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**Analyzing Framing Processes By Means  
Of Logical Argument Mapping**

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CHAPTER FOR: **BILL DONOHUE, SANDA KAUFMAN, AND  
RANDALL ROGAN (EDS.):**

*FRAMING IN NEGOTIATION: STATE OF THE ART*

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Abstract:

The primary goal of this chapter is to present a new method—called Logical Argument Mapping (LAM)—for the analysis of framing processes. To justify this approach, I start with a distinction between boundary setting, sensemaking, and meaning construction as three forms or aspects of framing, and argue that crucial for the resolution of frame-based controversies is our ability to deal with entire “webs” of mutually supporting beliefs. LAM allows us to visualize the inferential structure of those webs of belief in a holistic manner. The method is introduced by means of an exemplary analysis of two conflicting interpretations of how the international community should deal with Hamas after its election victory in 2006.

# Analyzing Framing Processes By Means Of Logical Argument Mapping

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## Introduction

Based on a long debate on “framing” in areas like communication theory, conflict research, and policy studies we know that an understanding of framing processes is crucial when it comes to problems like communication; social, cultural, and political interaction; deliberation; and the resolution of conflicts and controversies. Whenever we try to understand something or talk to each other, framing is involved in one way or another.

The term “framing” can be used to describe three different, but obviously interrelated processes: (a) the process of *constructing* meaning by using language, or by producing signs, in order to induce certain interpretations of events, facts, or utterances in an audience; (b) the process of *interpretation* itself, that is “framing” as a cognitive process that we perform all the time to make sense of what is going on around us; and (c) the process of *setting boundaries* around an issue, that is a process which comes closest to the literal meaning of “frame” as something that surrounds something else, say a painting or a mirror. In order to keep things clear for the following discussion, I will use the following terms to distinguish these three processes:

- a) “meaning construction” to describe a semiotic process of framing (“semiotic” in the sense of producing signs, including language, gesture and body language, mimics, prosody, etc.; exemplary for this sense of framing are the approaches of Bateson, 1972 <1955>, and Lakoff, 2002);
- b) “sensemaking” to describe the cognitive process of interpreting and understanding (see Minsky, 1997 <1974>); and
- c) “boundary setting” to describe mechanisms of inclusion and exclusion (see Ulrich, 2001, and Ulrich, 2003, on “boundary judgments”).

A first objective of this chapter is to define meaning construction, sensemaking, and boundary setting more clearly so that we can answer the question whether these pro-

cesses can be taken as different *forms* of framing that could exist independently of each other, or as different *aspects* of one and the same process of framing. In this context, I will argue that, while meaning construction and boundary setting are processes that we can set deliberately and strategically into play, sensemaking is a process that is so basic for all our cognition that the hardest challenge for controversies that are determined by incommensurable sensemaking mechanisms is to get access to those mechanisms. This challenge has best been described by Donald Schön and Martin Rein in their book *Frame Reflection*: “How can we possibly resolve frame conflicts when frames themselves determine what counts as evidence and what interpretations of evidence are acceptable?” (Schön & Rein, 1994, p. 41).

Schön and Rein presuppose that there *must* be a basis on which “frame conflicts are resolvable ... through frame-reflective policy inquiry”; there *must* be “an objective basis for choosing among frames,” because otherwise “we are caught in the predicament of epistemological relativism. We must then reluctantly concede that we have no reasonable basis for deciding among policy frames, all of which may be internally consistent and compelling in their own terms and, hence, equally worthy of choice” (ibid.). This argument, however, is hardly convincing. It is like claiming “God must exist, because otherwise life has no purpose and meaning.” Neither the existence of God nor the existence of an “objective basis” for the evaluation of frames can be proved by the fact that it would be hard to live with the consequences if it were otherwise. The question whether we are forced to live with epistemological relativism will be decided, I fear to say, only by our answer to the question whether it is *possible* at all to justify any evaluation basis as *objective*. Chances, however, are slim. The main argument for being skeptical at this point has been provided by Schön and Rein themselves when they correctly hint at the fact that there is no “frame-neutrality”; there is no view from nowhere, and this is true also for those who are not personally involved in an issue, who are “only” observers:

there is a generic, theoretical difficulty that does not yield in any obvious way to careful methods of observation and analysis. Frames must be constructed by someone, and those who construct frames (the authors of this book, for example) do not do so from positions of unassailable frame-neutrality. They bring their own frames to the enterprise and, what is more, they may be unaware of doing so. (Schön & Rein, 1994, p. 36)

This, indeed, is the deepest dilemma for those working on the question of how communication, interaction, and the resolution of conflicts and controversies might be possible when failures of mutual understanding are caused by incommensurable sensemaking

mechanisms. On the one hand, we know how sensemaking mechanisms work in principle, but since we know as well that they are a universal, inevitable phenomenon, we have to concede, on the other hand, that any concrete reconstruction and analysis of framing processes is itself determined and constrained by the very same mechanisms it attempts to describe—only on a different level.

The main objective of this chapter—after clarifying the processes of meaning construction, sensemaking, and boundary setting as three *forms* or *aspects* of framing—is to present a method for the *analysis* of framing processes that is designed to cope with the problem of missing frame-neutrality on the analyst’s side as far as it is possible. In the literature on framing, the most differentiated instrument for the *analysis* of framing seems to be the typology of frames developed by Barbara Gray in several publications (Gray, 2003, 2006, 2007). Gray distinguishes, for example, a series of different “conflict management frames” that become visible in the ways stakeholders try to deal with a conflict; “power frames” that describe how parties perceive and create social and moral authorities, roles, and the distribution of resources; “social control frames” that refer to disputants’ expectations about how decisions in society will be made; “whole story frames” that sum up the essence of a conflict in a few sentences; “identity frames” and “characterization frames” by which we describe ourselves and others; and frames on how to deal with risks, and gains versus losses.

The main idea of Gray’s approach is that a “frame analysis” that is based on such a typology of frames can both improve our understanding of what is going on in a conflict, and “can also create opportunities for reframing or for frame enlargement among the parties—processes which may increase civil dialogue among them and increase possibilities for collaborative action.” Those “frame-based interventions” include: “(1) self-reflective frame exploration, (2) perspective taking exercises that encourage disputants to begin to hear (without judgment) the ways other disputants experience the conflict, and (3) rewriting of stereotypes” (Gray, 2007). Additionally, such a frame analysis can help us to distinguish those aspects of a conflict that are negotiable and those that are not (Campbell & Docherty, 2006).

Compared to Gray’s approach to frame analysis, my suggestion for a method to analyze framing processes is very different. Based on the distinction between meaning construction, sensemaking, and boundary setting, and based on the thesis—which I elaborate in the first section—that the crucial point for the resolution of frame-based controversies is our ability to deal with entire “webs” of mutually supporting beliefs, my approach is

more holistic. Instead of identifying and separating frames by means of a given typology, I am focusing on the visualization of the argumentative structure of stakeholders' positions as a whole. The basic idea is the following: If sensemaking processes that form the cognitive basis of understanding are determined by webs of mutually supporting beliefs, then a substantial change of mind ("reframing") is only possible when the whole web is addressed. Since "mutually supporting" regarding beliefs can be translated into the assumption that there is an inferential structure between those beliefs, the best way to represent those webs of beliefs should be to present them as networks of mutually supporting arguments. However, since those networks can be very complex, we need special methods to visualize their structure. For this reason, the method I am proposing for the analysis of framing processes focuses on the graphical construction of argument maps. The inferential structure of such a map would then be the glue that holds frames together.

