

SOCIAL MOVEMENTS AS NETWORKS OF COMMUNICATION EPISODES

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ABSTRACT

Social movements (SMs) are common, yet complex phenomenon of study, generating eclectic and even conflicting perspectives on what actually constitutes a SM. This notion points towards the need of an inclusive framework that attempts to talk *with* rather than *past* conflicting perspectives. The purpose of this dissertation is to develop a hybrid theoretical framework that incorporates three SM perspectives: (1) SMs as aggregates, (2) SMs as networks, and (3) SMs as symbolic interactions. I argue that a framework of SMs as networks communication episodes (CAMs) is one way to build a successful hybrid approach, arguing that SMs consist of relationships between and within actors and events. In order to put the CAM framework to use, I used multidimensional exponential random graph modeling (MERGM) to analyze four different SMS: (1) 1970s US Energy Policy Domain, (2) 1970s US Health Policy Domain, (3) 1980s Anti-Stalinist mobilization in Poland, and (4) 1980s US Labor Policy Domain. Multidimensional network simulation was used to determine which organizing patterns correlate to instrumental and expressive theories of collective action and MERGM was used to uncover the dominant multidimensional organizing patterns in the empirical data behind each SM. Results revealed that most collective action events were organized by single organizations across all four SMs and that the Polish SM was the only movement out of the four that contain positive estimates of parameters conducive to network theories of collective action. Based on these results, a working model of factors that are theorized to influence the CAM structure is proposed, along with an application to the Anti-Stalinist mobilization in Poland and anti-Three Mile Island nuclear power plant mobilization. Moreover, based on different patterns in the CAM framework, a typology of different modes of organizing for collective action is developed, challenging a recent and common perspective of collective action as either organized or un-organized.

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CHAPTER 1: INTRODUCTION

How we understand the concept of social movements (SMs) introduces an interesting, albeit frustrating tension. On one hand, the concept is quite clear and is widely used and accepted in both public (e.g., news reports on SMs) and academic discourse (e.g., SM studies). According to the Oxford English Dictionary, the term SM evolved from the word “movement” near 1790 to refer to collective action intended to stimulate social and political change. The first documented public use of the word was in the July 25, 1812 English Cobbett’s Political Registry, being used to describe a string of factory system riots by industrial workers called Luddism:

And, this is the circumstance that will most puzzle the ministry. They can find no *agitators*, it is a movement of the *people’s own*, as far as it goes; and, if the ministry say, that it does not arise from the dearness of provisions and from other causes of *distress*; if it does not arise from that source, it follows, that it must arise from *some dislike of what the government itself is doing or has done* (p. 99, emphasis in original)

Likewise, when you enter SM in Google images, familiar figures of demonstrations, protest, and popular SM leaders (e.g., MLK) appear in the first page. In other words, the idea that SMs exist and are out there is quite commonplace. Indeed, even in the academic literature, there is even a growing literature on the *institutionalization* of SMs (Meyer & Tarrow, 1998) and SMs as *industries* (McCarthy & Zald, 1977).

On the other hand, the terms simultaneously continues to elude researchers into various directions on what actually constitutes SMs, whether it be collective identities, public protests, mobilized resources, ideological frames, social networks, political opportunities, or even emotions. For years, different definitions have emphasized and deemphasized important aspects (Diani, 1992; Snow, Soule, & Kriesi, 2004). As such, although there is little debate on the notion that SMs ontologically exist, there remains much variety in what actually constitutes a SM.

This tension generates large implications with respect to organizing for social change. Questions like “what is the best way to coordinate collective action” or “how are some SMs different than others”, all hinge on the assumptions behind how researchers choose to define what actually constitutes a SM. For instance, consider two recent SMs that have shaken up American politics in the last decade: The Tea Party and Occupy Wall Street.

Consider a simple question: are the Tea Party and Occupy Wall Street more different or similar? If one focuses, like Sydney Tarrow (2011) did, on the larger ideological framings and identity constructions between the two SMs, then they are certainly much different. His argument was that the Tea Party represented a classical Western SM (e.g., US Civil Rights Movements) with clear links to policy changes and specific constituencies (e.g., middle class Americans who feel victimized by the federal government). In contrast, Occupy represented more of a *constituent movement* (e.g., 1970s women’s movement), focusing less on specific policy changes and more on mere identity acknowledgment, demanding “recognition and radical change in the relations between government, the people, and corporations” (p. 2).

If however, one focuses on how the two SMs organized for collective action, then some similarities begin to emerge. For instance, Agarwal et al.’s (2014) recent study situated the two under the logic of connective action (Bennett et al., 2012), suggesting that two SMs largely relied on self-organizing networks, loose organizational coordination, and heavy use of information and communication technologies for mobilization. Indeed, the researchers even found similar values of “privacy and security, inclusion, and consensus—underlying both Tea Party and Occupy’s approach to organization and participation” (p. 326).

This dilemma has spurred public debate delving into the differences and similarities between the two SMs. For example, take a look at the most popular terms when you Google both SMs in Figure 1.1:

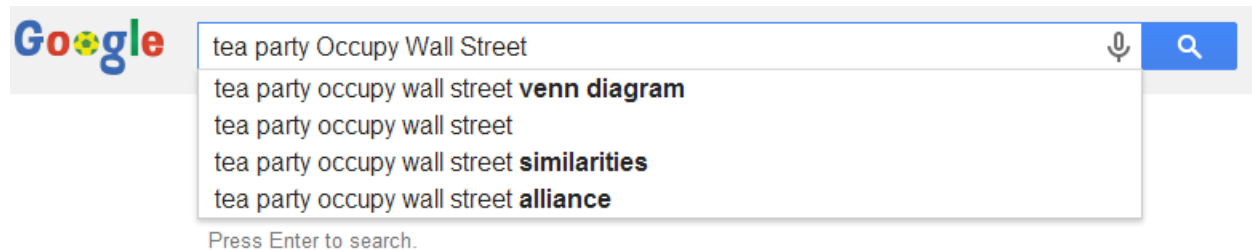


Figure 1.1. Google search of the Tea Party and Occupy.

The most popular phrase “Venn diagram” results in a series of pages that visually demonstrate the various differences and similarities between the two SMs. This introduces a dilemma: if the two movements have clear differences and similarities, are there existing theoretical frameworks available that can exploit these complementary and conflicting factors?

This dissertation proposal seeks to accomplish this task through advocating a new way to think about SMs by focusing on them as networks of communication episodes. That is, the purpose of this dissertation prospectus is to redefine how we currently think of SM organizing. The proposal is organized as follows: In Chapter Two, I review how scholars have assumed how SMs are constituted, arguing that they have generally perceived them as either (1) aggregates, (2) networks, or (3) symbolic interactions. Based on this taxonomy, I then argue for the benefits of a hybrid theoretical framework.

Chapter Three picks up this task, arguing there is a need for a framework complex enough to account for the myriad of factors in SM organizing. It then uses the taxonomy

described in Chapter Two to describe the theoretical underpinnings motivating the new framework: (1) events and SMOs (aggregate approach), (2) the linking feature of SMs (network approach), and (3) the emergent and processual role of communication (symbolic interaction approach). Finally, it posits a new partial theory of SMs as networks of communication episodes (CAMs):

1. SMs are multidimensional networks of communication episodes
2. SMs emerge from the micro level through communication interactions between actors
3. SMs are enacted at the meso level by participation ties between actors and events
4. SMs are linked at the macro level by symbolic ties between events

However, because the CAM framework lends itself favorable to a blend between *formal* analysis (i.e., computational methods) and *informal* analysis (logical methods) (Poole, 2013), the current theory building project will be a blend of theory and data driven techniques.

Chapter Four details such a formal analysis. It begins with a review of the methodological benefits and limitations associated with each approach to SMs. More specially, it describes the limitations of the (1) general linear model (unrealistic assumptions), traditional networks analysis (hidden actor bias), and (3) qualitative methods (emic with the sacrifice of etic). Second, I introduce multidimensional exponential random graph modeling (MERGM) and argue that it addresses many shortcomings with previous methods and can help complete a new preliminary theory of SM organizing. Finally, I provide a detailed account on how to construct multidimensional networks.

Chapter Five presents the results. It begins with the results of the multidimensional network construction, introducing a comparison of four different SMs: (1) 1970s US Health Policy Domain, (2) 1970s US Energy Policy Domain, (3) 1980s Anti-Stalinist Mobilization in

Poland, and (4) 1980s US Labor Policy Domain. Descriptive statistics are provided for each SM. Next, based on theories of instrumental and expressive collective action, I conduct what are called the simulation studies. The purpose of the simulation studies is to determine which multidimensional organizing patterns lead to centralization (instrumental collective action) and closure (expressive collective action). Based on these results, I use a blend of theory and data driven MERGM analysis to analyze each SM. As a follow up, I also construct a smaller subset of organizing from the Energy Policy Domain: Anti-Three Mile Island mobilization based on supplementary data from Walsh (1981).

Chapter Six moves from results presentation to result interpretation. In order to make sense of the similar and different patterns of organizing, I introduce a theoretical framework to interpret multidimensional parameter estimates as an integration of Opp's (2009) theory of SM mobilization and Corman and Scott's (1994) activity foci. To illustrate the usefulness of the model, I use it to compare and contrast Polish Solidarity and Anti-Three Mile Island mobilization, arguing that Polish Solidarity had more advantageous patterns of collective action. Next, I discuss the model in light of other theoretically relevant frameworks, including Gidden's (1984) structuration, Luhmann's (1994) social systems, Opp's (2009) structural-cognitive model, Laumann and Knoke's (1987) action systems, and recent work on organization-less collective action.

Chapter Seven is the concluding chapter. It begins by sketching out practical, methodological, and theoretical contributions. More specifically, it details what I believe to be one of the main contributions of this dissertation: A typology of the different modes of organizing for collective action that is derived from the CAM framework, empirical results from the current research and other similar studies, and the working model developed in Chapter Six.

Based on different multidimensional network configurations, it articulates nine distinct forms of SM organizing applicable to a range of different SMs, from the traditional (e.g., Civil Rights), non-traditional (e.g., bike commuting) and even obscure (e.g., Klu Klux Klan). I conclude the dissertation with limitations and future work across different domains of the current research.

CHAPTER 2: LITERATURE REVIEW

Approaches to SMs come from a variety of different intellectual traditions. For example, the *Handbook of Social Movements across Disciplines* (Klandermans & Roggeband, 2010) contains chapters from cultural studies, sociology, political science, social psychology, anthropology, and history. And recent handbooks (Snow et al., 2004), academic centers (e.g., Center for the Study of Social Movements) and specialty journals (e.g., *Mobilization*, *Social Movement Studies*) suggest that SMs are a unique and growing area of study. However, scholarship has yet to produce a significant philosophical discussion on the basic factors that *constitutes* SMs. In order to develop such a theory, an understanding of how previous approaches have understood the constitution of SMs is needed.

The purpose of this chapter is to survey the literature and develop a taxonomy of the assumptions behind the constitution of SMs. First, I distinguish the idea of constitution from definition and highlight the distinguishing features of constitution. Next, I present three key assumptions on the constitution of SMs: (1) SMs as aggregates, (2) SMs networks, and (3) SMs as symbolic interactions. Finally, I conclude with how this taxonomy introduces areas for fresh theorizing.

On the constitutive

Regarding ontology, debates on SMs have largely revolved around definitions (e.g., Diani, 1992). That is, SM theorists have longed deliberated on what the proper definition of a SM should entail. According to the *Oxford English Dictionary* (OED), the term “definition” refers to:

1. The setting of bounds or limits; limitation, restriction

2. The action of determining a controversy or question at issue; determination, decision; spec. a formal decision or pronouncement of an ecclesiastical authority
3. The action of defining, or stating exactly what a thing is, or what a word means
4. (a) A precise statement of the essential nature of a thing; a statement or form of words by which anything is defined, (b) a declaration or formal explanation of the signification of a word or phrase, (c) a definition which does not provide an equivalent for the expression to be defined, but instead replaces the whole context in which that expression occurs by an equivalent not containing that expression; a contextual definition
5. (a) The action of making definite; the condition of being made, or of being definite, in visual form or outline; distinctness; spec. the defining power of a lens or optical instrument, i.e., its capacity to render an object or image distinct to the eye, (b) definiteness, precision, exactitude, (c) the degree of distinctness of the details in a photograph, film, television picture, etc.; so high-definition, low-definition, used to designate television systems using different numbers of scanning lines

As such, typical conceptions of definition highlight the act of setting boundaries, establishing a decision or a definite, and providing exclusive meaning. That is, when scholars define, they distinguish categories and label concepts as mutually exclusive. Indeed, definition originates from the Old French *definicion* (from Latin *definitionem*), meaning “decision, setting boundaries” (OED, 2013).

On the other hand, very little work has been done on the constitution of SMs. Indeed, “constitution” is described differently by the OED:

1. The action of constituting, making, establishing, etc.

2. The action of decreeing or ordaining
3. A decree, ordinance, law, regulation; usually, one made by a superior authority, civil or ecclesiastical; spec. in Roman Law, an enactment made by the emperor.
4. The way in which anything is constituted or made up; the arrangement or combination of its parts or elements, as determining its nature and character; make, frame, composition.
5. Physical nature or character of the body in regard to healthiness, strength, vitality, etc.
6. The mode in which a state is constituted or organized; especially, as to the location of the sovereign power, as a monarchical, oligarchical, or democratic constitution.
7. The system or body of fundamental principles according to which a nation, state, or body politic is constituted and governed.

Quite noticeably, there is more emphasis placed on emergence, action, composition, and modes of organizing. Putnam, Nicotera, and McPhee (2009) traced the term constitution to Hacking's (1999) conversation of social construction, pointing to its inherent processual and dynamic nature. Similarly, McPhee and Zaug (2000) locate constitution within Giddens's (1984) seminal work on structuration theory. Hence the title of Giddens's work is the *Constitution of Society*. In this view, constitution mirrors the duality of structure (action and meaning): "As agents behave, they constitute interaction and its meaningful units because meanings, communicative acts, and episodes are what they are only due to the knowledgeable, empowered, contextually positioned action that implicates them" (McPhee & Zaug, 2000, p. 27).

As such, theorizing on the constitution of SMs seeks a different question than definition. Whereas definition asks the researcher to establish meaning and boundary, constitution asks the researcher to specify not only what dynamic processes make SMs real and how they emerge, but

also how SMs are reproduced and transformed. For example, Kontopoulos (1993) reviewed five different positions on emergence and social structure: (1) reductionism, (2) construction or compositional emergence, (3) heterarchy, (4) hierarchy, and (5) holism. Nevertheless, it is around this question of constitution, that is, how SMs emerge, reproduce, and transform, that I focus my review of SM theory.

Assumptions on the constitution of SMs

Throughout SM theory and research, I argue that there are three key approaches to understanding the emergence and constitution of SMs: (1) SMs as aggregates, (2) SMs as networks, and (3) SMs as symbolic interactions. In the next section, I review these approaches by summarizing relevant theoretical paradigms and research and use a celestial metaphor to illustrate the approaches. Two points must be made before I continue. First, the choice of which perspective scholars assumes is less determined by a SM theoretical camp (e.g., resource mobilization new social movements, framing perspective, etc.) and more influenced by each researcher's perspective on social collectivities. However, as I will demonstrate, although no theoretical SM camp per se, is mutually exclusive to each of the assumptions, some are certainly more inclined to favor one over the other. And second, establishing which assumption is present is almost always implicit and needs to be inferred from each individual study and theoretical project (which is why I call them assumptions). In some cases even, the choice of which view researchers presuppose the constitution of SMs is nearly impossible to detect.

SMs as aggregates

The aggregate approach emphasizes SMs as constituted by the summation of some sort of unique or important component associated with that particular movement. It closely mirrors a reductionist orientation towards social structure (Kontopoulos, 1993) that assumes social

collectivities are constituted by the sum of their parts. Thus, it suggests that any higher order social collectivity, like a SM, is “completely determined by lower levels” (p. 14, Monge & Contractor, 2003).

First explicitly noted by Diani (2012), SMs have longed followed the aggregate assumption. As Diani notes, the aggregate view constitutes SMs typically through means and percentages:

For example, we assess the relative strength of ‘new social movements’ in different European countries by looking at the incidence of protest events, linked to their core issues, out of all protest events taking place in a country during a certain period (e.g. Kriesi, Koopmans, Duyvendak, and Giugni 1995); we make claims about the structure of environmentalism based on the distribution of the traits of the organizations active in the environmental organizational field (e.g. Andrews and Edwards 2005); or, we draw the profile of social movements in the light of the average profile of their activists and sympathizers (e.g. Dalton 2008). Accordingly, when we think of changes taking place in social movements and more generally in patterns of political participation, we focus on variations in the quantities of certain properties. For example, we test the ‘movement society thesis’ by exploring variations in the aggregate numbers and features of protest events over time (e.g. Soule and Earl 2005) or by looking at changes in the share of the population that claim to have participated in demonstrations (e.g. Snow et al. 2004, 4, drawing on Norris 2002). (p. 104-105)

To understand this approach, think about how individuals perceive the constitution of the universe. In other words, what makes the universe real? An aggregate approach would likely posit that the universe is made up of relevant things. That is, the universe is a collection of galaxies, solar systems, planets, moons, asteroids, organisms, etc. It is the existence and collection of these relevant elements that make a universe real (i.e., the universe is the sum of its parts).

Although no SM theoretical orientation is exclusive to viewing SMs as aggregates, certain traditions are indeed more prone to it. For example, those in the collective behavior tradition (Blumer, 1971, Turner & Killian, 1957; Smelser, 1962) have mostly been focused on

simply the mere *act* of collective behavior. Theorists in this convention, notably inspired by the functionalist paradigm in sociology, were especially interested in the societal function of SMs. For example, Smelser (1962) constituted SMs as the aggregation of *beliefs* necessary for collective behavior, largely caused by the failure of institutions to produce social cohesion (Crossley, 2002). He defined collective behavior as “mobilization on the basis of a belief which redefines social action” (p. 8). As Smelser articulated, the “defining characteristic of collective behavior do not lie in any particular kind of communication or interaction” (p. 10), but rather, “the central defining characteristic of an episode of collective behavior is a belief envisioning the reconstitution of some component of social action” (p. 11). Smelser went on to articulate a value-laden theory on the determinants of collective behavior (structural conduciveness, structural strain, generalized belief, participating factors, mobilization for action, and exercise of social control).

About a decade later, McCarthy and Zald (1977) were largely responsible for introducing the resource mobilization paradigm. Resource mobilization (RM) theory seeks to answer a simple, yet problematic question: how is collective action even possible? Its answer to this question derives through the pooling and accumulation of resources, treating SMs less as collective behavior and more as organized activity (Snow et al., 2004). RM theory also contains a host of key assumptions (for reviews, see Buechler, 2004; Della Porta & Diani, 2006). First, despite the ambiguity in defining SMs, SMOs represent the primary actors of social movements. Moreover, these SMOs are the product of rational decision making, competing for a variety of key resources. Next, it views individuals as cogent actors that are engaged in instrumental actions that use formal organizations (SMOs) to secure resources and foster mobilization. And finally, perhaps most important, social change is more likely to occur through the accumulation

of diverse types of resources by SMOs. As such, resource inequality and strategies used to garner critical resources have become central issues among RM theorists (e.g., Edwards & McCarthy, 2004).

As such, although the collective behavior tradition focuses on the accumulation of actions and beliefs as constitutive of SMs, many in the early RM paradigm emphasize the accumulation of *resources* as constitutive of SMs (Freeman, 1979; Gamson, 1975; McCarthy & Zald, 1977). In other words, SMs cannot exist without SM actors using resources to promote social change. With enough resources, SMOs can even manipulate and define beliefs and grievances (McCarthy & Zald, 1977, p. 1215). Indeed, the “study of the aggregation of resources (money and labor) is crucial to an understanding of social movement activity” because “resources are necessary for engagement in social conflict” (p. 1216). Freeman (1979) went on to add specialized (e.g., expertise, access to network) and unspecialized resources (e.g., time and commitment), and Edwards and McCarthy (2004) later proposed a five-prong typology on resources mobilized by SMs (moral, cultural, material, social-organizational, and human).

On the other hand, political process approaches to SMs emphasized the political opportunity structure (POS) and its influence on the proliferation of SMs. However, the POS is a general framework for the study of SMs (Kriesi, 2004, p. 69) and does little to actually propose suggestions on what constitutes a SM. Briefly, POS refers to the external and macro-level factors (e.g., state-action/policy, economic climate, social conditions, cultural beliefs/norms, etc.) that constrain and empower SMs (Tarrow, 1994; Tilly, 2004). Some features of POS that may influence SMs are political system/institutional openness, elite stability/support, the state’s propensity for oppression, legitimacy of the state, international environment, cleavage structures, and independent state action, just to name a few (Costain, 1992; Kriesi, 2004; McAdam et al.,

1996; Oberschall, 1996). As such, POS provides guidelines on the political factors that influence SMs: what constitutes a SM depends on how researchers who use the POS view what constitutes as SM. In other words, POS is treated largely as an independent variable. Often what a researcher assumes constitutes a SM is apparent in the dependent variable (DV). However, the fluctuation and liberal use of DVs has caused irritation among SM theorists (McAdam, 1996). Indeed, since most of the focus is on macro political forces, less effort has been spent on explicating what constitutes a SM. Charles Tilly (2004, p. 6-7) is clear in his assertion of SMs as political performances, which is constituted by the aggregation of three factors: (1) campaigns, (2) tactics, and (3) exhibits of worthiness, unity, numbers, and commitment (what he called WUNC displays). For Eisinger (1973) and McAdam (1982), the constitutive action was protest activity. In contrast, Meyer and Minkoff (2004) included the total amount of active SMOs as well. On the other hand, Tarrow (2011) advocated a slightly more relational view of SMs as aggregates of “sustained interactions with elites, opponents, and authorities” (p. 4). In sum, all of these POS perspectives share the assumption that SMs are constituted of relevant, albeit sometimes different, elements.

SMs as networks

The idea that SMs comprise and function through systems of relations and networks has received considerable attention in the last twenty years. However, many have speculated on the network nature of SMs before as well. For example, Gerlach and Hine (1970) stressed that the ideal SMO “can be characterized as a network” (p. 33) and that SM actors largely recruit through preexisting networks. Similarly, two out of four of Freeman’s (1973) propositions on the origins of SMs emphasized networks. The first described the existence of communication networks for mobilization, and the second described a co-optable network that is open to new ideas and

“composed of like-minded people whose background, experiences, or location in the social structure make them receptive to the ideas of a specific new movement” (p. 794).

However, recently SM theorists have used networks for more constitutive claims regarding SMs. Mostly led by Mario Diani, this shifting ontology, largely referred to as the ‘relational approach’ to collective action, has generated considerable legitimacy in the literature, featuring an Oxford published book (Diani & McAdam, 2003), popular sessions at major conferences and special workshops themselves (e.g., Sunbelt Social Network Conference; ANN International Conference), chapters in SM handbooks (Diani, 2004), and a growing number of publications from a diverse range of disciplines (Auyero, 2001; Bennett et al., 2008; Juris, 2008; Muijs et al., 2011; Shumate, 2012).

Returning to the celestial metaphor, the network approach emphasizes the relationships between elements of the universe and how they function as a system. Indeed, this line of thought is heavily influenced theoretical physics and astronomical thinking about the universe (hence the term *solar system*). As such, the goal of the network researcher is to map out the relational structure of the universe (e.g., universe, galaxies, solar systems, planets) and entities within those structures. This might give important insight into the causes of these networks (e.g., death of a star), outcomes of these networks (e.g., how gravitational pull relationships affect the trajectories of asteroids), and evolution of these networks (e.g., how these systems change over time).

Similarly, works drawing on the relational approach emphasize network structure and relational dynamics and contend that collective action is “shaped by social ties between prospective participants” and made up of “networks linking a multiplicity of actors” (Diani, 2003, p. 1). More broadly, this perspective is consistent with the idea of social structure as a network that focuses on the pattern of relationships between actors that enable and constrain

important social phenomenon like behavior, norms, and attitudes (Wellman, 1988). The relational approach advances SM studies in (at least) two ways. First, its philosophical assumptions are oriented towards *holism*, which push beyond the methodological individualism of aggregate perspectives. And second, it offers a new methodological approach for SM research that focuses on structural analysis, mostly in the form of network analysis (Diani, 2002; Knoke, 1990).

With respect to the first point, relational approaches to collective action largely build from organizational theory that applies network perspectives (Campbell, 2005). For example, many see SMs as located within larger organizational fields. Fields are more than just an aggregate of actors, they contain “distinctive ‘rules of the game’, relational networks, and resource distributions that differentiate multiple levels of actors and models for action...As a result, fields set many of the political constraints and opportunities that social movements and new organizational forms face as they emerge and attempt to sustain themselves” (Rao, Morrill, & Zald, 2000, p. 251).

Diani’s (2015) work specifically ties networks into the constitution of SMs, referring to them as the cement of civil society. For Diani, networks constitute the *modes of coordination* in SMs, defined as “the mechanisms through which resources are allocated within a certain collectivity, decisions taken, collective representations elaborated, feelings of solidarity and mutual obligation forged” (Diani, 2015, pp. 6 -7). His theory on the modes of coordination of collective action places SM network along two continuums: (1) focus of resource allocation (SM field or SMO) and (2) focus of boundary (SM field or SMO). For instance, an SMO may devote resources to projects within its own organizational domain (e.g., rally to raise organizational

funds) or within a broader movement (e.g., collective protest with other SMOs). As such, networks in this case function as a system of resource accumulation and identity negotiation.

And regarding the second point, studies operating under the assumption that SMs are constituted by networks of relations rely heavily on network analysis. Indeed, Kenis and Knoke (2002) empirically conceptualized organizational fields as *field-nets*, referring to using network analysis to map diverse sets of interorganizational relationships. For instance, studies have analyzed the antecedents (e.g., Lusher & Ackland, 2010), outcomes (e.g., Malinick et al., 2011), and processes (Margolin et al., 2012) of relevant social movement networks. Moreover, SM networks differ across the nodes (e.g., individuals, groups, organizations) and types of relationships involved (e.g., collaboration, communication, resource exchange, private ties, etc.). Indeed, researchers from diverse perspectives use network analysis to either supplement or enhance other areas of interest to SMs, including, but not limited to tactical diffusion (Wang & Soule, 2012), collective identity (Ackland & O'Neil, 2011; Tucker, 2012), political opportunity structure (Caiani & Wagemann, 2009), and framing (Bennett et al., 2011).

SMs as symbolic interactions

In Gamson and Meyer's (1996) critique of the POS, they argued that the effect of the POS on the emergence and success of SMs largely depends on how it is interpreted by potential stakeholders of SMs. That is, because the POS is subject to interpretation, much of the work is dependent on how the POS is presented and understood. I refer to this underlying assumption as the symbolic interactional (SI) approach to SMs.

If we return to the celestial metaphor, the SI approach to the universe would focus less on its relevant components and more on how these components are socially constructed and attributed meaning in society. As such, SI approaches might look at the meaning of how the

universe has been constructed through human interaction over time. For example, Aristotle long assumed a geocentric model of the universe that posited the Earth as the center of the universe, which held long until the 17th century when challenged by Copernicus. It might also look into how the universe is used and is symbolic in other, more subtle contexts like the meaning of life and religious beliefs (e.g., God creating the universe in seven days). Indeed, it was only very recently that Pluto was no longer interpreted as a planet. The overall point is that the SI approach would most likely look at how features of the universe are socially constructed and point to the often unstable meanings behind the universe.

SI approaches treat SMs as constituted by ongoing interpretive interactions between different groups and individuals. Extending Blumler's (1969) conception of SI, Snow (2003) situated a SI approach to SMs through four organizing principles: (1) human agency, (2) interactive determination, (3), symbolization, and (4) emergence. Snow's review highlighted much of the classical literature on SMs that share some of the assumptions behind a SI approaches, including

1. The interactional determinism of Turner and Killian's (1972) conception of SMs as dynamic orientations
2. McAdam's (1983) finding of tactical innovation through SM interaction
3. Gusfield's (1963) theory of SMs as constituted by "symbolic crusades"
4. Rossel (1970), Turner (1969), and Zygmunt's (1970) emphasis on generic processes of emergence in SMs

The most popular SM paradigm stemming from the SI approach is the framing perspective. Briefly, the framing perspective views SMs as constituted by "signifying agents actively engaged in the production and maintenance of meaning for constituents, antagonists, and bystanders or observers" (Benford & Snow, 2000, p. 613). Framing refers to the embedding of

information or messages into particular contexts (Tewksbury & Scheufele, 2009) and involves the social construction of social phenomena by SMs (Snow, 2004). A *frame* refers to a schema of interpretation, a collection of mental filters or cues, that individuals rely on when making sense of situations and responding to information, messages, or events (Goffman, 1974) and play an especially central role in mobilizing for collective action (Wright, Taylor, & Moghaddam, 1990). Collective action frames are “metaphors, symbols, and cognitive cues that cast issues in a particular light and suggest possible ways to respond to these issues” (Campbell, 2005, p. 48-49) and typically contain three message elements: (1) an emphasis on injustice and moral indignation, (2) agency in which the injustice can be altered through collective action, and (3) identity construction of a ‘we’ versus ‘they’ orientation (Gamson, 1992; Snow & Benford, 1992). And finally, Benford and Snow (2000) articulated three key process in which collective action frames develop: (1) discursive processes (articulation and amplification of its central elements), (2) strategic processes (goal-oriented and deliberative purposes of the frame), and (3) contested processes (challenging and reconstituted aspects).

However, despite the easy analytical move to treat the above concepts in terms of frequency, this perspective does not merely treat SMs as aggregates of such meanings, beliefs, and values. For Benford and Snow (2000), such an aggregate approach is unsatisfactory because it treats these concepts “descriptively and statically rather than analytically and dynamically” (footnote 1, p. 613). As such, the reductionist assumptions of the aggregate approach are no longer relevant. Instead, the focus shifts to the strategies and dynamic progression of frame construction and the ongoing interpretive processes that affect the how new frames are produced, challenged, and reproduced.

For example, Miceli's (2005) account of the struggles of gay rights and Christian Right movements emphasized the framing contests and counter-framing interactions between various groups, noting that some unsuccessful strategies and interactions (i.e., failing to develop master frames) influenced the decline of both movements. Indeed, Noakes and Johnston (2005) noted that macro level political opportunities and meso level mobilization are not enough to account for the constitution of SMs. Instead, a focus on the "micro level of social construction processes" is needed to explain the "occurrence of protests or the rise of social movements" (p. 1). Thus, the focus is on the social construction and process of collective action framing, not aggregations. For example, Benford (1997) warns that the framing perspective can walk a tightrope between reification and reductionism unless scholars maintain the focus "on human interaction, discourse, and the social construction of reality" (p. 420) regarding SM framing processes.

Similarly, research on persuasion and the rhetoric of SMs emphasize the interpretive constitution of SMs. Stewart, Smith, and Denton's (2012) model treated SMs as interpretive systems, consisting of five interdependent processes of (1) needing, (2) liking, (3) symbolizing, (4) reasoning, and (5) preferencing. In a similar vein, rhetorical approaches suggest SMs are constituted by effects and management of symbols (e.g., words, signs, images, music, etc.). As Morris and Brown's (2001) collection on the rhetoric of SMs claimed, "these authors understand social movements to be definitively *rhetorical*; that is, movements for reform are intrinsically bound up with the management of symbolic resources... Why? Because they organize symbols to persuasive ends; they address unsettled issues of public importance; and they seek change not through violence or coercion, but through force of argument and appeal" (p. 1-2, emphasis in original).

Likewise, other approaches treating SMs as symbolic constructions focus mainly on collective identity, a well-known tenet of new social movement (NSM) theory. Briefly, rooted in European perspectives in social theory, NSM theory emphasizes non-material explanations for the emergence of social movements such as identity, recognition, and autonomy (Buechler, 1995). In other words, the production of labor and goods is being replaced by the production of society and culture as the main source of conflict (Della Porta & Diani, 2006, p. 8-9; Melucci, 1989). For Giddens (1996), this conflict cumulated over a struggle not over instrumental politics, but rather life politics. Other characteristics of NSM theory are the importance of post-material values (i.e., tolerance, cosmopolitanism, autonomy, and expression), symbolic forms of resistance, and ad hoc networks of organization (Buechler, 2000, p. 45-51).

However, Melucci (1996) suggested that the construction of collective identity is what mainly distinguishes NSMs from other SMs: they comprise the actual motivation for mobilization. In other words, establishing collective identities counter to dominant cultural beliefs is an end in itself (see Melucci, 1994a, p. 119-121, for an example on the Italian feminist movement). For example, in answering what distinguishes NSMs from others, Melucci (1994b) contrasted NSMs from traditional SMs, which he described as “aggregate behavior” (p. 107). Instead, with modern SMs, “We must rethink social action into the process by which meaning is constructed through interaction...The production and reappropriation of meaning seem to lie at the core of contemporary conflicts; this understanding requires a careful redefinition of *what a social movement is* and what forms of action display its presence” (p. 109-110, emphasis mine).

In sum, SMs as symbolic interactions treat SMs not as aggregates, but as interactions of ongoing constructions of meaning. It has taken shape by three prominent approaches to SM

theory: framing, rhetorical studies, and NSM theories. Table 2.1 summarizes the three perspectives.

Discussion and conclusion

The purpose of this chapter was to conduct a review around the question of how scholars have conceptualized the constitution of SMs. Based on my review, I argued that SM theorists and research have generally assumed that SMs are constituted by aggregates, networks, and symbolic interactions. This framework presents an opportunity for fresh theorizing. In the following paragraphs, I discuss strengths and limitations of the approaches and the merits of developing a hybrid approach to SMs.

The aggregate/interpretational/relational trichotomy introduces fundamental questions about what exactly is a social collectivity. Addressing and resolving tensions like this is one way to build new theory and research questions (Poole & Van de Ven, 1989). In the aggregate perspective, social collectivities are constituted through the sum of attributes and relevant components. In the relational perspective, they are constituted through network and interactional processes. And for the SI perspective, social collectivities are constituted through the construction of reality. Each approach has its own unique strengths. The aggregate view is useful because it represents important artifacts of collective action. The relational view is useful because it demonstrates the dynamic social processes of SM interactions and how these interactions work to produce networks and outcomes (e.g., Knoke, 1990). And the SI view is useful because it portrays how perceptions, language, and symbols affect the life of social collectivities. In other words, the aggregate perspective focuses mostly on *what* social collectivities produce, the relational perspective focuses mostly on *how* social collectivities are

formed, and the interactional perspective focuses on *why* social collectivities are perceived as the way they are.

However, each approach also has limitations. As suggested earlier, the aggregate approach suffers from assumptions based on philosophies of atomism and methodological individualism which presume that SMs are reduced to independent components. As such, the aggregate view neglects how different aspects of SMs (e.g., SMOs, ideology, collective action events) are related and interdependent. That is, the reductionist assumptions behind methodological individualism fail to take into account the complex interdependencies between relevant elements of SMs.

This limitation is mostly addressed by the relational view, which emphasizes interdependence and network structures. However, the relational view is often inclined toward a philosophy of holism which suggests that SMs are bound as a fixed set of interrelated nodes. Thus, the relational view emphasizes structural determinism through systems of networked relationships. The main limitation in this assumption is the failure to account for human agency and for SMs to exist beyond fixed network relationships. Indeed, without some sense of agency, the prospects of achieving and advancing social change would be bleak. Several theoretical attempts, notably structuration theory, have been posited to bridge the structure/agency dualism. Indeed, Haines (1988) argues that social network theory, if understood under structuration theory, can be usefully converged and resolve issue regarding atomism and holism.

