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## D3.1 Cognitive Mapping Coding Manual

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## Introduction<sup>1</sup>

Transcrisis aims to develop a solid understanding of the role of leaders in managing transboundary crises and the requirements for ensuring an effective and legitimate crisis response. In addition to material and institutional requirements, leaders' policy ideas, peoples' preferences and public discourses play an important role in this. Establishing the precise nature and effects of these 'soft' but influential factors in crisis management is notoriously difficult, for ideas, preferences and discourses are intangible phenomenon that cannot be observed directly (Fiske & Taylor 1991; Risse-Kappen 1994). To be able to study these phenomenon and their effects on the effectiveness and legitimacy of crisis management, Transcrisis will make use of a method that was specifically designed to analyse such ideational factors: the method of Comparative Cognitive Mapping (CCM; Axelrod 1976; Bougon, Weick & Binkhorst 1977; Curseu, Schalk & Schruijer 2010; Princen & Van Esch forthcoming; Van Esch 2012; 2014; Young & Schafer 1998).

This coding manual provides a practical methodological guideline that explains how to use the technique of CCM to uncover ideas and discourses. The manual offers valuable insights for other scholars resulting from our years of experience in using the technique. However, the practices described in the manual will be inspired by the research question of central to Work package 3 (WP3) of the TRANSCRISIS project in particular, and serve as a guide for studying the role and changes in the ideas and discourses that pertain to the management of the Euro crisis.

## Key concepts & the technique of cognitive mapping

Work package 3 will study the interaction between leaders' policy ideas, dominant expert and public discourses and citizens' perceptions of the Euro crisis. In order to do so, the following key concepts must be defined and operationalised: leaders and citizens' policy ideas, expert and public discourse and ideational congruence. The technique of cognitive mapping is especially suited to empirically measure these 'ideational' concepts.

### Ideas/belief systems

In the literature, ideas are generally defined as actors' subjective thoughts on how the world works (Levy 1994). These ideas are not necessarily accurate or rational in the sense of being obtained through a thorough cost-benefits analysis or process of trial and error. Rather, peoples' belief systems emerge and gain strength throughout life and are informed by their experience, education

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<sup>1</sup> This manual reflects the current state of our discussions on the issue of coding. During the actual research process, experience may still induce us to divert from the practices described in this manual. The final report of this Work package will note and account for any differences between plan and practice.

and roles. However, while they are not rational, ideas or belief systems are assumed to show some consistency over time.

Despite their different disciplinary roots and terminology, most studies assume belief systems or worldviews to consist of convictions on two or three levels of abstraction (cf. Goldstein & Keohane 1993; Hall 1993; Jervis 2006; Levy 1994; Sabatier & Jenkins-Smith 1993; Van Esch 2007): 1) *diagnostic beliefs* that involve thoughts on the state of the world and nature of the circumstances at hand; 2) *instrumental beliefs* concerning the means or policies that may provide the intermediary connection to further the actors' ends and goals; and 3) *principled beliefs* that denote the values or ends central to the actors' worldviews. These different beliefs are connected through causal and normative relations to form a belief system or worldview. Many scholars assume belief systems to be structured hierarchically in the sense that some belief concepts are deemed to be more fundamental to the actor's worldview than other, more secondary, beliefs. While scholars differ in the kind of beliefs they deem dominant, the conception of belief hierarchy is theoretically important because common agreement exists that change in more fundamental beliefs is hard and rare, and if any belief change occurs 'it is usually confined to the secondary aspects of belief systems' (Sabatier & Jenkins-Smith 1993).

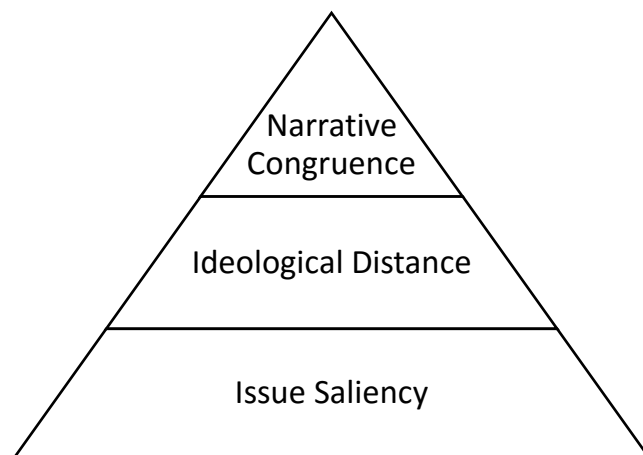
Policy paradigms constitute a particular kind of belief system that is worth mentioning separately in this regard. Following Hall (1993: 279), a paradigm is defined as a 'framework of ideas and standards that specifies not only the goals of policy and the kind of instruments that can be used to attain them, but also the very nature of the problems they are meant to be addressing'. This definition overlaps almost completely with the definition of belief system provided above. However, in contrast to regular belief systems, paradigms are 'ideas on steroids' (Baumgartner 2014): Highly dense and consistent configurations of views, that are incommensurable with rival paradigms (Hall 1993; Princen & 't Hart 2014). Moreover, paradigms are seen as an influential determinant of actors' behavioural patterns and are at the root of grand ideological clashes over policy-making. In the literature, paradigms are placed at the top of the belief hierarchy and seen to be extremely resistant to change. Only major crises and the availability of an alternative paradigm may on rare occasions induce a paradigm shift (Hall 1993). When paradigm shifts do occur they are expected to do so as sudden and complete ideational U-turns. In this project, however, the hierarchy and stability of ideas and paradigms are regarded as empirical questions.

