectations are further corroborated. Within political discourse, there is generally little agreement. Ideological idiosyncrasies dominate, as is reflected in the semantic content of the respective accounts:

The liberal party interprets the Constitution's bearings on the workings of Europe and the preservation of Dutch identity (*yellow cluster in figure V.8*), aided by another core frame explaining how the new competence order achieves these aims; peripheral frames exemplify policy cooperation (combating crime, regulating immigration, safeguarding free trade) and define Dutch identity (human rights, liberal legislation). The other Yes camp party, GroenLinks, refutes common misunderstandings about the EU Constitution (*green cluster*) and contrasts these with a positive frame regarding economic integration and social welfare. Peripheral frames blame the No camp for false claims and elaborate on the welfare theme (social rights, health and education, energy waste). A few more party-typical frames do not derive from the central frames (democracy, transparency, peace, rejection of Iraq war). The ChristenUnie's discourse revolves around a narrative core which discusses losses in influence and identity, including a cultural-religious aspect that is taken up by the peripheral frames (*blue cluster*). The second core frame, sketching an eruption of discontent in the French referendum seems to have little implications for further frame selection. The SP's discourse, finally, is structured around an antagonism between a militarized EU superstate (*red cluster*) and a democratic, decentralized national order. Aligned around this opposition, peripheral frames refer to big countries' preferences as well as national diversities. While closely relating to the respective parties' typical master frames, the EUC is embedded primarily within highly divergent interpretations, agreeing merely on its implications for decision making (*grey and white vertices in figure V.8*). However, while VVD integrated both party-specific and object-oriented considerations into its discursive core, the concerns stand somewhat apart in the other parties' discourses, and almost separated in the green party's narrative (see annex IX.6). Another commonality lies in the recurring concern with observations from the campaign – e.g., others' claims in the greens' discourse, or references to the French referendum; however, which observations they referred to differed considerably between parties.

In journalistic discourse, by contrast, agreement is considerably higher, as can be seen in figure V.7. Only the talk show discourses are clearly different from the other news sources. Among the news media, limited agreement exists over time (e.g., within the NRC Handelsblad coverage) as well as between different outlets' coverage of the same phase. The higher degree of agreement is reflected also in a rather similar semantic organization of the detected clusters, as illustrated in figure V.9: The news media's discourses reliably feature one (TV news) to two (print) large clusters at the core which summarizes the various campaign actors' pro- and con-arguments about the EU constitution (*rose, violet and orange clusters in figure V.9*). Aside of this, the central clusters usually refer to the different interests of other EU member states (*violet cluster*), and the French referendum campaign, as well (*orange cluster*). By contrast, such 'summary' clusters were absent in the investigated talk show discourses. Most smaller clusters concern either specific arguments associated with specific campaign actors, or features about specific events or policies at the European level (see annex IX.6): The NRC Handelsblad (phase I), for instance,

saliently reports on EU immigration policies, enlargement, intergovernmental coordination, as well as threats to welfare and employment. In phase V, the topics that constitute clusters of their own concern the (upcoming) French and (planned) UK referenda, the war on terror, and Euro-induced price rises. In the broadsheets, these topic-focused clusters were reliably larger and more central than those arguments attributed to specific actors. By contrast, on TV news, and most saliently so in the talk shows, actor-associated arguments were much more prominent, while neutral, issue-focused frames were rare. NOS Journaal associates the debates on the Turkish EU accession and the continuation of Dutch liberal legislation on drugs with the SP-leader Marjijnissen. Fears of diminished Dutch influence in Europe are related to the right-wing populist Wilders, Euro-induced price rises to the VVD, and welfare concerns to the social democrat party PvdA. In the talk show Barend & van Dorp (B&vD), the ChristenUnie leader Rouvoet could present his concerns about EU bureaucracy and the Greens unfolded their argument concerning the redistribution of competences in Europe. Topics not clearly associated with particular guests and speakers included a concern for Dutch culture (both on NOS and B&vD), as well as cross-border crime and the expensive euro (B&vD only). Hence, to the degree that media outlets allowed political actors to speak themselves, their discourses contain rather decontextualized shards of the aforementioned party political discourses. With higher ambitions regarding journalistic professionalism and neutrality, these shards become fewer and integrate into ‘feature’-like clusters that introduce the arguments organized by topic rather than by author. At least in news media, many highly reduced issue-specific clusters flock together, forming the central clusters. These mostly derive from campaign observations and summarize the range of available arguments. The expected distinction between narrative, argumentative party discourses and decontextualized, event- and issue-focused media coverage, juxtaposing third actors’ pro- and con-arguments, is corroborated not only on a formal, but also on the substantive level.