However, Haines (1988) fails to take into account the role of social construction as emphasized by the SI approach to SMs. That is, the meaning behind SMs is determinant on the existing schemas and knowledge frameworks of individuals. However, the main limitation of the SI approach is its orientation towards relativism, which assumes that the construction of reality

differs from agent to agent (i.e., no single truth). As such, the SI approach focuses much more on difference than similarity. As Fay (1996) articulates, this view is mostly misleading because it treats agents as “isolated groups trapped inside separate spheres unable to understand or share or communicate with others in different groups. *Relativism ends in separation*” (p. 82, emphasis in original).

A hybrid approach

Understanding the strengths and weaknesses of each approach introduces the prospects for developing a hybrid framework incorporating various facets of each approach. Building frameworks around the strengths of often perceived as divergent approaches, rather than the differences, is a common technique in social science theory construction that Green (2007) calls dialogic mental modeling. Such a technique does not ignore important theoretical tensions (e.g., reductionism vs. holism), but focuses on *compatible* attributes instead. Indeed, DiMaggio (1995) suggests that good theories can split the differences between seemingly contradictory approaches, writing that “one can go beyond simply recognizing the diversity of useful and plausible approaches to suggest that many of the best theories are hybrids, combining the best qualities of [different theoretical] approaches” (p. 392). Moreover, Poole and Lynch (2000) point to the usefulness of combining diverse perspectives into integrative frameworks, demonstrating that such a task “accepts the differences between perspectives, and attempts to use them to stimulate productive scholarship” (p. 221).

Developing such a hybrid approach is useful for two reasons. First, it takes each perspective seriously. Thus, it maintains a sense of civility which avoids polarization and dogmatic assumptions. As such, a hybrid approach keeps the conversation going and suggests that “good scholarship depends not on the answers we arrive at, but on a continuous process of

inquiry and criticism” (Poole & Lynch, 2000, p. 223). Second, a hybrid approach focuses on a common problem: What constitutes a SM. Indeed, Mumby (2000) suggests that focusing on common problems is a productive way to begin developing how alternative perspectives can complement one another into larger frameworks.

Indeed, such a strategy is already on the rise. For example, scholars emphasizing the dynamics and processes of SMs (e.g., McAdam, Tarrow, & Tilly, 2003; Wang & Soule, 2011) typically conceive of SMs as being influenced by myriad of different factors. For example, Tarrow (2011) situated SMs as made up of four factors: (1) contentious challenges, (2) networks and organizations, (3) frames, collective identity, and emotion, and (4) political opportunities. Tarrow later developed frameworks to understand the dynamics of mobilization, interaction with challengers, and cycles of contention.

However, many of the factors mentioned by Tarrow (2011) (a) share the same assumptions on the constitution of SMs and (b) point to what influences SMs, not what is a SM. What a hybrid theory can provide and why such a theory is needed is because *there has yet to be an ontological theory of SMs that accounts for all three of the different perspectives on the constitution of SMs, including aggregates, network, and symbolic interactions*. In other words, if theoretical advancements can be made by building hybrid theories incorporating the strengths of divergent approaches, as DiMaggio (1995) and Poole and Lynch (2005) suggested, then constructing such a theory on the constitution of SMs should yield valuable insights into SM research. In the next chapter, I will show how treating SMs as networks of communication episodes makes two contributions to existing knowledge: (1) bridging the triadic dialectic proposed in this chapter, and (2) pushing beyond conventional ways of thinking about SMs.

Tables and Figures

Table 2.1

Summary of three assumptions of SMs

SMs as...	Aggregates	Networks	Symbolic interactions
What constitutes SMs?	Aggregates of relevant entities (e.g., protests, SMOs, attitudes, etc.)	Network relationships between different SM actors	Ongoing interpretive interactions between different groups and individuals relevant to SMs
Acclimation towards social phenomenon	Methodological individualism	Holism	Social constructivism
Influencing SM areas	Resource mobilization, political opportunity structure, rational choice, relative deprivation, collective behavior	Network/relational approaches to collective action	Framing, collective identity/new social movements, rhetoric and persuasion of SMs

CHAPTER 3: THEORETICAL FRAMEWORK

The previous chapter argued that the constitution of SMs has mostly revolved around three assumptions: (1) SMs as aggregates, (2) SMs as networks, and (3) SMs as symbolic interactions. This taxonomy leaves the door open for fresh theorizing on what constitutes SMs, one that addresses the tensions between approaches and areas where they can work together. What would such an approach actually look like?

The purpose of this chapter is to develop a hybrid approach to SMs by conceptualizing them as networks of communication episodes. It is organized as follows. First, I describe the need for such a theory. Second, I elaborate the theoretical underpinnings motivating the new perspective, each influenced by the three assumptions of SMs explained in Chapter Two. Next, I articulate the theory in its canonical form. Finally, I describe its theoretical contributions.

A framework to capture the complexities of SMs

Implicit in Chapter Two was the argument that SMs signify a complex concept to grasp. Different traditions have conceived SM in different ways, motivated by how they assume SMs are constituted (aggregates, networks, or symbolic interactions). As such, when scholars research different SMs they commonly arrive at one of two (or both) shortcomings: (1) equating SMs with things that they are not, and (2) providing a less-than nuanced framework to capture most of the complexities associated with SMs.

What is (not) included in a SM? The central argument is that because of the myriad of factors associated with SMs (e.g., political opportunities, cultural outcomes, resources, etc.), determining what constitutes a SM and what does not, is an increasingly difficult endeavor. In other words, there is little clarification on distinguishing between the boundaries of a SM and its environment. For example, POS theorists, while differing on many details, typically share the

assumption that the POS is a leading factor influencing the development of SMs. Thus, the assumption is that a factor outside of a SM (the POS) influences a factor considered to be part of a SM. However, the POS has been used to explain a multitude factors (McAdam, 1996), including SM “mobilization, the emergence of the protest cycle, the relationship between allies’ attitudes and movement behavior, and the predominance of either confrontational or assimilative protest strategies” (p. Della Porta, 2013, p. 3).

For example, Meyer and Minkoff (2004) sought to investigate the influence of the POS on civil rights mobilization from 1955 to 1985. To measure SM mobilization, they used three dependent variables: protest frequency, SMO formation, and policy influence. While the first two seem to resemble parts of SM activity (arguably constitutive features), the last is surely an outcome of SM activity. Thus, if the POS effects policy outcomes, as their results demonstrate, then what is the need of SMs in the first place? Although the authors never claim policy outcomes are constitutive of SMs, there is no clear separation between the two, and policy influences can be easily mistaken as a feature of SMs. For example, imagine a study on the effects of NAFTA on corporate activity and not clearly distinguishing the outcomes of corporate activity (e.g., profits, new customers) with the actual organizational processes (e.g., structures, production levels, etc.).

A similar criticism of new social movements (NSMs) is hinted by Earl (2004) when discussing the cultural outcomes of SMs. Earl noted that NSM theorists almost never articulate the specific SM activity that influences cultural change. As such, given the ambiguity already surrounding what constitutes NSMs (Pichardo, 1997), conflating what is a NSM and what is a cultural outcome of NSMs is not easy to do. For example, is the increase in post-materialistic values the defining feature of NSMs or the result of NSM activity?

In summary, because most scholars are interested in the factors that influence SMs, rather than what actually constitutes them (Opp, 2009), there has been unclear specification into what actually counts as a SM and what does not. Without a theory on the constitution of SMs, there is the easy temptation to mistakenly equate SMs with other things like political opportunity structures or changes in attitudes and beliefs, resulting in misgeneralizations and unclear standards for future work. As such, there is a need to focus on specific SM processes and activity. Indeed, several paradigms have investigated SM processes (e.g., Benford & Snow, 2000), but are limited because they are influenced by one specific assumption on the constitution of SMs. What is needed is a view of SM processes that takes into account multiple assumptions on the constitution of SMs. To illustrate the limitation of viewing SM processes from one point of view, in the next section, I review the history of mobilizing structures.

Seeing things from one point of view: The tale of mobilizing structures

Often, what limits theoretical development in certain areas is not specifying rigor and detail, but failing to see things from another point of view (Fay, 1996). Indeed, much theoretical advancement in the social sciences were made by combining divergent perspectives, rather than keeping them separate. For example, Herbert Simon won the Noble Prize in Economics for his work on bounded rationality, combining features of often assumed opposed traditions in rational and irrational decision making. Likewise, Anthony Gidden's structuration theory combines strains of deterministic and atomistic social theory and has been especially influential in communication theory and research. In the next section, I describe how the bounded view of SM networks assumed by the relational perspective constrains theories of mobilizing structures.

The importance of mobilizing structures to SMs has not gone unnoticed (see Tarrow, 2011, chapter 8, for a review). It represents a shift from *why* actors participate in collective

action to *how* collective action emerges from the actions of actors. As such, there is a good case to be made that mobilizing structures represent a constitutive feature of SMs. Mobilizing structures can be defined as the “formal and informal organizations and networks that facilitate routine communication and coordination among groups of people” (Smith & Fetner, 2011, p. 28). As such, there are two key components of mobilizing structures: organizing structures *within* and *between* groups. Since large scale collective action typically cannot be accomplished by one group or organization, I focus on the latter, the organizing structures between groups.

Indeed, the focus on mobilizing structures has been key regarding relational approaches to collective action (e.g., Osa, 2001). However, what type of structures, components, and relations that represent ideal conditions for collective action has been debated over the years. Perhaps the most explicit attempt at exploring ideal mobilizing structures was Marwell and Oliver’s (1993) theory of the critical mass. Briefly, the critical mass framework questions previous theories of collective action (e.g., Olson, 1965) that assume decisions on whether to participate are made independently or in a vacuum. Instead, critical mass theory assumes that the decision to participate in collective action dependent on others’ decisions along with a variety of factors like the types of groups involved, possible level of contributions, production function (i.e., type of return received from collective good), and network structures. As such, the critical mass has been influential in theorizing ideal mobilizing structures, specifically ones that are centralized and dense. As Crossely and Ibrahim (2012) note, “collective action requires enough people with sufficient interests and resources to bring it about (critical mass) but also requires that this mass is sufficiently and appropriately connected to allow for coordination (social networks)” (p. 598).

However, the relational approach to collective action is hampered by its narrow conceptualization of networks, which Diani (2013) notes has been limited to actors (e.g., individuals or organizations) as nodes and direct and indirect ties between actors. The argument here is that such a constricted perspective of networks has led to a simplistic view of mobilizing SM structures. Below I articulate two examples: centrality and density.

Centrality. In network studies, centrality has been a key concept in theories of SM collective action. For example, Monge and Contractor (2003), following simulation research on theories of the critical mass, argued that theories of collective action would predict that a collective good is more likely to be advanced in actor by actor networks that are more centralized. This logic reflects the creation of a critical mass whose contributions are greater than most and thus, reduce material incentives and costs not to contribute to collective action. Indeed, “communication, coordination, and organization are achieved in hub-centered (‘degree-centralized’) networks because, assuming they are willing and have the consent of their alters, hubs can ‘broker’ between everybody else” (Crossley & Ibrahim, 2012, p. 598). Indeed, several studies of SM actors suggest that centrality represents a significant generative mechanism behind collective action (Fernandez & McAdam, 1988; Kim & Bearman, 1997; Marwell, Oliver, & Pahl, 1988), resulting in networks characterized by preferential attachment (e.g., Lusher & Ackland, 2012; Pilny & Shumate, 2012).

However, previous networks have only included centrality effects among SM actors among single relations. Such mobilizing structures (i.e., one type of node and relation) can be misleading in many cases, especially when most centrality measures are equated with power and inclusiveness in an important critical mass. For example, in a uniplex network, the mail-delivery person might be the most central actor in an intraorganizational communication network. As

such, researchers might be inclined to equate such actors high in centrality with power and influence (see Bonacich, 1987, for an example on exchange networks).

Indeed, there is very little research analyzing the interdependent effects of centrality across different types of relations and different types of nodes. That is, the argument here is that uniplex and unimodal networks do not give a very good account of the critical mass. This would be akin to describing a leader through one trait, when most theories of leadership describe multiple characteristics of leaders, especially leadership within SMs (Robnett, 2013). Likewise, if members of the critical mass are SMOs with high resources and are the most interested in facilitating collective action, then do not we expect more of them than just being central in a communication network?

There is some evidence to support that assertion. For instance, Diani's (2003) research found a positive, though moderate, correlation between centrality in an SMO alliance network and shared membership network, suggesting that while the metrics are related, there exists discrepancies between the two (i.e., one can be central in one, but not the other). In other words, the assumption is that networks demonstrating centrality across different ties and nodes will provide a more realistic identification of a critical mass central to SM organizing. For example, would not it be reasonable to expect members of the critical mass to be central in a communication network between SMOs *and* a network of participation in collective action, just as one would expect leaders to be central in planning and activity?

Finally, uniplex networks have also been biased towards instrumental relationships (e.g., information exchange), rather than expressive or meaning-centered relationships (Krinsky & Crossley, 2014). In other words, most uniplex studies of the critical mass ignore how members of the critical mass might be at the center of networks dedicated to constructing a particular type of

meaning, often serving as framing brokers (e.g., Haydu, 2011). For example, Passy and Monsch's (2014) study showed how conversational networks that influenced master frames were influential in motivating actors in to participate in costly protest actions. As such, the content, claims, and meaning behind networks may be just as important as just the type of network tie (e.g., communication tie), but are often neglected in research behind mobilizing structures.

Density. Likewise, theories of collective of action also emphasize density, also referred to as the higher proportion of strong ties, as conducive to collective action. For example, Kim and Bearman's (1997) results demonstrated that, "network density is positively associated with collective action...because with increasing density, individuals are brought into communication with one another. Consequently they share information, develop more similar world views, and develop the relational bases for shared identity" (p. 89). Nicholls (2008) argued that dense relations "improve the abilities of actors to perform collective tasks with greater ease, efficiency, and expertise" (p. 845), helping establish common norms, trust, emotional energy, and interpretive frameworks.

However, uniplex density has been shown to have mixed and inconclusive effects on collective action organizing (Gould, 1993; Macy, 1991). One reason this might be the case is because it is rare that collective action is organized solely through one type of network tie (Snow et al., 1980). Moreover, thinking about density through a single level of analysis masks the effects of density across different relations and nodes, neglecting the multidimensional nature of certain social networks (e.g., Contractor, Monge, & Leonardi, 2011).

Indeed, Crossley and Ibrahim (2012) argued that critical mass theory should be amended from thinking about density in one type of relation to multiplexity across various types of relations. Moreover, some recent research demonstrates the impact of overlapping ties across

actors and events. For example, Zhao's (1998) qualitative research regarding student mobilization in the late 1980s Chinese democratization movement showed that across different levels ties, including friendship (micro, interpersonal level) and common dormitory membership (meso level) influenced students to participate in collective action episodes like public demonstrations (meso level). Thus, reducing density to one type of tie across the same set of actors might mask how density works in more subtle and nuanced ways across different actors and events.

Summary

In summary, there is (1) a need for a theory to separate what should be included in a SM and what should not, enabling researchers to avoid misconceptions of features constituting SMs. This would allow future work to be more consistent when comparing different SMs and results of different studies. Next, there is (2) a need for a theory that provides a more nuanced framework of SM processes, one that is freed from the chains of one assumption on the constitution of SMs. This chapter argues that one way to do that is to develop a hybrid approach to SMs motivated by all constitutive assumptions. In the next section, I articulate the theoretical underpinnings underlying such an effort.

Theoretical underpinnings

To develop a hybrid approach, I draw upon three theoretical underpinnings, each separately motivated by the three general assumptions described earlier: aggregate, network, and symbolic interactionist approaches. That is, SMs as networks of communication episodes are influenced by the constitutive nature of (1) events and SMOs (aggregate approach), (2) the linking feature of SMs (network approach), and (3) the emergent and processual role of

communication (symbolic interactionism approach). This section introduces these three key underpinnings.

Interplay between events and SMOs

Aggregate approaches often rely on empirical measurement to delineate what constitutes a SM. Thus, the best way to determine how different aggregate approaches conceptualize SMs is to look for how they measure them. However, most measurements of SMs mostly lack what Chaffe (1991) calls “invariance of usage” (p. 40), or in other words, a precise and consistent method of operationalization. I suspect that this is the case because, as Opp (2009) observed, most theories of SMs do not actually focus on the ontological feature of what constitutes a SM, but rather on the factors that influence SMs (e.g., political opportunity, resources, collective identities, frame alignment, mobilizing structures). In other words, theories of SMs under the aggregate assumption have focused on independent variables, rather than dependent variables.

Nevertheless, the most often used measurements of SMs have been counts of (1) collective action events and (2) SMOs. Indeed, Meyer and Minkoff (2004) argued that both are equally important in measuring SMs. In the two next sections, I review the theoretical reasons why they are both equally important and will later explain how they play an important role in the explication of the networks of communication episodes.

Collective action events. Classical approaches to collective behavior were all interested in the same fundamental question: Why do people organize in episodes collective action? Thus, collective action was and still is the focus of much SM research. For Olson (1965), the problem was deeper embedded within realms of individual rationality and selective incentives (hence, his emphasis on free-riding, group size, and social pressure). That is, Olson argued that because of the collective nature of public goods, there will always be the temptation to free ride (not

contribute, yet still receive public good), especially as groups get larger (this assumption has mostly been disproven, see Oliver, 1993). Thus, free riding was considered rational and participating in collective action irrational (i.e., why contribute when you can get it for free?). Similarly, theorists in the value-added tradition of collective behavior (e.g., Smelser, 1962) were interested in the same question, albeit with a focus more on macro social conditions rather than micro incentives. And social-psychological approaches emphasized non-rational motivations to participate in collective action episodes (e.g., solidarity, emotion).

Dissatisfied with traditional collective behavioral approaches, Gerlach and Hine (1970) theorized a more, in their words, “mechanistic” approach to SMs that emphasized how they self-structure and advance social change. However, the emphasis on collective action episodes still predominated. For example, Gerlach (1971) used collective action episodes as a springboard to introduce his mechanistic perspective: “As riots and conflict popped up in black urban ghettos across country... as a range of peace groups exploded in antiwar demonstrations across the land ... the sweep of interest and action related to pollution fighting and environmental awareness” (pp. 812-813). As such, instances of collective action (i.e., riots, demonstrations) signify what Gerlach and Hine sought to explain, despite their focus on network structuring. In other words, collective action episodes are the predominate focus of inquiry (i.e., dependent variable).

Indeed, despite diverse approaches to SMs, episodes of collective action have remained a key focus in SM studies. Perspectives highlighting episodes of collective action as fundamental include resource mobilization (e.g., Gamson, 1975), political opportunities (e.g., Eisinger, 1973), framing (Benford & Snow, 2000, pp. 613-622), new social movements (Pichardo, 1997, pp. 415-416), and relational approaches (Diani, forthcoming, chapter 7).

Charles Tilly (1999) pushed this notion further and recognized that SMs might be better understood sustained episodes of collective action. He wrote:

In order to describe and explain what was happening ... in social movements at large, we must clear away two mistaken ideas ... The first idea is that social movements are solidaristic, coherent groups, rather than *clusters of performances*. The second is that social movements have continuous, self-contained life histories in somewhat the same sense that individuals and organizations have life histories. Both ideas are false, or at least very misleading ... Social movements consist of bounded, contingent, interactive performances by multiple and changing actors (Tilly, 1999, p. 256, emphasis his).

Tilly's statement has one key implication for this project: despite recent emphasis on frames, collective identity, emotions, and relationships, without episodes of collective action, SMs might as well not exist. Indeed, to take this view seriously means that "social movements happened rarely before 1800" (p. 25). Although the perspective I will develop certainly places Tilly's view as central, as I will describe in the next section, events cannot be separated from the actors that initiate them.

SMOs. The emphasis on organized collective action was largely a response to dissatisfaction with functional theories of structural strain and aggravation, which argued that collective action events were the results of dysfunctions in social systems like marginalization or rights infringement. Moreover, recent theoretical projects have been aimed at integrating theories of organizations and SMs together (Davis, McAdam, Scott, & Zald, 2005; Fligstein & McAdam, 2011). That is, the general tenet is that researchers would be a mistaken to separate the concept of SM and the organizations collectively acting in a SM's name (McCarthy, 2013).

Following McCarthy and Zald (1997), an SMO can be defined as “a complex, or formal, organization which identifies its goals with the preferences of a social movement or a countermovement and attempts to implement those goals” (p. 1218). Indeed, some of the core assumptions of RM theory placed SMOs as central to the organization of collective action events (for a review, see Della Porta & Diani, 2006). For example, RM suggested that SMOs represent the primary actors of SMs and that they are the product of rational decision making and compete for a variety of key resources. Perhaps most importantly, RM theory assumes that individuals are cogent actors that are engaged in instrumental actions that use formal SMOs to secure resources and foster mobilization. As a result, social change is more likely to occur through the accumulation of diverse types of resources by SMOs.

Additionally, other theoretical perspectives have even highlighted the important roles of SMOs. For example, SMOs have been shown to be influential in identity formation (Clemens & Minkoff, 2004), frame construction (Evans, 1997), and opening up political opportunities (McAdam & Scott, 2005), just to name a few. As such, researchers have frequently used the amount of active SMOs present (usually within a given time slice) as a measure of SMs (e.g., Johnson, 2008; Lounsbury, 2005; Minkoff, 1997).

Moreover, according to Minkoff (1997), the relationship between SMOs and collective action events was made explicit in theories of density-dependence theory, a branch of ecological theories of organizations (Hannan and Freeman, 1989). More specifically, there is a curvilinear relationship between the two: the more SMOs, the more collective action events, that is, until a peak amount of SMOs aggregates, and then there is decrease in collective action events due to interorganizational competition between SMOs. Indeed, several studies have provided support the density-dependent model of SMs (Gary & Lowery, 1995; Minkoff, 1997).

In summary, the aggregate approach is useful because it provided the current project with two valuable artifacts of SMs: collective action events and SMOs. *However, because of the reductionist assumptions behind aggregate approaches, it does not reveal exactly how these two features (SMOs and collective action events) work together to constitute SMs.* To resolve this question, I turn the relational perspective for answers.

The linking feature of SMs

Tilly (1999) acknowledged that for SMs to exist, they must generate sustained interactions over time. In other words, because SMs are not, as Tilly noted, a “group, a quasi-group, or a group-like composite, but a complex form of social interaction” (p. 5), they can be best described as consisting of multiplex network relationships between actors and events. In this section, I expand upon relational approaches by arguing that SM networks are inherently multidimensional, consisting of relationships between actors *and* events.

Multidimensional networks. I have already reviewed the relational approach to SMs earlier, but have not specified the specific function of such networks. The first function is more expressive and is illustrated by Passy’s (2003) general argument that SM networks can be best understood as phenomenological realities. That is, SM networks are “islands of meanings which define and redefine individual identities through their interactions with other actors or groups, but also by shaping more volatile perceptions or preferences” (p. 27). As such, this function contributes more to the social construction of SMs. That is, relations function to construct meaning, norms, and collective identity between the nodes involved. Such expressive and identity building functions behind SM network has been increasingly acknowledged by SM researchers (Krinksy & Crossley, 2014).

The second function of SM networks is more instrumental. For example, communication relationships between actors can provide information to influence collective action, induce pressure to participate in SM activities, or inhibit the growth of individual or organizational capacity/skills to engage in collective action (Diani, 2013). This suggests that network relationships offer channels of instrumental diffusion (Givan, Roberts, & Soule, 2010).

However, relationships are not just limited to dyadic exchanges between actors; they can be conceptualized as the interactions between SMOs and events. For example, Wang and Soule (2012) found that tactical diffusion between SMOs occurred after the participation of SMOs in the same event. The authors argued that common participation in collective action episodes can be best understood through a process of *organizational learning* in which the actors involved in common episodes allow actors to “share information through observation *and* direct exchange” (p. 5, emphasis mine). As such, if SM actors were dependent on collective action events for tactical innovation, then the study suggests that SM networks should include not only relationships between SM actors, but also relationships between actors and collective action events.

This conceptual move means that SM networks should be considered multidimensional, defined as networks that “consist of different types of nodes and relations that are embedded in the same networks” (Shumate & Contractor, 2013, p. 450). In other words, the nodes in the network are made up of actors and events, consisting of diverse relationships within and between the two types of nodes. The ontology of multidimensional networks is influenced by the foundation of *sociomateriality* (Orlikowski & Scott, 2008). Especially influential in technology studies, sociomateriality posits the general claim that all materiality (e.g., an artifact’s physical/digital components and possibilities) is influenced (e.g., enabled or constrained) by

social structure and vice versa (see Leonardi, 2012, for a more in depth discussion). As such, sociomaterial approaches do not separate the material and social as separate phenomenon, but instead as constitutively entangled. Contractor, Leonardi, and Monge (2012) used this multidimensional framework to help provide a more nuanced explanation for processes behind technology adoption and use in an intraorganizational network.

A multidimensional perspective can yield clear benefits for SM research. For example, the relationship in Wang and Soule's (2012) study can be conceived as a multidimensional network containing actors and events. Reframed as a multidimensional network, Figure 3.1 demonstrates Wang and Soule's theory of organizational learning.

The re-framing of Wang and Soule's study as a multidimensional network allows the researcher to view actors and events as dependent one another, rather than as two sets of isolated variables affecting one another. Put this way, this allows the researcher to further analyze what also influences the creation of a shared tactical tie between two SMOs beyond common participation at the same event. For instance, perhaps there is something about the *event* both structurally (e.g., it might be more central with other events or actors) or characteristically (e.g., it might have lots of media coverage) that influences the diffusion of tactical repertoires. As such, the view changes from an examination of a simple linear process (i.e., common participation influences shared tactical repertoire) to a more holistic examination of a multidimensional process.

The overall point is that SMs do not exist or function in a vacuum. Whatever relevant component theory may emphasize (e.g., resources, frames, actors, etc.), the linking feature of SMs suggests that they are related and interdependent. Indeed, the preceding section argued that collective action events and SMOs are the central focus of SMs. *To take the linking feature*

aspect seriously means to articulate how collective action events and SMOs are linked together, interdependent, and even indistinguishable. In other words, the linking feature treats collective action events and SMOs as endogenous, not exogenous. As such, the current perspective moves beyond debates about what effects one has on another (e.g., Minkoff, 1997) by asking how events and SMOs are dependent, rather than independent.

However, although looking at a multidimensional SM network would provide a more nuanced perspective into the phenomenon, it would fail specify what Barabasi (2013) refers to as a complex social system's "emergent behavior". For example, many things can be considered complex systems, but are static (e.g., a car). In other words, they do not emerge out of the micro social interactions between components that have degrees of agency. However, other complex systems (e.g., an organization) can be viewed from an emergent complex system perspective. Looking at a SM network as simply a multidimensional phenomenon by itself does not reveal or explain its emergent structure or the processes that gave rise to the SM. Stopping here would be akin treating the SM network like a mechanistic system of car parts similar to classical functionalist perspectives, neglecting the processes that constitute emergence, reproduction, and change. One way to overcome static underpinnings is to view multidimensional SM networks as communication episodes. Below, I articulate how this can be done.

Emergent role of communication

The idea that communication constitutes certain realities or that realities emerge out of communication takes precedence in a variety of theory and fields (Taylor & Van Every, 2000). This idea has been especially influential in organizational communication. For example, one of the earliest explicit attempts at constructing a communicative theory of organizations was McPhee and Zaugg's (2000) idea that communication is constitutive of organizing (CCO). In

other words, communication makes organizations real. This perspective suggests that an organization is comprised of the communication interactions sustaining actors into a social collectivity. However, Putnam, Nicotera, and McPhee (2009) articulated two key modifiers. First, the CCO perspective does not does assume equivalence between organization and communication. That is, just because communication “creates, sustains, and transforms organizations” (Putnam et al., 2009, p. 8) does not mean that they are the same things. And second, the CCO perspective views organizations as ‘grounded in action’ (Fairhurst & Putnam, 2004), which views the organization as secured in the continuous flow of communication and “reflexively and concomitantly constituted” (Putnam et al., 2009, p. 9). Cooren et al. (2011) articulated six general propositions that guide CCO research:

1. CCO scholarship studies communication events
2. CCO scholarship should be as inclusive as possible about what we mean by (organizational) communication
3. CCO scholarship acknowledges the co-construction or co-orientated nature of (organizational) communication
4. CCO scholarship holds that who or what is acting always is an open question
5. CCO scholarship never leaves the realm of communicational events
6. CCO scholarship favors neither organizing nor organization

Blaschke, Schoeneborn, and Seidl (2012) pointed to three new contributions the CCO offers organizational studies: (1) a new understanding of the mechanisms that create and sustain organizations, (2) a new opportunity to resolve competing levels of analysis at the micro, meso, and macro level, and (3) a new perspective on the relation between emergence and control.

However, not all CCO approaches are equal. Kuhn (2012) traced CCO thinking in three distinct traditions. The first is McPhee and Zaug's (2000) four flows model. Their model articulated how communication through four flows--membership negotiation, self-structuring, activity coordination, and institutional positioning--constitutes organizations by "linking members together, establishing boundaries, shaping operations, adapting interaction, and situating the organization in relation to a larger field" (Cooren, Kuhn, Cornelissen, & Clark, 2011, p. 1155). They described flows as "a kind of interactive communication episode, usually amounting to a multi-way conversation or text passage, typically involving reproduction of as well as resistance to the rules and resources of the organization" (McPhee & Zaug, 2000, p. 33).

The second approach described by Kuhn is the Montreal School (e.g., Cooren, 2012; Taylor & Van Every, 2000). The Montreal School focuses on communication as co-orientation, a process linking (at least) two actors during coordinated activity towards a common object. In co-orientation, organizations are produced in discourse through *text* and *conversation*. Together, text and conversation are "piled on top of another and drawn upon in distributed sites in the conducted of coordinated activity, the text, practices, and authority relationships characteristic of organization emerge" (Cooren et al., 2011, p. 7). As such, the Montreal School focuses heavily on nonhuman actors like texts and how they speak for human actors and vice versa. Cooren (2012) called this dual process *ventriloquism*, where "people in interaction manage to act and speak *for* and *in the name* of specific beings to which they feel attached, whether these beings be principles, values, beliefs, attitudes, ideas, ideologies, interests, organizations, etc." (p. 5).

The third line of CCO is thinking, and more relevant for the current project, is based off of Niklas Luhmann's (1995) theory of social systems. Luhmann's theory is abstract and complex enough for an entire text book on the subject (e.g., Bakken, 2003). Thus, a summary will not be

attempted, but instead three important components of Luhmann's theory are elaborated. First, social systems, distinct from individual psychic and interpersonal interactional systems, are constituted by communication. As Luhmann articulated, "they use communication to constitute and interconnect the events which build up the systems. In this sense, they are 'autopoietic' systems. They exist only by reproducing the events which serve as components of the system" (Luhmann, 1982, p. 131). This suggests that systems cannot communicate themselves, but are instead constituted by networks of meaningful communication episodes reproduced over time (Blaschke et al., 2012). Blaschke et al. define a communication episode simply as a "sequence of communication events" (p. 891). For example, communication events represent ongoing interactions and exchanges between individuals relevant to a SM (e.g., interactions in planning a protest and meetings with various actors) that are culminated into single episodes (e.g., a collective action protest). When systems do not reproduce communication episodes, they get absorbed back into the environment.

Second, systems are self-referential (e.g., they communicate about themselves). That is, they depend on self-referential links between communication episodes to distinguish themselves from the environment and engage in deparadoxification, defined as "reducing the almost infinite number of potential options (open contingency) to a limited set of options (fixed contingency)" (Schoenborn, 2010, p. 675). The survival of systems depends on whether or not such connectivity between episodes is achieved (Blaschke et al., 2012; Nassehi, 2005) and whether or not a sustained set of self-referential communication episodes are reproduced over time. And finally, systems change their structures only through sociocultural evolution. This suggests that "evolution assumes self-referential reproduction and changes the structural condition of reproduction by differentiating mechanisms for variation, selection and stabilization" (Luhmann,

1982, p. 133). Thus, communication episodes are constantly in flux and adapting to changes through selection and retention mechanisms. Luhmann (1995, p. 432-436) described the changes in communication episodes occurring through the process of sociocultural evolution in which selection will most likely occur for aspects that help stabilize the system (not necessarily the most optimal). Blaschke et al. (2012) extended Luhmann's thinking by conceiving of organizations as networks of communication episodes, highlighting the emergent, processual, and constitutive function of communication in organizations.

The current project, while containing some important conceptual differences¹, privileges a Luhmannian adaptation to CCO because it lends itself more favorable to network relationships and can be classified as a type of general systems theory (Poole, 2013). Other CCO perspectives, especially the Montreal School, would be less appropriate because they, as Schoeneborn (2011) notes, often fail to distinguish constitutive action within boundaries, a fundamental feature of self-referential autopoietic systems. For instance, a Montreal vision might argue that media stories or everyday conversations about a SM would perpetuate and constitute a SM (e.g., ventriloquism). On the other hand, a Luhmannian perspective, while certainly not ignoring such factors², would separate those actions from the self-referential system.

As such, the general point is that by itself, linking collective action events and SMOs together does not give a rich account of constitution. Relationships between actors and events must mean something if it is supposed to represent something larger than the sum of its relationship. That is, by itself, a multidimensional network (events and SMOs) lacks a constitutive character because it takes for granted the complex processes taking place in

¹ The main difference is Luhmann's insistence that actors should not be included social systems, but instead represent the environment of social systems. My main area of disagreement of Luhmann is his notion and primary thesis that communication events can communicate. Because collective actions need to be organized by actors, I maintain retaining actors in the system and explication of communication episodes.

² Luhmann would likely say that instead of being included in the social system, that they are structurally coupled and can cause perturbations between one another.

collective action episodes. In other words, when SMOs routinely communicate with other SMOs or when SMOs collectively participate in collective action, they are simultaneously producing and reproducing a SM through self-referential communication episodes. For example, when actors systematically plan activities (or not) and actually carry out Occupy Wall Street tactics around the US, they are not just creating multidimensional ties, they are reproducing Occupy Wall Street as a SM, distinguishing it from other SMs and other types of collective action. *Thus, the argument is that the multidimensional network is more than just an interdependent system of dependencies between events and SMOs, it can be conceived of as networks of communication episodes.* Conceived of this way (as networks of communication episodes), the multidimensional network takes on a more emergent, processual, and dynamic role as emphasized by Luhmannian strains of communication theory.

Summary

In summary, aggregate approaches highlight important artifacts of SMs, which can be condensed to the interplay between collective action events and SMOs. However, the aggregate approach treats these two factors as separate (exogenous) rather than dependent on each other (endogenous). The linking feature of the relational approach helps us understand this complex interdependency as a multidimensional network. However, multidimensional networks do not go far enough. They lack a constitutive character except when conceived as networks of communication episodes, which emphasize the emergent and processual role of communication that influences the general form proposed in the next section. That is, the focus is on collective action events and SMOs, how networks provide the glue and connect the two, and how the conceptualization of communication episodes constitutes social reality through an emergent process. In the next section, I present the perspective in its standard form.

SMs as networks of communication episodes: A partial theory

This section describes four conceptual components of SMs as networks of communication episodes. They are ordered logically from the general to the specific and specified in conceptual terms. For the sake of brevity, I will refer to SMs as networks of communication as CAMs (Communication-episode Approach to Movements) mainly because the primary units of analysis are communication episodes and position networks of communication at the center of explanation.