The method I am proposing is called Logical Argument Mapping (LAM). It has originally been developed as a tool to induce cognitive change in stakeholders who participate in facilitated conflict negotiations (Hoffmann, 2005). While LAM has been used in this initial approach as an *intervention* tool, the focus here is on using it as an *analytical* tool. My goal is to show that the method can be used for the *analysis* of framing processes as they are visible in texts, narratives, and communication.

With regard to both these possible applications of Logical Argument Mapping, three considerations are crucial: first, that *visualizing* what we think about an issue helps us to reflect on our own thinking; second, that the best way to represent entire "webs" of mutually supporting beliefs is to present them as networks of mutually supporting arguments, that is as an argument map with an inferential structure; and third, that imposing the normative standard of logical validity on the construction of argument maps helps us (a) to distinguish complete from incomplete reconstructions; (b) to evaluate the soundness and strength of arguments; and (c) challenges us to criticize and improve our own thinking as long as it takes to create the best possible argument.

This last point leads us back to the problem of frame-neutrality. Although there is, of course, no guarantee that a logical consistent representation of a framing process that an analyst constructs is adequate, true, objective, or not biased by this analyst's own framing processes, imposing logical consistency as a normative standard that must be fulfilled in any reconstruction of an argumentation has at least two advantages. The first one is that it prevents premature simplifications, motivates a complete reconstruction of

a position, and fulfills thus a minimal requirement of fairness. The reason for that is that a *logical* reconstruction of an argument forces us to add premises that are not explicitly stated, mostly those premises—called “warrants”—that we need in order to justify that a reason somebody provides for a claim is indeed sufficient to make this claim a necessary conclusion. For example, if someone offers the proposition  $p$  as a reason for  $q$ , this simple argument can easily be transformed into a logically valid argument by adding the premise “if  $p$ , then  $q$ .” Making this warrant explicit in an argument reconstruction creates not only a much stronger argument, but visualizes at the same time a new challenge: We see now that it might not only be necessary to defend our *reasons* by further arguments, but also the *warrants* which are usually more important since they are formulated as universal statements. Based on the need to defend those reasons and warrants, the analyst is forced to reconstruct not only an argument, but an entire argumentation—defined here as a set of mutually supporting arguments—as completely as possible.

The second advantage of establishing logical validity as normative standard for argument mapping is linked to the first one. Since nobody would propose a certain reason  $p$  for a certain claim  $q$  without implicitly assuming that  $p$  is indeed a sufficient reason for  $q$ , visualizing a warrant like “if  $p$ , then  $q$ ” means visualizing a part of the arguer’s *implicit beliefs*. Logical Argument Mapping is a *constructive* effort, it creates more than is explicitly given in a text or statement, but this construction is guided and constrained by a standard that defines what is possible and what is not. In sum, reconstructing arguments as logically valid arguments means being challenged to do it as completely as possible and as close to an arguer’s intention as possible. Although there is no guarantee of frame-neutrality, the challenge that is posed by the method itself is to make another’s argument as strong as possible—realizing thus an imperative for controversial dialogues that has been formulated by Thomas Aquinas already hundreds of years ago.

The following considerations are divided into three parts. In the first one, I describe the *problem* more precisely that Logical Argument Mapping is supposed to address, especially the role of “webs” of mutually supporting beliefs for framing processes. The second part tries to clarify the concept of framing by defining boundary setting, sensemaking, and meaning construction. The third part, finally, introduces Logical Argument Mapping as a method for analyzing framing processes. As an example of such an analysis, I reconstruct two conflicting arguments on Hamas, the Palestinian organization that won the election on January 25 in 2006, and that is listed by the United States and many other countries to this date as a terrorist group.

## The problem

In order to clarify, first of all, the problem space in which I am moving around here, it might be useful to start with the distinction between “disagreements” and “controversies” that has been introduced by Schön and Rein with regard to policy disputes. While the former “may be settled by reasoned discourse ... in which the parties to contention are able to resolve the questions at the heart of their disputes by examining the facts” and by “recourse to evidence to which all of the contending parties will agree,” controversies are—according to their terminology—“stubbornly resistant to resolution through the exercise of reason” (Schön & Rein, 1994, p. 3). This intractability of *controversies* results from problems with those “facts” that are rather unproblematic for *disagreements*:

“Facts” play a very different role in policy controversies than in policy disagreements.

First, the parties to a controversy employ different strategies of selective attention. Depending on their views of the issue, they differ as to what facts are relevant. For example, in debates over the alleged decline of the welfare state, political controversies tend to focus on data that pertain to economic competitiveness. They argue that welfare expenditures erode the comparative advantage of industrialized countries and undermine their ability to compete with Third World industry. Liberals, on the other hand, tend to dismiss the ‘can’t afford’ arguments of the conservatives; they focus on data that demonstrate either the need for income support or the inequity of income distribution.

Second, even when the parties to a controversy focus their attention on the same facts, they tend to give them different interpretations. For example, a secular trend that shows an increase in the proportion of men not working may be seen either as evidence of a decrease in opportunities for work or as a deterioration in the will to work. In the War on Drugs, a decline in the rate of interdiction of drug-runners at the borders of the United States and Mexico may be seen either as a sign of the ineffectiveness of the policy of interdiction or as evidence that the strategy is functioning as an effective deterrent. (Schön & Rein, 1994, pp. 4-5)

But why is the recourse to “facts” problematic in controversies? Why are people selective in their attention, and why do they interpret differently what they select as relevant? And why shouldn’t it be easy to overcome those difficulties? Prominent answers to these questions have been suggested in philosophy on the one hand, and social psychology on the other.

In philosophy, Robert Fogelin proposed some time ago a distinction that is similar to



Schön and Rein’s distinction between “disagreements” and “controversies,” namely that between “normal” argumentative exchange and “deep disagreements.” While “normal” exchange takes place “within a context of *broadly* shared beliefs and preferences” (Fogelin, 1985, p. 3), we “get a deep disagreement when the argument is generated by a clash of framework propositions” (p. 5). Looking at disputes like those over the morality of abortion and affirmative action quotas, Fogelin argues that agreement is only possible when there is “a shared background of beliefs and preferences” (p. 5). However, if there is “a clash of framework propositions,” no appeal to reasons or facts can change people’s minds. Although a rational approach would try “to surface these background propositions and then discuss them directly,” experience shows that the main problem is that “we do not simply find isolated propositions” at the root of deep disagreements, “but instead a whole system of mutually supporting propositions (and paradigms, models, styles of acting and thinking) that constitute, if I may use the phrase, a form of life” (pp. 5-6).

Fogelin’s main argument is that “deep disagreements cannot be resolved through the use of argument, for they undercut the conditions essential to arguing,” namely first of all the condition that any argument must eventually refer to a shared framework of background assumptions (p. 5). However, it is less clear what exactly the relevance of his considerations on the systemic character of our beliefs is. This point has been clarified by Allen Buchanan in a paper on “social moral epistemology” (Buchanan, 2002). Buchanan shows that any “web” of mutually supporting beliefs can easily be defended against any sort of evidence to the contrary by *ad hoc* hypotheses. An *ad hoc* hypothesis is a hypothesis whose main function is to keep systems of belief consistent without changing core assumptions. The idea and the concept have been developed in philosophy of science to describe the strategies scientists often use to avoid what Thomas Kuhn called “paradigm shifts,” that is a “revolution” of systematic bodies of knowledge.<sup>1</sup> Buchanan argues that something similar happens all the time when we are facing “a web of mutually supporting false beliefs.” Any argument and evidence that counters one’s position can be rejected by *ad hoc* assumptions that enforce a “systematic exclusion” of alternative perspectives. Referring to his own childhood in the racist American South, he describes this point as follows:

As a result of this structural inequality, which greatly reduced the chances that whites would have experiences that revealed the full mental capacities of blacks, the belief in

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<sup>1</sup> Kuhn, 1970 <1962>. The usage of *ad hoc* hypotheses has nicely been described by Lakatos & Musgrave, 1970, p. 100-101.

the mental inferiority of blacks was deeply entrenched. As a result, when a particular black person clearly exhibited extraordinary mental abilities, instead of abandoning their belief in blacks' natural inferiority, whites simply appealed to another strand in their complex web of racist beliefs: the notion that the presence of some "white blood" in a black person could raise him above the low position of blacks generally. Thus, instead of regarding the experience of seeing extraordinary mental abilities in a particular black person as disconfirming the universalization that blacks are mentally inferior, whites "saved the hypothesis" by assuming that that black person "must have some white blood." (Buchanan, 2002, p. 139-40)

That means, in short, that the framing processes described by Schön and Rein—selective attention and different interpretations of what gets selected—can be explained by the existence of webs of mutually supporting beliefs that are highly dynamic when it comes to counterevidence, but absolutely petrified with regard to core assumptions.