## Discourses

Discourses are systems of thought composed of ideas, attitudes, courses of actions, beliefs and practices that construct the subjects and the worlds of which they speak (Foucault 1972). While ideas are in essence individual cognitions, for this project discourses are defined as the way ideas and paradigms are being shaped and expressed and are therefore social entities. Public discourses are composed of several frames that focus on and highlight a selection of reality. Entmann (1993) distinguishes four functions of such discursive frames that tie in seamlessly with the definition of sense making: The first function is to define what the problem is. A problem definition automatically bestows certain attributes on a situation like who is to blame for a situation and who the victim. The second and related function of a frame is to identify the causes of the problem. The third function is to pass judgment on a situation, its causes and effects and the actors involved. The last function of a frame is to suggest remedies for the problem. These four functions of discursive frames tie in well with the different forms of ideas described above and will be used to analyse the public and expert discourses on the Euro crisis.

## Congruence

In addition to providing insight in leaders and citizens' ideas and public and expert discourses on the Euro crisis, WP3 aims to explore the congruence between them. To establish the extent to which the different actors' and collective sense making efforts overlap, three forms of ideational congruence are used. The first form of congruence is issue saliency which indicates whether similar issues are identified as most important and pressing (Lindeboom 2012; Hobolt & Klemmensen 2005). The second type of congruence is ideological distance. To establish this, WP3 will study to what extent actors and discourses take a similar position on both a left-right and pro/anti-European scale (Golder & Stramsky 2010). The third type of congruence is narrative congruence. This is the most intricate measure that reveals the extent to which the same arguments are used by leaders and citizens and in the expert and public discourses (Van Esch, Joosen & Van Zuydam, under review). The three forms of congruence build on one



*Figure 1: Hierarchy of congruence*

another and are progressive in terms of the intensity of convergence or divergence in sense making they entail (see figure 1).

Cognitive mapping is a method especially developed for studying intangible ideational factors such as leaders and citizens' beliefs and discourses in a structural fashion. The technique rests upon the premise that ideational factors like ideas and discourses can be represented in graphical form (Axelrod 1976; Young & Schafer 1998; Clarkson & Hodgkinson 2005). The method is inductive in terms of the issues that may be studied and can be used to explore the ideas of individuals, institutions and groups on any subject, as long as these ideas are made known to the researcher (Axelrod 1976). A cognitive map is constructed by transforming the causal and utility-relations in a belief-system or discourse into a visual graph in which the concepts are depicted as points and the relations between these concepts as arrows (Axelrod 1976; Van Esch 2007; Young 1996; Young & Schafer 1998; see figure 2).

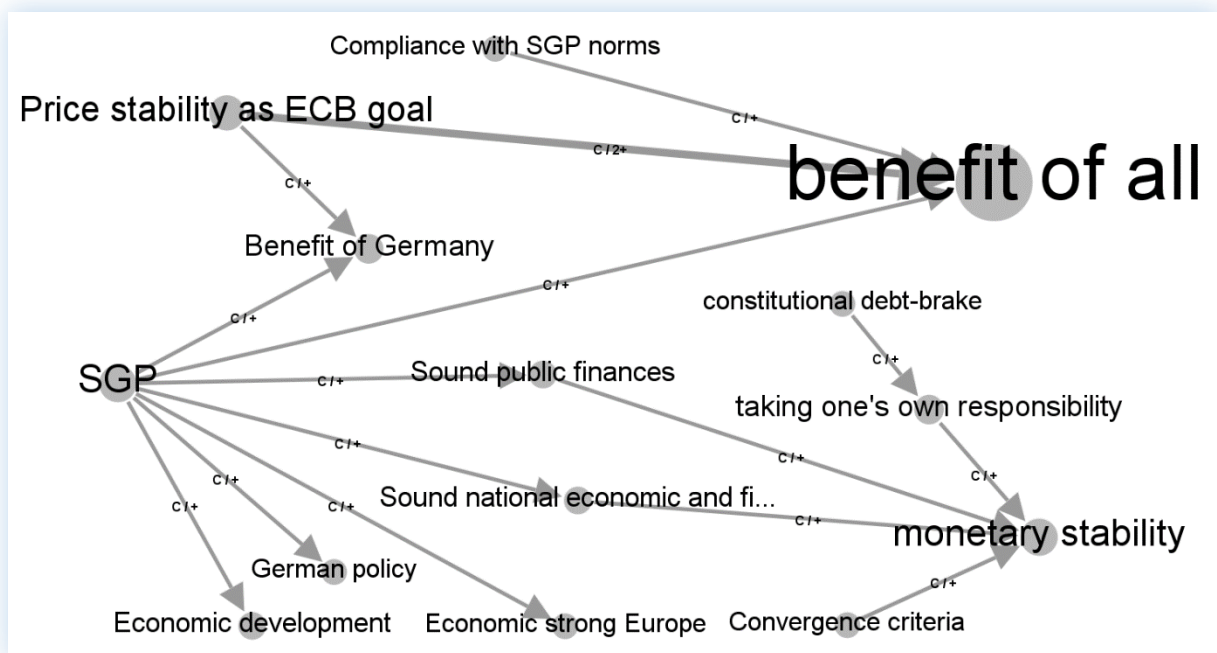


Figure 2: Excerpt from a pre-crisis cognitive map of Chancellor Angela Merkel

## Indirect Elicitation

Cognitive maps can be derived from many different sources as well as directly from the actors under study (see next section). In WP 3, the belief systems of the political and financial leaders as well as the national public and transnational expert discourses will be derived indirectly from existing

sources. Studies applying the technique have used interviews, speeches, transcripts of decision-making moments, policy-proposals or communications to derive maps from (Axelrod 1976; Princen & Van Esch forthcoming; Van Esch 2007; 2012; 2014; Verbeek 1990). Each of these sources has its strengths and drawbacks and not all texts or communications are suitable, as they need to contain argumentation and reasoning to be able to build a cognitive maps from. Also a considerable amount of assertions are needed to achieve a reliable reflection of a belief system or discourse. In addition, in this study we are interested in comparing leaders and citizens' beliefs and public discourses and track changes in the cognitive maps over time. In this case, careful selection of sources is needed to prevent the risk of incomplete source overlap as this would could result in an overestimation of difference and change and produce unreliable outcomes (Young 1996: 409).