Assumption 1: SMs are multidimensional networks of communication episodes

Communication networks provide the broad analytical framework of CAMs because they provide a useful tool to sparse out different components and how those components are related in a systematic manner. In other words, it bridges methodological individualism and strict holism by providing a “simultaneous view of the social system as a whole and of the parts that make up the system” (Wellman, 1988, p. 20). Here, it is useful to define communication networks. Shumate and Contractor (2013) defined communication networks as “as relations among various types of actors that illustrate the ways in which messages are transmitted, exchanged, or interpreted” (p. 449). The authors argued that this definition is more nuanced than previous conceptions because it takes into account a variety of types of actors, relationships, and more complex processes than direct message exchanges as suggested by earlier models of communication (e.g., Shannon & Weaver, 1949).

More specifically, CAMs are multidimensional networks of communication episodes. Blaschke et al. (2012) take a similar approach, positing organizations as networks of communication episodes. What distinguishes CAMs from Blaschke et al.’s model is that the current framework is multidimensional, while the latter is unimodal and uniplex (i.e., one type of

node, one type of relationship), only taking into account relationships between episodes while ignoring the micro processes of SM actors. Indeed, the key modification here is the inclusion of communication events nested into communication episodes, which was surprisingly neglected by Blaschke et al., especially considering their argument that “single communication events unfold into or scale up to communication episodes” (p. 891). In other words, a CAM framework adds an extra layer by taking into account the micro level interaction communication events that eventually lead to larger communication episodes.

Assumption 2: SMs emerge from the micro level through communication relationships between actors

Like most theories of systems, CAMs are nested into different levels. Communication episodes are created by the interactions and relationships between SMOs, referred to as communication events. Indeed, one of the key assumptions behind most theories of SMs is that they are not spontaneous acts of collective behavior, but are better conceived as organized episodes of collective action. As such, communication interactions between SMOs represent the foundational processes behind the creation of collective action episodes and can take a variety of forms:

A social movement process is in place to the extent that both individual and organized actors, while keeping their autonomy and independence, engage in sustained exchanges of resources in pursuit of common goals. The coordination of specific initiatives, the regulation of individual actors’ conduct, and the definition of strategies are all dependent on permanent negotiations between the individuals and the organizations involved in collective action (Diani & Bison, 2004, p. 283, bold mine).

From a systems perspective, the notion that interactions at the micro level between actors scale up to form collective action episodes represent what Contractor and Seibold (1993) call autocatalysis, defined as when “at least one of the components is casually influenced by another component, resulting in its own increase” (p. 539). Autocatalysis is a common characteristic of self-organizing emergent systems (Lemke, 1993) and represents how coordinating interactions between SMOs produce collective action events.

This level of analysis is also important because as Haug (2013) notes, most SM research favors the front stage phenomenon (e.g., protest event) while paying less attention to the backstage (e.g., meetings, collective space, social interaction) where most coordination occurs. As Haug puts it: “who would deny the trivial fact that activists spend more time in meetings than in the street?” (p. 707). A CAM framework captures these complexities at the micro level of communication interaction between SMOs.

Assumption 3: SMs are enacted at meso level by participation ties between actors and events

Actor by event networks are two-mode networks in which the actors represent SM actors (e.g., SMOs) and the events represent collective action episodes. The links are defined by each actor’s participation in a given set of collective action episodes. Indeed, researchers typically analyze these networks by converting them into affiliation networks where actors are linked by common participation in an event, creating a more subtle affiliation than direct communication because it is implied (i.e., joint participation in an event). As Sanders (2007) noted, “networks links must be more than cursory, and should involve *shared engagement in collective action* in order to have a complete recipe for a social movements” (p. 228, emphasis in original).

Though not as common as actor by actor networks, two-mode networks have gained interest in SM networks mostly because they represent direct instances of both action and collaboration in collective action events. Indeed, most definitions of SMs include references to organized collective action (Diani, 1992; Snow, Soule, & Kriesi, 2004). For example, Kern and Nam (2009) use a two-mode network of alternative media organizations to determine who the main brokers were in the network, suggesting that several organizations had a role filling structural holes and influencing successful innovation diffusion.

However, the meso level is particularly important because it exemplifies the main link between the two components in a CAM framework: (1) actors and (2) events. Without such a link, the system is nothing but a set of *independent* components. However, how these two components are interdependent, is a task left for future work (see Contributions).

Assumption 4: SMs are linked at the macro level by symbolic ties between events

Event by event networks are the least common type of relationship in the study of SM networks. Because they represent a larger macro structure of collective action episodes, they are often neglected. One of the ways in which events can be linked together besides co-participation, is through what Diani (2003) calls *symbolic relationships*. Symbolic relationships are “representations that underline continuity between what could otherwise be largely independent and disconnected events” (p. 12). As such, events are related to one another because they share some type of common constructed meaning or interpretation by the actors initiating the events (e.g., framing).

Symbolic relationships between events are important because they depart from links dominated by instrumental or material logics and reflect growing work emphasizing non-rational elements behinds SMs like discursive constructions, rhetoric, and emotions. From a network

perspective, this link corresponds to Passy's (2003) phenomenological realities (i.e., meaning structures) that SM networks provide. In other words, symbolic relationships between events provide the indirect links between episodes that are not directly observed by humans, consistent with the basic tenets of phenomenology (Hicks, 2004).

In sum, SMs are constituted through four guiding assumption of CAMs (see Figure 3.2):

1. SMs are multidimensional networks of communication episodes
2. SMs emerge from the micro level through communication relationships between actors
3. SMs are enacted at the meso level by participation ties between actors and events
4. SMs are linked at the macro level by symbolic ties between events

The next section articulates the metatheoretical features of a CAM framework. It specifically articulates the theoretical contributions of the framework and plans for future work.

Theoretical contributions and future work

Up to this point, a CAM framework leaves much to be desired as a systems theory of SMs. It has so far specified several important features like the components, boundaries, and structure (see Table 3.1), but has failed to specify several important features like the interdependence between components, inputs from the environment, and emergence processes reproducing the system. The reason is because a CAM framework lends itself favorable to more *formal* analysis (i.e., computational methods) rather than *informal* analysis (logical methods) (Poole, 2013) given the specificity of the relationships and components. This suggests that the current theory building project be a blend of data and theory driven techniques. Indeed, Poole (2013) argued that there is a surprising paucity of system theories that use formal analysis in organizational communication, especially given the new range of complex modeling available. The current projects seeks to fill that gap by using the most recent innovative methods in

computational social science (see Lazer et al., 2009) to derive propositions from results (e.g., Provan & Milward, 1995).

As such, CAMs present (at least) three contributions pertaining to future work. The first is extending and developing multidimensional network theories of mobilizing structures. Next, CAMs allows a novel way to compare movements across and space and time. Finally, CAMs will provide a chance to analyze how inputs from the environment influence structuring processes and thus, refining previous theories of SMs. Each is discussed below.

Developing multidimensional theories of collective action. Earlier in the chapter, I argued that theories of mobilizing structures were limited in their scope because they often relied on the assumption of unimodal and uniplex networks. Two examples I gave used the examples of centrality and density, both metrics derived from theories of the critical mass (Marwell & Oliver, 1993). Put briefly, these simplistic assumptions of SM networks suggest collective action is mobilized around one type of tie and that actual products of mobilization (e.g., collective action event) are external to the coordination/mobilizing process.

However, for many years now, there has been growing suggestions that actors and events make up key components of any SM (Diani, 2003, 2013; Crossley, 2012; Kerm & Nam, 2009; Knoke, 1994; Myers, 2000; Osa, 2001; Park, 2008; Schweizer, 1997). However, there has been little theory or research that has provided a genuine understanding on the relationship between the two. I believe that the scarcity research examining interdependency between SMOs and events is mostly due to the fact that most theories of SMs explicitly operate at a single level of analysis (Opp, 2009), whether it be macro theories of political opportunity structure or micro theories of frame alignment. As a result, interdependencies between the two are usually ignored or overlooked. This points to a larger gap in SM theorizing and underscores the need for SM

theorists to develop theories that encompass multiple components (i.e., actors and events) of SM networks and the interactions between them.

There is some research pointing toward the need for a framework to analyze the dependency between events and actors. For example, Osa (2001) analyzed SM mobilization in Poland during Communist authoritarianism from 1954-1959. She writes that the results puzzled her because she found that many SM actors central in the communication network were very weak in the collective action participation network. Indeed, she wrote:

Structural analysis thus yields more answers than questions...To answers these questions, we must investigate more fully the relations between protest and networks, and unpack the 'black boxes' of network ties (p. 228).

Because her research assumed events and SMOs as exogenous to one another, there is no wonder for the puzzling results because the research does not take into account how they are interdependent. However, a CAM perspective rejects these assumptions because it assumes that SMs are constituted by multiple relationships between and within SMOs and events.

As such, one of the most applicable contributions of CAMs is the development of innovative multidimensional network theories of collective action, extending Contractor, Leonardi, and Monge's (2012) multidimensional framework of technology use in organizations. Indeed, because complex social networks typically only analyze one type of nodes, there are large holes in theorizing multidimensional networks. A CAM framework implies that current network theories of mobilizing structures and collective action need to be reexamined and restructured. In other words, CAMs forces researchers to think about what types of multidimensional structures are conducive to collective action and unpack the black box between evens and actors. Indeed, a CAM approach might provide a framework to better understand

Osa's (2001) results because it can show how events and SMOs mutually influence each other, providing a first step to unpacking that black box.

Comparing SMs. Comparisons on the differences between SMs across space and time is, according to Klandermans and Smith (2002), rare and uncommon compared to single case study research. A few of the challenges that comparative SM methods face include taking into account environmental context (e.g., political opportunity structure, culture, etc.) and the complexity of time and history as a boundaries and variables (della Porta, 2002, 2013). Indeed, when researchers compare SMs, they implicitly evaluate and make judgments about specific SMs relative to others and generalize devoid of environmental and time constraints. For example, how can one compare the differences between some of the most recent US SMs like Occupy Wall Street and the Tea Party and then relate those differences to specific outcomes? This question has often led researchers down much different paths. For example, some research has done comparative work along interorganizational structures (Rucht, 1996), tactical repertoires (Gamson, 1975), protest participation (Klandermans, 1993), framing strategies (della Porta, 1995, ch. 5) and resources (Kriesi, 1995), just to name a few.

A CAM approach allows a consistent framework to analyze different SMs across space and time because it provides a standard set of nodes (SM actors and collective action events) and relations (micro communication, meso participation, and macro shared symbolic meaning). Moreover, because the framework is motivated by different assumptions on the constitution of SMs, it has a nuanced view that does not privilege one over the other. For instance, Frege and Kelly's (2002) model compares labor movements across five countries, looking at the environmental and SM structure, strategies of multiple stakeholders, and framing processes. While their model takes a more nuanced look at SM constitution, it posits a linear process model

that reifies a mechanistic view of SMs as a simple complex system (e.g., a car) with inputs and outputs that lead to predictable choices. Consider their last variable in the process, “strategic choice”. Their model posits that SM structure influences framing processes, which then influences strategic choices like participating in collective action. Could it not also be the case that participation in collective action might also influence framing processes, SM structure, or even future strategic choices as Wang and Soule’s (2012) research suggests (their results showed that participation in collective action influenced future tactical repertoires).

A CAM framework, on the other hand, avoids causation hypotheses by looking at the interdependencies between different types of relationships and nodes. As such, different structural configurations may emerge from different SMs. It corresponds with many complex systems principles of equifinality, which posits that systems can emerge from different ways of organizing. Thus, a CAM framework has a dualistic schema to compare SMs that emphasizes potentials among differences *and* similarities (see della Porta, 2002). For example, (a) how is the CAM structure different and similar between Occupy Wall Street and the Tea Party. Moreover, do some structural configurations between actors and events represent more ideal mobilizing structures than others?

Input from the environment. Because most theories of SMs focus on the factors that influence SMs (Opp, 2009), a CAM framework lends itself favorable to align itself with previous theories of SMs that analyze environmental factors (e.g., POS, resource mobilization). While there is plenty of research on how aspects of the environment influence the quantity of SMOs and protest events, there is no research on how these inputs from the environment influence relationships between and within actors and events. A CAM framework suggests that the influence from environmental factors is more complex than simple linear relationships. As such,

CAMs presents an opportunity for further theoretical refinement of previous theories of SMs because it can determine more complex influences than previously conceived.

For example, many studies have shown that an authoritarian political structure has a negative influence on the number of protest episodes (e.g., Osa, 2001). However, a CAM framework would probe deeper to examine not only how an authoritarian structure negatively influences the number of protest episodes, but also micro level interactions between SM actors since a CAM framework assumes they are interdependent (actor and events). Thus, the analysis moves from how the environment influences the number of actors or events, to how the environment influences complex systems of relationships. Some research using advanced computational social science methods have begun to analyze environmental factors. For instance, Margolin et al. (2012) analyzed how the passing of the United Nations Convention on the Rights of the Child (UNCRC) influenced a system of interorganizational relationships within the Children's Rights Community.

A CAM framework, by analyzing multiple SMs at different points in time, has the ability analyze how different macro level inputs from the environment influence relationships between actors and events. For example, does the proliferation of technology, as predicted by resource mobilization theory, have a positive change on SM processes? Do some political opportunities (e.g., elite sympathy, favorable legislation, etc.) influence SM processes to a greater extent more than others? Finally, how do discursive or cultural framing resources influence how SM actors communicate to organize collective action?

Conclusion

This chapter developed a hybrid approach to SMs by conceptualizing them as networks of communication episodes (CAMs). First, it described the need for such a theory, highlighting

(1) misconceptions determined to be constitutive features of SMs and (2) lessons from theorizing from one point of view, using mobilizing structures as an example. Next, it articulated the theoretical underpinnings, specifying the relevance of SMOs and collective action episodes (aggregate approach), the linking features of SMs (relational approach), and emergent and processual nature of communication (symbolic interaction approach). Next, it articulated CAMs in its canonical form and specified its four defining features: 1) SMs are multidimensional networks of communication episodes, 2) SMs emerge from the micro level by communication relationships between actors, 3) SMs from the meso level by participation ties between actors and events, and 4) SMs are linked at the macro level by symbolic ties between events. Finally, it articulated three theoretical contributions: how CAMs (1) open up doors for fresh multidimensional theories of collective action, (2) provide a standard to compare and contrast SM across space and time, and (3) allow for the investigation of environmental inputs.

However, the framework is only partially complete. So far, it has explained the overall structure and key components, but has not specified any of the key processes underlying the system (e.g., specific dependencies between actors and events, inputs from the environment, etc.). There are still many questions to be answered, possible research questions include:

R1: What are the specific interdependent processes between SMOs and events?

R2: How do CAM structures differ across different SMs and time periods?

R3: How do inputs from the environment influence the relationship between SMOs and events?

R4: Are some CAM structures and processes more ideal than others?

To derive new knowledge behind the complex processes occurring in a CAM framework, I will turn to more formal (i.e., statistical) analysis of complex systems. The next chapter details a

methodology that includes computational social science modeling that will initiate further positions regarding the complex system processes occurring between actors and events across different SMs along different time periods. The goal is that the results from the formal analysis will provide additional theoretical insight into the current framework.

Tables and Figures

Table 3.1

CAMs and its relevant system characteristics

Structure	Multidimensional networks of communication episodes
Component	SM actors and collective action events
Goals	<i>Explicit:</i> Social change (i.e., cultural, political, economical) <i>Implicit:</i> Self-referential reproduction, growth, death
Boundary	Actors and events symbolically representative of movement. No formal membership.
Input	No input. Instead, SMs are structurally coupled. However, structurally coupled with what and to how much of a degree is unknown.
Output	Challenges to dominant social/cultural meanings
Information flow	Specifics unknown, but include complex relationships between and within actors and events
Feedback	Unknown
Environment	Dimensions of environment unknown
Process	Unknown
Coupling	Level of interdependence between components unknown

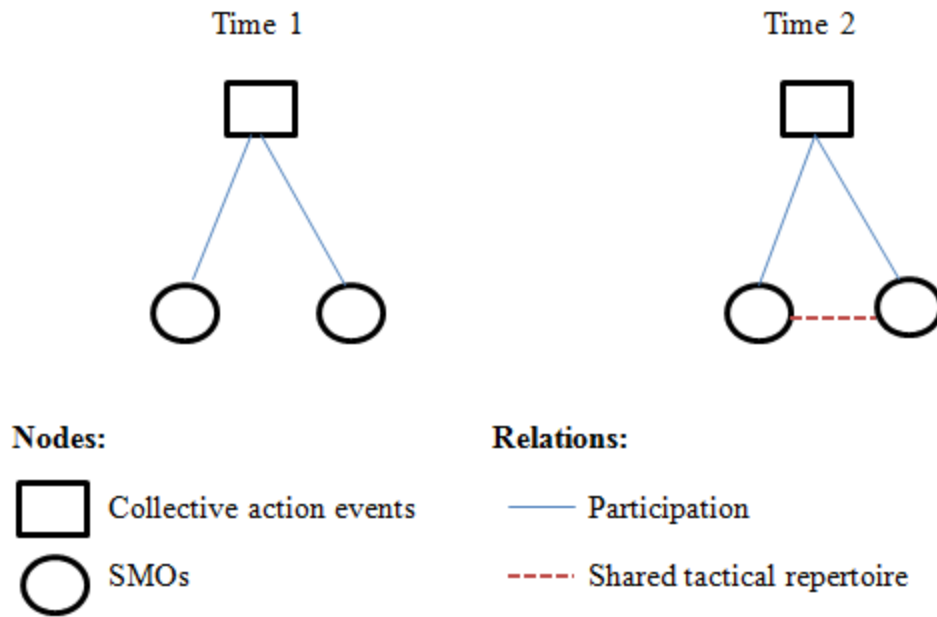


Figure 3.1. Multidimensional framework of Wang and Soule's (2012) theory of SMO learning.

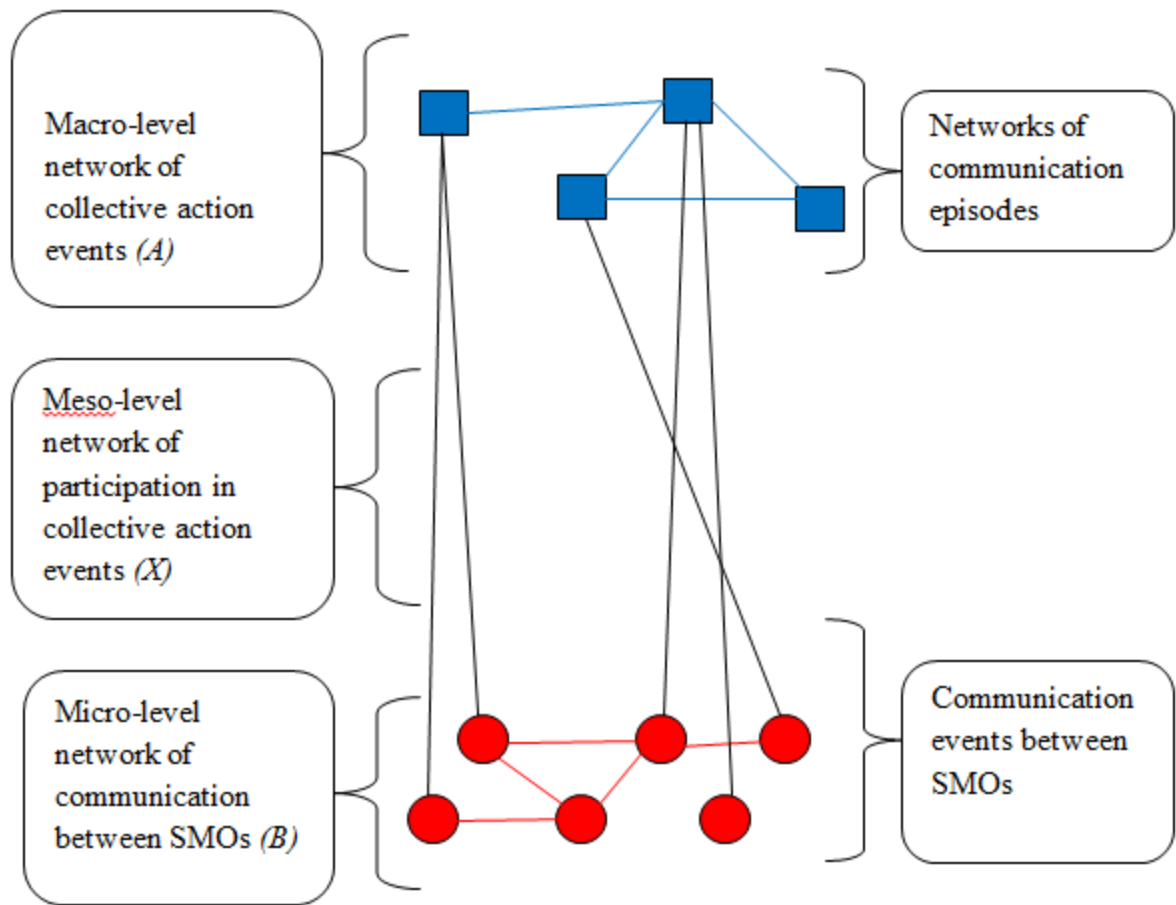


Figure 3.2 Explication of CAMs.

CHAPTER 4: METHODS

Chapter Three suggested that most SM frameworks need to be modified in order to capture the complexities associated with collective action. To address this problem, a framework (CAMs) was developed to address the interplay between SMOs and collective action events, multidimensional networks, and the emergent role of communication. The framework was inspired by aggregate, network, and symbolic interactional approaches to SMs.

However, the framework, as a systems theory of SMs, left much to be desired regarding specific processes occurring between SMOs, events, and the environment. The reason is because the current perspective lends itself favorable to a blend between *formal* (i.e., computational methods) and *informal* analysis (i.e., logical methods) (Poole, 2013) given the specificity of the relationships and components.

The purpose Chapter Four is to specifically describe a methodology that will help construct a preliminary theory of SM organizing. It is organized as follows: First, I will review previous methods of SM organizing along with their advantages and disadvantages. Second, I introduce and describe multidimensional exponential random graph modeling (MERGM), a unique approach to analyzing the interdependencies between multidimensional networks. Finally, I describe the procedures to be used to construct multidimensional dimensional networks.

Previous methods used to study SM organizing

If, as Chapter Three argued, that current mental models on SM organizing are not nuanced enough to capture the complexities inherent in SMs, the likelihood result is that the methods used from these mental models lack that ability as well. To organize the methods used to study collective action systems, I rely on the previous taxonomy used in Chapter Two:

aggregate, network, and symbolic interactional approaches. The overall argument is that each set of methods has their own strengths and limitations and that these limitations can be addressed by a new method called multidimensional exponential graph modeling.

Aggregates: The iron cage of the general linear model. Because the aggregate approach to SMs assumes that SMs are constituted by measurable things, much of the methods have relied on general inferential statistics influenced by the general linear model (GLM). In its simplest form, the GLM is represented by the following equation:

$$y = Xb + u$$

where y , u , and b represent column vectors and X represents the number of cases analyzed. For example, in a simple regression model with one independent variable and five cases, the model takes the following form:

$$\begin{bmatrix} y1 \\ y2 \\ y3 \\ y4 \\ y5 \end{bmatrix} = \begin{bmatrix} 1 & x1 \\ 1 & x2 \\ 1 & x3 \\ 1 & x4 \\ 1 & x5 \end{bmatrix} \begin{bmatrix} b0 \\ b1 \end{bmatrix} + \begin{bmatrix} u1 \\ u2 \\ u3 \\ u4 \\ u5 \end{bmatrix}$$

Whereas b_0 represents the y-intercept and b_1 represents the slope of the regression line (i.e., independent variable) and u represents the error terms.

The main advantage of the GLM to SM organizing is the ability to understand the effects of different phenomenon on collective action and the implications that they can have for leaders of SMs. Many studies, from an aggregate perspective, have analyzed the effects of all sorts of factors on SM mobilization, including some of the most talked about factors like political opportunities (Meyer & Minkoff, 2004), collective identities (Opp, 2013), and frames (Swank & Fahs, 2012).

For example, aggregate approaches have mostly sought to analyze why certain individuals get involved in collective and why certain ones do not. One way to examine this phenomenon is to look at the attributes of those involved and not involved in collective action. For example, Meyer's (2007) summary found that individuals were more likely to participate in collective action if they had higher levels of political activity, education, wealth, organizational affiliations, previous experience in collective action, and extensive ties to those involved in protest. These findings fit the implications of GLM well: increase those attributes, increase the likelihood of collective action.

However, the main point of concern is not with the algebraic formulation, but with the philosophical assumptions the GLM makes concerning social reality, what Abbott (1988) refers to as general linear reality (GLR). For Abbott, GLR is simply "a way of thinking about how society works" that "arises through treating linear models as representations of the actual social world" (p. 170). While Abbott goes on to articulate a process-method based critique of GLR, his overarching critique nicely summarizes the somewhat crude assumptions of GLR:

Such representational use assumes that the social world consists of fixed entities (the units of analysis) that have attributes (the variables). These attributes interact, in causal or actual time, to create outcomes, themselves measurable as attributes of the fixed entities. The variable attributes have only one causal meaning (one pattern of effects) in a given study, although of course different studies make similar attributes mean different things. An attribute's causal meaning cannot depend on the entity's location in the attribute space (its context), since the linear transformation is the same throughout that space. For similar reasons, the past path of an entity through the attribute space (its history) can have no influence on its future path, nor can the causal importance of an attribute change from one entity to the next. All must obey the same transformation (p. 170).

Applied to SM organizing in the aggregate perspective, the central critique concerns the reductionism behind GLR which assumes that the structure of SMs are best operationalized by means, percentages, R-squares, and different beta coefficients. For example, consider my own recent work on SM organizing from an aggregate perspective (Pilny, Atouba, & Riles, 2014). In

the study, we found, using structural equation modeling, that media visibility, damaging tactics, communication centrality, and political capacity influenced perceptions of influence within SMOs attempting to affect policy in the 1980s US National Labor Domain.

The main limitation with this approach is that it *reduces the SM system to the summation of individual SMO attributes*. Indeed, assumptions of independence in general inferential methods assume SMOs are independent entities, free of influence from other SMOs in the analysis. As such, SM organizing turns into atomistic methods of increasing or decreasing individual attributes, rather than finding ways to leverage collective action systems. For example, in the concluding implications of our study, we suggested that SMOs be more damaging in their tactical repertoires, find ways to attract media attention, and take steps to build internal capacity. All these suggestions are highly individualized and put the emphasis (and blame) on individual SMOs. They assume a vacuumed world of rational agents whom possess attributes and must find ways to manage those attributes in order to influence some sort of outcome. The main argument is that such a perspective provides an unrealistic strategy for SMOs because it focuses on *individual* action, rather than *collective* action.

Indeed, the individualistic assumptions of aggregate approaches have been heavily criticized by structuralist and network scholars (e.g., Wellman, 1997). In this case, the relational assumption is that SM organizing is best explained by structured social relationships, rather than individual attributes of system members. In the next section, I look the advantages and disadvantages behind the methods used under the relational perspective.

Webs of relations: The hidden actor bias. Because of the structural assumptions inherent in the relational perspective, researchers have relied heavily on network analysis. While network analysis takes a variety of different forms, it is united by the common theme of

investigating the “*relationships* among social entities, and on the patterns and implications of these relationships” (Wasserman & Faust, 1994, p. 3, emphasis in original).

The use of network analysis to study collective action has garnered a wealth of information. I refer the reader to the January 2014 special issue of *Social Movement Studies*, entitled *Social Movements and Social Networks* for the most up to date review of network analysis and collective action. Nevertheless, one of the key advantages of using network analysis to study SM organizing is that it “invites the observer to look below the official stories and representations that movements and their activists make and discover hidden dynamics and relations” (Krinsky & Crossley, 2014, p. 1).

Put this way, network analysis is a psychoanalytic-like method of explaining collective action. For example, consider the metaphorical relationship between the two methods. Psychoanalysis focuses on the unconscious mind for explaining certain behavioral phenomenon coupled with the goal of liberating the individual to fully understand the effects that the unconscious mind is propagating. Indeed, many consider Sigmund Freud an earlier pioneer of general systems theory (McKercher, 1993). Network analysis functions in a similar way by focusing on how collective action is influenced by the diverse relationships produced by actors, rather than their official stories. Likewise, the goal is the similar, to liberate actors by explaining how the network system of collective action works. Once this realization occurs, the practical implication is to leverage the network to the activists’ advantage.

For example, take Crossley and Ibrahim’s (2012) work on student activism at the University of Manchester. The challenge was to explain how collective action emerged at the University. An aggregate approach, using the GLM, might look at the attributes of the individuals (e.g., personality, political beliefs, etc.) and conclude the environment was made up

of individuals prone to engage in collective action. Thus, nobody should be surprised with the amount of rallies, protests, etc.

On the other hand, a network analysis approach, as taken by Crossley and Ibrahim (2012), explained collective action by mapping out the relationships between activists and organizations. Thus, their results showed that collective action was possible because information and resources easily flowed between actors (i.e., high density, short path lengths, a single component), there was a critical mass willing to take on the heavy lifting of organizing (i.e., small members with high degree centrality), and activists were able to recruit others through preexisting relationships (i.e., multiplexity). As described above, this analysis was a typical examination of the hidden dynamics of how collective action might work.

The next step was finding ways to leverage the system. Crossley and Ibrahim's (2012) suggestion was that there might in fact be too much cohesion and density, which can undermine collective action. Several moments of the interview data suggested that closure was often intimidating, isolating, and hard to penetrate if you did not know anybody in the clique. In their words, cohesion can have a constraining effect: "Tightly bound groups, rooted in close friendships, can seem forbidding to outsiders who are thereby dissuaded from full involvement" (p. 609).

However, while network analysis approaches to collective action aim to extract the hidden dynamics governing collective action, network methods also have a hidden bias, what I call the hidden actor bias. The hidden actor bias is the assumption that collective action systems are entirely comprised of actors as nodes. Indeed, the critique is much in line with criticisms made by advocates of multidimensional networks (Contractor, Leonardi, & Monge, 2012; Shumate & Contractor, 2013; Pavan, 2014) and followers of Luhmann's theory of social systems

(e.g., Blaschke et al., 2012). Nevertheless, the principle stands the same with network analysis methods. *That is, if network analysis is the best way to describe and model complex systems (Barabasi, 2013), then reducing network analysis to relationships between rational actors provides an overly simplistic view of collective action systems.* In other words, it views collective action not as a complex system, but as a simple system. What is needed is *methodological requisite variety*, to borrow from systems terminology (i.e., method needs to be as complex as the system being studied).

This point is strikingly apparent in Crossley and Ibrahim's (2012) study. For example, the collective action system set up by the authors is made up of actors and organization as nodes, and collaboration, friendship, and co-membership as relationships. This system is actually more nuanced than most network approaches to collective action, but ignored a fundamental component argued in Chapter Three: collective action events. Indeed, collective action events in the study played a big role in mobilization:

Of the activists, 51 percent claimed that they became involved in student politics *by means of the Fresher's Fair (a Union event)* and a further 19 percent became involved by means of some form of Union related activity (p. 605, emphasis mine).

As such, if specific events, even one in particular, was directly responsible for over half of the mobilization in the University of Manchester, why is this event, or events in general, not included in Crossley and Ibrahim's (2012) collective action system? The answer, I argue, is because of the hidden actor bias in network analysis methods. The bias is usually formed when learning network methods, perpetuating the idea that social networks can only be constituted by actors and the relationship between them. Without a theoretical framework or methodological approach that frees researchers from these limiting assumptions, the bias will likely persist, and researchers will continue to miss out on important components of collective action systems.

This hidden actor bias in network analysis has not gone completely unnoticed. Mützel (2012) argued that a cultural/symbolic turn in network analysis, called relational sociology, began to emerge because of some of the limited assumptions of traditional network methods. And Pavan (2014) has recently argued in favor of a multidimensional network perspective regarding SM actors and their relationships with various technologies. In the next section, I review the advantages and disadvantages behind the similar cultural/interpretive methods of the symbolic approach to SMs.

Methods to study symbolic interactions: Rich tree, poor forest. Symbolic interactional approaches to SMs, which maintains that “every aspect of collective action must be understood as an interactive, symbolically defined and negotiated processes among participants, opponents, and bystanders” (Buechler, 2000, p. 40), typically use interpretive methods. Interpretive methods include, but are not limited to ethnography, case study analysis, deconstruction, frame analysis, semiotics, constructionist analysis, and narrative analysis, just to name a few. Denzin (2001) argued that interpretive methods have six distinct contributions: (1) recognizing different definitions of problems, (2) locating the assumptions of others, (3) identifying strategic interventions into social situations, (4) suggesting alternative moral points of view, (5) addressing the limitations of statistical methods, and (6) helping to change the world in positive ways.

Applied to SM organizing, interpretive methods have mostly contributed to a deeper understanding behind individual experiences and motivations in collective action, highlighting themes consistent with symbolic interactionism like human agency, interactive determinism, symbolization, and emergence (Snow, 2003). For instance, Stewart, Smith, and Denton (2012) critique relational approaches to SMs because “network theory emphasizes linkages over

messages” (p. 32) and advocated an interpretive system approach focusing on the persuasive functions SM organizing.

For example, Munson’s (2008) research on the US Pro-Life movement used a host of interpretive methods, including interviews, archival research, and observation. His research was positioned against aggregate approaches that relied on attributes to explain SM mobilization. In contrast to most framing theory, Munson’s data found that strong Pro-Life beliefs were not necessarily a prerequisite to joining in collective action. Instead, “many individuals get involved in the movement before they develop meaningful pro-life beliefs” and that “action in the movement actually precedes commitment to pro-life ideas or the development of pro-life frames” (p. 5). In other words, pro-life philosophy was constructed in activism, representing a central tenet of symbolic interactionism and a key promise of interpretive methods (i.e., identifying the process of social construction).

When applied to SM organizing, the main criticism parallels debates around emic versus etic approaches that became popular in cultural anthropology (Pike, 1967). While emic approaches emphasize that individual meaning is crucial to understand how SM organizing works, without an outside, etic perspective, there is a failure to see how SM organizing is more than just an interactive process between individual agents. It neglects to see how SM organizing is organized from a larger scale. In other words, interpretive approaches can provide a rich account for why each individual might have participated in collective action, but it has not done a very good job at explaining how collective action works as a larger system, involving host of interdependent components (e.g., other people, organizations, resources, political environment, etc.). That is, emic approaches might suggest that there are no bigger lessons to be learned from

one SM's organizing efforts that can be transferred to another. Such a practice would do something that emic approaches are staunchly against: Generalizing.

For example, while Munson (2008) does an excellent job explaining how individuals constructed their ideology through activism in the Pro-Life movement, he has neglected show how the Pro-Life movement practices existed before those individuals joined. Without an account of how organizations communicate with one another, how collective action events are organized, how resources and the environment influence opportunities and frames, there is no opportunity for ideology construction to work in the first place.

As a more practical illustration, take any real life collective problem. Consider the abuse of the illicit drug methamphetamine (as popularized in the TV show *Breaking Bad*). Let's suppose the researcher's goal is to curb community drug use. Emic approaches might consider using meth from the perspective of different cultural insiders through interpretive methods like interviews or ethnography. Rich insights can be gained from a user's perspective and be implemented into counseling sessions or even message campaigns. Like most emic approaches, they are highly individualized, assuming a large degree of agency within an individual's position in a system. However, without understanding the different systems of how individuals become embedded into networks of drug use or how the system of meth distribution works in the first place, there remains much work to be done regarding curbing community drug use because the system of practices that embed users into drug culture and supply meth are still there. Indeed, the logic is similar with collective action. There is a need to understand the interactive process that brings individuals into collective action, but also a need to understand the system that allows multiple processes to initially function.