In social psychology, Daniel Bar-Tal developed—in an attempt to explain the intractability of conflicts like those in Sri Lanka, Northern Ireland, Kashmir, and the Middle East—the concept of a "sociopsychological infrastructure" that works like "a prism through which society members construe their reality, collect new information, interpret their experiences, and make decisions about their course of action" (Bar-Tal, 2007, p. 1430). Simply in order to cope with pain, threats, stress, exhaustion, and costs inflicted by an intractable conflict, and in order to withstand the rival, parties on both sides must develop a sociopsychological infrastructure that allows them to form and maintain a strong social identity, to develop a sense of differentiation and superiority, and to motivate solidarity, mobilization, and action. All this, of course, stabilizes first of all the conflict itself and makes it resistant to any change.

While Bar-Tal proposes a rather narrow definition of "intractability" that includes, for example, "physical violence in which society members (soldiers and civilians) are killed and wounded" (p. 1432), it seems fair to assume that similar sociopsychological mechanisms are relevant in all sorts of conflicts, controversies, and deep disagreements. They can explain why it is so hard to change whole systems of belief. It is easier to react to challenges to belief systems by means of *ad hoc* hypotheses than risking one's own social and individual identity in a "revolution of thinking" whose outcome and costs—cognitive and others—are impossible to anticipate.

At this point, however, I would argue that it is a mistake to assume that webs of beliefs and sociopsychological infrastructures are relevant only in conflicts and controversies. If we assume—following an idea that has been developed in philosophy of science un-

der the heading of “theory-ladenness of observation” (Hanson, 1972 <1958>)—that *any* cognitive access to something in our environment is *conditioned*, and constrained, by those conceptual frameworks, theories, beliefs, values, attitudes, models, images, and narratives that we have at our disposal in a certain moment, then it is clear that there are no “facts” that could simply be taken for granted. Any perception, any understanding of something, is at least co-determined by the cognitive means we bring with us, as individuals as well as as societies and cultures. The task is always to mentally present the world around us, and since this world is in flux and full of complexities, interdependencies, and without priorly defined boundaries and structures, any representation is inevitably a reduction and simplification that raises the question: what is an *adequate* representation?

Fogelin’s and Buchanan’s talk about whole “systems,” or “webs,” of mutually supporting beliefs provides a good description of how those reductions and simplifications work. But these holistic webs and systems are not only relevant for people in controversies; rather, they form the framework of conditions on which any knowledge and any understanding whatsoever depends. The point is only that usually there is not much of a need to reflect on this fact. Only in conflicts is a reflection on those hidden conditions of understanding necessary and useful.

This epistemological argument is the main reason for my previously formulated assumption that framing processes are indeed a universal and inevitable phenomenon. The cognitive mechanisms described by Buchanan and Bar-Tal not only stabilize social and personal identities, but also help us to cope with any sort of complexity most efficiently; efficiently from a cognitive point of view. Since there is no reason to assume that people with an academic background are any different from anybody else regarding basic, cognitive principles, the crucial message at this point must be that the analyst of a controversy—although equipped with all the tools of her or his discipline—is, in the end, no better off than the parties whose framing mechanisms she analyzes.

To sum up these considerations, we can conclude that there are two fundamental problems when it comes to framing processes. On the level of framing as the subject of our analysis, we can see that there are two main reasons that it is so hard to overcome the phenomena of selective attention and different interpretations: first, because any perception of something is determined by webs of mutually supporting beliefs and, second, because stabilizing those webs as part of a robust sociopsychological infrastructure is simply efficient from a cognitive point of view. And on the level of framing as a process in

which we ourselves are involved as analysts, we have to acknowledge that we are subject to the same mechanisms we try to describe and manage; there is no frame-neutrality. And this again means that we need specific methods to cope with this fact.

### **Boundary setting, meaning construction, and sensemaking**

It is easy to see that what Schön and Rein discuss as “selective attention” can be connected to what I dubbed “boundary setting,” a term that refers to what C. West Churchman (1979) called “boundary judgments.” A discussion of this concept recently played a significant role in so-called “critical systems thinking” in management and organization theory. As Flood (1999) describes it, the starting point of critical systemic thinking in the sense of Churchman is the insight “that the human mind is not able to know the whole, ... that every worldview is terribly restricted” (p. 252). One important implication of this limitation has been illuminated by Werner Ulrich as follows:

No argument can be completely rational in the sense of justifying all the assumptions on which it depends as well as all the consequences it may have. What ought to count as knowledge, that is, as relevant circumstances, ‘facts’ and ‘evidence’ that should be considered? And what counts as relevant concerns, that is, value judgments concerning purposes, measures of success and other criteria of evaluation (‘norms’)? *Whose* facts and *whose* concerns should they represent? Ultimately, there is no single right way to decide such questions. Yet at some point argumentation has to end and practical action has to begin. *Boundary judgments* define the boundaries of argumentation. (Ulrich, 2001, p. 91; see also Ulrich, 2003)

While the term boundary “judgment” seems to presuppose explicit statements and considerations on how to define those boundaries, “boundary setting”—as I use the term—can also be performed implicitly simply by talking only about a selection of things. I would propose the following

#### **Definition of “boundary setting”:**

Boundary setting is the process of producing signs in a way that the entirety of the signs used in a certain situation indicates which issues, facts, values, norms, concerns, involved people, etc. are within the sign user’s horizon of awareness and which are outside.

While the concept of boundary setting allows us to reflect on mechanisms of inclusion

and exclusion, the concept of “meaning construction” provides a means to reflect on the fact that everything that is within the boundaries of our awareness can itself be interpreted by completely different reference systems. Gregory Bateson (1972 <1955>) introduced the example of two monkeys he observed in the zoo biting each other. Although this biting was similar to what can be observed in real fights, it was obvious to him that what was happening was only play. He concluded that even animals are able to engage in what he called “meta-communication.” They exchange signs that allow them to distinguish whether a biting has to be framed as play or as serious fight (p. 179). We can observe processes of meaning construction only if people produce certain signs that indicate how they interpret an issue, and how they want others to interpret this issue. Based on this consideration, I would define “meaning construction” as follows.

**Definition of “meaning construction”:**

Meaning construction is the process of producing signs in a way that the entirety of those signs indicate a reference systems (i.e. a “frame”) that determines the way somebody interprets something (data, things, other signs and the signs used, people, events, actions, developments, etc.). The signs produced can be language-related signs, but also mimics, gestures, voice modulation, body language, dressing, and things like diagrams, maps, charts, etc.).

This definition builds on a similar definition proposed by Barbara Gray:

Framing refers to the process of constructing and representing our interpretations of the world around us. We construct frames by sorting and categorizing our experience—weighing new information against our previous interpretations. (Gray, 2003, p. 12).