The technique of cognitive mapping thus requires careful preparation. Firstly, careful selection of sources and the relevant sections within those sources should take place on the basis of explicit and consistent application of selection-criteria. In addition, the danger of incomplete source-overlap may be reduced by using several sources over a period of time. This reduces the danger of overemphasising a specific event with high saliency at a particular moment in time. Finally, use of broad standardised or merged concepts rather than the specific literal and contingent wording used in the texts or communications as the basis for analysis and comparison will further increase the reliability of findings (cf. Heradstveit & Narvesen 1978: 81).

### Leaders' beliefs

The study in Work package three of the TRANSCRISIS project will focus on nine member states and the EU political level. As such, the research will include the political and financial leaders of those nine member states: Germany, The Netherlands, Ireland, France, Spain, the UK, Hungary, Slovenia and Denmark. The country selection represents a representative sample in terms of geography, exposure to the financial crisis, and types of membership in the Eurozone. As different patterns of leadership and responsiveness may be expected of elected and non-elected leaders, the study will include the heads of state and government as well as central bank governors. In addition, we will study the leaders of selected EU institutions (Commission, Council Secretariat, and ECB).

Most 'measuring at-a-distance' methods like cognitive mapping rely on public speeches and interviews. This raises questions of reliability, for using public sources increases the probability that the maps represent decision-makers' strategic rather than genuine beliefs. Still, using these sources is the best option available especially for the current research that focusses on public and political meaning making rather than private contemplation of leaders. The leaders selected for this study are



deemed relevant precisely because of the public role they played in the management of the Euro crisis.

In addition, public sources may be the only ones available when studying contemporary events (Hart 1977; Dyson & Raleigh 2014), and are widely available, enabling longitudinal study of leader's beliefs that may otherwise be impossible because this requires a large set of comparable texts or assertions (Hart 1977: 117). Moreover, use of the more spontaneous and direct source of interviews to circumvent the interference of speech-writing has its own drawbacks. Rather than a speech-writer's bias, this method may introduce an interviewer-bias. Given the importance of saliency in CM analysis, building maps from interview-answers may result in outcomes that reflect the preoccupations of the interviewer rather than the actor of interest (Axelrod 1976b: 257-9). Finally, some scholars have studied the validity of public assertions in assessing leaders' beliefs (Marfleet 2000; Renshon 2009; Walker & Schafer 2000; Young 1994). Firstly, these studies caution against extrapolating affective reactions from public sources. However, Renshon and Young conclude that analysis of public sources does produce patterns of outcomes very similar to those of private sources. Nonetheless, to reduce any strategic biases as much as possible, when using public source, it is advisable to base any single cognitive map on a number of different sources aimed at different publics and stakeholders over a selected period of time.

As argued before, however, for the current research, these issues are less of a problem as this study does not aim to uncover leaders' private thoughts. As, surprisingly, previous research has indicated that speeches by political leaders on a specific topic like the euro crisis are actually rare (Van Esch 2014), we will start by collecting all speech-acts we can find on the issue (see below for the criteria that need to be fulfilled) and if needed randomly select a similar amount for each leader in order to prevent bias and promote comparability.

### Discourses

In addition, Work package three will study both the national public discourses in the nine selected member states as well as the transboundary expert discourse on the Euro crisis found amongst the transnational financial elite. The cognitive maps underlying the national public discourses will be derived from op-ed pieces concerning Euro-crisis management in major broadsheet European newspapers. In our selection of the newspapers we will rely on established practices within the field of communication studies and more in specific the practice used by the Reuters Institute for the Study of Journalism in their study of media coverage of the Euro crisis. This study includes a dataset of newspaper articles from five of the countries in our study (Picard 2015): France, Germany, The Netherlands, Spain, United Kingdom. For the remaining four countries in our study, Ireland, Hungary,

Slovenia and Denmark, newspapers will be selected using the same criteria as used in the Reuters study. These criteria were:

1. To select the leading financial/business newspaper in a state.
2. To select two leading newspapers each representative of the conservative or liberal political ideology in the country.
3. To include the leading tabloid paper.

For the countries that do not have a leading tabloid, a leading centrist paper was used. As a proxy for the transboundary expert discourse articles from the Financial Times and the Economist will be used as these are the most consulted newspaper amongst the European financial elite (ComRes/Burson-Marsteller 2016). As these newspapers do reflect a distinct Anglo-Saxon perspective on the crisis, in addition, articles from the more continental and well-read EurActiv and EuroObserver will be included.<sup>2</sup> From these newspapers only Op-ed articles will be used as a first exploration showed these to be most likely to contain the necessary argumentation to derive cognitive maps from.

The precise number of speeches and media sources that will be included in this study will have to be determined in practice based on availability and the timeframe of the study. As the timeframe covered in this study is over five years in which the euro crisis continuously featured as a very salient topic, it will be impossible to include all articles from these source. Moreover, the technique of cognitive mapping still relies on hand-coding and is time-demanding. So, even when limited to only speeches (for leaders) and op-eds (for discourses), we will be unable to analyse all articles that were published. As such, during the coding process we will assess the amount of media sources needed to derive a representative map from and select the number of texts randomly from the population of relevant articles.

### Selection criteria: Timing and content

To be able to answer the central question two criteria need to be taken in mind when selecting the relevant sources: timing and content. Firstly, our study focuses on the sovereign debt crisis that hit Europe at the end of 2009 onwards and lasted (at least) until the summer of 2015 when the negotiations on the third Greek bail-out cause much political unrest. For the purpose of our research, we have divide the Euro crisis into three periods that are characterised by a very different set of events. This will enable us to study and compare the fluctuation and stability of leaders' policy beliefs

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<sup>2</sup> Recently Politico.eu has established itself as a major online news source for EU elites (ComRes/Burson-Marsteller 2016). However, as it was not in existence during the entire period covered in this study, this source will not be used.

and discourses under different circumstances and provide a contextualised analysis of leaders' meaning making efforts.