V.5. Discussion

Substantively, the above findings tie in well with the existing knowledge on the Dutch referendum campaign (Aarts & van der Kolk, 2006; de Vreese, 2006; Harmsen, 2007; Schuck & de Vreese, 2008; Takens, 2006). The main finding unanticipated by the literature concerns the rather large space within parties’ discourse taken in by reactions to the campaign situation – noting, of course, that the represented semantic nets do not measure the frequency of mentioning, but the density of association in common contexts. Aside of that, it is remarkable how little similarities between the discourses were found. Even though I looked at maximally different networks, 90% propositions unique to either network raise questions regarding the postulated common ground of publicly communicable information (Dewey, 1927; Moscovici, 1986; Neuman *et al.*, 1992). However, and in line with the expectations, the similar organization of propositions in journalistic discourse hints at the presence of some commonality in interpretations (Peter, 2003; B.T. Scheufele, 2006). Amid the considerable heterogeneity of propositions, a limited, stable core provides structure to the socially shared interpretations, forming the common information base for social representations. Political actors referred to these

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common bases, but deviated deliberately from the organization provided by media discourse to weave their specific accounts and arguments (Bennett, 1980; Sapiro & Soss, 1999).

The above findings offer considerable support to the expectations regarding the context structures (frames) applied in political and journalistic discourse. They point at a marked difference between news framing strategies on the one, and political framing strategies on the other hand: News frames are not only episodic – i.e., focused on single events and issues; Also over a long period of news discourse, the sum of episodic frames does not form anything resembling a coherent narrative (Iyengar, 1991, 2010). Issues on the media agenda recur in relatively stable contexts, which are not elaborated toward other, related news frames (Brewer & Gross, 2010; Neuman *et al.*, 1992; B.T. Scheufele, 2006). News frames allow a quick overview over the range of offered arguments, however, they do not elucidate how these arguments are connected or might fit into a coherent picture (Nelson *et al.*, 1997). By contrast, political framing strategies show a pronounced narrative structure, recurrently returning to central claims and assumptions to develop and elaborate integrated accounts (Bennett, 1980; Donati, 1992; Edelman, 1971). Consequently, political and journalistic actors resort to fundamentally different frames: Journalists juxtapose opposing arguments (conflict frame), provide features on policies and their implications (consequences frame) and regularly provide little more than the author of a reported argument as the frame context (de Vreese, 2005; Tewksbury & Scheufele, 2009). By contrast, political actors rarely used conflict (e.g., GroenLinks juxtaposing others' allegedly false claims with their own explanations) and did not use author framing at all. Consequences frames occurred, but unlike journalistic frames, these were never neutral, but clearly evaluatively connoted and often linked to explicit treatment recommendations in the narrative core (Benford & Snow, 2000; Edy & Meirick, 2007; Entman, 1993). Political discourses mostly revolved around frames similar to Gamson's (1988) and Snow and Benford's (1992) collective action frames, built around a moral evaluation of specific situations (morality frame) and treatment recommendations (Moloney & Walker, 2002; Sibley *et al.*, 2006). These COFs are elaborated upon by non-neutral consequences frames as well as further instances of related situations and causes that were linked to the same evaluative drift defined by the core. Frames do not stand disconnected, but they relate to one another, and support the interpretation advanced by the campaign discourse's central frames (Gerhards & Rucht, 1992). Unlike journalistic discourse, political narratives hence support not merely the construction of coherent accounts, but also the formation of evaluative judgments (Popkin, 1991).

Taken together, political and news discourses provide the ingredients required for the formation of social representations: While media representations provide the common ground for objectified knowledge, political accounts refer to these established schematic structures and link the disconnected frames into coherent understandings. Social representations support different interpretations, as long as they refer to shared knowledge about core facts as well as widely recognized beliefs about how these facts are related to one another (Moloney & Walker, 2002; Moscovici, 1961). The core clusters in news discourse provide a map of the viable interpretations, establishing familiarity with various available accounts. Parties' narratives start from the representation's core, but their specific elaborations extend well beyond it.