While Gray focuses on framing from the first person perspective—without, as it seems, making a clear distinction between a constructive and a cognitive side of framing—my definition is formulated from an observer’s point of view. For this perspective it is crucial that identifying and analyzing processes of meaning construction depend heavily on hypotheses and guesses. We cannot see how somebody “interprets” something; the only thing we can see is what we interpret as signs for a certain way of constructing meaning. The “entirety” of signs I am referring to is, of course, always relative to our capacities—and time—to observe those signs.

Constructing meaning is important, on the one hand, for parties to a conflict who use framing strategically, “aiming to persuade others to our point of view, gain advantage in

negotiations, and rally like-minded people to our causes” (Shmueli, Elliott, & Kaufman, 2006, p. 209). On the other hand, it is a central instrument for conflict management. Thus, Gray (2006) argues for framing as a “mediation technique. ... The mediator’s role is to help frame the conflict and its potential resolution in a way that all parties perceive to be fair” (cf. Drake & Donohue, 1996, p. 314; Dewulf et al., 2005, p. 3).

While my definitions of “meaning construction” and “boundary setting” stress the expressive side of what happens in communication and interaction—both are defined as semiotic processes—there is of course also an underlying cognitive process that determines how we set boundaries in concrete situations, and how we construct the meaning of what is within those boundaries. I call this cognitive process “sensemaking”:

**Definition of “sensemaking” and further involved concepts:**

Sensemaking is the process of interpreting data in a way that they fit into a belief-value-attitude system. “Data” can be externally observable signs, people, things, events, etc., but also ideas or thoughts. A “belief-value-attitude system” is a web of beliefs, values, and attitudes that is consistent from its bearer’s point of view. A “belief” is defined here as that cognitive state we are in whenever we take something to be the case or regard it as true, implicitly or explicitly; thus, a belief is *representable* in the form of a factual or conditional statement. “Values” are defined as behavior guiding beliefs that are based on principles, *needs*, *interests*, or preferences. “Attitudes” are emotions someone feels with regard to certain data. The “fit” of data into a belief-value-attitude system can be achieved in three different ways: (a) by constraining the *data* (neglecting what is incomprehensible, or interpreting it in a way that it does fit); (b) by changing the system; or (c) by a mixture of (a) and (b).

This definition relates my discussion of webs of mutually supporting beliefs in the first section of this chapter to “framing as sensemaking” as discussed recently by Deborah Shmueli, Michael Elliott, and Sanda Kaufman. They describe how frames are used as

... cognitive devices or shortcuts for making sense of complex information ... These cognitive structures help reduce information overload and operate as models of reality that, by necessity, trade detail for clarity. Frames organize phenomena into coherent, understandable categories, giving meaning to some observed aspects while discounting others that appear irrelevant or counterintuitive. This selective simplification filters people’s perceptions and defines their fields of vision. It can lead to sharply divergent

interpretations of an event. (Shmueli et al., 2006, p. 208)

The important point is that while sensemaking refers to understanding and interpreting in my terminology, meaning construction refers to expression and sign production. The three definitions I am proposing here to distinguish different meanings of the term “framing” are supposed to fulfill various functions:

1. They allow a distinction between *semiotic* and *cognitive* processes of framing. This is important because it is possible to construct meanings and set boundaries in deliberate contrast to what we really think about an issue. We can use semiotic framing strategically, or we can lie about something, or simply frame an issue according to conventions that are determined by cultural standards like politeness. Sensemaking as a cognitive process, by contrast, is always determined by a need for consistency, even if we do not necessarily know whether our belief-value-attitude system is consistent or not.
2. Based on the distinction between semiotic and cognitive framing we can say that while it is possible to make sense of something without expressing anything about it, any boundary setting and meaning construction *depends* on sensemaking. Therefore, while sensemaking might be independent of the semiotic processes, the semiotic processes are not independent of their cognitive foundation.
3. Two elements of the definition of sensemaking allow us to explain concrete cases of boundary setting and meaning construction: first, that whatever we observe or communicate gets to be interpreted by means of a certain belief-value-attitude system and, second, that the process of interpreting and integrating data is driven by efforts to keep the whole thing consistent—or at least to avoid obvious contradictions.
4. The distinction between the two semiotic processes of framing on the one hand and sensemaking on the other is necessary for the analysis of framing processes from an observer’s point of view. Since we can never directly observe how people interpret what is going on in their environment, any analysis depends on the signs people use in boundary setting and meaning construction. Only signs are directly observable, although their meaning depends necessarily on interpretation. That means, when we try to reconstruct cognitive sensemaking processes, we are dependent on semiotic processes as proxies.
5. The distinction between boundary setting and meaning construction is important

because it makes a difference whether we simply do not talk about certain things or interpret what we are talking about in a certain way.

## Logical Argument Mapping

Allen Buchanan in the article discussed above stresses that, in a situation where webs of mutually supporting beliefs are defended by *ad hoc* hypotheses, there is no way to change things when we try to refute one point after the other without “attacking a large set of mutually supporting beliefs” as a whole (Buchanan, 2002, p. 140). However, the possibility of doing so depends on our ability to *represent*, first of all, such a web as a whole. Just this is the main function of Logical Argument Mapping (LAM), the method I want to propose here for the analysis of framing processes as they are visible in boundary setting and meaning construction.

A second function is that *visualizing* what we think as analysts about a web of beliefs helps us to clarify our own thinking process. In Logical Argument Mapping we enter a kind of dialectical process that leads us back and forth between improving our own understanding of the material and revealing the limits of the material’s rationality. The significance of visualizations for cognitive processes has been stressed by many in the field of argument mapping. The idea goes back to Charles Peirce’s concept of “diagrammatic reasoning” (Hoffmann, 2004, 2007b), but it got real momentum when software tools became available for things like “dialog mapping” (Conklin, 2006), “argument visualization” (Kirschner, Buckingham Shum, & Carr, 2003), and “knowledge cartography” (Okada, Buckingham Shum, & Sherborne, 2008).

The decisive difference between Logical Argument Mapping and the majority of tools developed in these fields is that LAM demands logical validity as a normative standard for the construction of arguments (see Hoffmann, 2007a). This is supposed to fulfill the method’s third function: The rules, conventions and procedure of Logical Argument Mapping are defined in a way that the user is permanently challenged to reflect on how to improve her or his construction or reconstruction of an argument in order to meet this standard (as discussed more extensively at the end of the introduction, above).

Three simple rules define the normative standard of LAM: (1.) structure your map according to an argument scheme whose logical validity is evident and generally accepted (e.g., *modus ponens*, *modus tollens*, disjunctive syllogism, conditional syllogism, etc.,



but also argument schemes that are transformed from invalid ones into valid ones like complete induction, argument from perfect authority, and argument from perfect analogy); (2.) make sure that all your premises are true, and provide further arguments for their truth if it is not evident; and (3.) make sure that all your premises are consistent with each other.

The details of the method are described elsewhere.<sup>2</sup> In this chapter, I will concentrate on an exemplary analysis of two conflicting framing processes. The objective is to demonstrate how the method can be applied; it will be described only so far as it is necessary to understand the outcome, the argument maps below. These maps represent two articles that were published after Hamas won the Palestinian elections on January 25, 2006. The broader horizon of both articles is, roughly, the question of how the international community should deal with Hamas. I do not have any intention to decide who is right and who is wrong in this controversy, and I am not interested to reflect any further considerations that should be discussed to decide this question, or to get a more appropriate picture of the problem—although it should be clear, based on the problem of frame-neutrality discussed above, that I cannot exclude being biased myself either. The selection of both articles is more or less arbitrary; I found them (in March 2007) by searching the most recent publications on Hamas that are listed in the “Web of Science” database that provides web access to three ISI databases: Science Citation Index Expanded, Social Sciences Citation Index, and Arts & Humanities Search. Based on the selection criteria of these databases and the journals they cover, the scientific quality of both articles shouldn’t be a concern.