Reviewing the history of the crisis it may be categorized into three time periods. The first period started at the end of 2009. On October 16<sup>th</sup> 2009 George Papandreou disclosed the severe fiscal conditions that the previous government had kept quiet (Raadschelders & Vigoda-Gadot 2015). On 5 November 2009, the Greek government announced that its budget deficit of national income was even higher than previously announced. In fact, it turned out to be almost double and would eventually reach 14% for 2009 (Chackraborty 2011). As this event set the euro crisis in motion, we will take 5 November 2009 as the beginning of the first period of the crisis.

This first period may be characterised as a time of uncertainty and confusion as the member states and the European Institutions were operating unilateral with 'fire-fighting' crisis responses (Hodson & Quaglia 2009; Carmassi & Micossi 2010). On 25 March 2009, the EU Member States agreed on an emergency plan for Greece which was based on the shared responsibility of a single currency (Meiers 2015). This was briefly followed by more uncertainty as Greece still refused to ask for the financial aid and other Member States were publicly discussing the conditions applicable to the loans (Carmassi & Micossi 2010, p.2). During this time, the Greek sovereign bond yield continued to climb, with the international financial markets demanding more convincing plans from the EU and the IMF (Gocaj & Meunier 2013, p.241). This first period of unilateral action and uncertainty ends on 2 May 2010 when the EU presented its first major coordinated response to the crisis by creating a €110 billion rescue package for Greece (Verdun 2015).

This event also marks the start of the second period. For while the three-year stability program had the ambition to allow Greece to get its economy back on track (European Commission 2010), it did not calm the markets. Neither did the decision for the establishment of the new European Semester, nor the decision to turn the temporary facility into the permanent European Stability Mechanism (ESM). What ultimately did calm the markets was Draghi's famous '*whatever it takes*' speech of 26 July 2012. This is the event that will mark the transition from the second to the third period in our study. The third period is characterised by a marked different mood than the first two as the Draghi speech brought about a positive change in the markets, and confidence (partly) was restored until the outbreak of the political upheaval surrounding the 2015 negotiations on the Greek third bail-out which will mark the endpoint of our study. For each of these three periods a similar amount of speeches and media-sources will be selected for all leaders and countries.

The second criterion for the selection of speeches is their content. As the work package focusses on meaning making regarding the euro or sovereign debt crisis, the selected sources will have to deal with this topic. Belief systems and discourses may be very different for even closely associated issues, so it is very important to apply clear content criteria. In searching for speeches, all researchers participating in the data collection will use the same keywords to find those speech acts that cover the issue of the Euro/sovereign debt crisis. The keywords that will be used are summed up in the table below but overall it is important to keep in mind that while the euro/sovereign debt crisis is also often referred to as the economic or financial crisis, for the purpose of this study must be distinguished from ‘the banking’ as well as the ‘sub-prime mortgage’ crisis. Our study is fore mostly focussed on governmental policy in the budgetary, monetary and macro-economic domain. The search for speeches and media sources will be conducted through key word guided searches of Lexus Nexus, the Eurotopics website (for media sources), government and central bank website as well as the Google search-engine (for leaders’ speeches). By using these different searches a broader arrange of speeches and media sources will be found.

Keywords for selecting relevant speech-acts
Europe / EU
Crisis
Euro crisis
Sovereign debt crisis
Financial crisis

As noted above, not only careful selection the sources of data but also the selection of relevant parts of these sources is important. The unit of analysis to guide this selection are the sections of the speeches or Op-eds as indicated by the lay-out or format of the original publication. Only full sections will be coded and all causal and/or utility relations in that section must be included. However, as we are interested predominantly in how leaders and the public make sense of the euro crisis (how they diagnose its nature, cause and solutions), only those sections containing at least one causal relation will be included in the analysis. The numbering of the sections will be noted on the copy of the text used for coding and will also be registered in the coding software MAPS (and therefore the final database) during the coding process.<sup>3</sup>

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<sup>3</sup> The numbering will take the form of (page number-section number) whereby only the sections that started on that page will be counted.

All the non-relevant parts in speeches can be safely excluded as they will not contribute to answering the research questions (Wrightson, 1976: 320). In order to do this consistently, explicit selection criteria have been set to select only the relevant paragraphs in the speech acts and media. The sections should contain a direct reference to the euro / sovereign debt crisis or a combination of a reference to the EU and key words referring to governmental policies in the budgetary, monetary and macro-economic domain listed in table below. This list is, however, a guideline as sometimes texts continue on a certain topic in subsequent sections without mentioning it explicitly. A section referring to the euro crisis which is followed by a section stating that ‘it’ [in the sense of the euro crisis] leads to unemployment, for instance must be included in the analysis.

Key terms for selecting relevant sections
Euro crisis
Sovereign debt crisis
Europe
European integration / union
European monetary system/EMU
Supranational
Intergovernmental
Any EU Institutions
ECB independence
Price stability/inflation
Sovereign bonds
Financial discipline/SGP
Governmental expenditures/public finances/fiscal policies
Governmental budgetary deficits/public debt
European/international credit facilities

## Direct Elicitation: Citizens’ Beliefs

In addition, cognitive maps will be elicited through direct elicitation from 1000 citizens of each of the nine countries in this study. They will be enlisted to participate in the study through a specialised polling agency and have to form an accurate representation of the population. Representativeness with regard to education, prosperity, age and political ideology are particularly important as these are known to influence peoples’ perceptions of any issue concerning the EU.

The cognitive maps of the citizens will be elicited directly via the web application DART. For this a freehand approach will be used as this is the most efficient and valid way (Hodgkinson, Maule, & Bown 2004). Respondents will be asked to select seven concepts out of a list of 50 pre-defined concepts associated with the Euro crisis. This list of concepts will be assembled after and on the basis

of the analysis of leaders' beliefs and discourses as the aim is to survey peoples' cognitive maps on the most salient issues in the debate.