There have been several attempts at bridging emic and etic approaches. For example, Morris et al. (1999) developed a model of the interplay between emic and etic perspectives involving initial explorations and refinements from both perspectives, then merged into an integrative account and framework. For the current project, the goal is not to develop an integrative methodology, but instead to recognize the differences and similarities between each approach and how each can inform each other. For instance, in a CAM approach, one of the types of relationships is shared symbolic meaning, which would inherently require an interpretive approach to specify semantic networks.

In the next section, I describe multidimensional exponential random graph modeling, a new approach towards modeling multidimensional networks as articulated by the CAM framework. The method has the ability to overcome the limitations described above: (1) unrealistic assumptions of the GLM, (2) bias of actor networks, and (3) overreliance of emic approaches.

Method: Multidimensional exponential random graph modeling (ERGM)

To specify a multidimensional ERGM, I argue for a reinterpretation of Wang et al.'s (2013) multilevel networks. In multilevel networks, the data “categorizes nodes into different levels and the network ties represent relationships between nodes within and across different levels” (p. 2). In their model, they configure two types of nodes and three types of relationships: (1) relationships within A, (2) relationships between A and B, and (3) relationships within B. The key insight that makes this a multilevel structure is the assumption that there is always at least a relationship between one A and B. This results in a nested structure.

CAMs follow the same structure if I let collective action events represent B and SMOs represent A. For instance, CAMs assume SMOs (at least one) organized and participated in

collective action events and that events just do not happened out of the blue. Thus, we meet the assumption that each event will be linked to at least one SMO. Moreover, CAMs do technically represent a multilevel structure, with SMOs being nested within collective action events.

However, as Wang et al. (2013) note, the data structure and interpretation of parameters are flexible and should be up to the researcher. Thus, I interpret the model in terms of multidimensional networks rather than multilevel networks because I am less interested in cross-level interactions, but multidimensional interdependencies. What follows is a simplified, but technical explication of the multidimensional ERGM, hereby referred to as MERGM.

Traditional ERGM

The basic purpose of the traditional ERGM is to determine what factors influence the probability of observing a tie between any two nodes. ERGM uses Markov chain Monte Carlo maximum-likelihood estimation to determine the differences between structural effects and actor-relation effects (see Lusher, Koskinen, & Robins, 2013 for a comprehensive review). Structural effects refer to endogenous interdependencies like transitivity and preferential attachment. For example, if the ACLU communicates with the AARP, and the AARP communicates with PETA, then the logic of transitivity would predict that the ACLU also communicates with PETA. However, the ACLU might communicate with PETA for different reasons. One of the most common is homophily. For instance, they might communicate because they share similar views of animal rights. The ability to sparse out structural and actor-relation events represents a key advantage of ERGM. Wang et al. (2013) specify the model with the following form:

$$Pr(Y = y) = \frac{1}{\kappa(\theta)} \exp \sum_Q \theta_Q Z_Q(y)$$

“where

- y is a network instance
- Q defines the network configurations based on the dependence assumptions of tie variables.
Note that a network variable Y can be seen as a collection of tie variables (Y_{ij}) defined on each dyad (i, j) of the network. A network configuration of type Q includes tie variables that are conditionally dependent given the rest of the network.
- $Z_Q(y) = \sum_y \prod_{Y_{ij} \in Q} (y_{ij})$ is the network statistic for the corresponding network configuration of type Q
- θ_Q is the parameter associated with $Z_Q(y)$
- $\kappa(\theta)$ is a normalizing constant defined based on the graph space of networks of size n and the actual model specification” (p. 3)

θ_Q are parameters and can be interpreted similar to regression coefficients, higher values indicate greater likelihoods of observing ties between nodes. For instance, if the shared view on animal rights attribute was positive and significant, then it means that SMOs are more likely to form communication ties if they share the same view on animal rights. Moreover, the parameters can be interpreted as conditional odds ratios. For example, if the value was 1.5, the interpretation would represent that SMOs are 4.48 times more likely to form ties if they share the same views on animal rights [$\exp(1.5) = 4.48$].

Multidimensional ERGM

In the following section, I explicate the notation used for MERGM. For an easier interpretation, I apply the notation to the CAM framework developed in Chapter Three. Applied to CAMs, A_{ijl} represents communication ties within SMOs, B_{rsl} represents shared symbolic

meaning between collective action events, and X_{is} represents the participation of SMOs in collective action events. Figure 4.1 visualizes this notation:

As such, MERGM can be expressed in the following general form (see Figure 4.2):

$$Pr(A = a, X = x, B = b) = \frac{1}{\kappa(\theta)} \sum \left\{ \begin{array}{l} \theta_Q Z_Q(a) + \theta_Q Z_Q(b) + \theta_Q Z_Q(x) + \\ \theta_Q Z_Q(a, x) + \theta_Q Z_Q(b, x) + \theta_Q Z_Q(a, b, x) \end{array} \right\}$$

- $Z_Q(a)$ represents effects specified in the SMO x SMO communication network
- $Z_Q(b)$ represents effects specified in the Event x Event shared symbolic meaning network
- $Z_Q(x)$ represents effects specified in the SMO x Event participation network
- $Z_Q(a, x)$ represents interdependencies between networks A and X
- $Z_Q(b, x)$ represents interdependencies between networks B and X
- $Z_Q(a, b, x)$ represents interdependencies between networks A , B , and X

Like the traditional ERGM, MERGM uses user defined configurations to determine whether ties between nodes are more apparent than chance alone. Wang et al. (2013) proposed a large number of interdependencies based on various dependence assumptions. The choice of which effects to include should be generally driven by theory and practical application. In the next section, I describe why MERGM is useful alternative methodology for analyzing SM organizing.

Using MERGM to analyze SM organizing

Earlier, I argued that there were three general limitations behind the methods used to study SM organizing: (1) unrealistic assumptions of the GLM, (2) bias of actor networks, and (3) overreliance of emic approaches. MERGM mainly addresses the first limitation because it does

not assume independence between units of observations. Thus, it does not presume that entities are independent agents that need to modify their attributes in a specific way. In fact, it assumes quite the opposite, dependence between units of analysis. Additionally, it does not completely rely on attributes to explain SM organizing, but can take into account SMO and event attributes as influential driving collective action.

As for the second limitation, MERGM addresses it by being capable of including two different types of nodes (*A* and *B*). Indeed, for a MERGM to be specified, there *must* be two different type of nodes specified in order to estimate cross-network dependencies. Thus, MERGM is capable of estimating multidimensional networks and becomes free of the hidden actor bias if different node types are specified in the model.

Finally, while MERGM does not represent a clear bridge between etic and emic approaches, it does at least address emic concerns of symbolic meaning. It does this by estimating the shared symbolic meaning between events. This semantic network requires researchers to take an inside look at collective action events and determine how they are symbolically related to one another. In order to provide a more clear understanding of how MERGM can help understand SM organizing, I describe several multidimensional parameters and their interpretation with respect to the CAM framework.

Interpreting multidimensional interdependencies

The goal of the following section is to answer how the estimation of multidimensional parameters would contribute to building a more systematic theory of CAMs. In doing so, I will pose three questions and give examples of specific multidimensional parameters that can help answer these questions.

How exactly are events and SMOs interdependent? In Chapter Three, I rearticulated the problem posed by Osa's (2001) results regarding Anti-Stalinist mobilization in Poland during the mid-20th Century. In the results, Osa hinted at a black box between the two, arguing that we know little about how SMOs and collective action events are dependent on one another. One way to better understand how the two are related is to test different interdependency structures involving the two. For example, one way in which SMOs and events might be interdependent is through multidimensional closure. Consider the following multidimensional configuration in Table 4.1.

In this particular configuration, collective action events are more likely share a symbolic meaning if they are organized by the same sets of SMOs. In essence, a positive estimate would indicate that this structure is more likely to appear than chance alone; that collective action events are more likely to be reproduced if they are organized by the same SMOs. In contrast, if negative, this would indicate that collective action events with similar symbolic meanings are being organized by different organizations.

Although these structures represent cross-sectional snapshots of the system, they provide clues as to different processes occurring between SMOs and events. For example, because events are located at a specific space and time, understanding what contributes to network ties between events inherently requires more of a longitudinal interpretation of how the components change and develop. In other words, they represent different possible generative mechanisms occurring between SMOs and events, providing an insight into the black box articulated by Osa (2001).

As such, MERGM has the ability to specify a wide variety of different multidimensional structures, each representing different interpretations on the nature of the relationship between SMOs and events. Through an inductive approach, I can explore the effects of different

multidimensional configurations; Table 4.1 is merely one example. Based on the results from multiple SMs, generalizations can be drawn from configurations that hold over time across different SMs. From these results, propositions can begin to be articulated on the relationship between processes between and within SMOs and collective action events.

However, the processes occurring within any type of social system is dependent on its relationships with the environment. In order to determine the different influences from the environment, it is necessary to compare the structures of different SMs. In the next section, I give an example of how some features of the environment might influence SM organizing.

How does the environment influence a CAM structure?

SM research, especially structural approaches, has long been concerned with how the macro environment influences SMs. For example, two of the most common factors are the political opportunity structure and resource munificence (Opp, 2009). However, little is known about how these factors might influence network ties between SMOs and events.

For instance, Osa (2001) found that the central SMOs in Anti-Stalinist mobilization in Poland did not participate in the most central events during that time period. One way to determine whether or not an authoritarian political structure might be influencing these ties is to compare different structural configurations across different SMs. For instance, in the particular case it would be useful to compare a configuration that measures this tendency (see Table 4.2).

The key to understanding this structure is to look at the middle SMO. Not only is that SMO central in the communication network, but it is also central in the collective action participation network, suggesting that this SMO is part of a critical mass taking in most of the effort in SM organizing. The implication is that centrality tends to carry over into other types of relationships.

However, could other systems, like the political system, influence the structural patterns between SMOs and events? For example, in authoritarian systems, where collective action events are more likely to be prosecuted, would it be risky and costly to have central SMOs publicly participate when they are the same ones critical in the organizing the event behind the scenes? Authoritarian systems may be a factor influencing uncertainty in SM organizing, not knowing the state sponsoring consequences (e.g., incarceration). This seems to be what was happening in Osa's (2001) research and could be exemplified by a negative estimate of the AAXS parameter in Table 4.3.

In this case, central SMOs in the communication network are more likely *not* to participate in many collective action events. One way to investigate environmental influences like political systems is to do some comparative analysis from SMs in different political systems. For instance, comparing the AAXS estimates from a SM under a more authoritarian environment to a SM in a more democratic environment might give some insight into the influence of authoritarian and democratic systems on SM organizing. Likewise, the results from empirical analyses (i.e., formal analysis, Poole, 2013) can help build a more thorough model of SM organizing.

Moreover, the political opportunity structure is only one feature of environmental can influence SM organizing. Other aspects include resource munificence, public opinion, technological infrastructure, and dominant framings. By comparing MERGM results from different SMs under different environmental conditions, propositions can be derived from the results in order to construct a more comprehensive systems theory of SM organizing. In the last section, I expand upon the descriptive approach so far to a normative one, showing how a similar comparative strategy can help understand effective SM network governance.

Is an effective multidimensional structure for SM networks possible?

For years now, researchers have been making progress on determining which network structures are most conducive to collective action and which are not. Through a variety of methods, studies have shown the mobilizing effects of centralization (Marwell, Oliver, & Prah, 1988), multiplexity (Gould, 1991), density (Kim & Bearman, 1997), and network closure (Nicholas, 2011). However, when the fundamental structure of a SM network changes from an actor-by-actor network, to an actor-by-event network (both within and between networks), as it does in the CAM framework, then all effective previous structures need to be revisited. Indeed, one of the central arguments of this project has been that if social systems are complex, then they need an equally complex methodological framework.

As such, the question for this section follows: how can MERGM assist in determining which multidimensional structures created by SMOs are more effective than others? Like the second approach, because MERGM can reveal which multidimensional structures are more apparent across different SMs, the ideal strategy would be to compare the structures of more successful SMs with less successful SMs.

However, what makes certain SMs more successful than others? Indeed, there is no easy answer to this question, much less a quantitative way of measuring success. As such, I propose a multipronged approach using case studies to analyzing particular outcomes of SMs. That is, to understand the possible outcomes of SMs, I draw on Tindall, Cormier, and Diani's (2013) recent research on the topic and Edwards and McCarthy (2004) modifications to resource mobilization theory. Fusing these perspectives would suggest that there are five broad categories of SM outcomes across three level of analysis: micro, meso, and macro (see Table 4.4).

Micro level outcomes include the effects of individual level participation in SMs or what Giugni (2004) refers to as personal and biographical consequences. Methods to analyze personal accounts of SMs might include looking at the impact the SM had on individual lives. In other words, did the SM significantly shape the life experiences of those involved and affected? One way of examining this influence is to look at biographical records, which can provide individualistic accounts how SMs have shaped people's lives. For example, the anti-Vietnam War movement had a profound influence on the evolution of Noam Chomsky from linguist to critical theorist (Barsky, 2006).

Meso level outcomes include the effects of SM participation on organizational resources, including moral, cultural, social-organizational, human, and material resources (Edwards & McCarthy, 2004). Furthermore, Tindall et al. (2013) expand upon meso level outcomes by conceptualizing 'network social capital', which include the amount and diversity of relational ties a SMO acquires through SM activity. Gathering information on SMO characteristics can be done by examining external resources that contain information on different SMO attributes like the *Encyclopedia of Associations* or publically accessible tax records (e.g., 990 tax form).

Finally, macro level outcomes include political/institutional change (Amenta & Caren, 2004) and shifts in cultural norms and values (Earl, 2004). Regarding the first dimension, several political outcomes have been used in previous research like electoral outcomes (e.g., election of those sympathetic to the SM), and public policy events (e.g., municipal expenditures, laws passed) (Clemens & Hughes, 2002). Moreover, shifting cultural and normative values can be assessed by analyzing various survey publications like Pew public opinion polls or the World Values Survey.

Using these multiple indicators of success, more comparative work can be done by examining less successful versus more successful SMs. Key suggestions and implications can be made if certain multidimensional configurations are more apparent in one group than the other. For instance, if a positive ATXAX (Table 4.1) parameter (same SMOs more likely to organize similar events) is significant in more successful SMs, but not in less successful SMs, then this finding can help construct a normative model of multidimensional SM network governance.

In the remaining chapter, I describe a step by step process of how to collect this type of multidimensional data.

Data Collection

Step 1: Collect the interorganizational SMO network

Boundary. In network research designs, the primary and often most vexing task is establishing the boundary. According to Borgatti, Everett, and Johnson (2013), the boundaries of any network should be determined by the research question at hand. For the current project, the boundary revolves around the concept of a SM and who should be included in such a movement. Because SMs do not have formal memberships, determining who is in the movement is mostly dependent on involvement in a series of collective action events sympathetic to the movement's cause (della Porta & Diani, 2006, p. 26).

However, by only focusing on those actors sympathetic to the movement's cause, researchers miss out on those actors agnostic (yet still sharing a common focal interest) or even antagonistic to a SM. As such, to include a diversity of actors both sympathetic and antagonistic to the SM, I draw on the concept of institutional fields. DiMaggio and Powell (1983, p. 148) spoke of four processes that define institutional fields: (1) increase in interaction between organizations, (2) emergence of constraining institutional rules, (3) increase in information that

organizations need to input (i.e., requisite variety), and (4) development of mutual meta-awareness that organizations are involved in the same field.

At first glance, it might appear that fields are an odd choice because they have been traditionally associated with explaining why organizations are so similar. That is, field theory focuses much on reproduction rather than change. However, there have been recent attempts integrating fields within the contexts of SMs and collective action (Davis et al., 2005; Fligstein & McAdam, 2011). For instance, many have made connections to McCarthy and Zald's (1977) concept of SM industry and organizational fields. Nevertheless, there are some important qualifiers for using fields to understand the boundaries of SMs, namely regarding behavior and the population of fields.

First, there tends to be less predictability in the behavior of actors and organizations, that is, lower levels of institutionalism (Postill, forthcoming). This tends to mean that SM fields tend to be more 'turbulent' (Emory & Trist, 1965) than traditional institutional fields because there is less knowledge on what the 'rules of the game' actually are and harder to understand/interpret/anticipate interrelated activities (yet not impossible of course). Postill even extended this point to even suggest that not all behavior is strategic and not all actors are equally invested. For example, although the ACLU engages in collective action in a variety of issues, they might be more invested in some (e.g., free speech issues) or over others (e.g., anti-war protest).

Next, SM fields typically contain a more diverse and shifting population because boundaries "are not fixed, but shift depending on the definition of the situation and issues at stake... So fields are constructed on a situational basis, as shifting collections of actors come to define new issues and concerns as salient" (Fligstein & McAdam, 2011, p. 4). Indeed, with

respect to SMs, McAdam and Scott (2005) argue that organizational fields provide a more realistic boundary to study SMs because they inherently account for the mixed ecology that SM actors face.

Despite these changes, there is some common agreement that field theory offers a unique perspective to analyze SMs and collective action (Fligstein & McAdam, 2011; Postill, forthcoming; Scott, 2010), particularly because it is more flexible, yet coherent, on action (both reproduction and change) and population. One way to gather a boundary for organizational fields is identifying what Knoke (1990) calls the *domain of the study* (drawing from, Kalton, 1983). This strategy begins “with an existing enumeration of collective action organizations and proceeds to draw a representative sample” (p. 68). In other words, the strategy begins with an a priori investigation to gather information on organizations that have a stake on a particular issue domain at that time. For their work on the 1980s national labor policy domain, Knoke and colleague used archived data sources to enumerate a representative sample, including the *National Trade and Professional Associations of the United State*, *National Recreational, Sporting and Hobby Organizations*, and *Encyclopedia of Associations*. From this large population (they had identified 13,013 organizations), the researchers drew random samples for interviews to extract communication relationships. Overall, Knoke argued that this enumeration-based strategy is a better alternative than more traditional snowball sampling because (a) the organizational field is generally not difficult to identify (i.e., most organizations are clear with their goals and it is easy to identify if they have a stake in an issue domain) and (b) this strategy is must less costly in terms of resources and time.

Communication between SMOs. Now that a boundary has been established, the next step is extracting micro level communication between SMOs. Shumate et al. (2013) argued that

there are generally four types of communication networks: (1) flow, (2) affinity, (3) representational, and (4) semantic. Flow is the most common studied type of network and represents direct information exchange (i.e., a phone call, email, etc.). Affinity represents a socially constructed relationship (e.g., friendship). Applied to organizations, it usually takes the form of common collaboration. The least studied network, representational, occurs when actors send a message to a third party about another actor (e.g., a shout out, name dropping) and usually takes the form of public endorsements and hyperlinks when organizations are considered. Finally, semantic relationships represent some kind of shared meaning or interpretation between actors like common mission statements or views on an issue.

For the SMO interorganizational network, I focus on direct communication flow between SMOs since these types of are thought to be related to coordinating for collective action (Diani, 2004, 2012) and are considered important resources to be mobilized themselves (Edwards & McCarthy, 2004). That is, it through flow communication in which “resources are allocated within a certain collectivity, decisions taken, collective representations elaborated, feelings of solidarity and mutual obligation forged” (Diani, 2012, p. 106). Influenced by these procedures, Knoke and colleagues gave each SMO a list of SMOs in the organizational field and asked:

Here is a list of organizations involved in [insert issue domain here] which we have compiled from various sources. Would you please place a check mark in front of the name of all organizations on this list with whom (ORGNAME) regularly and routinely discusses [issue domain] matters?

Step 2: Collect collective action event data

Dataset. To collect event data, this project will begin exploring a publicly available dataset called the Dynamics of Collective Action (DCA) collected by researchers at Stanford

University. This section briefly reviews the procedures used to collect data, a description of the data collected, and how the dataset has been used in published studies.

Procedures. The purpose of the DCA project was to collect data on social protest events from 1960-1995. The principle investigators of the project are familiar names in SM research: Doug McAdam, John McCarthy, Susan Olzak, and Sarah Soule. This section provides a summary of the procedures used for data collection by the DCA. The fully detailed procedures by the authors are included in Appendix A.

The first step of the project was defining a collective action event because it served as the main unit of analysis. Six features defined an event. First, an event is collective and must be representative of claims made by SMOs or a social category. As such, the researchers excluded “grievances, crimes, and public displays of anger as they tend not to be expressive of either SMO goals or the shared grievances of some social category” (Collection and Coding, 2009, p. 1). Second, the claims sought to seek to change systems. Thus, individual claims were not included (e.g., unlawful firing of an employee). Instead broader claims that aimed at changing society were included (e.g., new political rights, impact public opinion, strikes, institutional and cultural change, etc.). Third, the events must be public. These public events can be conventional (e.g., press conference) or unconventional (e.g., demonstration, civil disobedience). Thus, this criterion excludes private claims of grievances like conferences or private meetings between SMOs. Indeed, this criterion means that events in the dataset are likely to be initiated by collective actors like SMOs, protest groups, ad hoc groups, or quasi-organizations. Fourth, the *action* must be collective in nature. For example, some SMOs engage in activities that are not collective like fundraising or closed meetings. This criterion limits events that include collective action that have clear claims, grievances, and goals. Thus, events like individual crimes, individual lawsuits,

terrorist attacks, or random vandalism/violence are excluded. Fifth, the event must be situated in same time and space. That is, the event is a continuous action with no gaps of more than 24 hours. Moreover, the event is located within the same city or area within the city. Finally, the event contains a homogenous population. In other words, the participants have the same goals, claims, and grievances.

Wang and Soule (2012), using these procedures, defined a protest event “as any type of activity that involves more than one person and is carried out with the explicit purpose of articulating a claim against (or expressing support for) a target” (p. 1682). Once events have been defined, the data was collected in two stages.

First, researchers analyzed the *New York Times* (NYT) for sections most likely to contain information concerning collective action events. This included every section except letters to the editor, editorials, wedding and anniversary announcements, movie listings, and the Sunday magazine and book reviews. Every other section and their corresponding articles were skimmed for potential events from every issue of the NYT from 1960-1995. When events were identified, they were photocopied and chronologically ordered into a file folder.

Coding and measures. Second, after events were analyzed, they were coded. The coding manual articulated that two variables constitute an event’s core characteristics. First, the actors that initiated the events are recorded. Each SMO or other types of organization are recorded in the dataset. As CAMs articulate, these actors would make up the *co-participation* relationship necessary for empirical evaluation. Second, the claims coded and put into general categories using Policy Agenda Codes (see Chapter Five). As such, a collective action event is primarily measured by its (a) actors that initiate it and (b) its moral claims.

Step 3: Construct the multidimensional network

The first two steps of data collection describe how to accumulate the necessary data to construct the multidimensional network including SMO x SMO communication, SMO x event collective action participation, and event x event shared symbolic meaning. The final step is merging the datasets and is the most time consuming process.

In order to merge the datasets, unique identification numbers must be created for each SMO and collective action event. Using these unique identification numbers, three matrices corresponding to each network will need to be constructed. In this case, edgelist are created to detail information on egos and alters. Since all the networks are undirected (i.e., no sender or receiver), each line of data on the edgelist represents a shared relationship between each node. For instance, in the SMO x SMO network, a line of data that reads:

24 31

32 31

would indicate that SMO #24 has a communication relationship with SMO #31 and that SMO #32 also has a communication relationship with #31. On the other hand, in the meso level collective action network, the same line of data would read that SMO #24 participated in event #31 and that SMO #32 participated in the same event as well. Finally, this line of data in the shared symbolic meaning network would indicate that event #24 has a similar symbolic meaning with event #31 and that event #32 also has the same symbolic meaning with #31 (implying that #24 and #32 are related as well).

The meso level network is constructed by linking the SMOs in the micro level communication network with the events they have participation information. Thus, by replacing the SMO names in the data with the unique IDs, a two-mode network can be constructed.

Likewise, because each event is coded for its moral claim (symbolic meaning), a two-mode network linking each event with its claim can be constructed and converted into a one-mode network where each event is related to one another through its common moral claims. Once these three separate networks are created, they can be merged to create the complete multidimensional network.

Step 3: Model building procedures

When the networks are created, they are ready to be exploited by MERGM. To implement MERGM, I use the program MPNet (Wang et al., 2013). MPNet, to my knowledge, is the only program capable of estimating ERGM for multiplex and multidimensional networks. Because the program is quite new, there is no formal documentation available yet. The modeling procedures I will follow are obtained from a four hour MPNet workshop I attended during the 2014 Sunbelt International Network for Social Network Analysis in St. Pete's Beach, Florida. Like traditional ERGM, they follow the basic procedures of forward selection as advocated by Green and Wasserman (2013).

Before modeling the entire network, it is essential to prepare basic network descriptives and visualizations of each network and the multidimensional network. This will provide important information into the factors influencing its structure. For example, by simply by looking at different visualizations, one can learn if several things stand out like centralization, density, clustering, structural holes, and even transitivity. This information can help inform which parameters to select in the model building phase.

However, model building procedures are not entirely data-driven. Because several parameters are relevant to specific theories of SMs, the model building phase will consist of data and theory-driven guidelines. For instance, there are two perspectives prominent in SM studies

that suggest that SM networks will be more effective if they resemble particular structural patterns: (1) instrumental collective action and (2) expressive collective action.

With respect to network configurations, collective action theory has primarily been interested in patterns that positively influence contribution to a public good. Thus, the underlying motivation is *instrumental* collective action. One of key insights in network theories of collective action is the formation of a critical mass that, on average, contributes more than the average individual. In this lens, network centralization is seen more as an effective way to ensure coordination, mobilize resources, and reduce costs to participate (Crossley & Ibrahim, 2012). Through preliminary simulations of networks that resemble the observed structures, I can determine which multidimensional parameters would lead towards the most network centralization. As such, theories of collective action would predict that SM networks would be more effective if they are influenced by centralization. Via the modeling process, I will refer to these structures as the *instrumental collective action* parameters.

On the other hand, there has been growing work suggesting that SM networks should focus more on just instrumental collective action, but also on *expressive* collective action. Such has been the forefront of new SM theory, emphasizing factors like collective identity, solidarity, and building common interpretive frameworks. One network mechanism that supports those outcomes is *closure*. As Nicholls (2008) reviewed, network closure, because of bonding and strong tie formation, is more effective at developing common norms, trust, emotional energy, and interpretive frameworks (p. 846). As such, theories of new SMs would predict that SM networks would be more effective if they are influenced by closure. Again, via the simulation and modeling process, I will refer to these parameters as the *expressive collective action* parameters.

With these theoretical mechanisms in mind, the modeling procedures will begin with investigating their influence on the observed multidimensional network. If the addition of the parameters do not statistical significance *and* they do not improve the overall fit of the model, then they can be removed and safely assumed to have no influence on the observed network.

However, before model building, the researcher must decide which networks to “fix” or in other words, keep their structure stable throughout the modeling procedures. Reasons to fix some networks include because the emergence of the network does not represent a stochastic process and to aid in the interpretation of the multidimensional parameters. In this case, the shared symbolic meaning network meets the former requirement since shared similarity between events is not the result of stochastic decision-making process between events. Instead the process is deterministic, entirely influenced perfect clustering (e.g., if event A is shared with B, and C is shared with A, then C will be linked B). As such, I will fix the shared event network.

Finally, there is also a need to fix features of either the protest or communication network. The main reason is because that large sizes, densities, and skewness of the some of the networks collected will make simultaneous estimation very difficult, even impossible because of the limited amount of parameters available to select. Put short, there is a high likelihood of what is known as model degeneracy without fixing some features of the protest or communication network (e.g., nodes with very high degree centrality). However, this is only if necessary as will be shown through several diagnostic testing procedures.

When models are specified, they can be analyzed and compared using goodness of fit (GOF) tests. GOF simply compares the estimated model with the observed network and derives statistics on individual parameters to determine if the estimated model provides a good fit for the observed model. In other words, does the estimated model look anything like the real data?

Estimated parameters are deemed a good fit with a t statistic of .1 or under (in absolute value) and unestimated parameters are deemed a good fit with a statistic of 2 or under (in absolute value).

Tables and Figures

Table 4.1

Example of multidimensional closure

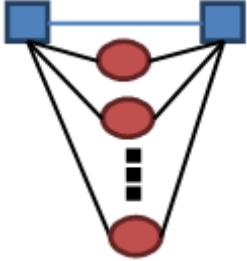
MPnet name	Image	Parameter full name
ATXAX		<p><i>Alternating-X A-triangle</i></p> <p>Events are more likely to share symbolic ties if they have multiple shared SMO participation</p>

Table 4.2

Example of multidimensional centrality

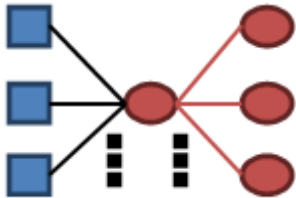
MPNet name	Image	Explanation
AAXS		<p><i>Alternating-A alternating X-star</i></p> <p>SMOs that are popular in the communication network also participate in many collective action events.</p>

Table 4.3

Negative estimate of multidimensional centrality

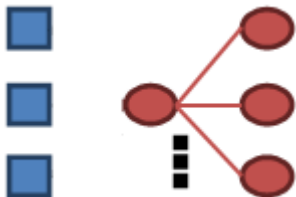
MPNet name	Image	Explanation
AAXS		<p><i>Alternating-A alternating X-star</i></p> <p>SMOs that are popular in the communication network do not participate in many collective action events.</p>

Table 4.4

Outcomes of SMs

Outcomes	Level of analysis	Examples
Personal and biographical	Micro	Individual life course, attitudinal and psychological impacts
Organizational	Meso	Network social capital, legitimacy, labor and volunteers, expertise, SMO capacity, knowledge, money, new technology
Political/institutional	Macro	Change in policy, newly elected officials, forms of government
Cultural	Macro	Shifting cultural norms and values

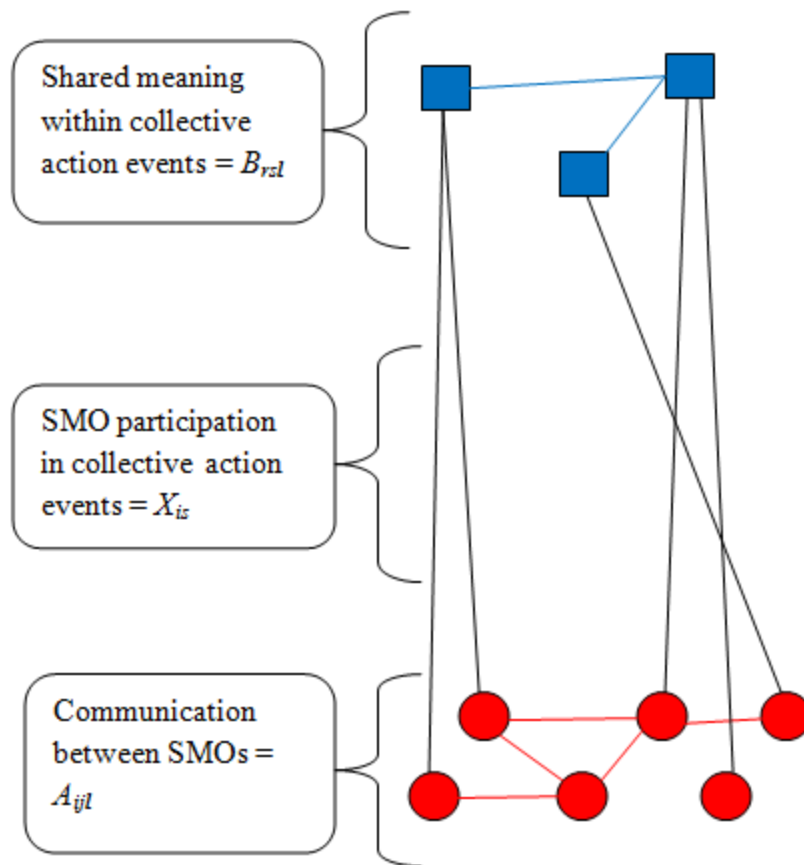


Figure 4.1. Notation for MERGM.

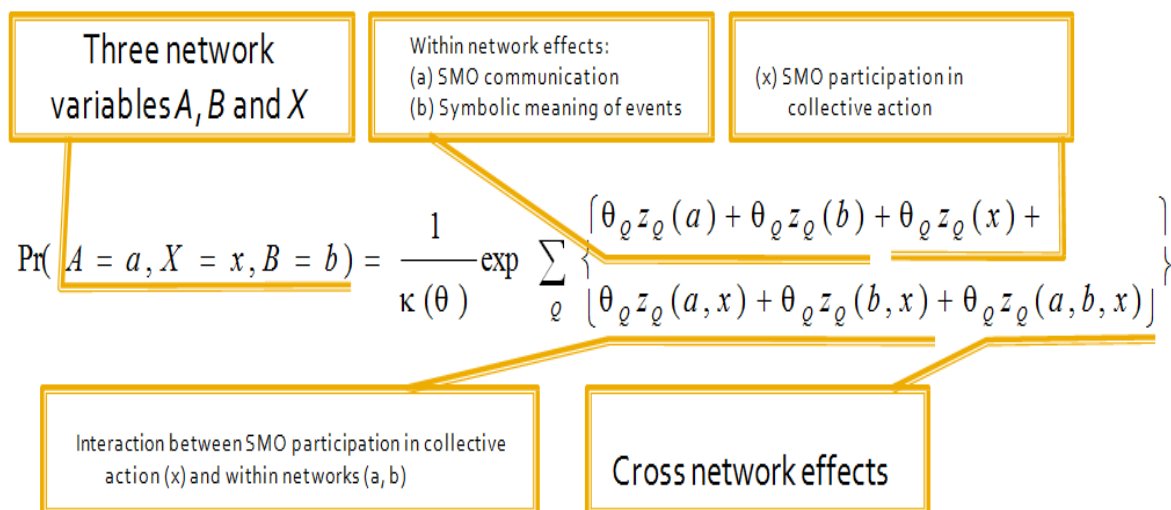


Figure 4.2. Visual interpretation of MERGM equation.

CHAPTER 5: RESULTS

This dissertation asked four broad research questions:

R1: What are the specific interdependent processes between SMOs and events?

R2: How do CAM structures differ across different SMs and time periods?

R3: How do inputs from the environment influence the relationship between SMOs and events?

R4: Are some CAM structures and processes more ideal than others?

R1 and R2 are mostly analytical and require a presentation of statistical results. They will be answered in Chapter Five. Contrastingly, R3 and R4 require a more interpretation of the results. Thus, they will be answered in Chapter Six, the discussion chapter.

To that end, Chapter Five is divided into four parts, each consecutively building upon one another. The first section outlines the specific details followed for network construction described earlier. That section presents network descriptive results characterizing the four different SMs. Table 5.2 gives a summary of the structural features of each multidimensional network, including basic network descriptive statistics like density, centralization, and clustering. The third section uses these descriptive features to define characteristics of a sample multidimensional network for simulation. The purpose of these network simulations is to find relevant multidimensional parameters that when positive, tend to lead to network centralization and closure, the basic network tenets of theories of instrumental and expressive collective action described in Chapter Four. Finally, the fourth section uses these parameters as stepping stones to build models using MERGM. The MERGM results demonstrate the interdependent structures that can account for the observed structural tendencies found in each network. For a comparative analysis, they also reveal similar and different multidimensional patterns.

Section one: Network construction

The following sections describe how each of the four multidimensional networks were constructed at each network level: (1) communication between SMOs, (2) participation between SMOs and events, and (3) shared symbolic relations between events.