Shortly after the elections, in the March-April issue of *Foreign Affairs*, Michael Herzog published an article titled “Can Hamas be tamed?” (Herzog, 2006). A short biographical info at the end of the article describes the author as

a Brigadier General in the Israel Defense Forces and a Visiting Fellow at the Washington Institute for Near East Policy. He was formerly the senior military aide to Israel’s Minister of Defense and the head of strategic planning for the IDF.

The second article was published by Khaled Hroub a few months later in the summer 2006 issue of *Journal of Palestine Studies* under the heading “A ‘new Hamas’ through its new documents” (Hroub, 2006). As a short note says, Khaled Hroub, “a leading expert on Hamas, is the author of *Hamas: Political Thought and Practice* (IPS, 2000) and

<sup>2</sup> A manual that provides—besides descriptions of the rules, conventions, and the procedure—lists of logically valid argument schemes, and also some conflict schemes to represent objections, is available at <http://www.prism.gatech.edu/~mh327/LAM>.

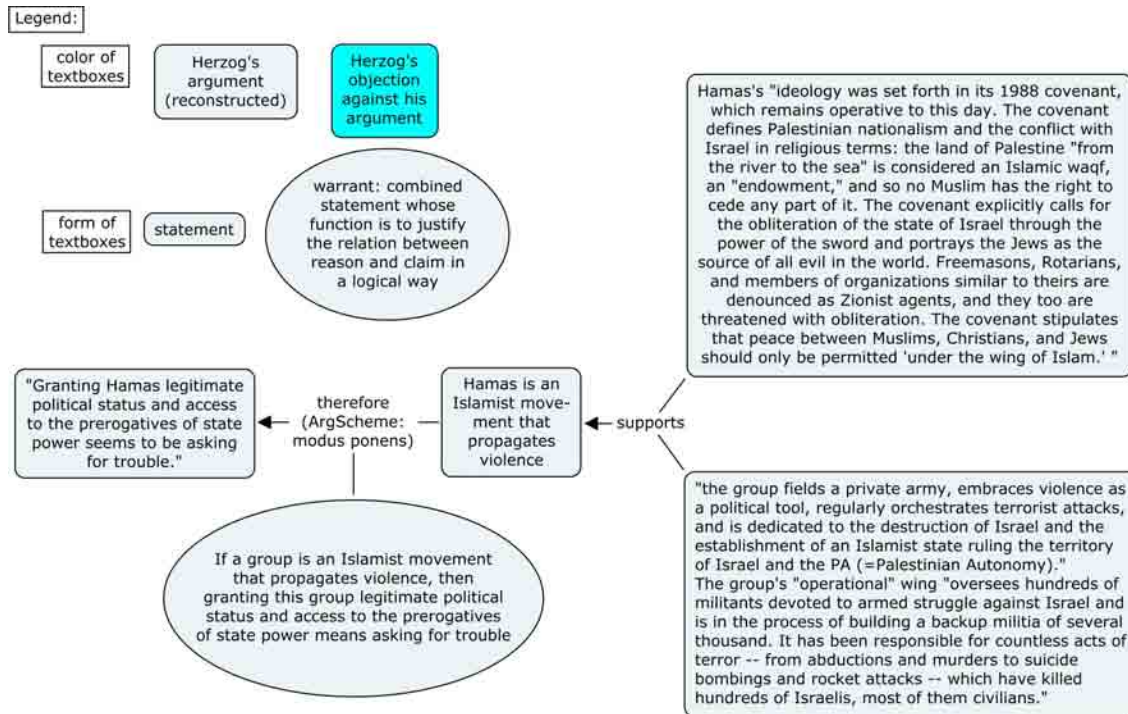


Figure 1: The central argument of Herzog (2006); all maps are created with IHMC Cmap tools: <http://cmap.ihmc.us/>

*Hamas: A Beginner's Guide* (forthcoming from Pluto Press, 2006)" (p. 6).

The first step in a LAM analysis is to identify the central claim of a position, and to formulate this claim as the conclusion of an argument. Since the understanding of an argument is facilitated when we know the central claim from the very beginning, and based on Western reading habits, this claim is always located on top of the map in the left corner.<sup>3</sup> Starting with Herzog's article, a first analysis could result in the map in Figure 1. Crucial here is, first, that the long quotes on the right side are summarized in a short formulation of his main reason and, second, that—in order to transform the simple argument in the first line into a logically valid one—a “warrant” has been constructed according to the valid argument scheme which is traditionally called *modus ponens*. A “warrant” is defined in LAM as a statement that is sufficient to justify the step from a reason to a claim. That means, the warrant must be formulated in a way that—given the truth of both this warrant and the reason—the conclusion must be *necessarily* true. That

3 There is a further reason for this layout-decision. The goal to visualize entire webs of mutually supporting beliefs in an ongoing process can only be realized if there is an “open space” for doing this. Since in cmap, the software I am using here, only the top left corner of the available space is determined, and since we are working from the conclusion backwards, this should be the starting point.

this is the case in a *modus ponens* argument can easily be seen if we look at its symbolized form ( $p$  and  $q$  represent simple statements): if  $p$ , then  $q$ ;  $p$ ; therefore,  $q$ .

Explicating the warrant is the most important step in LAM for three reasons: First, since nobody would provide a certain reason without assuming at least implicitly that this reason is sufficient to justify a claim, and since such a justification is usually not explicitly stated—mainly based on its repetitive character—the formulation of the warrant reveals an important part of the arguer’s implicit web of beliefs. Second, this warrant must be explicitly stated in order to scrutinize the argument’s *soundness*—which is defined by two criteria: the argument must be logically valid and all the premises must be true (for validity the truth is only *presupposed*, but not actually defended); we can check the soundness of an argument only if everything that is relevant for it is visible. And third, visualizing an argument in its strongest possible form—that is, as a *valid* argument—puts everything on the table that must be defended by further arguments if it is controversial. This last point will lead the analyst—or the constructor of an argument—from presenting a simple argument to constructing an entire *argumentation*, that is a web of mutually supporting arguments. This way, Logical Argument Mapping is expected to reveal the inferential structure of an entire web of beliefs as it is relevant for a certain position in a certain situation.

Based on their importance, the warrants are highlighted in LAM by putting them into oval text boxes. Another convention for constructing maps is to indicate the *argument scheme* (“ArgScheme”) that is used in each case. This is important as a reminder that argument schemes can always be replaced by alternative schemes. Since the concrete formulation of the warrant and all the other statements depends on the chosen argument scheme, the selection of the most appropriate scheme is a creative act that one might want to correct when it turns out that an argument is hard to defend.

The further analysis of Herzog’s argumentation shows that he does not see a need to defend the *reason* of his argument (“ Hamas is an Islamist movement that propagates violence”); however, it seems to be necessary for him to defend what I reconstructed as his warrant. His strategy at this point is to formulate possible objections against this warrant, and to refute these objections by further arguments (Figure 2). This refutation again leads him to a reformulation of his original argument, and a refinement that explicates what he thinks the international community should do (Figure 3).