Subsequently, respondents are asked to draw arrows between the concepts to indicate how, in their eyes, they are linked. The direction of the arrow indicates the direction of the causal effect (cause → effect) while the colour of the arrow indicates whether the effect is deemed to be positive (green arrow) or negative (red arrow). Overall this allows respondents a choice of nearly 5000 different relations to compose their cognitive map from. In addition, respondents will be asked to complete a short survey about their demographic characteristics and political behaviour. This will allow us to aggregate peoples' individual cognitive maps on the basis of key characteristics they share like age, education or party preference.

Concept	Definition	Data	Method
Leaders belief system	Diagnostic Instrumental Principled Paradigmatic	Speeches, (published) interviews	Cognitive Mapping, Indirect elicitation
Public Discourse	Problems Causes Judgements Remedies	Op-ed pieces in major national newspapers	Cognitive Mapping, Indirect elicitation
Expert Discourse	Problems Causes Judgements Remedies	Op-ed pieces in specialised international newspapers	Cognitive Mapping, Indirect elicitation
Citizens belief system	Diagnostic Instrumental Principled Paradigmatic	Citizens responses	Cognitive Mapping, Direct (web-based) elicitation
Congruence	Issue Saliency Ideological Distance (left- right, Pro-EU-Eurosceptic) Narrative Congruence	Leaders' CMaps Citizens' CMaps CMaps Expert Discourse CMaps Public Discourses	Comparative Cognitive Mapping

A note of caution is necessary when using direct elicitation of cognitive maps. In principle, concepts can be positive (for instance prosperity), negative (recession), or neutral (employment) in their meaning. Studies on survey research show that double negative language constructions are more difficult to comprehend and therefore prone to mistakes (De Vaus 2014: 97). This jeopardize the validity of the study. In the case of CCM, double negative language constructions can be equated with combining a negative concept with a negative arrow. For instance, the negative relation 'the actions of the banks → recession' formally means that the actions of the banks reduced the

recession, thus improving the economy. However, previous research shows that many respondents draw this relationship to indicate that the actions of the banks 'were bad for' the recession, thus worsening the recession. In direct elicitation, negative concepts should therefore be avoided (Van Esch et al 2014).

## Coding

Direct elicitation results in the creation of cognitive maps without the direct intervention of researchers. For leaders' beliefs as well as the discourses the cognitive maps are elicited indirectly through coding of text by researchers. As the coding for this project will be done in teams and texts will be double-coded to increase reliability, strict coding rules are needed to guide this process.

In contrast to content analysis, which is essentially 'a counting procedure', the basis of analysis in a cognitive map is the relationship between concepts, not the concepts themselves. (Axelrod 1976a: 7). As such, the focus of the text-analysis is not on nouns but on verbs. An analyst typically looks for the subject-verb-object construction in the text that indicates a causal or quasi-causal relationship (Young 1996: 397). Any relationship drawn by the decision maker that may be 'viewed as equivalent, respectively, to the English expressions "is usefully or desirably associated with" and "is adversely or undesirably associated with"' is recorded and represented in the map (Lambert 1966 quoted in: Axelrod 1976a: 8). In general, deriving the causal relations from texts comes very naturally, and scholars need little training to achieve good rates of inter-coder reliability.

As stated above, to create a cognitive map, all *causal* and *utility* relationships between concepts are manually derived from the text or speech act or texts. Causal relationships follow the structure of 'Cause concept – Linkage - Effect concept'. Utility statements are statements to the effect that something is 'good', in 'someone's interest' or 'in the general benefit'. In addition to coding concepts, coders need to attribute a value to the relationship between these concepts. Such relationships (arrows) in the map can be positive (+), negative (-) or non-existent (0) in case an actor (explicitly) states that a cause concept is not related to an effect or utility concept. Extensive coding rules exist for deriving cognitive maps from assertions (Bonham & Shapiro 1986; Wrightson 1976; Gallhofer, Saris & Melman 1986: 8-9).

### Coding rules

As argued before, the structure of causal and utility relations in English grammar is Subject-Verb-Object and in coder terminology the basis structure is 'Cause concept – Linkage - Effect/Utility

concept' (Wrightson 1976: 292). This structure should be kept in mind by coders at all times, so that no relationship in a text is overlooked. Also, the concepts should be in the form of variables that can take on different values: For example, 'financial stability', which can be great or small. An entity such as 'Rutte' or 'The Netherlands' cannot have different values so it is not a valid concept (Wrightson 1976: 293). When the alternative values of concepts are clearly understood (great or small) they do not need specification. If this is not the case, however, the alternative values need to be included in the description of that variable. The coder will come across sentences or phrases that in a literal sense do not constitute a structural or grammatical relationship. These cases are the most difficult to code correctly. They are best approached by content analysis where the following question should be asked: 'Does the thrust of the phrase, sentence or sentence group imply a relationship?' (Wrightson 1976: 293). For example, the sentence 'the most dangerous thought by the Greek people is to exit the Eurozone' does not constitute a relationship in a grammatical sense, but in terms of content implies that exiting the Eurozone is bad for Greece and therefore a (negative utility) relationship must be coded.

Furthermore, it is important that in the first raw coding, the coder keeps the language as authentic as possible. Also relations should be included as many times as they are mentioned in the source. So if the speaker makes a statement twice, the coder must write down that relationship twice as well. The same goes for contradictory statements: both must be included. However, one should avoid a statement that is subsequently refuted. When a speaker mentions a relationship but then follows with a refutation, only the denial or contradiction of a relationship should be recorded. Only when a relationship is repeated, two relations should be coded. As indicated before, there will be times in which the coder is forced to paraphrase a sentence to explicate the implied structure of 'Cause concept – Linkage - Effect/Utility concept' (see Wrightson 1976: 294 for examples). When such paraphrasing is required, the original language must still be preserved as much as possible. Finally, when a statement in a speech or article is attributed to someone else, the coder needs to judge whether speaker or writer takes on the statement as their own. If so, it should be recorded, but like in the case of refutation, a statement by someone else followed by the consent of the author should only be recorded once (Wrightson 1976: 294).