Micro level: Communication between SMOs

To extract communication between SMOs for the 1970s US Energy, 1970s Health, and 1980s Labor policy domains, a matrix titled “Information Sent” was analyzed¹. These interview questionnaires asked each SMO to indicate all the organizations from which they *send* information about policy proposals and actions regarding their relevant policy domain (i.e., Energy, Health, or Labor). Links were recorded for reciprocated ties only to capture mutual recognition of two-way communication. That is, a communication tie was present for A and B only if both A and B reported that they sent information to one another.

For the 1980s Polish Anti-Stalinist movement, there was no researcher available to interview the boundary spanners of each organization. Because of the repressive political environment, such a methodology would not have been feasible for a variety of reasons (e.g., SMOs nor the government would have likely trusted an outside researcher, especially if they were from the West). As such, to estimate communication between organizations, Osa (2003) measured interorganizational communication through overlapping membership between organizations using several archival sources, the primary being Friszke’s (1994) documents on the Polish opposition from 1945-1980, but also included records from secret police reports, SMO archival papers, group publications, activist memoirs, and other historical accounts (see page 185-186). Thus, a tie is present between SMOs if they have at least one member in common.

¹ There was an “information received” matrix in the Labor dataset, but no such matrices in the Energy and Health datasets. As such, to be consistent, I chose reciprocated ties across “information sent”.

Definition of CAM terms

Before the results can continue, it is important to clarify some terms. When I proceed to use the terms micro, meso, and macro, I am referring to different networks within the CAM framework. I use these terms for the sake of parsimony, especially when I must describe cross-level processes occurring between more than one network. Thus, when the terms micro, meso, and macro are used, they will refer to the following:

Micro: The SMO by SMO communication network. Nodes are SMOs, links are perceived communication between SMOs.

Meso: The event by SMO collective action network. Nodes are SMOs and events, links are participation of an SMO in a specific event.

Macro: The event by event shared symbolic meaning network. Nodes are collective action events, links are same policy agenda code according to PAP coding system.

Meso level: SMOS and collective action events

Meso level ties represent links between SMOs and the collective action events. This data was compiled by searching every event in which each of the SMOs participated in the last two years of to keep the overall network at a manageable size to model. For the three US SMs, the events were extracted using the DCA dataset that used the New York Times to identify characteristics of collective action events and the organizations that participated in them. For the Polish dataset, the *World Handbook of Political and Social Indicators III, 1948-1982* was used to identify protest events in Poland from 1980-1982. To remain consistent with US datasets, only events were analyzed that used the New York Times as the primary source. When articles were identified, they were manually coded for the organizations that participated in each event. Each

event was given a unique ID and edgelist were created when an SMO participated in a collective action event, resulting in the two-mode meso level network.

Meso level: Shared symbolic meaning between events

To measure shared symbolic meaning, I relied on policy agenda project codes assigned to each protest event to create a semantic network between events. Briefly, the researches coded events based off Baumgartner and Jones' *Policy Agendas Project* (PAP) (<http://www.policyagendas.org/>) to assign specific policy agenda codes to each event. I used the PAP codes because they provide a more general description of each event whereas a more detailed system, using specific moral claims for example (i.e., another coding system used in the DCA), would imply that events with similar, yet unique claims would be different. For example, two events, one with claims reflecting descriptions of "Equal Pay/Comparable worth" and the other with "Equal Rights Amendment" would be different under their primary moral claims. However, under the PAP coding system, they would be similarly assigned under a larger category of "Gender and sexual orientation discrimination". This allows events with different specific claims that fall under similar general policy codes to be related symbolically. The collective action events were already coded in the three US SMs because they were included in DCA, except for the 43 events in the Polish dataset. Those events were coded manually by reading the each New York Times article corresponding to the event (they all fell under the same PAP category for Poland). Table 5.1 contains a list of each major category, not including the sub topics. The subtopics are included in the Appendix B.

Section two: Network descriptives

The following section describes several network descriptive statistics from each of the four multidimensional networks. These statistics are mainly important for two reasons. First,

they provide a first glimpse into how each network is structured, providing initial evidence if they were characterized by centralization (instrumental collective action) and/or closure (expressive collective action). This section begins with a definition of terms and then proceeds from a summary of statistics from each level. Second, the statistics give important information about the structure of each network that will be relevant for Section three: The simulation studies. Figure 5.1 displays a visualization of each multidimensional network.

Definition of terms

Size. Network size simply refers to the total amount of nodes in the network. In the macro event network, size refers to the total amount of collective action events enacted by SMOs in that time period. In the micro level SMO communication network, size refers to the total amount of SMOs in the network.

Components. Network components refer to the amount of minimally connected sub-graphs in a network. In a single component, every node can be reached through connections from every other node in the component. For example, if in a network of four, if the only connections are between node A to B and from node C to D, then A and B represent one component, while node C and D represent a different component. The concept of a component is mostly relevant for the macro level collective action event network. In this case, the number of components represents the different policy agenda codes. The higher the number of components, the higher the numbers of agenda codes are represented by the network. For example, if the number of components is ten, then the events initiated by the SMOs represent 10 different policy agenda codes.

Density. Network density is a ratio statistic that describes the connectivity of the network. Density is simply calculated by dividing the number of actual ties over the number of

possible ties ($n[n - 1] / 2$). Although densities can be compared with network of a similar size, it needs to be interpreted with caution when network sizes differ because as the amount of nodes increase, so does the amount of possible connections.

Centralization. Centralization is a statistic reflective of the entire network and can be reflected via a percentage statistic that describes how a network resembles a perfect star structure around focal nodes (c_{\max}). As such, the centralization statistic is computed by subtracting each nodes degree centrality by the centrality of the highest degree node and dividing it by the maximum possible (i.e., the statistic a perfect star would get): $\sum ((c_{\max}) - c(v_i)) / (c_{\max})$, where $c(v_i)$ equals the degree centrality of each node (Borgatti, Everett, & Johnson, 2013, p. 160). As such, a score of 100% would resemble a perfect star structure, while 0% would represent a perfectly connected network where everybody has the maximum amount of ties to one another (i.e., a density of 1.00).

For the two mode networks, like the meso level SMO x event network, there have been different ways to measure centralization. To measure two-mode centralization, I rely on the procedures described by Borgatti and Everett (1997) of combining both sets of actors and events into a single vector to allow a measure of centralization based on actors and events (see also Alexander, 2005). The centralization statistic is then computed using the same formula.

Closure. One of the ways to estimate the amount of closure in a network is through clustering. Clustering refers to the tendency of networks to form tight-knit closed groups, clusters, and cliques. Networks high in clustering tend to form what Borgatti, Everett, and Johnson (2013) call clumpy structures, or small-world networks (Watts & Strogatz, 1998) characterized by a variety of clusters and short path lengths (i.e., small world effect, easy to reach any two random nodes). To estimate clustering, I used Borgatti, Everett, and Johnson's

measure of transitivity, the tendency that when node A has a tie to B, and B a tie to C, that A also has a tie to C: $\sum_{a,b,c} v_{ab}v_{bc}v_{ac} / \sum_{a,b,c} v_{ab}v_{bc}$. They argue that this measure is more reliable than Watts and Strogatz's clustering coefficient because it takes the weighted average (i.e., the number of dyads in each node's ego network) over the average of each individual clustering coefficient (p. 156). Watts and Strogatz refer to this measure as the weighted clustering coefficient, which is the identical formula of transitivity.

The next sections summarize the statistics based on each level of the network where they are relevant. For instance, clustering is not necessary to report in the macro event by event network because it will always be a perfect 1 (i.e., if events are related symbolically, they are all related according to that attribute). For the ease of clarity, I will refer to the 1976-1978 US Energy Policy Domain as the Energy SM, the 1976-1978 Health Policy Domain as the Health SM, the 1980-1982 Polish Anti-Stalinist Movement as the Polish SM, and the 1986-1988 US Labor Policy Domain as the Labor SM.

Macro event by event network

Table 5.2 gives the network descriptive statistics of size and components of the macro event by event network. The statistics give a summary of the type of issues that were reflected via collective action events from each set of SMOs.

The size of the network reveals how many collective action events were extracted. The Labor SM has the most events with 81, followed by the Health SM at 56, the Polish SM at 43, and the Energy SM at 39. Although network size give important information on the total amount of events, the amount of components give information on how many specific policy agenda codes were represented by the events. By far, the US SMs represented a variety of policy agendas, with the Labor SM the highest at 35 components and the Energy and Health SMs at 18

and 17. The most common issue was actually civil rights, corresponding to ethnic and minority discrimination (34.6% of Labor events and 46.7% Health events). This is mostly the result of the inclusion of a variety of civil rights SMOs like the NACCP being involved in labor and health issues at the time. On the other hand, there was only one component for the Polish SM, a larger movement of anti-governmental opposition towards the Communist regime (Polish solidarity), whether it was through strikes, student protests, or peaceful demonstrations.

The results demonstrate, for the US SMs, that there were a variety of different issues being addressed by SMOs. From labor unions being involved in protests against South African Apartheid to women's and civil rights groups being involved demonstrations against the appointment of Supreme Court justices, the SMOs involved in Labor, Health, and Energy policy domains participated in a variety of collective action events not restricted to those particular issue domains. However, this was not true of the Polish SM, whose demonstrations were dominated by opposition to Communist rule.

Meso level SMO by event

Across the meso level network, there were big differences and similarities across each SM. For instance, the events were similarly, on average, organized by a single SMO (Energy $M = 1.205$, Health $M = 1.07$, Polish $M = 1.093$, and Labor $M = 1.111$) and had low densities (d) (Energy $d = 0.006$, Health $d = 0.008$, Polish $d = 0.048$, and Labor $d = 0.012$). These suggest that collective action events, proportion to the multilevel network, were sparse and mostly initiated by single organizations.

However, centralization and the average number of events per SMO differed by each SM. For instance, the Polish SM was by far the most centralized around Solidarity (48.51%). Contrastingly, the Health and Labor SMs had moderate levels of centralization (17.31% and

15.36%), while the Energy SM had an extremely low level of centralization (3.32%). Likewise, SMOs in the Polish SM participated in about 2.043 ($SD = 6.52$) collective action events each, twice as much as the next highest Labor SM at 0.769 ($SD = 3.54$). However, this statistic likely skewed because of the large amount of events initiated by Solidarity. Mean number of events per SMO were much lower for the Health ($M = 0.448$, $SD = 2.98$) and Energy ($M = 0.244$, $SD = 1.04$) SMs.

Again, the key takeaway is the different structures enacted by SMOs via collective action events. The Health and Labor SMs were quite similar, both had low to moderate levels of centralizations and low densities. The Energy SM and Polish SM seemed to reflect complete opposite spectrums. On one hand, the Energy SM had no focal SMO taking the lead on initiating collective action events as reflected by its low level of centralization and it also had a low ratio of total events to SMOs at 0.202 (39/193). On the other hand, the Polish SM had a very high level of centralization and ratio of total events to SMOs at 1.869. Indeed, it was the only SM with more events than SMOs in its multidimensional network.

Micro level SMO by SMO communication

Likewise, there were similarities and differences across the SMO by SMO communication network. First, they vastly differed by size, with the Energy SM containing 193 SMOs, the Health SM at 134, the Labor SM at 91, and the Polish SM at only 23. Because of the different sizes, it is difficult to compare densities, though all of the SMs reflected a moderate to high density given their size. As such, I will proceed to centralization and clustering.

Like the meso level network, the Polish SM was the most centralized at 46.23%. However, the other communication networks were quite centralized as well, with the Energy SM at 42.79%, the Labor SM at 42.88%, and the Health SM at 32.33%. Contrastingly though, the

Polish SM had the highest weighted clustering coefficient at 0.575, while the others were much lower with the Energy SM at 0.328, the Health SM at 0.326, and the Labor SM at 0.159.

Summary

In summary, the descriptive network statistics start to paint an initial picture of the basic structures of these four different SMs. As reviewed earlier, theories of instrumental collective action (e.g., critical mass theory) would predict a more efficient network if it was centralized, while theories of expressive collective action (e.g., collective identity) would predict a network would be more efficient if it was influenced by closure. With respect to both of these theoretical domains, the Polish SM would have likely to have been predicted to be the most efficient because it was more central in both the meso and micro networks and the most influenced by closure. On the other hand, it is more difficult to theoretically predict the efficiency of the other networks because their values fluctuate across the statistics. For instance, the Labor SM is very low in closure in the micro network and centralization in the meso level protest network, but high in centralization in the micro network. Likewise, the Energy SM is by far the lowest centralized in the meso level, but highly centralized in the micro level.

This represents one conundrum with network descriptive statistics: while they are useful characterizations of networks, they make it difficult to compare and contrast networks and they do not describe the generative mechanisms that have led to those particular configurations. In other words, they describe the end score of the game, but tell us little about the story of how the score got to that point. One remedy for this is the use of graph theory and MERGM because it uses different network configurations to predict different ties between nodes and how positive or negative estimates on those configurations would lead descriptive statistics like centralization and closure. That is, it specifies the particular micro patterns that could lead to global network-

level configurations. Moreover, looking purely at network descriptive statistics would be a bit inappropriate because the theoretical framework developed so far challenges the assumption that these networks are independent at all. Instead, the current framework argues that they are dependent, comprising a single multidimensional network.

This is the purpose of section three, to determine which multidimensional parameters lead to centralization and closure and thus, would be supported by theories of instrumental and expressive collective action. This can be done through the technique of network simulation based on the results derived from section two.

Section Three: The simulation studies

There are a variety of reasons why researchers carry out simulations. In the social sciences, the most common reason is likely what is called formalization/discovery (Klaus & Troitzsch, 2005). That is, social scientists can take various theories and *formalize* them into mathematical rules and then *discover* the “the consequences of their theories in the ‘artificial society’ that they have build” (p. 5). Though simulation is not as popular or institutionalized as other statistical type of analyses, Klaus and Troitzsch (2005) see an increasing trend in its interest.

The use of simulation for the current dissertation is actually reversed from the traditional formalization/discovery process. That is, I am not discovering the consequences of a particular set of theoretically pre-established rules. On the contrary, I do not know what the rules are. Instead, I am discovering which particular sets of rules would lead to an a priori outcome (networks characterized by centralization and closure). As such, the purpose of the simulation study is to figure out which multidimensional parameters (see Table 5.7 for interpretations), if

positive, would lead to centralization and closure as advocated by theories of instrumental and expressive collective action.

To design a simulation study, I follow the procedures of Wang et al. (2013). In essence, the research must decide three important factors for network simulation: (1) size, (2) constraints, and (3) density.

Size. Wang et al. (2013) used a small 30 x 30 multilevel network with 60 ties in each of the three networks. The size was likely an arbitrary decision because there was no reason to expect different or equal sizes of nodes in their empirical data. Indeed, in the current data, there is no urgent reason to deviate from this size because the network sizes fluctuate across the four SMs. In the three US SMs, there are more SMOs than events, but in the Polish SM, there is nearly twice the amount of events to SMOs. As such, I keep a 30 x 30 multidimensional network since there is no compelling reason to change it in my view.

Constraints. In the current data, there are two significant constraints that must be taken into account. First, because events represent the macro level network; there are no isolates from the macro to the meso level. That is, since it is impossible for collective action events to simply appear out of nowhere with no links to any actors, I kept that relationship constant to account for this tendency in the empirical data. I account for this by placing a large negative value ($\lambda = -99$) on the isolated event parameter. This simply tells the model that no collective action event can be isolated and must have a tie to at least one actor. Indeed, none of the simulated models have isolated collective action events.

Second, simulations are meant to model processes between interacting agents. However, the macro event network, which is a semantic network, obviously does not meet this

requirement. As such, I kept macro event network exogenous since it does not represent a stochastic process (i.e., events are related through shared symbolic meaning).

Density. The densities in the empirical data also require a modification to Wang et al.'s (2013) simulation settings. For instance, the density results from section two demonstrate that on average in all four SMs, the densities in the meso level network were lower than the densities in the in micro level communication network. As such, to account for this difference in the observed data, I used a constant density of 0.05 for the meso level network, and 0.15 for the micro level network.

As Wang et al. (2013) advocate, using the modified settings described above, I ran eleven different simulations with a value of 2 on each multidimensional parameters in order to understand how a positive estimate would influence centralization and closure in the meso and micro level networks. The simulated graph statistics are displayed in Table 5.3 and are compared against simulating a random network with the settings above. Using these simulation results, I then can determine which parameters can be designated the instrumental collective action parameters and expressive collective action parameters by analyzing their influence on centralization and closure².

Results

Interaction stars. The activity equivalence parameter³ represents the dependence of SMO event and communication ties, using a tie in one network to predict the other. In other words, estimates high on this parameter suggest if a SMO has a communication tie, they are just as likely to engage in a collective action event (and vice versa). Because the activity equivalence parameter is not as stable as alternating parameters and tend to lead to unrealistic simulated

² Because “traditional definitions of network closure and triangulation for one-mode networks do not apply in the case of bipartite networks” (Lusher et al., 2012, p. 121), I only look at centralization in the 2-mode network.

³ These are my own interpretation of the parameters provided by Wang et al. (2013).

networks (see Hunter, 2007), I also use the three parametric versions of the activity equivalence, what I call (1) *bottom up activity*, (2) *top down activity*, (3) *popularity equivalence*. Bottom up activity describes the effect of lower level popularity on upper activity. For example, in the current simulation, bottom up activity predicts SMO event ties via SMO communication popularity. That is, SMOs popular in the micro communication network are more likely to engage in a collective action event. Contrastingly, top down activity describes the effect of higher level popularity on lower level activity. Put another way, SMOs that participate in a lot of collective action events are more likely to have a communication tie. Finally, popularity equivalence describes the effect of popularity in one network onto the other. For instance, SMOs popular in the micro level communication network are also more likely to be popular in the meso level collective action event network.

The results illustrate what the multidimensional network might look like with high values on these four parameters (see Table 5.3). Positive estimates on three parameters, (1) *activity equivalence*, (2) *bottom up activity*, and (3) *top down activity* are equivalent hub-creators (i.e., they create very centralized networks) in the micro level SMO communication network, all at exactly 91.13% centralization. Likewise, they create very centralized meso level SMO by event networks at 79.78%, 76.34%, and 72.90% centralization. Surprisingly, and very similar to Wang et al.'s (2013) simulation results, the popularity equivalence parameter did not produce high centralization in any of the unilevel networks. This is likely the case because if this tendency was true, it would create a bimodal distribution of those with either lots of links or those with very little. Centralization requires only a few with a lot of links and very many with only a little.

As such, because theories of instrumental collective action (e.g., Marwell & Oliver, 1993) predict that networks with high centralization would be more effective, I will refer to (1)

activity equivalence, (2) *bottom up activity*, and (3) *top down activity* as the instrumental collective action parameters because they lead to high centralization in both the micro and meso level networks. In other words, these three parameters describe three distinct processes. One way to look at these parameters are as particular structural rules or tendencies (e.g., Giddens, 1984). What the simulation results simply say is that if these particular rules (i.e., structure) are very influential in guiding an SMOs behavior (i.e., system), then the multidimensional network you will get as a result will likely end up with high centralization across the micro and meso levels, a network that instrumental theories of collective action claims is more efficient because it supports the creation and maintenance of a critical mass.

Interaction triangles. Interaction triangles describe the influence of different variations of closure across different levels. *Cross-level closure* describes the effect of mutual affiliation of one level on the presence of ties in another. For example, SMOs that participated in the same collective action event are more likely to have communication ties. *Alternating closure* is the parametric version of this tendency, allowing for the participation in multiple events to influence communication ties between SMOs (i.e., the more shared events, the stronger the influence). Finally, I included *triadic activity*, describing the influence of triads in the micro communication network on collective action event ties. That is, an SMO is more likely to participate in a collective action event if it is a member of a triad in the SMO communication network.

Only *alternating closure* and *triadic activity* led to a higher weighted clustering coefficient in the micro level communication network at 49.4% and 75.8%. *Cross-level closure* produced a value of 18.9%, practically equivalent of a random network at 18.7%. As such, because they lead to high clustering, *alternating closure* and *triadic activity* will be known as the expressive collective action parameters.

The interpretation is similar to the centralization parameters. A high estimate on these parameters indicates that for the most part⁴, if SMOs follow the structural rules described in *alternating closure* and *triadic activity*, the networks created by these rules will result in multidimensional networks that are high in micro level clustering. Thus, these can be called expressive collective action parameters because they create a dense clustering of SM actors, configurations supported by expressive theories of collective action (e.g., Melucci, 1996: Nicholls, 2008).

Cross-level three path. Cross-level three paths describe the influence of popularity of one level on activity on another that result in a three-path across two levels. For instance, the meso to micro three path could use popularity at the meso level to predict activity at the micro level. That is, it can determine whether two popular SMOs at the meso level are more or less likely to have communication ties. The cross-level three path forms because those SMOs have participated in different collective action episodes. For instance, consider the NAACP and the ACLU. They were very popular in the Labor SM. Let us consider the assumption that they participate in many different collective action events, the NAACP regarding civil rights and the ACLU regarding civil liberties. If the meso to micro cross-level three path is significant, then it would suggest that SMOs active in a variety of different collective action events (e.g., NAACP and ACLU) are more likely to have communication ties. Although the cross-level three path presents an interesting cross-level tendency, it did not lead to much centralization or closure. As such, I do not designate it any instrumental or expressive parameter significance. They will only be included in the models if they significantly contribute to improving model fit.

⁴ I say “for the most part” because these are not *deterministic* probabilities, which are strict 100% rules with no deviation. Instead, they are *stochastic* probabilities: the higher the coefficient, the more likely they are to follow the rule, but still deviate at times.

Summary of section three

In summary, the purpose of the simulation studies were to determine, according to properties reflective of the current SMs at hand, specific multidimensional parameters that lead to centralization and closure as predicted by theories of instrumental and expressive collective action. The results demonstrated that three parameters were suitable for instrumental collective action because they led to high centralization in the micro and meso networks: (1) activity equivalence, (2) bottom up activity, and (3) top down activity. Likewise, there were two multidimensional parameters that led to high closure in the micro communication network: (1) alternating closure, and (2) triadic activity. The simulation results provide an important set of theoretically informed parameters to begin initial MERGM in section four.

Section Four: MERGM results

As implied by Wang et al. (2013), there are a series of steps to be followed when building a MERGM. First, there is diagnostics testing. This step identifies any features of the network that would make it difficult and in most cases, impossible, to model (e.g., extremely low density or extremely centralized nodes). Second, akin to building a model with control variables, the researchers must build a baseline model with only unidimensional, as opposed to multidimensional parameters. Finally, the final step is the most complicated, the addition and deletion of multidimensional parameters. Because there are a set of theoretically relevant parameters developed in section three of this chapter, the process represents a blend of theory and data-driven techniques. In other words, I am not trying to fit models based on parameters that purely provide the best fit, but also looking at the influence of theoretically relevant parameters.

Step one: Diagnostics

Unlike standard statistical diagnostic procedures in more traditional methods like regression (e.g., Cook's distance), there is no straightforward method to understand if certain features of a network needs to be fixed in MERGM. It takes a blend of visualizations, descriptive statistics, and baseline modeling to determine if any modifications need to be made. As such, after analyzing individual visualizations, degree distributions, and results from baseline modeling, there were some modifications that needed to be made.

First, in the Energy SM, communication between organizations was heavily dense around several federal groups, including the Department of Energy (100 ties), the White House Office (84 ties), and the Federal Energy Regulation Commission (82). Ties to these three groups were far greater than the average degree of 18.69 ($SD = 16.27$). As such, ties to these three organizations were fixed and treated as exogenous.

Likewise, in the Health SM, communication between organizations was heavily skewed around members and staff of the Democratic Party (Subcommittee on Health and the Environment) (53 ties) and the Health Care Financing Administration (49 ties). As a result, communication ties to these two organizations were fixed.

Next, for the Polish SM, the communication network was not extremely skewed, so it was kept the same as it was. However, the meso level protest network was heavily skewed around Solidarity (32 ties), much greater than the average degree of 1.424 ($SD = 3.885$) in the meso level event network. Because the formation of Solidarity was such a big event, fixing it would result in a large loss of information. As such, I chose to keep it in the data. The only downfall to keeping Solidarity is that I will likely not explain the meso level skewness of the

network since that one node had so many ties, a risk I feel is better than the alternative of having a better fitting model without Solidarity.

Finally, the Labor SM was skewed heavily in both meso and micro level networks. In the meso level network, ties were dominated by the NAACP (27 ties) and the ACLU (26 ties), much higher than the average degree of (0.909, $SD = 2.731$). Contrastingly, the Service Employees International Union (64 ties) and Democratic Party House members and staff (51 ties) were the most skewed in the micro communication network ($M = 15.11$, $SD = 11.11$). However, I only fix ties in the micro communication network because there would likely be a lot of information being lost from fixing the NAACP and ACLU for the same reasons described for the Polish SM. This would likely result in not the best fitting model because of the heavy skew, but preserves more generalizability because there is less removed data..

In summary, as with all the studies that have used MERGM so far (Hollway & Koskinen, under review; Wang et al., 2013), certain properties of networks have needed to be adjusted in order to be properly modeled, similar to removing outliers or transforming non-normal data in general linear modeling approaches. Now that the diagnostic procedures have been followed, baseline modeling can begin.

Step two: Baseline modeling

Baseline modeling is important for several reasons, but two in particular are useful for the current project. First, they can be thought of as what are known as control variables because they are limited to within network tendencies. That is, the effects specified only take into the ties in that network. As a result, they can control for an alternative hypothesis, what can be called an *independence* hypothesis that claims any structural patterns in the multidimensional network are due to local patterns within each network. On the other hand, the *interdependence* hypothesis,

which is the basic assumption of the CAM framework, states that while there may be several patterns due to only local network tendencies, multidimensional network ties matter just as much.

Second, baseline modeling is important because it gives an indirect measure of how important the additional of multidimensional parameters actually are. This can be done by analyzing the goodness of fit (GOF). GOF analysis determines how well the estimated MERGM models reflect the statistics that are included and not included in the model. MERGM should at least explain each estimated parameters and a significant amount unestimated parameters. There is no rule of thumb for what amount is adequate, but the more unestimated parameters explained, the better the model fit. Unestimated parameters are deemed explained when the null hypothesis, that the value of the estimated parameter statistic is different than the observed network, cannot be rejected using a probability value of a t-statistic of 2 (estimated parameters use a more conservative statistic of 0.1). For example, if the estimated MERGM models produce 10 three-path triangles when the observed network has 9, basic inference would say that the difference is quite small and that the null hypothesis that they are not different cannot be rejected. This would indicate that the models have produced an adequate fit for that particular unestimated parameter. As such, how well the addition of MERGM parameters can be assessed by how well they improve the overall fit, according to GOF analysis.

Table 5.4 reports the baseline models of the four SMs along with GOF. Basic edge parameters (i.e., what is the probability of a tie even happening), centrality (alternating k-star), and closure (alternating triangle) parameters were entered as baseline models. For reference, a parameter is significant if it is at least twice the value of its standard deviation (Lusher et al., 2013). T-ratios in the GOF are bolded if they are above at absolute value of 2, meaning that they

were not adequately estimated by the model. A high positive value (i.e., anything over 2) indicates that the model underestimated that particular parameter, while a low negative value (i.e., anything less than -2) indicates that the model overestimated that parameter.

For the Energy SM, all of the effects from the baseline estimates were positive, except for the intercept measures, which tell us that the odds of a collective action event and communication ties were less likely to happen by chance alone. As expected because of the high centralization in the micro level communication network (42.79%), the alternating k-star parameter was highly significant as well ($MLE = 3.287$, $SD = 0.718$), indicating that a good predictor of communication ties between any two nodes was the alter's degree count from other nodes (i.e., the rich get richer phenomenon). Likewise, despite low centralization in the meso level SMO-event network, the centrality parameter was significant as well ($MLE = 2.454$, $SD = 0.179$).

Overall, the baseline model does a pretty good job explaining many of the configurations in the observed multidimensional network. However, there were still 18 statistics that the model did not explain well. Most notable was the heavy underestimation of clustering in the micro level communication network ($t = 13.54$), despite a significant and positive closure parameter in the baseline model ($MLE = 0.573$, $SD = 0.132$). Moreover, the baseline model underestimated the degree standard deviation in the micro network as well. What this suggests is that despite entering the two biggest local level parameters to explain centralization and clustering, there was still room for more exploration on which multidimensional parameters might be included to improve the overall fit.

Interestingly, the baseline model for the Health SM exhibited nearly identical estimates, high on centrality ($MLE = 3.137$, $SD = 0.906$) and closure ($MLE = 0.441$, $SD = 0.112$) in the

micro network, and high in centrality in the meso network ($MLE = 3.218$, $SD = 0.238$). On the other hand, the baseline model did a much worse job explaining unestimated parameters in the overall multidimensional network, highly underestimating clustering in the micro network ($t = 12.85$) and centralization in the meso network (Skewness, $t = 20.17$). In all, there were 28 parameters that had bad estimates, suggesting even further that there is much need for the addition of multidimensional parameters.

For the Polish SM, the baseline also did a good job of explaining the overall multidimensional network. The most interesting finding came from the micro level estimates because despite having the most centralized network of the four SMs, closure was a better predictor of ties than centrality as evident by the significant estimate on closure ($MLE = 1.465$, $SD = 0.412$) and insignificant estimate on centrality ($MLE = -0.200$, $SD = 0.331$). Overall, there were still 16 parameters that the model did not explain very well, including all of the global statistics across the meso level network. This suggests that there is still room for additional multidimensional parameters, more so to improve the fit of the meso level network rather than micro level network..

Finally, for the Labor SM, there were surprisingly no significant results in the micro communication network, neither with the basic edge parameter ($MLE = -3.2255$, $SD = 3.171$), centrality ($MLE = 0.6144$, $SD = 0.843$), or closure ($MLE = 0.2602$, $SD = 0.169$). However, as expected because of the heavy skew towards the NAACP and ACLU, centrality in the meso level participation network as positive and significant ($MLE = 2.6968$, $SD = 0.171$). Despite the insignificant results in the micro level network, the baseline Labor model did the best job explaining the observed network, leaving 15 unexplained statistics. However, it did have many

high t values, suggesting that many of the statistics were quite far off and would need additional parameters to improve the fit.

Step three: Multidimensional model building

With information from the baseline models in mind, I can now proceed to multidimensional model building, blending data and theoretically driven techniques. That is, from the results of the simulation studies, I have identified a set of theoretically relevant parameters that I will explore with during this phase. Second, because I have information via the GOF from step two, I know which parameters have been significantly over and underestimated and which global level statistics (e.g., centralization and clustering) still need to be explained as well (see Table 5.5).

Energy SM. For the Energy SM, after mixing and matching centrality and closure parameters, the addition of the macro to meso cross-level three-path dramatically improved the overall fit of the model ($MLE = 0.9274$, $SD = 0.164$). This parameter uses meso level popularity to predict ties between events. Because the events were fixed, it is simply interpreted as SMOs that participate in a lot of events tend to participate in events aligning with the same policy agenda code. Moreover, because I entered the meso to micro cross-level three path parameter and it was not significant⁵, it indicates that SMOs participating in collective action events with the same policy agenda code are not more likely to report communication ties. Thus, it is likely that while popular meso level SMOs participated in similar events, they were not more likely to report micro communication ties.

What was still left to be explained was clustering in the micro level communication network. As such, multidimensional parameters that led to clustering in that network were entered. However, neither of them improved the fit, were not significant, or either caused model

⁵ This parameter also caused model degeneracy.

degeneracy. Thus, they were removed and I entered another unilevel level effect, what I call triadic activity. This parameter states that central SMOs are more likely to be members of a triad as well. As such, members of a critical mass of SMOs also have ties to more local triads. This parameter was slightly positive and significant ($MLE = 0.0188$, $SD = 0.001$). It also accounted for much of the clustering in the micro level communication network as the GOF revealed a t statistic of less than 2 after it was entered. Finally, the bottom up activity (meso to macro) parameter was entered because it still had a t value of above 2 after GOF testing. It remained significant and means that events with at least one symbolic tie with other events were likely to be initiated by a small amount of SMOs because the estimate was negative ($MLE = -0.259$, $SD = 0.112$). Moreover, alternating closure was left in the model because although it was not significant ($MLE = 0.0101$, $SD = 0.009$), the fit was worse without it (i.e., it had a t value of above 2).

In summary, unilevel closure and centrality were both prevalent in the Energy SM. What was the most interesting was the lack of influence of multidimensional closure and centrality though. Instead, it was a multidimensional three-path that provided a better fit for the degree distribution in the micro level communication network. Moreover, bottom up activity was negative, suggesting that events were more likely to be formed by single SMOs (as evident in the real data). The only parameter left unexplained were isolated collective action events and the overestimation of the degree distribution in collective action events. Because fixing the model to have no isolated collective action events results in model degeneracy, this will likely be the case for the rest of the modeling, a slight overestimation in the number of isolated collective action events because there are of course zero in the observable data.

Health SM. As described earlier, the Health SM was structurally similar to the Energy SM. Likewise, when adding multidimensional closure and centrality parameters, neither improved the model fit or remained significant and thus, were removed. Similar to the Energy SM, the addition of the macro to meso cross-level three path significantly improved the model fit ($MLE = 0.1994$, $SD = 0.021$). Still left however, was clustering in the micro level network. As such, learning from building the Energy SM model, I added the triadic activity parameter, which not only remained significant ($MLE = 0.0433$, $SD = 0.003$) and explained the remaining clustering in the micro communication network, it caused the unilevel centrality ($MLE = 0.5893$, $SD = 0.478$) and closure ($MLE = 0.1719$, $SD = 0.14$) parameters to be insignificant as well.

Like the Energy SM, the Health SM model overestimated the number of isolated collective action events, resulting in a slight inaccurate estimated of the distribution of links to those events. Again, this is not surprising given the unique structure of the observed data. Since collective action events always have to be created by at least one actor, the models are going to have a difficult time picking up this network tendency.

Polish SM. As the descriptive results demonstrated, the Polish SM had a slightly different unilevel structure than the other SMs, being defined by both closure and centralization. The multidimensional modeling results were also different. After the addition of two multidimensional centrality parameters, activity across two levels, the model provided a very good fit, explaining most of the unobserved parameters.

The top down activity (meso to micro) parameter is the most theoretically interesting. It uses centrality at meso level to predict micro level communication ties ($MLE = 0.02$, $SD = 0.008$). That is, SMOs that were central in the meso participation network were more likely to have communication ties at the micro level. On the other hand, the bottom up activity (meso to

macro) was negative and significant ($MLE = -0.0914$, $SD = 0.027$), stating that collective action events were more likely to be initiated by small amounts, rather than large amounts, of SMOs. Finally, because the cross-level three path (macro to meso) was significant ($MLE = 0.093$, $SD = 0.017$), it can be interpreted as a control for popular SMOs since there was only one component in the macro event by event network. In other words, the parameter is similarly interpreted that most collective action events were organized by small amounts of meso level popular SMOs, rather than equally dispersed SMOS.

Labor SM. The Labor SM was the most complicated dataset to model because it required the most terms. Like all of the others, the bottom up activity (meso to macro) was negative and significant ($MLE = -1.0807$, $SD = 0.28$). At this point, this parameter can be seen a basic control statistic in the SMs so far, controlling for the pattern that collective action events were initiated by small amounts of SMOs. Moreover, like the Energy and Health SMs, the macro to meso cross-level three path parameter was positive and significant as well ($MLE = 0.5699$, $SD = 0.057$), further demonstrating that collective action events were being organized around very active SMOs.

There were some results that separated the Labor SM from the others. For instance, the Labor SM had a positive estimate on top down activity from the macro to the meso level ($MLE = 0.5296$, $SD = 0.185$). This indicates that SMOs were more likely to participate in collective action events if they were symbolically popular. Moreover, the top down activity from meso to micro was also negative and significant ($MLE = -0.008$, $SD = 0.003$), opposite of what theories of instrumental collective action would suggest. Albeit a small effect, this indicates that SMOs were less likely to establish communication ties if they were popular in the meso participation network.