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The detected structure amounts not merely to a rather fuzzy centre-periphery structure of socially proliferated knowledge (Reese, 2010). It also necessitates the detected centre-periphery structure within single frames and schemata: If news discourse mostly summarizes and juxtaposes diverse politically advanced arguments, these arguments need to be built from elements that remain comprehensible when boiled down to their central organizing ideas. The pattern of densely interconnected COIs detected within political narratives ensures that even after decontextualization, the central argumentation lines remain intelligible, or can be reconstructed at least from the episodic journalistic reports. Supporting Gamson and Modigliani's (1987) COI-based definition of frames, frames can be characterized as context structures with a recognizable core structure (which integrates the frame) surrounded by a fuzzy set of less densely affiliated beliefs. The widespread implicit view of frames as well-delimited and holistic semantic structures is inappropriate for investigating framing practice in discourse (Matthes & Kohring, 2004; van Atteveldt *et al.*, 2006). Frame analytic techniques need to take into account the possibility of overlaps and unclear boundaries of frames (Matthes & Kohring, 2008; Reese, 2010). The introduced methodology inductively distils frames as fuzzy, emergent structures from a semantic network representation of discourse. It has proven capable of detecting semantically coherent structures that fulfil the theoretical requirements for frames and schemata – the knowledge structures formed from and responsible for the formation of frames. Unlike holistic content-analytic approaches, the advanced technique allows investigating subtle differences as well as the degrees and areas of agreement between frames in discourses. Particularly in order to detect narrative coherence within and common knowledge across various representations, investigating concept associations and shared contexts provides new, valuable avenues for framing research.

Limitations

Contrary to frequently voiced fears regarding the use of semantic network analysis and automatic clustering procedures (e.g., B.T. Scheufele & Scheufele, 2010), the strong face validity of detected structures bolsters my confidence in the validity of measurement (van Atteveldt, 2008). However, semantic coherence of frames was assessed from the networks, without referring to the original documents. Interpreting co-occurrence based networks always bears the risk of mistaking artefactual collocations for semantic relations. Relatedly, the correspondence of derived patterns with parties' master frames is not grounded in an investigation of the parties' usual discourse. The matches thus hinge upon their plausibility, and require substantiation where doubts remain. Finally, the Dutch EU referendum campaign has been selected as a conveniently clear-cut setup for investigation. Findings cannot claim to apply to strategic political framing in other political settings and circumstances (notably, election campaigns). While there may be good reasons to expect similar narrative structures, this remains to be tested.

In summary

In summary, the above study has extended and corroborated theoretical expectations of the schematic network theory in four major respects. First, it has demonstrated that the internal structures of frames and schemata can be described as a set of interrelated concept associations grouped around a few central propositions (Gamson & Modigliani, 1987; van Atteveldt *et al.*, 2006). Frames can hence be identified based on their formal

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belief structure, underlining the validity of the construct as well as its utility in organizing belief systems and discourse texts. Second, the above study has shown that frames are not independent, holistic units, but fuzzy, densely interrelated and partly overlapping structures within discourse. Frames cohere with one another by means of common reference to shared propositions and COIs. They are instrumental to achieving narrative coherence within discourse, relating otherwise disconnected ideas to the central argumentation line (Gerhards & Rucht, 1992). Third, the above study has shown that frames perform quite different functions, and take different forms, in journalistic and political (or, more generally, persuasive) accounts. Common news frames – thus far a core concern in the study of framing (de Vreese, 2005) – cannot be validly transferred to the study of political narrative. Nevertheless, finally, both journalistic and political discourse feed into socially shared knowledge: Media coverage provides a range of shared, objectified knowledge references to which should be (come) comprehensible to most people in a society (Moscovici, 1961; Neuman *et al.*, 1992). Simultaneously, political discourse refers to these social ‘facts’ to provide causal explanations, evaluations, and offer coherent interpretations accounting for the acquired knowledge. Both the proliferation of factual knowledge and the narratives accounting for these are essential prerequisites for the formation of social representations.