This last example shows that even with a set of standardised, well-developed coding rules sometimes we need to rely on the judgement and interpretation of the coder. One of the major pitfalls in coding for cognitive maps, like in all content analysis, is that the coding process will be influenced by the personal assumptions and biases of the coder (Wrightson 1976: 294). The danger of this may increase as coders become more familiar with the speaker or writer's viewpoint and they



may start to distinguish relations that objectively are not present simply because of their familiarity with the speaker or author's viewpoint. Wrightson suggests this may be solved by adopting the rule of thumb that relations that transgress the boundaries of a single section are not coded (1976: 295). As it is unclear why this would solve the problem, in this study we aim to counter this problem by having all sources coded by at least two coders independently. Any disagreements will be discussed until agreement exists. If agreement between the two coders cannot be reached, the work package leader (who in principle will not be amongst the first two coders) will take the final decision. In addition, we will uphold part of Wrightson's rule on coding across section boundaries and only code relations that literally conform to the standard grammatical rule of 'Cause concept – Linkage - Effect/Utility concept' over section boundaries.

The coding scheme for cognitive mapping also contains several specific rules for coding utility statements. Firstly, the utility concept must only be used when the benefit that is associated with the cause concept is unspecified (Wrightson 1976: 306). In this study the term 'benefit of all' (or variants like 'benefit of Germany') will be used to denote the most general of utility concepts. Utility variables sometimes consist of a noun with modifier that indicates a positive or negative utility relationship rather than to shed light on the concept itself. For example, the phrase 'peril of France' in the sentence 'this economic policy is pursued at the peril of France' expresses the negative utility of the said economic policy and is therefore not in (what should be coded as) the 'benefit of France' (Wrightson 1976: 306). A good rule of thumb to identify these utility concepts or phrases is that almost all utility concepts include a noun or a noun clause.

### Coding complex phrases

In addition to these basic rules, coders may be confronted with additional complexities. Wrightson has constructed a total of ten additional rules to help coders deal with these special cases. These rules are listed below.

### Rule 1

Concepts may differ in their level of complexity. Some relationships consist of relatively easy-to-code concepts such as 'the banking crisis in the USA caused the European financial markets to crash' in which there is one cause concept (the banking crisis in the USA) which caused (+) the effect (the European financial markets to crash). Other relations may consist of more complex concepts. The sentence 'the establishment of the ESM reduced the Portuguese sovereign bond yield as well as market instability', for instance includes a dual effect concept (sovereign bond yields and market

instability). In other cases the identified cause may consist of a dual concept. All of these complex dual concepts, whether they are the cause or effect or part of a causal or a utility relationship, are separated in two concepts only when the individual parts are truly distinguished as two separate concepts within the text or communication. Whether this is the case may only be derived by reading through the full text. If the concept are consistently used together in one phrase, they should be coded as one and the sentence should be coded as one relationship (with a dual concept). If the concepts are also use individually (as well as collectively), the coder should code them separately as two concepts. In this case, these sentence should be coded as two different relationships. So the example above would be coded as follows:

*The establishment of ESM / - / Portuguese sovereign bond yields*

*The establishment of ESM / - / market instability*

## Rule 2

The coder may also come across 'either/or' assertions. For example, 'either Papandreu implements more austerity measures or he increases taxes to calm the markets in the Eurozone'. As can be seen in the example, either/or relationships often contain two relationships. Moreover, concepts in either/or assertions often need paraphrasing or revision of the original structure to clarify the concepts and relationships (Wrightson 1976: 300). Finally, these either/or relationships exist independently of each other and therefore need to be coded as two distinct relationships. However, this rules does assume that the one relation does not need the other to materialise. If so, the above mentioned example would be coded as follows:

*'Papandreu implementing more austerity / + / calm the markets in the Eurozone'*

*'Papandreu increasing taxes / + / calm the markets in the Eurozone'*

## Rule 3

In addition to factual relationships, texts may include probability relationships. They may occur in any kind of sentence and are only different from other sentences because they indicate a probable rather than definite positive or negative relationship (Wrightson 1976). Key words to look for to identify a probability relation can be found just preceding the cause or effect concept. Some example of such words are 'likelihood', 'chance of', 'may', or 'could' (Wrightson 1976: 301). In the sentence 'Draghi's speech may calm the markets', the word 'may' indicates a probability (positive) relationship. In contrast to Wrightson's coding scheme, in this study such probability relations will not be coded. Only actual relations (in the mind of the actor making the statement) will be coded.

## Rule 4

Another type of relationship are those including pronoun cause- or pronoun effect concepts like 'this', 'it', 'he', 'she', 'we' (Wrightson 1976: 303). These pronouns refer to concepts that have been mentioned earlier in the text. Running into such pronoun concept, the coder must search in the text for the concept that is represented by the pronoun. Once the coder identifies the substantive concept that is referred to by the pronoun, it should be included in brackets in the coding of the phrase. For example, when coming across the sentence 'he was continuously grumpy and this did not improve the ambiance in the Eurogroup', the coder should go back in the text and look for the concept that is represented by the pronoun 'he'. If the coder finds out that 'he' actually refers back to 'minister Dijsselbloem', the relationship should be coded as follows:

*He [minister Dijsselbloem] was continuously grumpy / - / ambiance in the Eurogroup*

## Rule 5

As indicated above, sentences may lack the formal grammatical structure associated with causal or utility relationships. When a causal or utility relationship is nonetheless implicated in the content of the texts, coders should logically derive the relationship and include it in the coding.<sup>4</sup> When relations are derived from the 'content analysis' of a speech or text, coders should make the explicit effort to question their judgments as in such cases there is an increased risk of reading one's own perception of the actor or source into a sentence.