Finally, after the parameters corresponding to expressive collective action were entered and had no effect, the triadic activity parameter was entered to help explain clustering at the micro level. Like the Energy and Health SMS, it was positive and significant ($MLE = 0.0155$, $SD = 0.005$). This suggests that SMOs were popular in the communication network if they were also part of a triad.

Summary of MERGM results

In order to make sense of the results, I summarize them across different levels of support. That is, support for (1) the influence of multilevel effects beyond unilevel effects, (2) the influence of instrumental and expressive collective action parameters, and (3) additional multilevel parameters.

1. Support for a multidimensional model. If a multilevel model is not needed and simply adds noise to the analysis, then I would expect the amount of unexplained parameters for both models to be about the same. In traditional inferential statistics⁵, this would be akin to saying that Model 1 (unilevel) and Model 2 (multilevel) have the same R^2 . Since Model 1 is more parsimonious (i.e., says the same with less variables), the researcher would then prefer Model 1. On the other hand, if the multilevel model is needed, then I would expect the multilevel model to have much less unexplained parameters or in other words, a higher R^2 .

Overall, the results of the GOF from comparing the unilevel versus the multilevel ERGMs demonstrate that the multilevel model is superior. The unilevel model left 18 (Energy SM), 28 (Health SM), 16 (Polish SM), and 15 (Labor SM) parameters unexplained. Contrastingly, the multilevel model left 2 (Energy SM), 3 (Health SM), 2 (Polish SM), and 8 (Labor SM) parameters unexplained. As such, because of the large differences in unexplained parameters, it can be stated that there is support for a multilevel model of SM organizing.

⁵ Comparing R^2 and GOF in ERGM is simply used as a statistical metaphor, not a direct equivalent.

2. Minimal support for instrumental and expressive collective action. Theoretically, the parameters based on instrumental and expressive collective action were hard to be found. The only network indicative of this was the Polish SM, which had a positive estimate on top down activity (meso to micro), which states that popular SMOs in the meso participation network were more likely to have micro communication links. According to the simulation results, if SMOs followed this tendency, then it would result in centralized micro and meso level networks.

In contrast, the Labor SM had a negative estimate on another instrumental collective action parameter: top down activity (meso to micro). As such, this suggests the *opposite* tendency. Moreover, none of the four networks had any significant effects on the parameters related to expressive collective action. Only the Energy and Polish SMs had a non-degenerate estimates, but there were low and had insignificant probability values. These null results might be just as interesting as the statistically significant results. For instance, in all four SMs, if SMOs participated in the same collective action event, they were not more likely to report communication ties together.

3. Support for alternative multilevel parameters. Although similarities were difficult to find, there was some common tendencies for alternative multilevel parameters. One of the biggest common tendency between all four SMs was the negative estimate on bottom up activity from the meso to the macro level. As stated before, this can mostly be interpreted as a control for the tendency of collective action events to be initiated by small amounts of SMOs. Thus, large coalitions organizing events were hard to be found in all of the collective action events across the four SMs.

Likewise, all four SMs had a positive estimate on macro to meso cross-level three path, which uses meso level popularity to predict ties between events. Because the events were fixed,

it is interpreted as SMOs that participate in a lot of events tend to participate in events aligning with the same policy agenda code. Again, what is interesting to notes is that because the meso to macro level was not significant, it is likely that these SMOs are not more likely to have communication ties, suggesting that SMOs are participating in collective action events dedicated to the same cause, but not communicating with one another.

Follow up analysis: Three Mile Island

Because the American SMs mostly looked the same and differentiated from the Polish SM, it begs a question on what the organizing patterns would look like under actors organizing a particular issue (as the Polish SM did), rather than a plurality of agendas. To get a more complete picture around specific collective action events concerning a specific energy policy, I partitioned the Energy SM to include those events and environmental issues related to an energy policy (12 events, 13 SMOs) from 1979-1981. These included a diverse mix of actor involved in protest against the re-opening of TMI, including local groups near the area like TMI Alert and national unions like the United Mine Workers. The accident at TMI was largely noted as a turning point in the anti-nuclear movement because it represented a disastrous nuclear accident at home, hurting arguments that such a scenario is unlikely in the United States. According to Hertsgaard (1983), the event was a catalyst in sparking protest on nuclear energy across the United States and even across the globe.

As documented by Walsh's (1981) research⁶, including participant observation, SMO newsletters, interviews, notes, surveys, and other published accounts, initial mobilization began with Three Mile Island Alert (TMIA) with a 1,000 person rally on April 6, 1979 at the local Capital building. Interestingly, TMIA "experienced sweeping leadership and structural changes as a result of the accident" (p. 7) and become much more of a radical protest organization more

⁶ Communication relationships between local SMOs against TMI were extracted from Walsh (1981).

focused on public symbolic protest. Indeed, in the network, TMIA participated in 8 of the 13 events. On the other hand, the Environmental Coalition on Nuclear Power (ENCP) was a more traditional interest group, largely built on disseminating information on the dangers of nuclear power and holding large meetings with other like-minded SMOs, rather than engaging in public protest. As Walsh documented, there was a natural tension and even competition between the two groups, though they later started cooperating near the beginning of 1980.

At the same time, however, was a more nationalist movement against TMI and nuclear power, headed by diverse SMOs from the Union of Concerned Scientists to various labor groups. One of the key events was a protest on May 6th, 1979. It was an event at Washington DC involving between 65,000 to 125,000 protestors, including speeches by Jane Fonda, Ralph Nader, and California Governor Edmund Brown.

To understand the patterns underlying the multidimensional network, I used MERGM to model this set (see Table 5.6). Because of the small set, parameters need to be interpreted with a bit of caution. As expected, there was not much significance, except for one key parameter, the cross-level three path from meso to micro ($MLE = 1.98$, $SD = 0.916$). This parameter suggests a relationship between meso level popularity and micro level communication. That is, SMOs that participate in collective action events are more likely to have communication ties. Indeed, this was true for three pairs of SMOs: TMI Alert (TMIA) and the Environmental Coalition on Nuclear Power (ECNP), United Mine Workers and United Automobile Workers of America, and Union of Concerned Scientists and United Mine Workers.

I conducted follow up analysis on anti-TMI mobilization in order to provide a more realistic comparison to the Polish SM, which also organized around a single issue. Otherwise it would be difficult to compare the Polish SM with the American SMs because of the different

number of issues being addressed at that time. More on this will be discussed in the next Chapter.

Summary of Chapter Five

This chapter focused on the results of data collection, descriptive network analysis, simulation, and MERGM. There are several key takeaways from the results:

1. The Polish SM displayed the most network centralization and closure.
2. SMOs in the US SMs participated in an assortment of collective action events that represented an eclectic variety of policy agendas.
3. Based on network simulations, three parameters can be classified as instrumental collective action parameters because they lead to high centralization in the micro and meso levels: (1) activity equivalence, (2) bottom up activity, and (3) top down activity.
4. Likewise, based on network simulations, two parameters can be classified as expressive collective action parameters because they lead to high closure in the micro level: (1) alternating closure and (2) triadic activity.
5. Based on MERGM, the Polish SM was the only one that contained a positive and significant estimate on any of the collective action parameters.
6. For the US SMs, most were organizations by sets of active SMOs that were unlikely to have communicative ties at the micro level.

Indeed, Chapter Five was more of a technical report of various statistical analyses and less of a substantial interpretation. The next chapter digs deeper into a substantial interpretation of the results and relates it, more broadly, to communication and organizational theory and research.

Tables and Figures

Table 5.1

PAP coding system, list of major topic codes

List of Major Topic Codes

1. Macroeconomics
 2. Civil Rights, Minority Issues, and Civil Liberties
 3. Health
 4. Agriculture
 5. Labor, Employment, and Immigration
 6. Education
 7. Environment
 8. Energy
 9. Immigration
 10. Transportation
 12. Law, Crime, and Family Issues
 13. Social Welfare
 14. Community Development and Housing Issues
 15. Banking, Finance, and Domestic Commerce
 16. Defense
 17. Space, Science, Technology, and Communications
 18. Foreign Trade
 19. International Affairs and Foreign Aid
 20. Government Operations
 21. Public Lands and Water Management
-

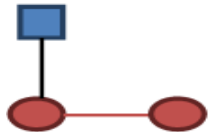
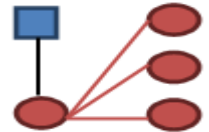
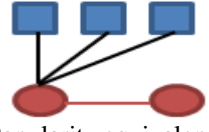
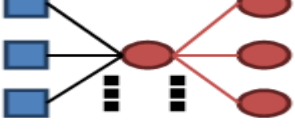
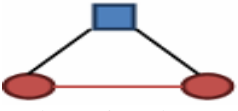
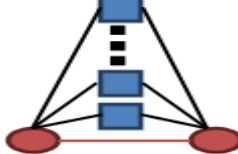
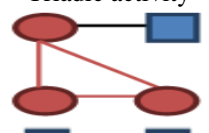
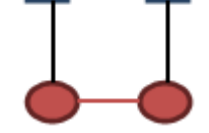
Table 5.2

Network Descriptive statistics

Statistic	US Energy	US Health	Polish Anti-Stalin	US Labor
<i>Macro: Collective action network, event x event</i>				
Size	39	56	43	81
Components	18	17	1	35
<i>Meso: Protest network, SMO x event</i>				
Density	0.006	0.008	0.048	0.010
Centralization	3.32%	17.31%	48.51%	13.38%
Average SMOs at each event	1.205	1.07	1.093	1.111
Average event per SMO	0.244	0.448	2.043	0.769
<i>Micro: Communication network, SMO x SMO</i>				
Size	193	134	23	117
Density	0.097	0.080	0.213	0.072
Total ties	3608	1426	108	978
Centralization	42.79%	32.33%	46.23%	42.88%
Clustering	0.328	0.326	0.575	0.159

Table 5.3

Results of the simulation studies

Domain	Parameter	Centralization Micro	Closure Micro	Centralization Meso
<i>Random graphs</i>	Random network	20.94%	18.7%	4.5%
<i>Interaction stars</i>	Activity equivalence 	91.13%	15%	79.78%
	Bottom up activity 	91.13%	15%	76.34%
	Top down activity 	91.13%	15%	72.90%
	Popularity equivalence 	20.94%	23.4%	6.94%
	Cross-level closure 	13.55%	18.9%	6.46%
<i>Interaction triangles</i>	Alternating closure 	32.02%	49.4%	13.21%
	Triadic activity 	32.02%	75.8%	23.17
<i>Cross-level three path</i>		20.94%	24.41%	23.17%

Note. High simulation results are bolded.

Table 5.4

Baseline MERGM results

	Energy Estimate	SD	Health Estimate	SD	Polish Estimate	SD	Labor Estimate	SD
Edge- Micro	-14.915*	2.839	-14.257*	3.505	-3.553*	0.619	-3.2255	3.171
Centrality- Micro	3.287*	0.718	3.137*	0.906	-0.2081	0.331	0.6144	0.843
Closure- Micro	0.573*	0.132	0.441*	0.112	1.4819*	0.412	0.2602	0.169
Edge- Meso	-6.672*	0.249	-8.091*	0.372	-6.942*	0.482	-7.6023*	0.268
Centrality- Meso	2.454*	0.179	3.218*	0.238	2.8023*	0.324	2.6968*	0.171
Goodness of fit								
	Observed	t	Observed	t	Observed	t-ratio	Observed	t
<i>Edge-Micro</i>	1804	0.09	713	0.02	54	0.055	884	-0.03
Star2B	57476	1.69	13539	0.04	376	0.152	19697	0.17
Star3B	891301	1.91	122605	0.98	970	0.267	199850	0.12
Star4B	1.3 ⁷	2.12	1020733	0.69	1913	0.353	1887050	0.09
Star5B	1.8 ⁸	2.46	7634725	0.52	3009	0.403	1.6 ⁷	0.07
TriangleB	6282	8.08	1469	6.86	72	0.511	1841	1.51
Cycle4B	117917	6.89	18131	7.27	295	0.44	25136	1.11
IsolatesB	6	0	7	-11.13	2	-0.59	1	0.61
IsolatedEdgesB	0	0	0	0	0	-0.488	0	0
<i>Centrality-Micro</i>	6489.97	0.09	2369.85	0.03	147.10	0.049	3079.53	-0.03
ASB2	6489.97	0.16	2369.85	0.03	147.10	0.049	3079.53	-0.03
<i>Closure-Micro</i>	3409.63	0.08	1186.19	0.00	85.56	0.056	1581.042	-0.00
A2PB	20702.58	-3.26	6442.69	-2.49	201.53	0.033	8801.41	-0.93
AETB	37636.34	8.07	8746.18	6.85	415.67	0.523	11010.55	1.51
<i>Edge-Meso</i>	47	-0.07	60	-0.09	47	0.065	90	0.06
XStar2A	8	-0.60	4	-3.04	7	-0.741	10	-2.20
XStar2B	88	1.27	576	0.93	511	4.599	720	5.65
XStar3A	0	-0.84	0	-1.74	4	-0.052	1	-1.13
XStar3B	138	0.64	5527	7.98	4971	16.272	5584	16.82
X3Path	58	-0.25	118	-2.29	41	-0.947	239	-1.20
X4Cycle	1	-0.19	3	-1.73	0	-0.885	4	-0.81
XECA	0	-0.53	0	-1.24	0	-0.49	1	-0.62
XECB	7	-0.24	102	-1.37	0	-0.754	154	-0.14
IsolatesXA	0	-3.82	0	-2.12	0	-2.545	0	-5.32
IsolatesXB	175	-1.41	123	1.72	15	-1.321	98	-1.69
XASA	8	-0.50	4	-3.55	5.25	-0.904	9.5	-2.48
<i>Centrality-Meso</i>	45.53	.03	87.89	-0.06	70.62	0.056	124.51	0.08
XACA	7.5	-0.64	2.75	-3.63	7	-0.559	8.25	-2.56
XACB	87.5	1.32	574.5	1.36	511	5.099	718	6.01
XAECA	0	-0.59	0	-1.46	0	-0.563	1	-0.76
XAECB	2.96	-0.22	11.25	-1.71	0	-0.876	14.96	-0.80
Star2AX	124	1.99	830	-2.94	1418	0.465	1662	0.16
StarAA1X	130.18	1.96	1482.25	-2.91	2653	0.465	3016.21	0.05
StarAX1A	30	0.20	32	-3.58	183.75	-0.904	247	-2.24
StarAXAA	154.71	1.42	1520.12	-3.12	2480.5	0.465	2744.22	-0.13
TriangleXAX	24	8.86	333	6.52	422	4.599	720	11.49
L3XAX	23.5	8.77	333	7.57	422	5.099	718	11.93
ATXAX	84	2.41	431	-2.34	782	0.319	958	0.21
EXTA	219	2.03	10220	-2.88	23815	0.465	19339	-0.06

Table 5.4 (cont.)

Star2BX	523	0.07	348	-3.42	494	2.482	867	-1.58
StarAB1X	882.66	-0.04	466.76	-3.37	824.77	2.828	1388.50	-1.72
StarAX1B	454.54	0.15	452.59	-3.17	859.12	3.003	961.23	-1.79
StarAXAB	6579.28	0.56	2488.94	-1.76	234.53	0.181	3258.79	0.25
TriangleXBX	7	7.38	4	-0.50	4	0.169	1	-1.53
L3XBX	6.5	6.93	2.75	-0.60	4	0.605	1	-1.60
ATXBX	186	8.55	307	-0.37	361	1.221	302	-0.55
EXTB	2008	0.07	300	-3.11	875	2.254	1899	-1.56
L3AXB	1542	0.59	4033	-3.14	15819	2.482	10809	-1.79
C4AXB	31	20.69	37	-0.77	323	1.246	3	-0.83
ASAXASB	1012.84	0.10	1949.01	-3.45	3477.77	0.892	4404.72	-1.55
stddev_degreeA	2.460	-1	14.77	1	19.309	-1	15.69	-1
skew_degreeA	1.533	1	1.18	1	0.90	1	1.31	1
clusteringA	1	0	1	0	1	0	0.89	0
stddev_degreeX_A	0.40	-3.32	0.25	-6.61	0.47	-2.119	0.35	-6.35
skew_degreeX_A	1.40	1.29	3.23	8.85	5.35	12.493	3.22	8.81
Degree SD Meso	1.04	1.277	2.98	1.02	6.65	4.086	3.54	4.95
Skewness Meso	5.58	-0.65	9.84	20.17	3.95	3.501	6.59	8.18
Clustering Meso	0.06	0.29	0.10	-1.57	0	-2.069	0.06	-0.51
Degree SD Micro	18.81	2.30	11.34	1.54	4.66	0.731	13.49	0.27
Skewness Micro	2.45	1.31	2.37	-0.24	1.54	0.493	2.22	-0.02
Clustering Micro	0.32	13.54	0.32	12.85	0.57	1.075	0.28	3.25
<hr/>								
Total unexplained parameters		18		28		16		15

Note. Unexplained parameters are bolded, * indicates a significant estimate.

Table 5.5

Full MERGM results

Effects	Energy Estimate	SD	Health Estimate	SD	Polish Estimate	SD	Labor Estimate	SD
Edge- Micro	-7.3799*	1.829	-5.0037*	1.73	-4.1229*	0.766	-0.976	2.914
Centrality- Micro	1.0848*	0.483	0.5893	0.478	0.0331	0.392	-0.0307	0.789
Closure- Micro	0.6161*	0.154	0.1719	0.14	1.273*	0.438	0.1131	0.192
Triadic activity- Micro	0.0188*	0.001	0.0433*	0.003			0.0155*	0.005
Edge- Meso	-6.5585*	0.245	-7.2495*	0.32	-2.4278*	1.121	-6.5859*	0.277
Centrality- Meso	2.1303*	0.202	2.4972*	0.221	1.0821*	0.353	2.363*	0.165
<i>Multidimensional parameters</i>								
Bottom up activity (Meso to Macro)	-0.259*	0.112	-0.1498*	0.05	-0.0914*	0.027	-1.0807*	0.28
Bottom up activity (Micro to Meso)								
Top down activity (Macro to Meso)							0.5296*	0.185
Top down activity (Meso to Micro)					0.020*	0.008	-0.008*	0.003
Cross-level three path (Macro to Meso)	0.9274*	0.164	0.1994*	0.021	0.0963*	0.017	0.5699*	0.057
Cross-level three path (Meso to Micro)								
Alternating closure (Meso to Micro)	0.0101	0.009			0.013	0.011		
Goodness of fit								
	Observed	t	Observed	t	Observed	t-ratio	Observed	t
<i>Edge-Micro</i>	1804	0.02	713	-0.01	54	0.025	884	-0.032
Star2B	57476	-0.01	13539	-0.37	376	0.371	19697	-0.175
Star3B	891301	0.19	122605	-0.38	970	0.344	199850	-0.172
Star4B	13424469	0.43	1020733	-0.39	1913	0.179	1887050	-0.131
Star5B	188853724	0.68	7634725	-0.39	3009	-0.023	16327468	-0.093
TriangleB	6282	0.06	1469	-0.28	72	0.78	1841	-0.081
Cycle4B	117917	-0.31	18131	-0.28	295	0.739	25136	-0.31
IsolatesB	6	0.42	7	-0.44	2	-0.733	1	0.942
IsolatedEdgesB	0	NaN	0	NaN	0	-0.508	0	NaN
<i>Centrality-Micro</i>	6489.97	0.01	2369.85	-0.01	147.1077	0.013	3079.5349	-0.033
ASB2	6489.97	0.01	2369.85	-0.01	147.1077	0.313	3079.5349	-0.033
<i>Closure-Micro</i>	3409.63	-0.00	1186.19	-0.33	85.5664	0.014	1581.0422	-0.044
A2PB	20702.58	0.077	6442.69	-0.29	201.5352	0.209	8801.4181	-0.052
AETB	37636.35	0.06	8746.18	-0.28	415.6714	0.805	11010.552	-0.08
<i>Edge-Meso</i>	47	0.04	60	-0.01	47	0.066	90	0.086
XStar2A	8	-1.97	4	-1.25	7	0.79	10	-1.319
XStar2B	88	-0.38	576	1.22	511	0.349	720	5.398
XStar3A	0	-1.51	0	-0.77	4	15.228	1	-0.783
XStar3B	138	-0.74	5527	1.89	4971	0.188	5584	9.37
X3Path	58	-1.56	118	-1.27	41	-0.832	239	-0.681

Table 5.5 (cont.)

X4Cycle	1	-0.95	3	-1.00	0	-0.568	4	0.113
XECA	0	-0.90	0	-0.67	0	-0.148	1	-0.57
XECB	7	-0.83	102	-0.93	0	-0.497	154	1.475
IsolatesXA	0	-2.87	0	-2.98	0	-1.055	0	-3.364
IsolatesXB	175	-1.08	123	-0.04	15	0.34	98	-0.367
XASA	8	-1.96	4	-1.36	5.25	0.152	9.5	-1.431
XASB	45.53	0.10	87.89	-0.01	70.625	0.024	124.5156	0.185
XACA	7.5	-1.97	2.75	-1.28	7	1.126	8.25	-1.474
XACB	87.5	-0.33	574.5	1.49	511	0.351	718	5.456
XAECA	0	-0.99	0	-0.74	0	-0.148	1	-0.602
XAECB	2.96	-0.95	11.25	-0.99	0	-0.525	14.9687	0.086
Star2AX	124	-0.47	830	-1.47	1418	0.266	355	0.591
StarAA1X	130.18	-0.63	1482.25	-1.54	2653	0.266	477	0.162
StarAX1A	30	-1.80	32	-1.52	183.75	0.052	35	0.118
StarAXAA	154.71	-0.37	1520.12	-0.67	2480.5	0.266	555.2109	-0.498
TriangleXAX	24	-0.07	333	-0.31	422	0.349	86	0.627
L3XAX	23.5	-0.00	333	-0.07	422	0.051	84.5	0.53
ATXAX	84	-0.59	431	-1.27	782	0.221	197	0.635
EXTA	219	-0.59	10220	-1.57	23815	0.266	1065	-0.248
Star2BX	523	-0.97	348	-0.59	494	0.376	867	-0.767
StarAB1X	882.66	-1.00	466.76	-0.65	824.7773	0.382	1388.5043	-0.829
StarAX1B	454.54	-0.90	452.59	-0.56	859.125	0.001	961.2344	-1.088
StarAXAB	6579.28	0.06	2488.94	-0.25	234.5356	0.317	3258.7901	0.032
TriangleXBX	7	1.46	4	0.54	4	0.498	1	-0.841
L3XBX	6.5	1.61	2.75	0.77	4	0.006	1	-0.809
ATXBX	186	1	307	1.51	361	0.358	302	-0.05
EXTB	2008	-1.00	300	-0.82	875	0.144	1899	-0.822
L3AXB	1542	-1.05	4033	-0.97	15819	0.376	3407	-0.376
C4AXB	31	0.03	37	-0.26	323	0.356	10	-0.359
ASAXASB	1012.84	-1.01	1949.01	-1.09	3477.7773	0.399	1865.5043	-0.802
stddev_degreeA	2.46	-1	14.7731	1	19.3098	-1	4.0865	-1
skew_degreeA	1.53	1	1.18	1	0.9077	1	1.4121	1
clusteringA	1	0	1	0	1	0	1	0
Degree SD Meso-Event	0.40	-4.809	0.25	-3.48	0.4788	1.236	0.3536	-2.943
Skewness Meso-Event	1.40	1.67	3.23	4.094	5.3562	3.264	3.2281	3.435
Degree SD Meso-Actor	1.04	-0.21	2.98	1.23	6.6502	0.503	3.5486	4.722
Skewness Meso-Actor	5.58	-1.49	9.84	0.71	3.9586	0.811	6.5966	4.298
Clustering Meso	0.069	-0.54	0.10	-0.59	0	-0.658	0.0669	1.239
Degree SD Micro	18.81	-0.01	11.34	-0.36	4.6693	0.753	13.4948	-0.223
Skewness Micro	2.45	1.06	2.37	-0.14	1.5439	-0.35	2.2202	0
Clustering Micro	0.32	0.25	0.32	0.07	0.5745	0.928	0.2804	0.109
Total unexplained parameters		2		3		2		8

Note. Unexplained parameters are bolded, * indicates a significant estimate.

Table 5.6

MERGM results for anti-Three Mile Island mobilization

Anti-Three Mile Island		
Effects	Estimate	SD
Edge- Micro	-2.2526*	1.084
Centrality- Micro	-0.3481	0.725
Closure- Micro	0.7258	0.683
Triadic activity- Micro	-	-
Edge- Meso	-3.1711*	0.679
Centrality- Meso	0.1414	0.77
<i>Multidimensional parameters</i>		
Bottom up activity (Meso to Macro)	0.0769	0.077
Cross-level three path (Meso to Micro)	1.9813*	0.916
Alternating closure (Meso to Micro)	-0.1958	0.174
Goodness of fit		
	Observed	t
<i>Edge-Micro</i>	7	0.021
Star2B	9	0.037
Star3B	4	0.008
Star4B	1	-0.081
Star5B	0	-0.181
TriangleB	1	-0.021
Cycle4B	0	-0.311
IsolatesB	4	0.041
IsolatedEdgesB	0	-1.02
<i>Centrality-Micro</i>	7.25	0.04
ASB2	7.25	0.04
<i>Closure-Micro</i>	3	0.057
A2PB	9	0.115
AETB	1.5	-0.218
<i>Edge-Meso</i>	15	-0.053
XStar2A	2	-1.095
XStar2B	29	-0.041
XStar3A	0	-0.569
XStar3B	56	-0.173
X3Path	7	-0.883
X4Cycle	0	-0.621
XECA	0	-0.413
XECB	0	-0.489
IsolatesXA	0	-1.304
IsolatesXB	5	-0.261
XASA	2	-1.2
XASB	13.0156	-0.031
XACA	2	-1.087
XACB	29	-0.012
XAECA	0	-0.475
XAECB	0	-0.526
Star2AX	180	-0.053
StarAA1X	300.0146	-0.053

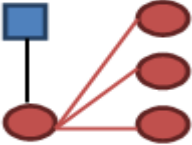
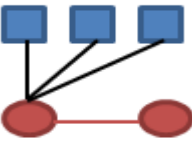
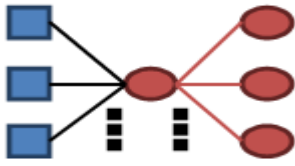
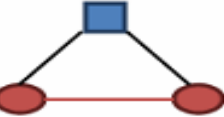
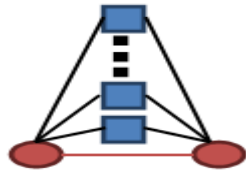
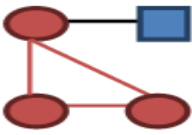
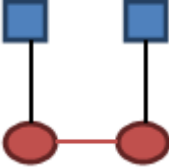
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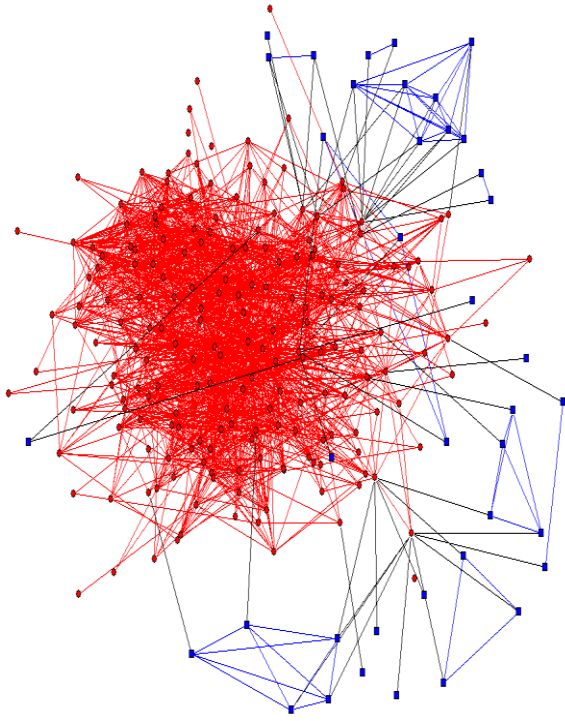
StarAX1A	24	-1.2
StarAXAA	290.0059	-0.053
TriangleXAX	29	-0.041
L3XAX	29	-0.012
ATXAX	103	-0.156
EXTA	990	-0.053
Star2BX	25	0.079
StarAB1X	13.25	-0.109
StarAX1B	25.0313	0.022
StarAXAB	29.1289	0.05
TriangleXBX	2	0.008
L3XBX	2	0.04
ATXBX	11	0.002
EXTB	9	0.253
L3AXB	300	0.079
C4AXB	9	0.001
ASAXASB	313.2646	-0.068
stddev_degreeA	6.245	-1
skew_degreeA	0.8869	1
clusteringA	1	0
Degree SD Meso-Event	0.3755	-1.982
Skewness Meso-Event	1.7017	1.705
Degree SD Meso-Actor	2.2208	0.242
Skewness Meso-Actor	2.2683	1.055
Clustering Meso	0	-0.787
Degree SD Micro	1.3399	0.407
Skewness Micro	1.6595	1.32
Clustering Micro	0.3333	0.386
Total unexplained parameters		0

Note. Unexplained parameters are bolded, * indicates a significant estimate.

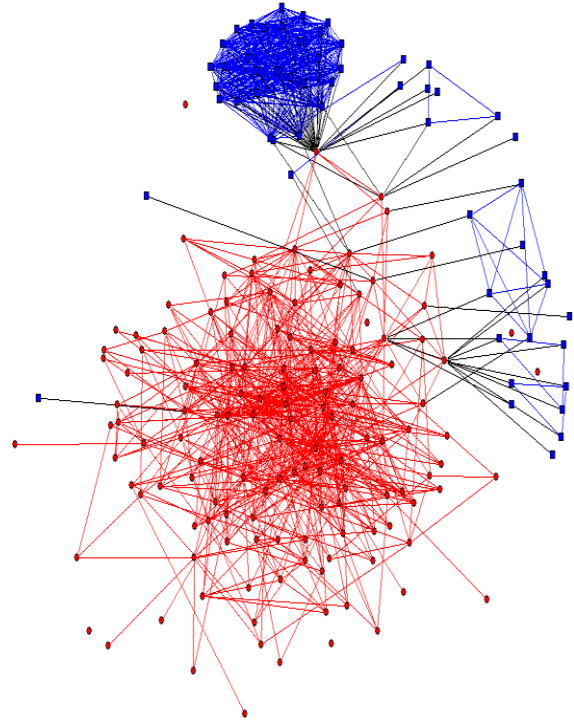
Table 5.7

MPNet parameter interpretation

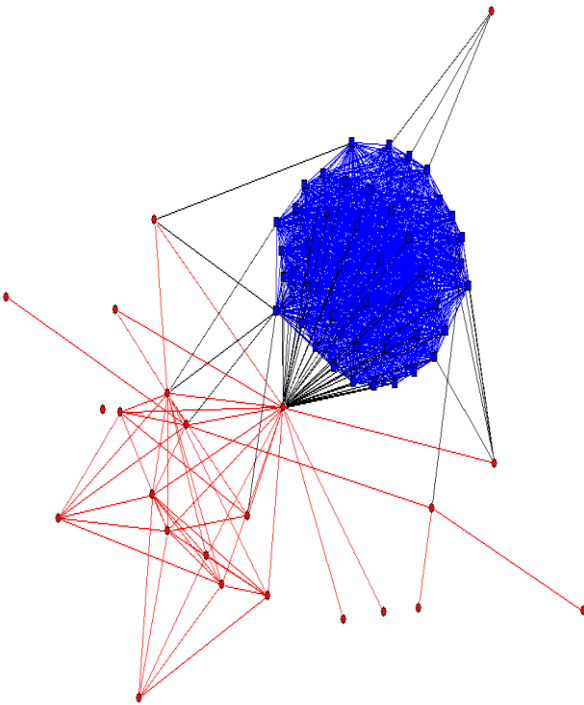
<i>Domain</i>	<i>Parameter</i>	<i>Interpretation</i>
<i>Interaction stars</i>	Bottom up activity (Micro to Meso) 	An meso level participation tie is more likely if that SMO is popular in the micro communication network
	Top down activity (Meso to Micro) 	A micro level communication tie is more likely if that SMO participates in lots of collective action events
	Popularity equivalence (Meso and Micro) 	SMOs popular in the micro level communication network are also popular in the meso level participation network
	Cross-level closure (Meso to Micro) 	A micro level communication tie is more likely if those two SMOs participated in the same collective action event
	Alternating closure (Meso to Micro) 	The more collective action events any two SMOs participated in together, the more likely a micro level communication tie is likely between them
<i>Interaction triangles</i>	Triadic activity 	A meso level participation tie is more likely if that SMO is part of a micro level communication triad
<i>Cross-level three path</i>	Cross-level three path (Meso to Micro) 	The more separate collective action events any two SMOs participate in, the more likely a micro level communication tie will be between them



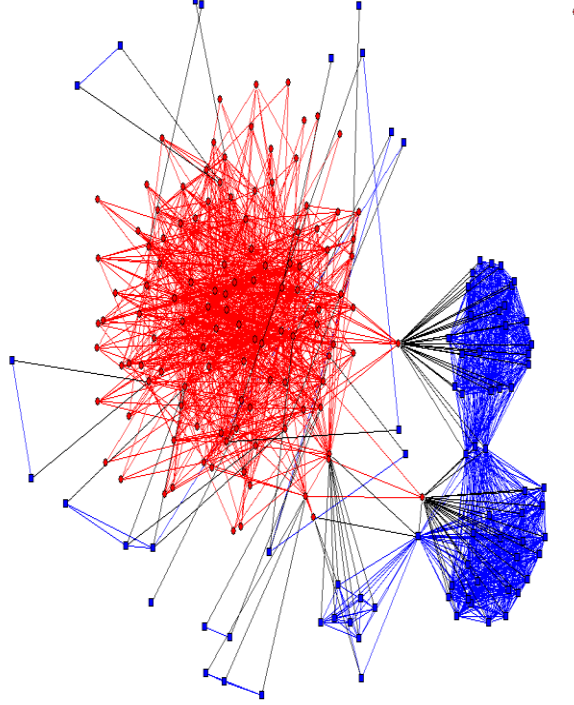
1976-1978 US Energy Policy Domain



1976-1978 Health Policy Domain



1980-1982 Polish Anti-Stalinist Movement



1986-1988 US Labor Policy Domain

Figure 5.1. Visualization of each SM.

CHAPTER 6: DISCUSSION

Chapter Six attempts to think more broadly about the CAM framework and results presented so far. In doing so, I attempt to transform the CAM framework from a partial theory to a more complete theory by introducing a model of factors that influence a given CAM structure. The model is a non-normative explanation of a given CAM structure. To that end, I discuss the model in terms of mobilization against the reopening of Three Mile Island and Polish Solidarity because they represent collective action against a particular target, rather than a broad policy domain. Next, I take the discussion into a more normative route, arguing that several features of Polish Solidarity were more advantageous than mobilization against Three Mile Island. Finally, I put the model in a deeper context of other like-minded theoretical frameworks, discussing particular difference/similarities and possible advantages of the current model.