Mapping Herzog’s argument in this way reveals that there are two potential weaknesses an opponent could criticize. First, the argument that is reconstructed as a “complete in-

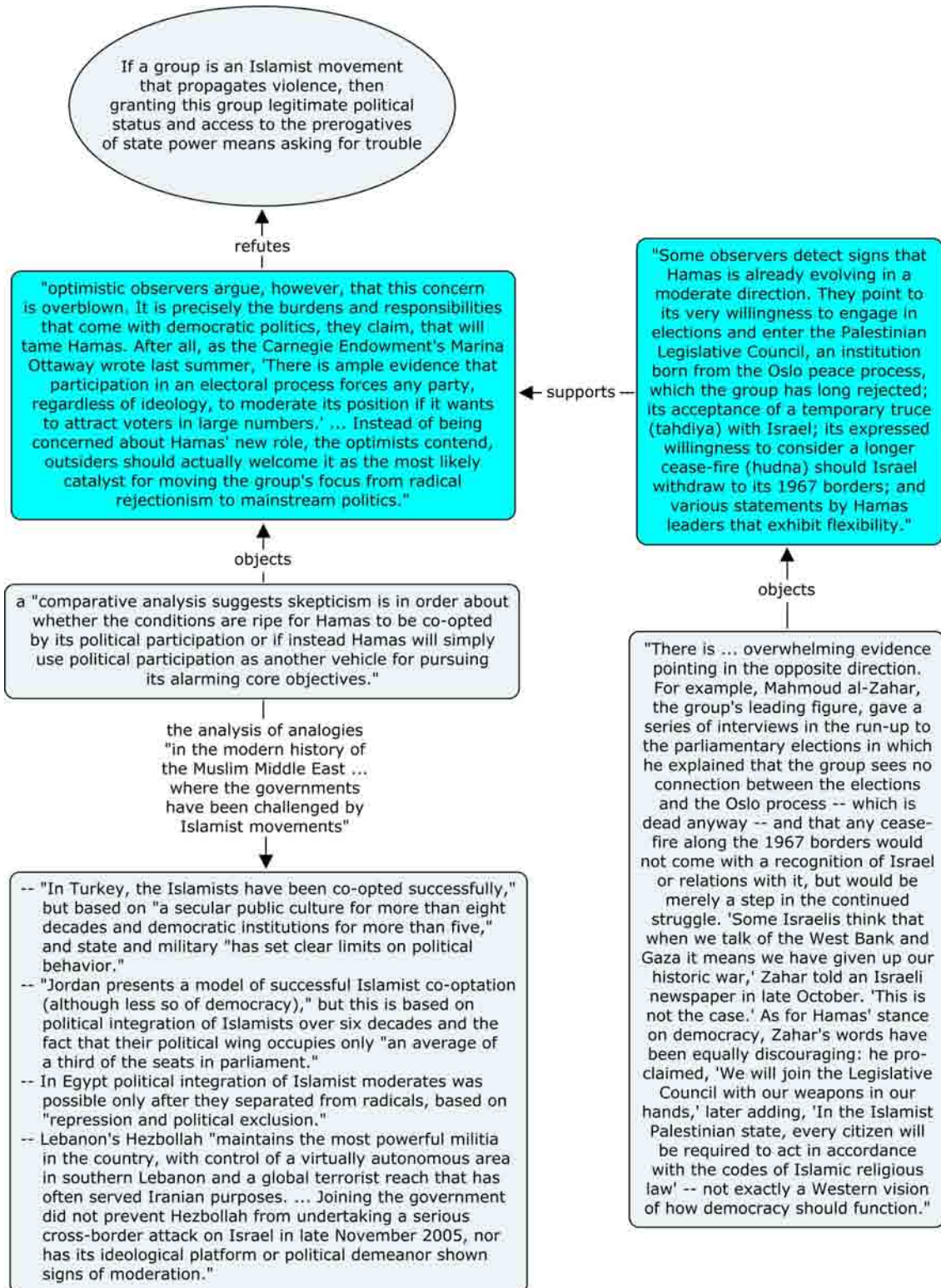


Figure 2: Refuting objections against the warrant in Figure 1

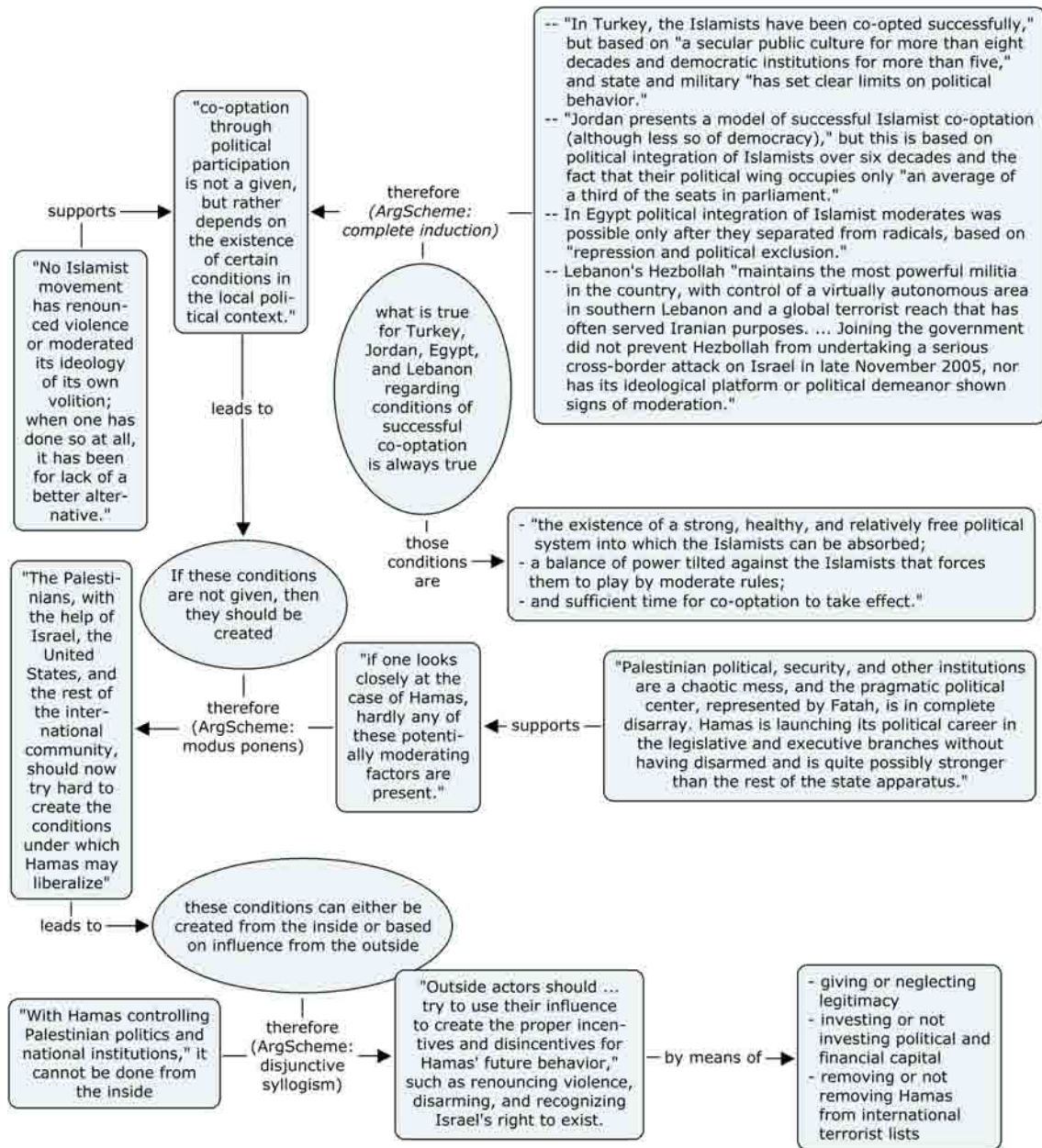


Figure 3: Herzog's refinement and extension of his central argument (cf. Figure 1). The conclusion at the top left is what he calls "the most important lesson" that he draws from his detailed "comparative analysis" that is mentioned in Figure 2, and here copied as the reason for this argument.

duction" in Figure 3—although a valid one—is not necessarily a sound one. What can be criticized is the warrant. A set of only four examples cannot exclude the possibility that the situation is different in this case. Second, while the warrant in the disjunctive syllogism in the left corner at the bottom is convincing—there are only two possibilities to create those conditions, either from the inside or from the outside—there should be

some further support for the reason in this argument. It is possible that Hamas itself creates the conditions that are listed in the middle of Figure 3, or that they are at least interested in forming the political stability which is central for those conditions.