## Rule 6

Some sentences contain relationships in which the cause and effect (or utility) concepts are mentioned in reversed order (Wrightson 1976: 305). This is the case, for example, in the sentence 'Greece cannot secure debt reduction without Germany's support'. Following the mere structure of the sentence without paying attention to the content may suggest that because the phrase 'securing a debt reduction' precedes 'German support' it causes it. Closer analysis of the content of the sentence reveals that in reality the relationship is reversed and Germany's support is the cause concept, therefore the example should be coded as follows:

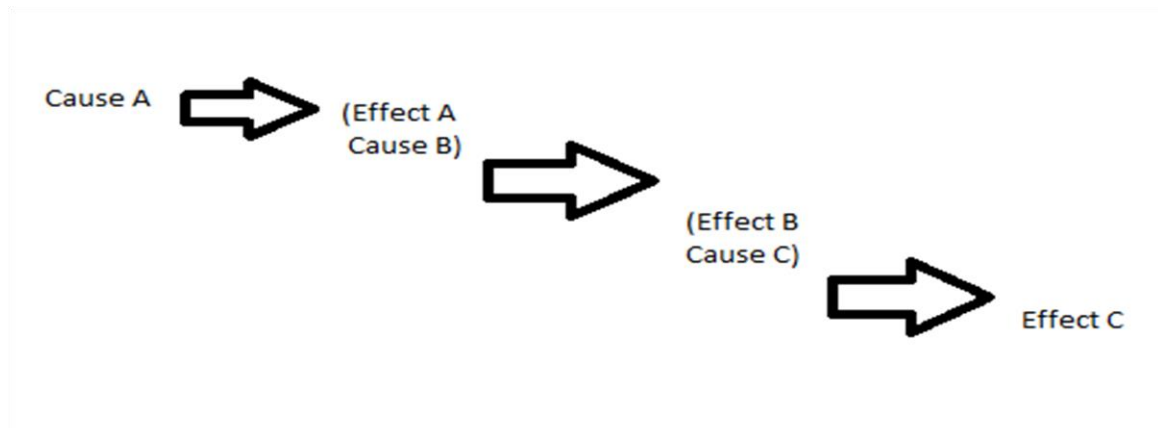
*Germany's support / + / Greece securing a debt reduction*

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<sup>4</sup> For examples see Wrightson (1976: 305)

## Rule 7

Concepts may also have a dual role in a section and be a cause concept at one point and an effect concept at another. This may even occur within the same sentence (Wrightson 1976: 315). The figure below illustrates this type of sentence structure.



An example of a sentence in which this is the case is: 'Italy's budgetary policy will make the country the next target of speculators which would increase its sovereign bond yields and put the country under an unbearable pressure'. In this case two relations may be distinguished in which 'Italy being the next target of speculators' and 'increase in Italy's sovereign bond yields' function as both an effect as well as cause concept. As such, the sentence should be coded as:

*Italy's budgetary policy / + / Italy as the next target of speculators*

*Italy as the next target of speculators / + / increase in Italy's sovereign bond yields*

*increase in Italy's sovereign bond yields / - / [unbearable pressure for Italy] the benefit of Italy*

## Rule 8

Sometimes the dual role concepts play is less obvious and only implied, because they are part of as a chain of interdependent events or chronological listing of events. In those cases, relationships may be deduced from the structure and punctuation of the sentence (Wrightson 1976: 317). An extended version of the sentence used as an illustration in Rule 7 may, for instance, have appeared as follows in a text: 'Italy's budgetary policy will increase its debt; make the country the next target of speculators; increase its sovereign bond yields and then put the country under unbearable pressure'. It is unclear to what extent this sentence represents a chain of events as described under rule 7 or a

tree structure in which ‘Italy’s budgetary policy’ is the direct cause of ‘making the country the next target of speculators’, ‘increase in sovereign bond yields’ as well as ‘putting the country under pressure’. In such cases, coders again have to analyse the content of the argument to come up with the proper coding. In this case, economic logic supports the interpretation of the sentences as a chain of events and the coding should be similar to that under rule 7. The sentence ‘the budgetary policy of Italy has three effects: 1) it will make the country the next target of speculators; 2) increase its sovereign bond yields and 3) put the country under unbearable pressure’, however would indicate a tree structure and should be coded as follows (Wrightson 1976: 318):

*‘the budgetary policy of Italy / + / make the country the next target of speculators’*

*‘the budgetary policy of Italy / + / increase its sovereign bond yields’*

*‘the budgetary policy of Italy / - / benefit of Italy’*

## Rule 9

Wrightson also notes that, despite the strict selection criteria used in this study, sections included in the analysis may contain relations that are irrelevant to the purpose of the analysis. Contrary to Wrightson’s advice, in the present study this will not be a consideration that warrants the exclusion of relations. As the topic under study is very complex and many different perspectives of the Euro crisis exist, this would seriously jeopardize the validity of the findings. Only when in a (introductory or concluding) section of a speech statements are included regarding the occasion, place or host of the event where the speech is held, the coder is required to exercise the discretion to omit such statements from the analysis.

## Rule 10

Finally, some sentences seem to include a causal relationship, while actually they do not. For example, the sentence ‘since the downgrading of Greece’s bonds, the ECB has been unable to calm the markets’ may be interpreted as including the following causal relationship:

*Downgrading of Greece’s bonds / - / ECB ability to calm the markets*

On the other hand, in this case it is more plausible that the phrase ‘since the downgrading of Greece’s bonds’ is meant to denote a mere reference point in time, and not a causal agent. In other cases, however, the existence of a causal relation may be more plausible. In any case, such ambiguous assertions should not be coded as causal unless there is clear evidence that the speaker is

making a causal assertion (Wrightson 1976). This rule of thumb also applies to statements of definitions which may take on the appearance of a causal assertion like in the sentence ‘the monetary policy of the Eurozone is its ability to defend its liquidity’ as this statement is a description of what monetary policy is about and true by definition, it should not be coded.