A framework for parameter interpretation

Once a multidimensional network has been specified, there is a need for a coherent way to explain why the configuration is that way. The goal of the current framework is to provide a consistent understanding for the configuration of each multidimensional structure across each SM. To do so, I argue that a framework involving theoretical integration would provide the most nuanced explanation because it challenges the researcher to look at a variety of perspectives and how they might contribute to an explanation for various parameter results. For instance, in Osa's (2001) finding, she found that central SMOs were not central in the protest network. Because of the restrictive political environment, it is unlikely that some SM theories like framing, had much influence in this case. However, this does not mean that framing and language could not have influenced other SM mobilization patterns¹. Instead, for the present case, theories of political opportunity structure might serve as a useful tool to analyze the relationships between and within

¹ Indeed, as I will show later, Osa argued that framing had a large influence on network structure.

actors and events. This next section articulates a theoretical integration, loosely based off of Opp's (2009) SM mobilization framework and Corman and Scott's (1994) theory of activity foci, to analyze the potential results. Three assumptions are articulated to explicate the framework: (1) interdependent explanandum of protest behavior and communication, (2) the recursive nature of action and communication, and (3) the micro-macro bridge assumption.

Interdependent explanandum

Interdependent events and actors. Because of the complex nature of the CAM framework, there are two interdependent stochastic processes that must be explained: protest behavior and perceived communication ties. The first, protest behavior, is perhaps the most commonly sought behavior that SM researchers have attempted to explain. The second, perceived communication ties, represents a behavior more commonly associated with communication theory. However, since the CAM framework is an interdependent network of both stochastic processes, any explanation would benefit from an eclectic blend of both SM and communication theory. This theoretical shift moves beyond just attempts at explaining the frequency of both relationships, but instead, the different patterns of how they work together. For example, an interpretation of why a particular configuration was more significant than another needs to explain the interaction between both types of relationships (e.g., why would a particular SM have actor central in both networks). The next section articulates the general relationship between the two types of ties.

Recursive nature of action and communication. While the two types of ties represent different conceptual mechanisms, action and communication, they also represent deeper theoretical domains of *social interaction* versus *social relations* as described by Corman and Scott (1994). The former is measured through observed time-stamped behavior while the latter is

measured through perceived structure. As Corman and Scott theorize, the nature of action and perceived network links exists as a recursive duality as articulated by Giddens's (1984) structuration theory. That is, perceived communication ties between SM actors represent one type of social structure that influences an actor's social activation processes through which collective action events to participate in (see Figure 6.1). The relationship is recursive in that perceived communication networks are continually produced and reproduced in interaction through collective action events. In other words, SM actors are influenced by a variety of factors when it comes to engaging in collective action (although different SMs may be more or less influenced by such a structure) and who they perceive to have communication relationships with, according to activity foci theory, is one of the those factors. And through each event, that perceived network structure may be altered or simply reproduced.

Micro-macro bridge assumption. Finally, the micro-macro bridge assumption simply refers to dynamics between macro and micro level factors as recently suggested by both SM (e.g., Opp, 2009) and communication (e.g., Castells, 2009) theorists. It attempts to avoid an inference fallacy I call the *unmediated macro fallacy*. The unmediated macro fallacy sounds just like it is stated. It occurs when individuals draw direct inferences between two macro level phenomena. Because macro level phenomena are built from micro level behavior (Martin, 2009), it challenges such a direct relationship by stating that macro level factors cannot simply influence a phenomenon such as network structure all by themselves. Instead, macro phenomena influence micro level socio psychological factors (e.g., incentives) that are responsible for the multidimensional network structure under study. Moreover, actors make decisions, which in aggregate, turn into macro level phenomenon themselves (i.e., economic structures).

For example, macro political opportunities such as elite sympathy (e.g., McAdam, 1982) have been found to influence macro levels of protest mobilization. However, the micro-macro bridge assumption assumes that elite sympathy *indirectly* influences protest mobilization (i.e., moderation effect) through micro level factors. Instead, elite sympathy has a direct influence on micro level factors such as lowered costs/higher incentives for an individual's probability to protest. This higher probability then has an analytical (i.e., not empirical, but aggregated) relationship with macro protest.

Summary of framework for parameter interpretation

The current framework describes a process that pushes the researcher to explain how environmental factors influence activation and cognitive processes leading to the configuration of user chosen parameters. In other words, it asks how specific micro and macro level variables influence the CAM structure. The process is follows as:

- (1) If a macro level factor is described (e.g., political opportunity), the researcher must describe how it influences micro social psychological factors such as incentives, goals, or emotion.
- (2) The researcher must describe how changes in these micro factors influence activation and cognitive processes.
- (3) A general description of the recursive process between observed protest behavior and perceived communication ties.
- (4) An analytical relationship between aggregated individual collective action events and macro systematic protest.
- (5) Recursive structural influence, how the CAM structure becomes another macro level rule and resource for future interaction and perception.

What types of macro and micro variables to look at?

The question now turns to which types of macro and micro level variables should guide parameter interpretation. As argued above, since there are two networks commonly associated with SM and communication theory, these are the two best places to begin. Table 6.1 describes the level of analysis, theoretical domain, and relevant concepts that might influence activation and cognitive process. The table represents an initial list of factors that might influence the CAM structure. What follows next are applications of the framework to two specific SMs analyzed in Chapter 5.

Application of framework to two SMs

To provide an example of the working model in action, I will use the two single-issue SMs: Three Mile Island and Solidarity. There are two key reasons why I will do this. First, the SM samples were designed around the concept of organizational fields, which include not only a diverse set of actors, but also a diverse set of issues. Scaling down the network into one particular important cause reduces ambiguity on the specific mechanisms that may have been at work as described by the model above. For instance, many of the macro factors, like political opportunity structure, will only likely apply to one particular SM cause or policy agenda issue in the first place. Second, analyzing the two single-issue SMs will give me more clear guidelines as to whether or not a particular SM was more or less successful, detailed a much needed conversation on multidimensional networks and outcomes. Indeed, supplementing the partitioned networks with data from the Global Nonviolent Action Database (<http://nvdatabase.swarthmore.edu/>) allows me to begin to make inferences on whether or not there are certain mobilization patterns that are more successful than others, especially because GNAD applied quantitative scores to specific outcomes for each SM coded in its database. The

two partitioned SMs I will examine are Polish Solidarity (1980-1982) and the US anti-nuclear campaign against restarting the Three Mile Island nuclear generator (1979-1980) from the Energy Policy Domain.

Three Mile Island protest

As Laumann and Knoke (1987, p. 47-72) documented, the US energy policy domain largely revolved around the government's role in regulating and developing various sources of energy, especially oil. Like today, debates centered on the implications of policy reforms around the national economy and ramifications for the everyday American (e.g., gas prices). Key events that impacted the energy policy debate were the passage of the Natural Gas Policy Act of 1978, the overthrow of the shah of Iran, and the Three Mile Island (TMI) power plant accident.

As such, I ran MERGM on events only pertaining the protests against the reopening of TMI. The results demonstrated that the only significant parameter was the meso to micro cross level three path. This parameter suggests a relationship between meso level popularity and micro level communication. That is, SMOs that participate in collective action events are more likely to have communication ties. As such, how can the proposed model help explain this particular parameter?

One explanation, to use TMIA and ECNP as examples, comes from resource mobilization theory. As Walsh (1981) noted, there was considerable conflict between the more professional ECNP and more radical and young TMIA shortly after the TMI accident, largely stemming from demographics, ideological, and goal differences. The two SMOs were more competitors than collaborators.

However, what dramatically changed was the resource environment in the months after the TMI accident. In the current model, this would be considered a macro level factor, sometimes

referred to as resource munificence (Scott, 2003) or simply the availability or scarcity of important resources for mobilization (see Edwards & McCarthy, 2004, for a typology). As Walsh (1981) documented:

Outside funding sources had expressed interest in helping the local groups, but insisted on more cooperation among them. Representatives of the Washington, DC-based Youth Project and Massachusetts-based Levinson Foundation, both sponsors of environmental projects, assured local cadre members that financial support was available if funders could be assured of more cooperation and consolidation among area SMOs. A December, 1979, memo from funding representative to SMO leaders requested that the different groups specify “areas in which your group is cooperating with other groups, areas in which you can cooperate in the future, and those areas in which you see problems now or in the future” (p. 14).

As, such changes in the resource environment may have increased incentives, specifically monetary ones, for local SMOs to establish more communicative connections and joint participation in collective action events (i.e., influencing the multidimensional structure). That is precisely what happened too, as exemplified by an interlocking board of directors and joint events (March 28, 1980 rally) by TMIA and ENCP. As such, TMIA became embedded in the micro level communication network where it was once isolated, which may explain the positive estimate on the cross-level three path parameter. That is, the influence of monetary incentives could have played a role in the positive estimation of the meso to micro cross-level three path because meso level popularity was a now a predictor micro level communication ties, something that perhaps would not have been significant if we believe in Walsh’s (1981) characterization of TMIA as more of a go-it-alone radical protest group.

What’s still left to debate is how much the monetary influence by third parties sustained meaningful relationships or if this was simply lip-service to satisfy outside funders. For instance, after the joint March 28, 1980 rally, the notable protest events were still led by TMIA by themselves. Later, I will turn toward a more normative interpretation, discussing the relationship

between dominant multidimensional patterns and outcomes.

Polish Solidarity

As one scholar put it: “Solidarity, perhaps the most massive social movement in history, has attracted a number of social scientists who have engaged in the uneasy task of defining, describing, and explaining this unusually complex and fascinating social phenomenon” (Kubik, 1994, p. 441). Indeed, formation of Solidarity was mostly argued to be the result of a culmination of a various strands of macro factors over the years, some of which include a growing working-class identity (Bloom, 2013), frustration with the Communist regime and its policies (e.g., rising cost of meat, Simon, 2003) and the success of past worker strikes, especially from the 1970s along the Baltic coast (Goodwyn, 1991; Laba, 1991).

Indeed, one of the growing themes around the birth of Solidarity, especially among the writings of Goodwyn (1991) and Laba (1991), taps into a larger existential macro factors of class identity and ideology. In other words, in a classical Marxian tense, there was a new type of consciousness being formed among the working class in Poland at the time. What is even more common across several writings around the time is the *expressive* notion of a growing consciousness (Bloom, 2013; Kubik, 1994). Though Kubik and Bloom disagree with the materialist and class centric arguments of Goodwyn and Laba, there is agreement on a larger ideology as the crux of the formation of Solidarity. Whether it is Barker’s (2001) focus on emotions, Ost’s (1990) emphasis on the ideology of anti-politics, Laba’s attention to master frames, or Bloom’s description of a new self-transformation of dignity, each inherently point to a development of new forms ideology, consciousness, and identification at work.

While I tend to agree with Osa (2003) that the debate on specific origins of Solidarity (e.g., workers or intellectuals) is more of a theoretical trap, rather than an adequate framework to

help explain the rise of Solidarity, we can take serious the claim that there was a larger cultural framing at work. The question for the current model is how such framings influenced micro level incentives that would in turn, influence relationships between and within actors and events. If we sympathize with the arguments of Kubik (1994) and Bloom (2013), that the birth of Solidarity has much to do with a larger cultural transformation towards of an ideology of self-determination, recognition, dignity, and status, then the current model challenges the researcher to acknowledge how these changes influence micro level psychological factors like incentives and emotions.

Osa (2003) referred to this construction as an 'us-versus-them' expressive master frame. As she argued (p. 174-179), the frame was large enough to unite a diverse set of actors, including workers, intellectuals, students, and the Catholic Church. Likewise, using interviews from those actually involved in the movement (e.g., workers, intellectuals, members of the Catholic Church), Bloom (2013) argued that this growing spirit fundamentally changed what it meant to be a Polish citizen: "people came to regard themselves and one another differently as increased feeling of self-worth and community spread throughout society" (p. 12). For many, the strikes were more than just about wage increases, but more of "an attempt to create new relations between people, in every location and at every level" (Kapusinski, quoted in Ost, 1990, p. 9). Moreover, Bloom subtly states that is altered previous incentives for actors to form relationships: "Thus, social relations were significantly altered too, as people treated each other with more respect and displayed greater camaraderie" (p. 12). As his interview with a local Solidarity leader Janusz Palubicki demonstrated, there was even a shaming micro level factor for non-participation:

People felt that to be a good Pole you had to belong to Solidarity. If someone did not join, he was looked upon as a beton who supported the Soviet Union. That person was seen as

a possible traitor (p. 2).

As such, there might have been an incentive of *network consolidation* to either establish formal ties to Solidarity or simply merge with the organization, as several groups did. At its height, membership to Solidarity was at approximately 10 million (Poland's population was 33 million at the time). Indeed, if it was seen as a traitor to not belong to Solidarity, then it should not be surprising that the lion's share of collective action events afterwards were coordinated by the organization. The consolidation of Solidarity leading coordination and action began to reify so much that there was even debates within the leadership of an overreliance on striking as a tactic (Osa, 2003).

Indeed, the "us-versus-them" master frame inherently supports a network consolidation mechanism because the pronoun "us" suggests the formation of a single collective unit. Moreover, the MERGM results demonstrate that the Polish SM was the only with a positive and significant estimate on the top down activity parameter, suggesting that an actor's centrality in the meso level network influences the odds of forming a micro level communication relationship. As the simulation studies demonstrated, a positive estimate on this parameter leads to heavy centralization in both the meso and micro level network, precisely what characterized the Polish SM multidimensional network.

In summary, the working model is a first attempt to explain some of the multidimensional patterns analyzed so far. Using two specific SMS, the three Mile Island accident and Solidarity mobilization in Poland, I described how the framework can help aid in making sense of some of the patterns. Using resource mobilization theory, I described how the introduction of new material resources may have influenced the increase in ties in both the micro and meso levels. Using framing theory, I described how the master frame of "us-versus-them" may have

contributed to network consolidation of a single organization. In the next section, I relate these multidimensional patterns to SM outcomes.

Multidimensional network mechanisms and outcomes

Are there particular network structures that might be related to more positive outcomes for SMs? The goal of this section is to argue yes. Comparing and contrasting the Three Mile Island and Polish SM can begin to provide an answer to this question. In essence, I will argue that the Polish SM contained two key patterns that may have helped aid expressive and instrumental collective action. These two parameters were evident in the Polish SM, but not the Three Mile Island one. Before I argue why this is the case, I summarize the historical legacy of the two SMs using data from the Global Nonviolent Action Database (GNAD).

According to GNAD, a SM can be analyzed according to different success outcomes along three dimensions: (1) Success in achieving specific demands/goals: 6 points, (2) survival: 1 point, and (3) growth: 3 points. Although the values assigned might seem arbitrary, they can be viewed as rough estimate on the success or failures of different SM across time and space.

Historically, Solidarity has been largely acknowledged as a success story. Overall, the Polish SM was given 7 out of 10 points, losing 3 points in the demands/goals dimension because not all the 21 demands from the Inter-Factory Strike Committee (which later led to the creation of Solidarity) were specifically met or only paid lip service. Indeed, Polish Solidarity, despite disagreements on who was the most influential, was mostly noted for its larger success in the democratization of Poland in 1989.

Contrastingly, the Three Mile Island SM only received 5 out of 10 points, mostly losing points because the failed to permanently close the reactor when on October 3, 1985, it resumed operations. Though the movement had a large influence in the larger anti-nuclear movement in

the US, only until the recent 2011 Fukushima accidents and debates on climate change, has the anti-nuclear movement seen a major resurgence in public protest and media coverage (Ho, 2014).

As such, were there any particular network patterns in the Polish SM that were more advantageous than the Three Mile Island movement? The following sections argue that there were two in particular: unilevel transitivity and multidimensional centrality.

Cupid versus volunteer closure. While neither of the two SMs had positive estimates on multidimensional closure, the Polish SM had a positive estimate on micro level transitivity and a higher clustering coefficient (0.5745 in the Polish SM, 0.3333 in the anti-TMI SM). Indeed, one of the key findings from the creation of Solidarity was the establishment of linkages across a variety of groups, including labor, intellectual, and religious organizations (Osa, 2003).

Besides the amount of closure in the two networks, one of other key differences lies in the nature of such closure. As described earlier, outside third party organizations provided monetary incentives if local SMOs near Three Mile Island would cooperate, rather than compete (Walsh, 1981). This type of brokerage has been often referred to as the cupid constrained model (CCM) (Stephens, Fulk, & Monge, 2009).

Briefly, the CCM is an alternative model to volunteer self-organizing networks by describing situations in which a third party acts as a cupid by negotiating the collaboration between organizations for the cupids benefit. That is, cupid alliances “are those in which external, cupid organizations broker alliances between other target organizations because the target organizations are likely to be resource dependent on the cupids, although the cupids do not themselves directly participate in the brokered alliances” (p. 509). The most common examples of cupid alliances are those in which target organizations rely on government contracts (cupids)

for survival like the aerospace industry, venture capital firms, and INGOs dependent on similar resource niches (e.g., IGOs).

The CCM differs from more traditional network closure models (e.g., Coleman, 1990) as evident in the Polish SM in two key ways. First, the cupid alliance is not primarily motivated by shared mutual benefit among actors. Instead, the main benefit is external to the actors and benefits the cupid. Actors mostly engage in the cupid alliance because of their resource dependency on the cupid, as suggested by Walsh (1981) with the local set of SMOs. Thus, the cupid alliance is less governed by self-organizing agency, but rather through social structure, stratified through unequal resource distribution. Indeed, the “constrained” acronym of the model clearly demonstrates this assumption.

And second, the CCM emphasizes the complications that arise from such a resource dependent and constrained model. Stephens and colleagues (2009) argued that two important functions in self-organized alliances, sense-making and trust, are complicated. Sense-making, because most actors are not fully aware of each parties motivations for entering the alliance, and trust, because of the external cupid providing the resources for collaboration.

My concerns are echoed by a recent IBM report on nonprofit collaboration (Popp et al., 2014) differentiating between volunteer than mandated relationships:

In our experience, while networks as structures can be mandated, successful relationships cannot simply be mandated. Instead a network culture must be established that facilitates and supports their development, which we term ‘the network way of working.’... a way of working together that differentiates it from a traditional organization and begins to acculturate the members to the reciprocal relationship expectations, and the use of trust within those relationships as a lever for change (p. 28).

Critical mass versus critical masses.

Both of the SMs had positive estimates on different multidimensional parameters that led to higher overall centralization. For the Three Mile Island network it was the cross-level three

path and for the Polish SM, it was the top down activity parameter. In the following section, I will argue that the top down activity parameter is more advantageous for two reasons: (1) higher centralization and (2) critical mass over critical mass.

Indeed, according to the simulation studies, while the cross-level three path parameter uses multiple activity to predict activity in the micro level (i.e., SMOs popular in the meso level tend to have micro communication ties), it does not produce as nearly of much of centrality as the top down activity parameter. For instance, the cross-level three path produces 20.94% and 23.17% centralization in the micro and meso levels, while the top down activity parameter produces 91.13% and 72.90%. As such, for these reasons alone, the top down activity parameter is preferred if we adhere to theories of instrumental collective action.

Second, the cross-level three path is more likely to produce critical masses, rather than a critical mass. Not surprisingly, this is what was evident in the empirical data with TMIA participating in the most collective action episodes (8 events) and ENCP with the most communication ties (4 ties). Moreover, this is likely to also produce a more fragmented network with other SMOs being very active as well. For instance, the Union of Concerned Scientists was responsible for two big national protest events concerning Three Mile Island in Washington DC and a set of labor unions, including the United Automobile Workers and United Mine Workers were also responsible for financing a 10,000 person rally in March 1981. As such, the parameter summarizes a tendency for critical masses, rather than a critical mass like Solidarity, to form.

There are several potential disadvantages of a critical masses approach. First it is likely that different ideologies might clash. As Hathaway and Meyer (1993) documented with the Monday Lobby Group (a coalition to freeze nuclear weapons) in the early 1980s, there was a sharp divide between what they called as the arms control faction versus the disarmament faction

(see Soule and King, 2008, for more on SMO competition). Indeed, this is precisely what occurred with the Three Mile Island movement with early disagreements with TMIA and ENCP, the former preferring more radical public tactics while the second preferred more conservative insider strategies (e.g., lobbying).

Summary of results discussion

This section developed a working model to help explain different multidimensional structures under the CAM framework. It incorporates a variety of mechanisms and processes, including the bridge from macro to micro level factors and recursive relationship between communication ties and collective action event participation. Using the framework, I analyzed anti-TMI mobilization and Polish Solidarity, arguing that resource munificence and issue framing are significant factors that can aid in explaining the differences in the observed multidimensional patterns. Normatively, I argued that the Polish SM's tactic of network consolidation was superior to the cupid strategy of incentivized brokerage of the anti-TMI SM because it correlates more to previous theories of instrumental collective action. The final section of Chapter Six takes a more meta look at the CAM framework and working model posited in this chapter.

The CAM framework in context of other theoretical perspectives

In constructing the CAM framework, I have been influenced by and borrowed from various theoretical perspectives. I think it is useful not only to acknowledge these common themes, but also highlight where I think the CAM framework has an advantage. As McAdam and Fligstein (2012) articulate in their own theory construction, the "goal here is not to denigrate other perspectives but to suggest what we have to add to the rich thinking already out there" (p. 23).

The following section more clearly situates the CAM framework in light of existing theory. I will review some of these alternative perspectives and show how the CAM framework can address some of the limitations of previous theory and research. Here, I will briefly consider the approaches put forward by Anthony Giddens, Niklas Luhmann, Karl Dieter-Opp, Edward Laumann and David Knoke, and recent approaches to collective action emphasizing *unorganization* (see Figure 6.2).

Giddens. Briefly, Giddens's (1984) structuration theory (ST) is a perspective on how social systems persist and evolve over time. Its crux lies within the recursive relationship between system and structure. A system can be defined as the "reproduced relations between actors or collectivities organized as regular social practices" (p. 25) and structure refers to the rules and resources agents draw upon in interaction. As agents draw upon rules and resources to generate meaningful interaction the system is propelled. Structuration, the production and reproduction of a social system in interaction, is the process through which structures and systems are constituted.

To be sure, the model developed in Chapter Five has borrowed several assumptions concepts from ST, most evident was the recursive nature of meso participation and micro communication. The key difference between the CAM approach and ST is the inclusion of events as endogenous, actually constituting part of the system. Indeed, Giddens's (1984) limit social systems as the relations between *actors*, defining social systems as the "reproduced relations between actors or collectivities organized as regular social practices" (p. 25). This view of social systems clearly omits the inclusion of communication events as a component of social systems. I have already discussed the importance of communication events as a constitutive feature earlier (Chapter Three), including the influence of events on the relations between SM

actors (e.g., Crossley & Ibrahim, 2012; Wang & Soule, 2013; Zhao, 1998). Indeed, Giddens mentioned several examples concerning the influence of events, including consciousness and history, noting that social life has what he called an episodic characterization: “all social life is episodic...as a number of acts or events having a specifiable beginning and end, thus involving a particular sequence” (p. 244).

If events actually contribute to the reproduction and production of social systems, then the main advantage of including events in such a system is being able to further understand such complex interdependencies beyond just the influence of events on relations between actors. As the results of this dissertation demonstrated, it is more complicated than such linear dependencies because there was a host of different multidimensional patterns uncovered, including alternating centrality and the formation of cross-level three path structures. If events are exogenous to the system, it becomes very difficult to imagine and examine more complicated structures beyond simple linear relationships. For instance, as I will discuss later, some have questioned whether or not reproduced relationships between actors are even necessary for systems of collective action to emerge (e.g., Bennett & Segerberg, 2014). But if systems are limited to relations between actors, how can this view explain instances where collective action emerges with little or no coordination? By including events, the CAM framework is able to account for such unique organizing processes.

Luhmann. If the critique of ST mirrored on exclusion of event within the system, the opposite is the case of Luhmann’s theory of social system: the exclusion of actors in social systems. Instead of focusing on actors, Luhmann, borrowing mostly of the metaphor of biological autopoiesis, argued that social systems are constituted by networks of meaningfully related communication events. Indeed, his controversial claim, that actors are exogenous to

social systems, was culminated in an often cited quote in a 1992 issue of Communication Theory:

Therefore the concepts of ‘subject’ and ‘individual’ function as empty formulas for an, in itself, highly complex state of affairs falling within the domain of psychology and no longer concerning sociology. If one challenges this interpretation-and that is what I intend to do-then one usually encounters the objection that ultimately it is person, individuals, or subjects who act or communicate. On the contrary, I would like to maintain that *only communication can communicate* and that only within such a network of communication is what we understand as action created (p. 251).

Like traditional criticisms of functionalism (Luhmann studied under Parsons after all), many have criticized Luhmann for a system-justifying, anti-critical, and pessimistic view of society. My view mirrors the criticisms of Fuchs and Hofkirchner (2009), who characterize Luhmann’s view of SM as “reactive, aimless, and dangerous” (p. 114). The admission of human agents from social systems suggests an overly descriptive, non-normative approach because it deemphasizes the role of agents in influencing social change, instead regulating social change as a slow, long-term evolutionary process, hardly the result of actors (Luhmann, 1989, p. 11-15).

The main advantage of the CAM framework compared to Luhmann, as the comparison between Three Mile Island and Polish Solidarity has demonstrated, is that the CAM framework is both descriptive *and* prescriptive. That is, not only does the CAM framework attempt to describe the complex relationships between actors and events, but it also articulates particular patterns that might be more effective than others. The inclusion of actors grants more agency to the possibility of social change, rather than reducing it to long term evolutionary adaptations. In other words, because actors make up a central component of the system, they are significantly responsible for reproducing and modifying it. Chapter Four articulated several patterns related to instrumental and expressive collective action. As such, there are practical implications at stake, something nowhere to be found with Luhmann’s theory of social systems (though this was

certainly intentional by Luhmann, who also famously called his approach anti-humanistic).

Opp. Perhaps the most comprehensive model of SM mobilization is Opp's (2009) structural cognitive model. The link between macro and micro factors is clearly borrowed from Opp's model, including his synthesis of a variety of different SM perspectives and theory into a single framework. Grounded under a "wide" version of the rational-choice paradigm, Opp makes use of a variety of types of factors, including of the instrumental and expressive type (though, Jasper, 2011, doubts how serious Opp considers expressive factors).

The main disadvantage of Opp's models is not his grounding in rational choice theory, but its deeper allegiance to methodological individualism. I've already critiqued this perspective in Chapter Three, so I will only repeat the major disadvantage of this approach. In the perspective of methodological individualism, factors that might influence collective action are inherently reduced to individual attributes, ignoring any facet of social structure (assumption of independent). For example, consider Opp's (2001) study of social networks and protest behavior and how he measures social networks. The first type of network, *friendship*, is simply measured by "respondents' estimate of how many friends are critical of the situation in East Germany or have ever participated in protest actions" (p. 252). The second measure of *colleague* networks is extracted by "respondents' estimate of how many colleagues are critical of the situation in the new states or have participated in protest actions" (p. 253).

Put short, these measures turn social networks, a relational phenomenon, into an individual phenomenon. Indeed, even if whole networks were measured and centrality statistics computed and used in regression models (Opp, 2001, p. 260-261), it still would have violated assumptions of normality (centrality measures are rarely ever normally distributed) and independence (one person's ties are dependent on another) in the data. The larger point is that

while the structural cognitive model is an innovative approach to a multilevel-multitheoretical model of SM mobilization, it is still heavily motivated by methodological individualism and the urgency to measure variables and analyze their effects consistent with the general linear model. As stated in the Chapter Two and Three, one of the goals of the CAM framework is to comprise a blend of methodological individualism, holism, and interpretivism. As such, limiting theoretical thinking to directly measurable concepts reduces the imagination of factors that can influence collective action and often results in crude operationalization (e.g., measuring social networks as an individual attribute). Indeed, several factors in the working model are not directly measureable (e.g., issue framing). Thus, their influence can only be estimated through comparative research rather than direct variable inference.

Laumann and Knoke. Perhaps the most debt the CAM framework owes to is Laumann and Knoke's (1987) structuration of action systems² (SAS) (p. 26 – 35). In SAS framework, they constructed a similar actor-actor, actor-event, and event-event matrix, drawing from Breiger's (1974) early work on the topic. Their model was an early attempt to integrate actors and events into a common framework, a strategy to correct for early models of action systems that ignored “the sequencing and structuring aspects of events in which they engage” (p. 29).

At a first glance, the SAS and CAM framework are very similar, both specifying relationships within and between actors. However, there are two important differences that I believe distinguish the two: (1) separableness and (2) symbolic event relations. These two features, as I will describe below, posit the SAS framework as more of a meta-theoretical network framework than as a specific framework to analyze collective action.

² I surprisingly only recently came across this framework. It was hidden in their earlier book and never further developed or tested in later publications.

The first factor, separableness, refers to the implicit idea that the network can be parsed according to each level. Indeed, Laumann and Knoke do not articulate the SAS framework as consisting of different levels, just different types of networks. This allows them, with little objection, to separate theory and analysis into different networks. For instance, Chapter 10 of their book *The Organization State*, their model posits how three factors (issue interests, monitoring capacity, influence reputation) influence centrality in the actor by actor communication and resource exchange networks, which then in turn influences event participation. Besides the reduction of these factors into individual attributes (i.e., the same criticism of Opp), gone is any specification of event by event relations. This is important because lost is any information about the types of events organizations are more or less likely to participate in. Indeed, as the results of this dissertation have demonstrated, SMOs participated in a wide variety of collective action events. And throughout *The Organizational State*, the different networks are separated in various parts of the analysis. This suggests that the SAS framework is *separable*, whereas the arguments posited in Chapter Three is a multidimensional network, one that is *nonseparable*. That is, the CAM framework suggests that it would be inappropriate to analyze collective action via only relations between actors (Giddens), or only relations between events (Luhmann).

Second, there seems to be no serious inquiry into the relationship between events: “We are confronted with any number of ways of grouping events (or including them individually) that reflect different frameworks for the structuration of events, none of which enjoys any inherent superiority but each of which leads to quite different images of event structure” (p. 32). As a result, they analyzed the relationship between events as a temporal one, defined by the order in which they happened in time. However, drawing mostly from the symbolic interactionist

tradition and Luhmann, the CAM framework argues that there is an inherent superiority in defining events based on symbolic similarity because it can “underline continuity between what could otherwise be largely independent and disconnected events” (Diani, 2001, p. 12). Indeed, the symbolic event structure also gives an overall account event homo/heterogeneity. As the current Health SM demonstrated, most events enacted by organizations in this domain had little to do with health policy, suggesting an insider strategy for collective action. Failing to specify this relationship would neglect such important insights.

Organization-less collective action. Early perspectives of collective behavior like relative deprivation (Morrison, 1971) and structural-strain theories (e.g., Smelser, 1962) tended to deemphasize the idea of rational organized actors as the main impetus for the emergence of social movements and collective action. Since the popularity of resource mobilization theory, some have argued that the idea of collective action as organized has dominated thinking since the 1970s (e.g., Snow & Moss, 2014).

However, there have been increasing and recent attempts that have challenged the organizational assumption. For instance, partly due to the affordances of modern technology, Bennett and Segerberg (2012) have argued that traditional notions of the logic of collective action are being replaced by the logic of connective action, a view of self-organization that requires little or no formal organizational coordination (e.g., 15M protests in Spain). Likewise, Snow and Moss (2014) articulated a spontaneous theory of collective action, articulating the conditions under which collective action is more likely to be unplanned and arise without formal organization. And recently, organizational communication scholars, Wilhoit and Kisselburgh (2015) argued that there are many forms of collective action that not only do not require organization, but the actors involved do not even intentionally know they are involved in

creating a public good (e.g., bicycle commuting, online reviews).

As such, where does the CAM framework stand in this debate organized or organization-less collective action? Overall, I tend to agree with Bimber, Flanagin and Stohl (2012):

In discussion regarding the new face of collective action, some observers have taken stark positions implying that organizations must either be always irrelevant or always necessary, but this rigid dichotomy is false...no simple contest exists between networks and organizations, and neither exercises a monopoly over social change...All sorts of organizational structures and processes are implicated in the new technological landscape for collective action (p. 6).

That is, if the focus remains on organizing in a verb tense, rather than a static organization, then the dichotomy is irrelevant because the problem translates into not a question of organization or organization-less, but different patterns of organizing. Indeed, because the CAM framework focuses on relations between and within actors and events, it rich enough to capture such patterns. I will show this by taking the most extreme example of organization-less collective action provided by Wilhoit and Kisselburgh (2015): bicycle commuting.

Briefly, the authors provided an in debt account of those who bicycle commute to work, arguing that it is a form of collective action when they individually bike to work. That is, they are creating a public good because they leave a path of embodies practices, challenge/reinterpret definitions of roadways and communicate specific paths as an acceptable domain for the collective. The more people bike, the easier it is for the collective to be recognized by the public and the more meaning the collective has.

However, there are several caveats. First, there is no formal membership in a biking organization. Furthermore, the bikers did not even identify themselves as part of a community. The reasons for biking were mostly self-interested. Second, there was very little communication between the actors and no coordination; they simply biked to and from work on their own terms.

Finally, there was no intent on preserving a public good, though with each bike ride, Wilhoit and Kisselburgh (2015) argued that it was a contribution toward the public good. In sum, the authors described a scenario of collective action characterized by no communication between actors, no intention on the actors to create a public good, no coordination, and individual/personal incentives to unknowingly contribute to the public good.

Because the CAM framework captures actors and events, it can easily explain and describe this scenario: no communication between actors, individual relationships between each actor and each event (i.e., a bike ride), and full connection between each bike ride because it constitutes a shared symbolic challenge to traditional forms of transportation. In this form of collective action, the primary motivational incentive driving the structure of the network is personal benefits (micro level variable), including quick transportation to work, less cost in parking, and environmental consciousness (these were some of the reasons noted by the researchers).

The authors conclude that their example should provoke future research to “continue exploring non-traditional organizing arenas to defamiliarize organizational theory, working towards a more precise definition of organization” (p. 17). The concluding chapter of this dissertation will be dedicated towards this task of articulating a typology of organizing patterns for collective action. It also concludes with a discussion on limitations and areas of future work.