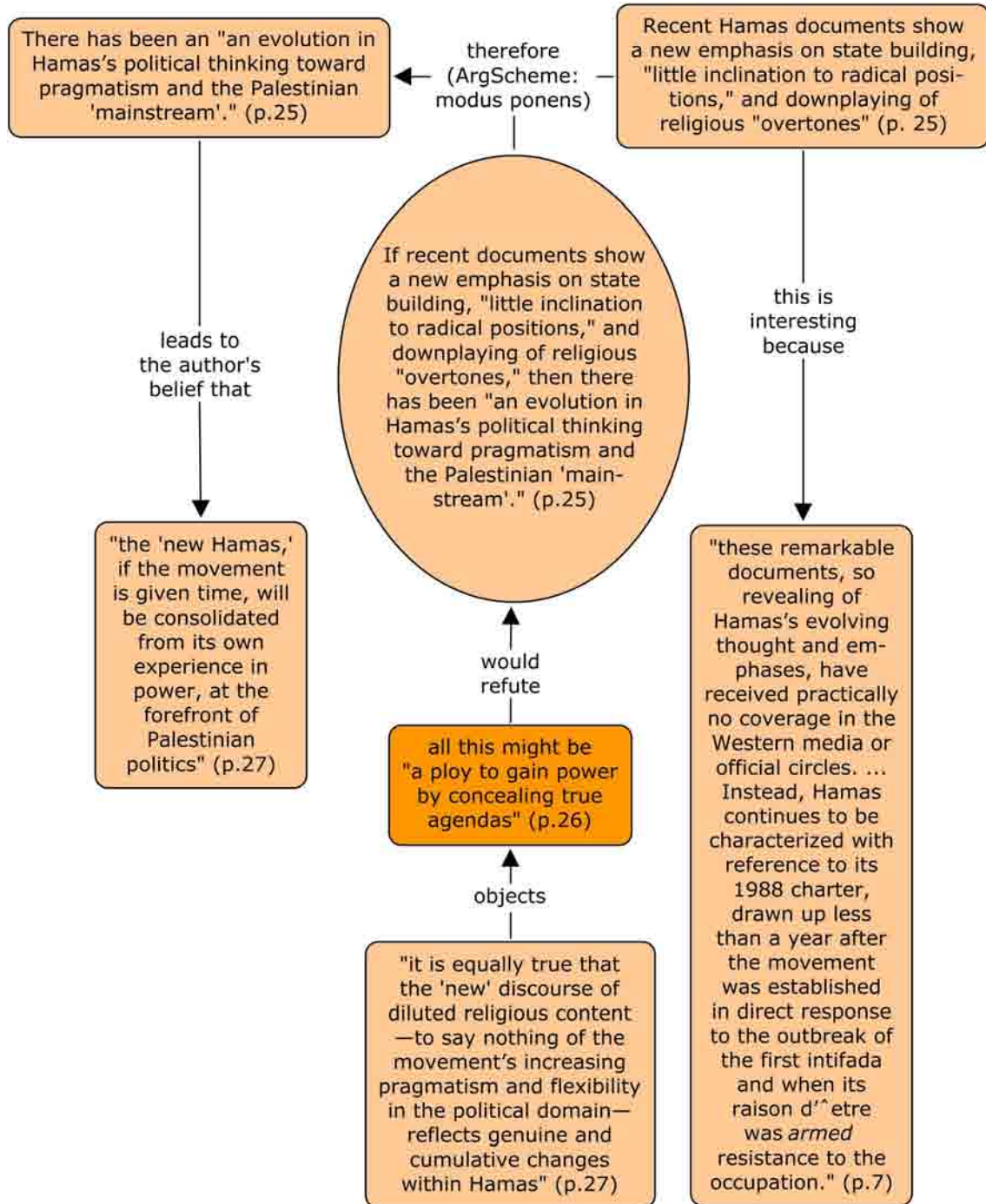


Figure 4: The argument of Hroub (2006), including an implication of his conclusion that would be relevant for the question of how Hamas should be treated by the international community (the lower left side box).

Hroub's article, by contrast, focuses on only one central argument (Figure 4). The longest part of his article consists of a detailed analysis of the documents that are mentioned in his main reason (top right corner in Figure 4). In this chapter, I present only his analysis of the first of these documents which contains a discussion of an alternative reading of this text (Figure 5). Similar to Herzog, also Hroub feels a need to defend his central warrant by considering, and rejecting, a possible objection (Figure 4).

A critic of Hroub's argumentation could highlight, first, that his attempt to refute the objection against this warrant—all these documents might be part of “a ploy to gain