### Coding discourse: some special rules

The coding of the newspaper articles may raise some difficulties for the regular cognitive mapping coding rules. Classic cognitive mapping looks only at the causal and utility relations in a text that reflect on the position of the writer or speaker. Especially in the Op-ed pieces that will be analysed in this study, several positions and perspectives on an issue are presented. As indicated above, in the coding of leaders’ speech acts only the position of the leader is coded (see page 16). However, as the newspaper articles are used as a proxy for the public and expert discourses, not only the position of the authors but also those they refute are of interest. More specifically, Op-ed pieces may present the positions of the author, its allies and its opponents which are all part of the discourse. To present a complete and representative image of the expert and public discourses but still be able to classify the views of certain newspapers and/or authors coders need to list which voice (self, ally or opponent) makes the statement with every relation that is coded. The coding software MAPS will be equipped with a feature to enable coders to do this.

### Merging and standardisation

The coding rules described above all concern the first raw coding of the sources. However, to enable comparison over time and between leaders beliefs and public and expert discourses some standardisation of the raw concepts in the maps is needed. Also all the concepts included in the cognitive maps should be unique. As such, in the end all synonyms in the database of cognitive maps that is being created in the project, should be grouped and merged under a single ‘standardised’ concept. Unfortunately, no mathematically measure exists to establish the proper level of standardisation (Wang & Laukkanen 2015; Young 1994).<sup>5</sup> In a practical sense, a sufficient high level

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<sup>5</sup> One should not overemphasize the validity-concerns associated with the process of standardization. In essence, the more one standardises the concepts in a map, the more one shifts the study from an ideographic to a nomothetic study. While the former score higher on construct-validity the later perform better in terms of reliability. Choosing the right level of standardisation is thus in essence a matter of striking the right (or preferred) trade-off between construct-validity and reliability. The only difference is that in nomothetic studies the level of standardisation is determined prior to data-collection, in CM research, part of this decision lies

of standardisation should be achieved for the coding in terms of standardised concepts to be possible<sup>6</sup> and a sufficient level of intercoder reliability to be achieved. As such, idiosyncratic events and concepts should be placed under the label of the broader phenomenon of which such event or concept is an instance of (Heradstveit & Narvesen 1978: 81). On the other hand, one must be careful not to eliminate meaningful distinctions that are made in the original sources. All in all, the level of standardisation must take the middle road to doing justice to the actual meaning of the statements made and suiting the empirical and theoretical focus of the study at hand.

The right level of standardisation is different for each study and cannot be generalised. The reason why this is the case may best be explained by referring to the *Inuit-words-for-snow effect*<sup>7</sup> which says that the more crucial a phenomenon, the more important small differences in concepts are, and -as such - the more concepts with a similar meaning should be included in the set of standardised concepts. For instance, in a study on US foreign policy one may probably safely merge the terms European Union, European integration and European cooperation. However, in a comparison of French and German policy-preferences concerning political unification such concepts harbour empirically and theoretically important differences in preferences for the form and level of integration, and thus should be maintained in the final list of merged concepts.

In order to increase the validity and reliability of the standardising process a set of procedures should be abided to: Firstly, before analysing a text, the scholar should read through the entire text to come to grips with the possible importance of subtle distinctions in concepts. Moreover, in order to make such distinctions, coders should have some knowledge of the policy-area under study to be able to properly assess the meaning of such distinctions. Secondly, during the text-analysis phase, transparency is key: the links between standardised and original concepts as used by the leader should be readily accessible and traced back to the exact place in the text they originate from (Bonham & Shapiro 1986). Cognitive mapping coding software MAPS guarantees transparency in this matter. Thirdly, concepts with the lowest saliency and centrality values are the most likely candidates to be merged into a more dominant akin concept. Finally, the raw coding should be retained and remain accessible at all times. Since, in work package 3 of the TRANSCRISIS project an

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between data-collection and analysis. Naturally, in all CM-studies some theoretical and empirical focus has already been introduced in the initial choice of the (sections of) sources chosen for analysis.

<sup>6</sup> CM coding software MAPS facilitates standardization but there is a limit to the amount of standardized concepts coders can reliably work with.

<sup>7</sup> While the 'Inuit words for snow' example is very a well-known and adequate metaphor to describe the nature of the standardisation-process, the actual claim that Inuit languages contain more words for snow is false. Like other languages, most Inuit languages use suffixes to indicate differences in, for instance, types of snow.

entire database of cognitive maps will be created, additional merging of concepts may be needed when all coding is completed to enable the analysis and comparison of the maps.

### Inter coder reliability

The formalization of the cognitive map coding rules has significantly increased the reliability of the coding process (Wrightson 1976; Bonham & Shapiro 1986). In fact, the intercoder reliability of CM studies is usually fully compatible with the accepted standards of good quantitative work in the social sciences (Axelrod, 1976, p.84). To reach an optimal level of intercoder reliability, coders should receive extensive and a careful training (Young and Schafer, 1998). Before the coding process starts all coders working in the project of Work package 3 will receive such a training.

In addition, all sources will be double-coded and will be submitted to intercoder reliability checks. To calculate the intercoder reliability of CM coding the three key tasks of the cognitive map coding process should be taken into account (Axelrod 1976: 85). To determine the intercoder reliability score the correspondence in the following tasks will be established:

1. Agreement on the identification of the number of codable assertions in each section;
2. Agreement on the identification of each of the three parts of relations that have been identified (cause concept, effect/utility concept and sign of relation);
3. Agreement on the identification of the proper merged concept for each of the concepts in the relation.

As the latter two tasks are dependent on the earlier ones, intercoder reliability will only be calculated for those assertions, concepts and relations that were coded identically in previous steps by both coders.

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