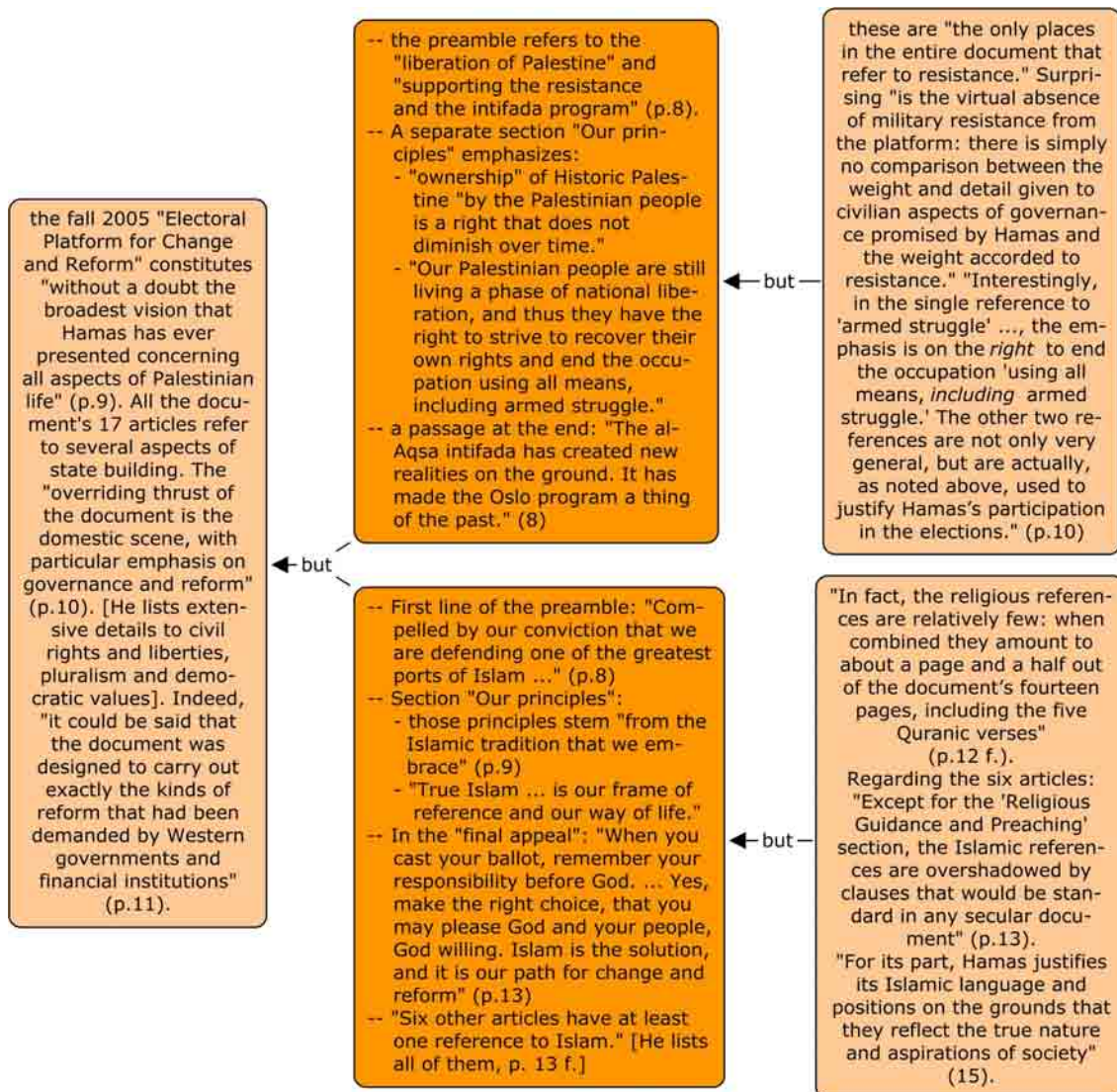


Figure 5: Hroub's discussion of references to violence and Islam in Hamas' 2005 "Electoral Platform for Change and Reform." In the complete map, this part of his argumentation supports the "reason" in Figure 4 (top right corner).

power by concealing true agendas”—only repeats what he says in his central reason; his refutation does not provide anything new. Second, it could be questioned whether his central warrant is really true. The situation is here similar to Herzog’s complete induction, and it might indeed have been better to reconstruct this argument in the form of a complete induction: The fact, that some documents indicate a shift in Hamas’s position, does not necessarily imply that there is indeed such a shift.

## Discussion

Logical Argument Mapping allows us to represent extensive discussions in a way that their central argumentative structure becomes visible at a glance. Hroub’s article is about twenty pages, and Herzog’s about ten. The maps, however, summarize and sharpen their arguments, and they reveal at which points the arguments fall short of leading to *necessary* conclusions. A conclusion is necessary only if the argument is logically valid and all the premises are true. Since LAM’s normative standard challenges us to use *only* valid argument schemes, we often have to formulate parts of an argument—mostly the warrant—stronger than intended by the author. By criticizing then the truth of the argument’s reconstructed premises (reasons and warrants), we can highlight the discrepancy between what an author provides and the goal of getting a necessary conclusion.

More important, however, is the fact that the maps reveal the essence of the framing processes authors perform when developing their position. What becomes visible are the webs of mutually supporting beliefs that seem to underlie the sensemaking processes that determine the authors’ interpretations of what happens, and what the relevant facts are.

Sensemaking itself, as mentioned above, cannot be visible because it is defined here as a cognitive process. What is visible, however, are the semiotic processes of boundary setting and meaning construction. Although it might be different in specific situations, if we assume that these semiotic processes represent adequately underlying thinking processes, it is clear that boundary setting and meaning construction on one hand and sensemaking on the other cannot be different *forms* of framing that could exist independently of each other, but that both are different *aspects*—internal versus external—of the same process. Their terminological differentiation, however, is important because it is possible, and sometimes even necessary, that semiotic and cognitive processes go



their own ways—for example, when a negotiator frames an issue deliberately in a certain way.

The distinction between boundary setting and meaning construction, on the other side, is also important, and with regard to this distinction it is indeed adequate to talk about different *forms* of framing because both processes can occur independently of each other. If we look at the maps that represent Herzog's and Hroub's argumentations, we can see that they differ with regard to both. Regarding the boundaries by which they define their subject, the main difference is that Hroub includes into his boundaries a thorough analysis of documents produced by Hamas in the years 2005 and 2006, while we find within Herzog's boundaries a detailed comparison of the Hamas case with the cooptation of Islamists in other countries, and the formulation of "conditions" that must be fulfilled for successful cooptation. Important is also that only within Herzog's boundaries we find things like the quotes from interviews with Mahmoud al-Zahar, "the group's leading figure," which would contradict Hroub's point that there is an evolution in Hamas's thinking (Figure 2). All this shows that both authors try to set the agenda of the discussion by setting the boundaries around the issue in very specific ways.

Looking at these examples we can say that boundary setting is not only a mechanism of exclusion and inclusion, but also a process through which something like a "center of gravity" gets defined. While Hroub's considerations center around an "evolution" of Hamas that should be supported from the outside, Herzog's main point is to get things into the right order: first creating the conditions, then cooptation.

Although it seems to be easy to create by means of boundary setting simply two different "worlds" without any connection, it is interesting and important that both authors are discussing issues—at the "margins" of their "worlds," so to speak—that could form something like a "common ground." There is an area that is within the boundaries of both approaches. However, crucial with regard to those areas is the observation that what looks like parts of a common ground is sharply divided by means of the second form of framing that must be distinguished here: meaning construction. Both authors, for example, talk about Hamas's 1988 charter. But while Herzog frames this document as representing an "ideology ... which remains operative to this day," Hroub stresses that the charter was "drawn up less than a year after the movement was established in direct response to the outbreak of the first intifada and when its *raison d'être* was *armed* resistance to the occupation" (p. 7). Similarly, Herzog does not neglect the existence of "various statements by Hamas leaders that exhibit flexibility," and he acknowledges at

some point that these could be read as signs of “evolution”; but the *meaning* he constructs for those signs is determined by the immediately following hint at “overwhelming evidence pointing in the opposite direction” (Figure 2, right side).

While these examples show that Logical Argument Mapping should be a useful tool for the analysis of boundary setting and meaning construction as the two forms of semiotic framing that I distinguished in this article, I also want to hint at some limitations of this approach. The first one is obviously that the method can only be applied when people are indeed *arguing* for their positions, when they provide reasons for their claims, or justifying what they say. Especially in verbal interaction, the amount of these components of communication is often pretty small, unfortunately. A second limitation concerns the argumentative quality of the material we try to analyze. Experience shows, for example, that when a text is simply badly written so that it is even hard to identify what exactly the conclusion of an argument might be, or the reasons, a reconstruction by means of Logical Argument Mapping can only provide a hypothesis regarding ongoing framing processes.

## **Conclusion**

The main objective of this chapter was to present Logical Argument Mapping (LAM) as a method to analyze framing processes; a method that is especially designed to cope, first, with the problem that the cognitive side of framing, sensemaking, confronts us with the need to reflect on entire systems of mutually supporting beliefs, values, and attitudes and, second, to cope with the fact that there is no frame-neutrality, that is: the analyst of framing processes has to deal with the fundamental problem that her or his work is determined by the very same mechanisms of framing that she or he tries to analyze.

With regard to the first problem, using LAM means that we are able to visualize the inferential structure between those assumptions and references to facts that are essential for a position; LAM opens up a space in which webs of mutually supporting beliefs can be represented, studied, criticized, and supported by further arguments. And with regard to the problem of missing frame-neutrality, Logical Argument Mapping establishes a standard of argumentation that is—at least regarding its formal structure—independent of personal judgments and points of view; the normative standard of logical validity guides us in reconstructing everything we need—including an arguer’s implicit assump-

tions—to represent a position as a *consistent* position, and that means: as strong as possible.

The main advantage of using Logical Argument Mapping as an analytical tool might be that it stimulates self-reflexivity and self-criticism. We have to *see* as a whole how somebody frames an issue, and what her or his implicit assumptions are, and we have to try very consciously to meet the standard of consistency in reconstructing a position, in order to be able to improve our own perception of what is going on.

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