Tables and Figures

Table 6.1

Factors to explain CAM structure

Level of analysis	Theoretical domain	Useful concepts to explain CAM structure
	Political opportunity structure	Elite sympathy, oppression, policy analysis, triggering or catalyzing events
Macro	Resource mobilization	Social-organizational, material, moral, and instrumental
	Framing theory	Master frames, narrative fidelity, frame resonance
Macro/Micro	Collective action	Group size, density, resource heterogeneity, homophily
Micro	Social psychological factors	Grievances, efficacy, goals, ideology, emotions, selective incentives, motivations, collective identity

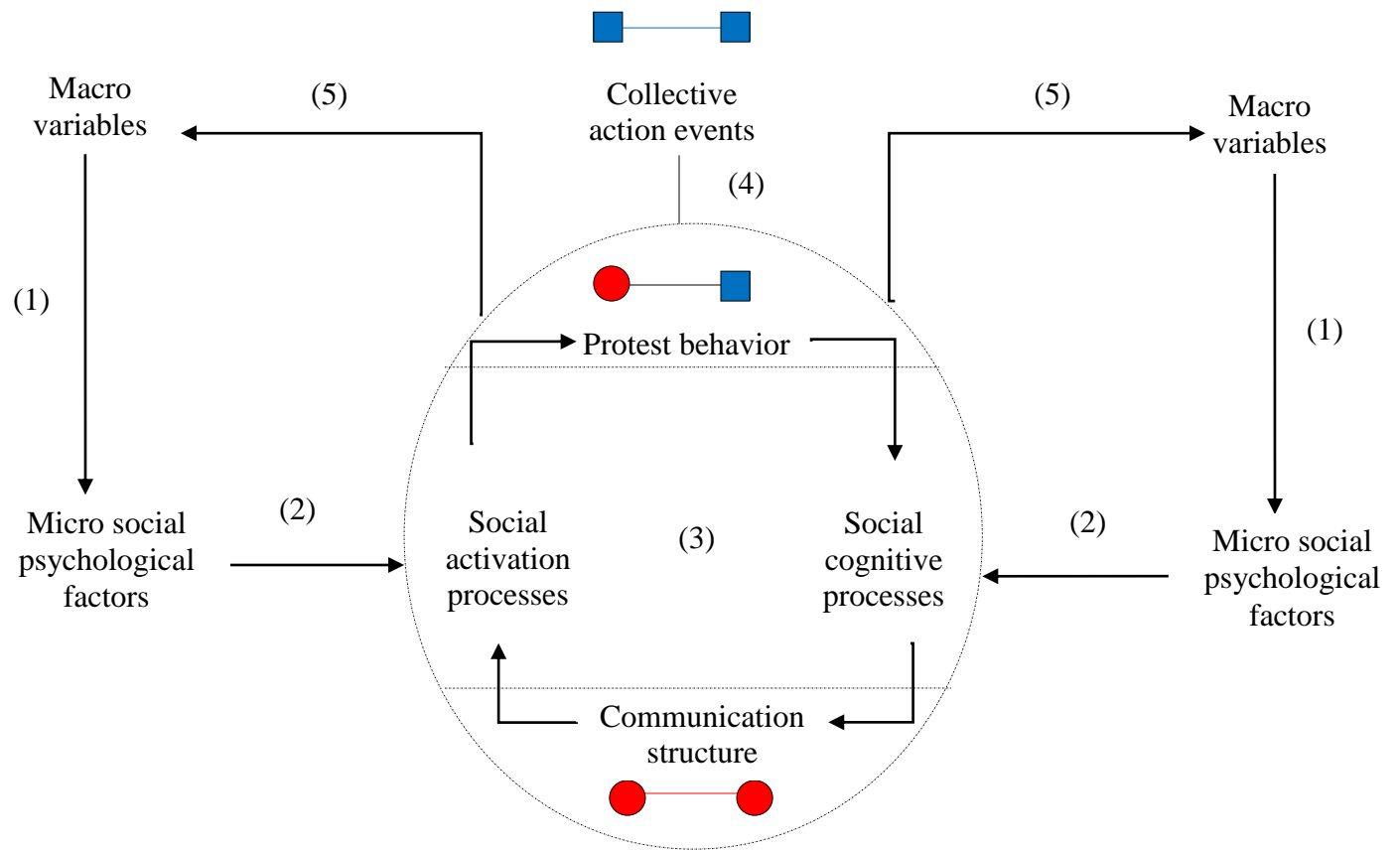


Figure 6.1. Initial framework for parameter interpretation.

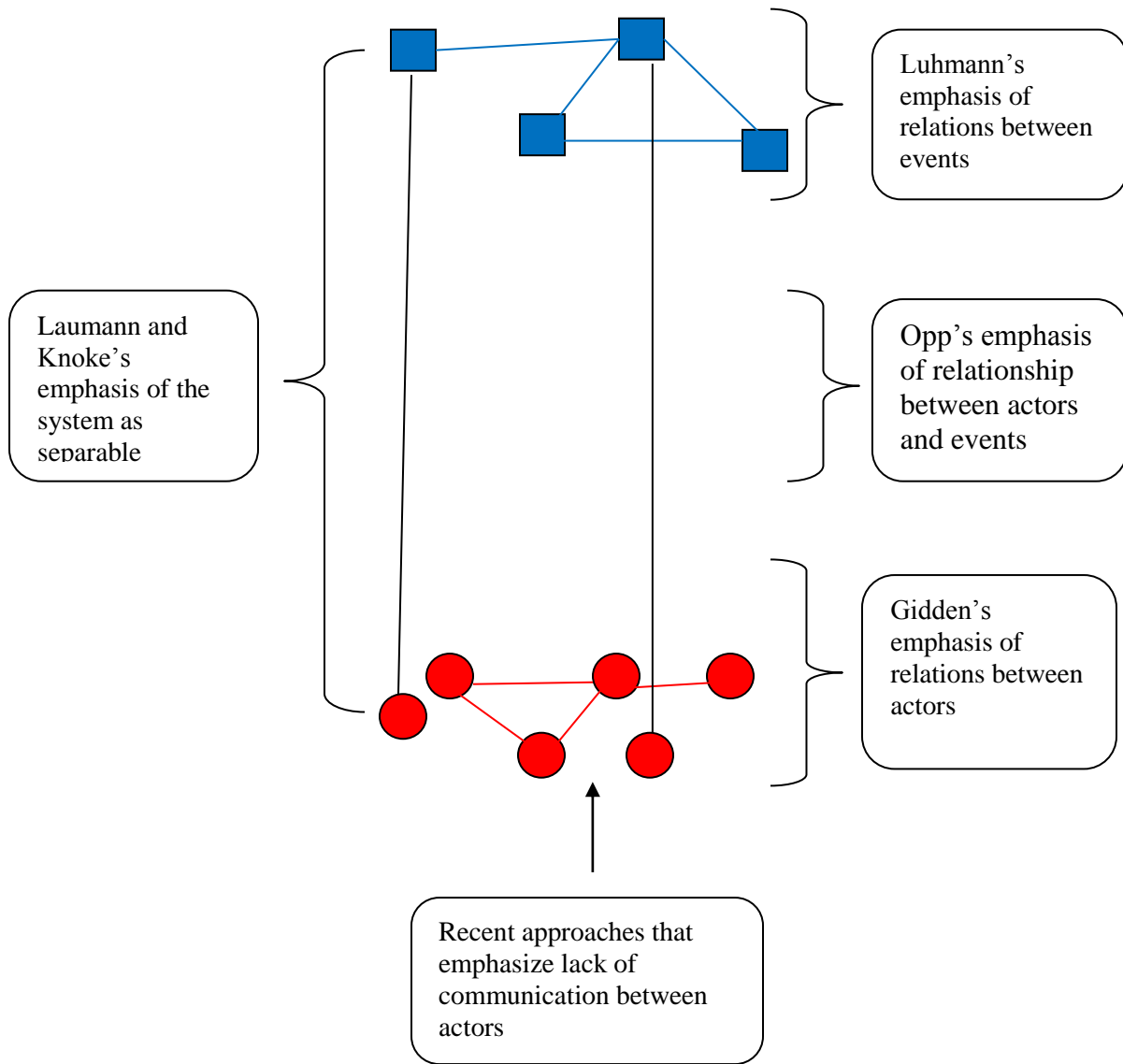


Figure 6.2. Previous perspectives in light of the CAM framework.

CHAPTER 7: CONCLUSION

The CAM framework provides nuanced way to look at SMs and collective action as the relationships between and within actors and events, drawing inspiration from aggregate, network, and symbolic interactionist approaches to SMs. Because the development of the framework benefits from a blend of formal and informal methods, the purpose of the empirical portion of the dissertation was to compare and contrast different SMs over time in order to understand different patterns of organization. To that end, a working model was developed to articulate the factors that can influence the multidimensional network and which patterns may be more effective as strategies of collective action than others. This dissertation concludes with three important contributions. The first is pedagogical through a detailed explanation and use of MERGM. To my knowledge, it is one of only a few studies that have used the method and thus, important to have a detailed primer of how to use it. Second, there are practical contributions through focusing on mechanisms rather than snapshots of SM networks. Finally, this study provokes new way to think about the different ways SMs can organize. As an example, a typology of the modes of organizing for collective action based on different features of the CAM framework is explicated. The different modes are applicable to wide variety of different collective action scenarios, It implicitly critiques the view that collective action is either organized or unorganized. I then conclude with a discussion on limitations and future work.

Methodological contribution

As Hayes (2006) stated, “communication is ultimately a multilevel phenomenon” (p. 385) and focusing only on one level contributes to producing isolated “theoretical islands” (Pan & McLeod, 1991, p. 141). Furthermore, Hayes argued that the scarcity in multilevel research in communication due to a “lack of *awareness* of the statistical tools available rather than their lack

of availability, combined with a dearth of good examples of multilevel research and analysis” (emphasis in original, p. 386). His article was used as an introductory primer for multilevel modeling in communication research.

Similarly, the current research can be seen as a methodological contribution towards generating an introduction of multilevel/multidimensional network analysis through the use of MERGM. However, the challenge in the current situation is not one of awareness, it is one of availability. That is, to my knowledge, there are few methodological tools to analyze multilevel/multidimensional networks¹. This makes the current example even more important as an attempt to raise visibility on the ability to model multilevel/multidimensional networks.

The availability of such a primer is important because there are a number of communicative frameworks that would benefit from the same methodological tool. Without knowledge of the tool or how it works, there will likely be the urge to use the same types of methods that do not have the ability to exploit multilevel/multidimensional networks. For instance, Ognyanova and Monge (2013) articulated a multilevel/multidimensional network model of the media system, consisting of diverse relationships between the media industry (i.e., organizations), media content (i.e., concepts, frames), and audience (i.e., individual consumers). Such a framework would be ripe for MERGM modeling because it can exploit different levels, relationships, and types of nodes.

Indeed, the methods used here point towards a larger growing interest in computational social science (CSS) methods, especially in communication research². CSS is defined as the “science that investigates social and behavioral dynamics through social simulation, social

¹ I include multidimensional because the phrase ‘multilevel network’ has been used in so many different ways that it is difficult to get a grasp of where the literature is at the moment. For instance, Monge and Contractor (2003) use multilevel network to refer to different levels within the same network.

² As evident by a 2015 ICA preconference in San Juan, Puerto Rico.

network analysis, and social media analysis” (Computational Social Science Association, 2011) and offers new ways to analyze and handle the influx of data available to researchers in the 21st century (Lazar et al., 2009).

Like the example provided by Hayes (2006), there is a pedagogical contribution here as well, especially since CSS methods are less institutionalized than others. In Appendix C, I have included the link to the formal manual on MERGM modeling and some tips that I have learned throughout the last year that are not included in the manual. They hopefully provide a user-centered perspective on importing data, obtaining model convergence, and presenting results.

Practical contributions

The current study represents an important shift from how SM networks are viewed, either as *snapshots* or *mechanisms* of tie formation. For instance, when theorists say that SM networks are more effective when they are centralized (Marwell & Oliver, 1993) and characterized by closure (Nicholls, 2008), they are inherently pointing to a snapshot of what an effective network would look like, not the mechanisms that lead to those effective networks.

For practical leaders or members of an SMO, this can be frustrating because there is no guidance, tips, or rules offered to follow that can contribute to creating networks that would mirror such centralization and closure. In other words, what snapshot perspectives are missing are generative mechanisms leading to centralization and closure in multidimensional networks. For instance, Figure 7.1, borrowing from Hedstrom & Swedberg (1998), describes mechanisms as intervening processes between an input and output³. What is missing in snapshot approaches are mechanisms, specific processes leading to centralization and closure.

Indeed, the purpose of the simulation studies was to specifically identify mechanisms and processes that lead to centralization and closure, what I call the instrumental and expressive

³ This is nearly identical to most input-process-output models.

collective action parameters. For instance, consider how using the results of the simulation studies can be translated into colloquial rules for effective SM network governance (see Figure 7.2). In the next sections, I articulate four network rules that can be used as heuristics for SM organizing.

Top down activity. A positive estimate on top down activity leads towards network centralization across the micro and meso level. This tendency means that SMOs that participate in lots of collective action episodes tend to form communication ties with other SMOs. In order to turn this into a practical contribution, the parameter needs to be translated into everyday language for leaders of SMOs or a sort of network rules to follow.

An interpretation of top down activity is that SMOs cannot simply go it alone without establishing communication ties with others. In other words, if your SMO is engaging in a lot of protest against a particular cause (e.g., acting like a critical mass), then the parameter suggests that the same SMO must attempt to establish at least communication ties with other like-minded SMOs. Coincidentally, this is precisely what the data showed with the Polish SM and the opposite with the Labor SM.

In more practical terms, this rule puts pressure on protest-active SMOs to engage in communication with others in the movement and to not simply go it alone. For instance, in the anti-TMI SM, TMI-Alert was by far the most active, but was not very cooperative with other like-minded groups (Walsh, 1981). It was not until outside funders increases incentives for collaboration that TMI-Alert began establishing more ties with other local groups. The first network rule puts the onus on actors that engage in large amounts of collective action to get more involved in communicative ties with others:

Network rule #1: With great power comes great responsibility: If you are going to protest frequently, then at least get to know others on your side.

Bottom up activity. Likewise, bottom up activity also leads towards network centralization across the micro and meso level. However, it uses centrality at the micro level to predict activity at the meso level, almost the opposite of top down activity. That is, the more popular an SMO is in the communication network, the more likely they are to be involved in protest activity.

Along practical guidelines, bottom up activity suggests that popular SMOs cannot simply sit back and let others do the heavy lifting in terms of collective action. It suggests the opposite: that popular SMOs must step and sometimes get involved in contributing towards the collective good. Indeed, there is almost another type of social pressure associated with this rule, that SMOs have a responsibility to contribute to collective action if they communicate frequently with other like-minded actors (similar logic to top down activity).

Coincidentally, this parameter was never positive and significant in any of the final models. This finding suggests that micro popularity did not predict whether or not an SMO engaged in public protest. Indeed, this finding is quite common across the timelines of many different SMs because in many cases, it is the most fringe and radical of the actors that are the most involved in collective action, not the ones most popular with others. For instance, this is typically the assumption of the so-called ‘radical flank effect’ (Haines, 1984), which investigates the activity and effects of more peripheral groups in different SMs. If this is the case, the current network rule suggests that more popular and perhaps moderate actors must keep up with others in terms of protest:

Network rule #2: Step up when your number is called: If you are popular with many in the movement, then you cannot sit out when it comes to contributing to the cause.

Alternating closure. Similarly, expressive collective action parameters can also be translated into practical network rules for radicals. Like bottom up activity, alternating closure was not found in any of the SMs analyzed, suggesting that identity building may have not been as important as instrumental action. However, the pattern simply states that SMOs should not be shy when participating in collective action with other SMOs. That is, a positive estimate indicates that SMOs are more likely to have communication ties with SMOs at the same event.

Put in more practical terms, this mechanism suggests that SMOs need to either keep in contact with SMOs after events or establish ties prior. Metaphorically, it challenges SM actors to avoid protest one night stands or one-and-done philosophies (e.g., the logic of some US NCAA college basketball systems). Such a network tendency is common in solidarity and coalition building. For instance, in the film *Pride* (2014), the true story of the alliance between English coal miners and LGBT activists, the final scene documents a long term alliance when the coal miners make a surprise return to help organizers of a pro-LGBT rally. The third network rule exemplifies this type of long-term alliance building:

Network rule #3: Avoid protest one night stands: If you are going to demonstrate with others, then keep in touch.

Triadic activity. Triadic activity represents the last of the four network rules. It uses the presence of triads in the micro communication network to predict meso level ties. If positive, it simply states that the presence of triads is a good indicator that at least one of those triads will be involved in collective action. However, like several other rules, it was nowhere to be found in the empirical data.

The mechanism proposed by triadic activity is difficult to find in the SM literature. Instead, its process is more akin towards the political science and organizational literature on minority rights in the development of different forms of governance (Binder, 1997). These rules are often in place so that different groups (i.e., in our case, clusters of triads) have a voice and do not get absorbed by the tyranny of the majority. However, because there are little formal structures of governance in SMs, the process describes a network rule that asserts more responsibility of different clusters to have a representative involved in collective action. In other words, if there are different clusters in the SM network, as their typically are as clustering is a common network tendency (e.g., small world networks), then the rule states that at least one actor must be involved in contributing to the public good:

Network rule #4: Someone has to take one for the team: If you a part of a smaller tight-knit clique in the movement, then at least one of you has to contribute to the cause

The interpretations above are an initial attempt at turning some dense theoretical and methodological results into translatable mechanisms for SM actors to employ. I conclude the contribution section with theoretical contributions.

Theoretical contribution

Chapter 1 implicitly argued that thinking about organizing for collective action is in a rather static state that needs a re-charge in order to progress on thinking about SMs. One of the goals of this theoretical project was not simply to offer a framework to be used or even borrowed by others, but also more of a shake up to provoke novel ways of thinking about the problem of organizing for collective action.

The new framework integrates aggregate, network, and symbolic interactionist paradigms in order to stimulate such thinking. Rather than a meta-conversation on how I believe the

framework has contributing to novel thinking on collective action, I provide an example of how constructing the current framework has changed my own thinking on different modes of organizing for collective action.

Modes of organizing for collective action

In order to make sense of the different patterns of organizing for collective action found both in the results of this dissertation and in the literature, I borrow from Diani's (2015) recent treatment of 'modes of coordination', a typology defined along two dimensions of resource coordination and boundary definition. The only limitation of Diani's model is that it was designed for modern SMs that inherently have different levels of membership criteria and resource coordination. It has no room for collective action with no membership or coordination.

As such, in order to take a step back and realize the different potential modes of organizing for collective action, I draw mostly from Georg Simmel's (1950, p. 145-163) method and treatment on the triad. Simmel famously argued that the triad was the fundamental building block of social structure because the introduction of a third party challenges the ability for individuals to retain their individuality. By analyzing different configurations and meaningful interpretations, Simmel posited three unique kinds of group formations, particularly paying attention to the role of the third party: (1) the mediator (i.e., solve conflict), (2) the tertius gardens (i.e., fill a structural hole to benefit), and (3) divide et impera (i.e., divide and rule). By similarly analyzing different CAM structures based on theoretically informed patterns, I articulate nine types of structures applicable to the data I have collected here and elsewhere in the literature.

Dimensions

Because the CAM framework is an accumulation of networks at three different levels, there are numerous different types of possible configurations in the empirical data. I take several steps to reduce the amount of applicable dimensions. First, I focus on CAM structures where the macro level event structure is homogenous, rather heterogeneous. A heterogeneous macro level structure indicates that actors were participating in a series of events that were unrelated to one another, which is what I found with several of the large policy domains in the current data. This pluralistic form of organizing is perhaps more applicable to broader fields of action, not a specific public good in mind. As such, for the initial typology, I focus on structures dedicated to single public goods, not multiple ones.

To create a typology, I focus the theoretically relevant patterns of the micro and meso levels. For the micro network, at the most extreme level, it can be *empty*, with little or no ties. Likewise, following previous theories of collective action, it can be *centralized* (instrumental) or *clustered* (expressive).

Because events do not happen without the participation of actors, they cannot be empty. As such, the most extreme is that they are individualized, being initiated by unique actors. Likewise, they can be *centralized* as well, being the result of a small amount of actors. Finally, they can be *clustered* in the sense that they require joint participation from higher numbers of actors. It is across this 3x3 dimension across the micro and meso levels that I articulate nine different modes of organizing for collective action. Figure 7.3 briefly summarizes the visualization of the nine organizing patterns, examples in empirical data, and conditions under which each are more likely to form (i.e., application of theoretical model posited in the previous chapter).

1. Organizational-less collective action. The organization-less model of collective action (Wilhoit & Kisselburgh, 2015) is reflected when the nature of the public good has the most immediate instrumental effect on the individual making the contribution. The collective nature is almost an unintended consequence a la Adam Smith's invisible hand metaphor. That is, the collective individual pursuit of self-interest aggregates into a larger collective good for society. As such, there are low incentives for formal membership and coordination among actors because the good is mostly derived from individual action. Moreover, the collective action is not strategic (i.e., no communication between actors) among the collective because most actors are not even aware that they are contributing to a collective good.

As stated, this perspective represents some recent thinking on collective action. Some examples include bike commuting and online product reviews. One of the emerging issues with this form of organizing are traditional roles in collective action theory like the formation of a critical mass or collective identification. For instance, Peddibhotla and Subramani (2007) analyzed the repository of Amazon.com review in light of collective action theory and found that there was in fact a critical mass that developed, mostly motivated by various self (e.g., self-expressions, enjoyment) and other-orientation motivations (e.g., social affiliation, altruism). Their study "highlights the importance of social motives even in a context where user actions do not involve social interaction" (p. 342). As such, there are still questions on whether or not social interaction is present or simply needs to be reexamined in more nuanced ways.

2. Hidden collective action. The hidden model of collective action draws inspiration on the organizing patterns of hidden organizations (e.g., Scott, 2013; Stohl & Stohl, 2011), being characterized by individualized meso level participation and centralized micro level communication. While the micro communication network is not a complete hierarchical

structure, it is most likely to be centralized in order to receive directives and orders from more powerful actors. For instance, Varese's (2006) work on a criminal network (wiretaps from a Russian mafia) revealed a more scale-free centralized network micro level network. These structures are also popular in a variety of examples in popular culture, in TV shows like *The Wire* for example. In this case, advancement of the public good is carried out by individual, not joint action by a mass amount of multiple actors (e.g., a terrorist attack). Indeed, Krebs' (2002) research looked at the interpersonal strength between the 19 hijackers of 9/11 and revealed a very centralized network that were able to organize an extreme event that did not need the participation of many members (see also Jones) and Xu and Chen's (2008) research found strong power-law distributions across terrorist, method drug dealing, gang, and dark web networks.

In light of this type of organizing, most of the discussion, for good reasons, has focused on how to disrupt these types of networks (e.g., Latora & Marchiori, 2004). As Scott (2013) contends, one of the biggest issues of this type of organizing is identity, especially when the organizational type is not clandestine or illegal, like anonymous support groups or stigmatized businesses. For instance, how can effective mobilization persist when there are large incentives to remain hidden and not advertise an organization's name? This is especially relevant for hidden organizations especially if "identification is also thought to benefit greatly from communication with relevant others" (p. 65).

3. Campaign collective action. The campaign collective action model is likely to emerge when the nature of the public good is best dispersed through individual, not joint action, yet benefits from micro level clustered communication for a variety of purposes like coordinating action and constructing frames. There is usually high incentive for formal organization and high visibility, which make it distinct from hidden organizations. Traditional examples include

grassroots political campaigns where actors and organizations frequently communicate, but contribute to the good in individual contributions like putting up flyers and calling potential contributors.

A good example is Robins, Bates, and Pattison's (2011) research on a campaign to protect the Swan-Caning River system in Australia. The authors argued that clustering between actors in the movement promoted effective network governance: "Such an arrangement creates cycles within a network and hence structures that can sustain mutual social monitoring and influence, as well as levels of trustworthiness within social obligations and expectations can proliferate" (p. 1297). One of the key questions in organizing forms like these is goals and the degree of agreement on network arrangements and action (e.g., joint or individual). Robins et al. wrote that agreement on goals "would seem to be minimal preconditions for any sort of collective action" (p. 1295). However, as some studies have shown, there is often much disagreement on network and coalition campaigns (e.g., Taylor, 1989).

4. Renegade collective action. The renegade model bears the most similarity to the Hidden collective action model, except that there is unlikely to be any legal reason to remain hidden. Instead, this pattern of organizing is likely to emerge when the public good is perceived mostly relevant for only a small amount of actors or groups. As such, the qualitative nature of the good creates incentives for non-communication in the micro network because others are typically unwilling to establish ties, most likely due to the violation of social norms.

Put short, there is unlikely to be much allies or cooperation within networks like these. As such, organizers usually have to go it alone and contribute to collective action by themselves or single organizations. Some examples include more obscure and fringe SMs like right wing militias and recent protests by prostitutes to keep their Red Light District windows open in the

Netherlands. One key challenge for this type of organizing might be with issue framing in order to mobilize more supporters. In other words, how can actors and organizations construct master frames or take advantage of political opportunities to secure more sympathy? For example, right wing militias were relatively obscure movement in the US, but have since seen resurgence since the mid-1990s. According to the Southern Poverty Law Center (Keller, 2009) there has been even second resurgence since the 2000s, likely the result of anti-immigration rhetoric and other successful master frames (e.g., new world order rhetoric).

5. Instrumental collective action. Patterns of heavy centralization across both the micro and meso level are likely to occur when the critical mass identifies the most with the public good and the public good is of a collective, rather than an individual benefit. There need not be formal organization, but there is still communication between actors, though it too is heavily centralized. As such, the critical mass, of all types of organizing, plays the largest role because it is central throughout both networks.

Put another way, the critical mass is not only the main contributor, but also the main coordinator: They are the quarterback and the coach. An example of this type of organizing is common in online public goods like Wikipedia. Indeed, there is some research that demonstrates high centralization in meso levels of Wikipedia entries (Keegan, Gergle, & Contractor, 2012) and communication between those who actually edit Wikipedia (Laniado et al., 2011). A common issue that may arise then is power, especially because centrality is commonly equated with relational power (Brass & Burkhardt, 1992). For instance, how can various stakeholders in the network guarantee trust or satisfaction if a small set of representatives hold most of the power? This is precisely the concern of Rowley's (1997) network application to stakeholder theory (i.e., how to understand and use network structures to satisfy various stakeholders). He

argued that a highly centralized and low density network takes the metaphor of a commander and can impede “information flows, monitoring efforts, and the formation of shared norms” (p. 902).

6. Designated collective action. When there is high closure at the micro actor level and high centrality at the meso participation level, I term this tendency designated collective action because a critical mass has been designated to provide most of the contributions towards a public good, but are still embedded in dense relationships with other actors. This will likely emerge when there is a high emphasis on expressive identity and an instrumental benefit from the collective good. Moreover, there are likely high incentives for formal membership because of an identity construction at the micro level and the collective action is centralized at the meso level.

Examples typically include large scale SMs and even revolutions. The data from the current research with Polish Solidarity reflected this model well because of high clustering in the interorganizational network and very high centrality in the participation network. In this scenario, the formation of Solidarity (a large anti-Stalinist Union) was the designated actor to take the brunt of collective action efforts, yet still be involved with communicating and coordinating with other diverse actors. Because multiple stakeholders are involved, some of the key concerns, as demonstrated by Osa’s (2003) research, are maintaining control. That is, Solidarity grew so big and represented so many voices, that some began to think it grew out of control and overly relied on collective action. For instance, some felt that it used the labor strike tactic too much and overly gave in to stakeholder pressure. Rowan (1997) wrote that networks that look like these take the shape of a *compromiser* metaphor and must attempt to “balance, pacify, and bargain with its influential stakeholders” (p. 902).

7. Connective action. The connective action model is reflective of recent approaches to collective action that also emphasize the personal nature of the public good (Bennett &

Segerberg, 2012; Snow & Moss, 2014). In this case, there are low incentives for formal membership and communication among actors because they are involved in the action for both personal and collective reasons. However, the action is still strategic and actors are usually aware of the collective nature of the public good. As such, actions are individual and collective, involving joint participation. Examples include digitally enabled protest like G20 protests, 15M mobilization in Spain, and the Arab Spring.

Several recent studies have examined the network structures of connective action organizing patterns (Lim, 2013; Milan & Hintz, 2013). One of the biggest issues regarding connective action structures is sustainability (Anduiza, Ristancho, & Sabucedo, 2014). That is, because there is a plurality of individuals that do not necessarily need much formal organizing or interpersonal ties, how can a sustained movement of CA persist, rather than falling victim to being the flavor of the week? Indeed, many public criticisms of Occupy Wall Street have made this same claim (Mark, 2011). Furthermore, Wright's (2015) qualitative research into a connective action form of organizing details the difficulty in generating master frames because of the heightened personalized nature of connective action. Both of these factors represent issues regarding the sustainability of connective action organizing.

8. Cupid collective action. When there is high centrality in the micro level network, but joint participation in the meso level participation, I refer to this model as the cupid collective action model, drawing from Stephens et al. (2009). This is likely to emerge in mandated collective action efforts where actors are resource dependent on those brokering the relationship (i.e., the cupids), which helps explain the centralized structure with cupids at the middle. In this sense, the actors are typically under a mandate to participate in some sort of joint collective

action (meso level), but do not have the strongest communication ties, often because of the mandated nature of the relationship.

As alluded to earlier, the anti-Three Mile Island reopening movement in the current dissertation closely resembles this model because of the funding opportunities from outside organizations, under the stipulation that the SMOs would work together. Stephens et al. (2009) argued that two important functions in self-organized alliances, sense-making and trust, are complicated. Sense-making, because most actors are not fully aware of each parties motivations for entering the alliance, and trust, because of the external cupid providing the resources for collaboration.

9. Expressive collective action. Patterns of heavy closure across the meso and micro levels are likely to occur when the nature of the public good is individual and collective, but mostly derived from expressive, rather than material gains (e.g., collective identity, recognition, autonomy). Formal organization has a moderate incentive, but more important is interaction between actors, both interpersonally via communication and collectively via action, mostly because expressive outcomes like collective identity are constructed processes, rather than static attributes (Melucci, 1996). Action is strategic and actors are typically aware of the collective benefit of their actions.

Examples typically include new SMs (e.g., LGBT, Women's movement) where the primary motivation is the acknowledgement and the right to exist. Large scale demonstrations of action are typically common, usually coordinated by a variety of actors (e.g., World Social Forum). Indeed, Diani (2000) argued that the novelty of new SMs should not be based the traits of the individuals or organizations involved, but "in light of the patterns of social relations they generate through the overlapping memberships and personal linkages of their activists, and

through the alliances between the different groups which identify with a given cause” (p. 387). For example, Tucker’s research on collective identity in genetic engineering resistance showed that individuals jointly participated in a variety of events together like rallies, hearings, training camps, and road shows, “hence providing an indication of collective organization and networking among individuals and groups that in turn can be indicative of collective identity”. (p. 89). One of main concerns of expressive organizing for collective action is effectiveness, as illustrated by Jo Freeman’s (1970) essay on the ‘tyranny of structurelessness’. Commenting on the women’s liberation movement, she pithily wrote “Unstructured groups may be very effective in getting women to talk about their lives; they aren’t very good for getting things done”, generating “much emotion and few results” (p. 239).

Summary

In summary, because of the focus on organizing, rather than organization, and the relationships between and within actors/events, the CAM framework is well suited to account for various modes of collective action organizing, both accounting for change and reproduction. Simply looking at the patterns of relationship between actors or actors and events provides a limited view of organizing, hence no wonder the stark claims of new forms of organizing. Here the organizing forms are not really new, just different. The nine modes presented here are a first step developing a framework of collective action that accounts for a variety of traditional and nontraditional forms of organizing. I conclude the dissertation with a commentary on limitations and future work.

Limitations

No study is without limitations, the current one included. The following sections details the limitations and future work across theoretical, methodological and analytical domains. The

common theme from this section is that this project is still in its early stages and represents a fruitful work in progress geared towards a more nuanced understanding of SMs, communication, and collective action.

Theoretical domain

Chapter Two and Three attempted to address approaches to SMs across various traditions, including aggregate, relational, and symbolic interactionist approaches. Upon reflection, I think some can argue that the CAM framework privileges the relational approach over the aggregate and symbolic interactionist approaches. I would agree with this observation, but remind the reader that it was never my intent to create a framework equally comprised of each of the three approaches. I think such a task would be impossible and does more to try and cater to each approach rather than construct a useful framework. Instead, the goal of the current approach was to take distinct, yet compatible pieces of each approach to help construct a hybrid framework. Nevertheless, the goal is not to conform to what Deetz and Eger (2013) call *ecumenical fragmentation*, where different theoretical perspectives are granted legitimacy, but used separately (i.e., separate, but equal). Instead, all the approaches are used to construct a single framework, albeit placing higher emphasis on network approaches.

Indeed, McAdam and Fligstein (2012, p. 29-30) critiqued network approaches to collective action for being overly descriptive and neglecting dynamics. In their view, network theory will “never substitute for a deeper analysis into the shared (or contested) understanding that inform and necessarily shape strategic action within a strategic action field” (p. 30). In order to address this limitation, the future modifications of the CAM framework might dig deeper into how relations are actually experienced, interpreted, and understood by actors. That is, what does communication with other actors or involvement in collective action actually mean to those

involved in collective action? Does this meaning change depending on the nature of the public good? Are there cultural differences to this experience? How do these experiences contribute to the reproduction and transformation of behavior? For instance, differences in meaning, as a micro level factor, might actually shape and influence the patterns in the CAM structure.

Methodological domain

Perhaps the most obvious limitation of this dissertation is the data collection procedures. For instance, I have relied media reports to get information on collective action events. Others have noted the limitations of such an approach (e.g., Earl et al., 2004) and from my own experiences during this project, I have noticed they should be looked at more of as a rough estimation of what happened during those events, rather than a precise reconstruction. For instance, some (if not most) events may not have even been reported in the first place because several inherent biases in the media, mostly being if the event would not attract an audience. Newspapers are still a commercial enterprise and are under the same pressures of any other type of business. Moreover, it is difficult to tell if any organizations involved in coordinating the protest were not included in the report. Journalists usually report what they see and could have easily missed the roles of other actors involved.

An additional concern is if the source of the event data is what is driving the results. To help combat this, I only relied on the New York times for event data, but had different procedures for the micro level communication data. Future work will need to strive to gather data from multiple sources, an attempt at triangulation in order to reach data collection saturation (i.e., no more events or hidden relationships could be extracted. For instance, future work needs to move beyond media reports to gather information on collective action events. The availability of new media technology, like Twitter and Facebook, could allow for the triangulation of

information, not to mention simply interviewing those at the events as well. Another more in debt approach could be what Juris (2008) calls radical ethnography, which entails actually becoming a participant in the SM, allowing for an extremely rich account of the nature of the events and who the participants were and their relationships with one another.

Analytical domain

The analytical domain mostly refers to the descriptive network analysis and MERGM. Although it is an innovative attempt to simultaneously model three different networks as if it were one, it suffers one major limitation: the loss of time. Indeed, the cross-section design aggregates all collective action events into one time slice, losing any information on order and timing.

Unfortunately, the analytical strategy of not comprising the CAM structure leaves little room for an alternative. In other words, there currently exists, to my knowledge, no alternative inferential method that takes into account the structures of three simultaneous networks. One prospect for future research, however, comes from the relational event model (Butts, 2008). The relational event model is based off of event history analysis and uses previous network interactions to predict future interactions. For example, does previous interaction with one actor predict future interaction with the same actor (the principle of inertia)?

One modification of the relational event model that would be appropriate for the CAM framework would be a multilevel extension. This modification would require the micro level network to be defined as a relational event (i.e., a communicative act from A to B at time t) instead of a relational state. Put this way, the relational event structure of the micro and macro levels (within and between) are used to predict future collective action events. For example, does past event activity predict future event activity (within level meso effect)? Does the completion

of a transitive triad predict engagement in a collective action event (within level micro effect)? And does participation in an event, followed by communication with another actor, influence the alter to participate in an event (cross level effect)? I do see this as a realistic possibility as the relational event model is continuously being updated, with just a recent multivariate extension (Marcum & Butts, 2015), being able to take into account multiple types of network ties.

Future work

Because the framework is an attempt to look at SMs from a new perspective, it lends itself nicely for prospects of future work. Five areas represent promising avenues: (1) Revisiting previous work, (2) application to other forms of organizing, (3) event prediction, (4) a contingency theory of outcomes, and (5) bringing back framing theory. Below, I briefly discuss the prospects of each avenue.

Revisiting previous work

In hindsight, the current dissertation has already re-analyzed previous data from a new perspective, incorporating data on protest events to supplement SMO interorganizational communication networks. Indeed, several recent studies are even beginning to take seriously the notion of networks between and within actors and events. For instance, a recently study by the Beckman Center for Internet & Society (Faris, et al., 2015) looked at the US Net Neutrality Debate, taking into account the relationships between important actors and how those relationships changed after significant events. Simply put in terms of the CAM framework, they tried to understand the impact of events on different network activity.

The important dependencies of actors and events stressed in the CAM framework can serve a heuristic to reexamine previous data not limited to quantitative network analysis. For instance, earlier I critiqued Crossley and Ibrahim (2012) for not paying enough attention to the

impact of collective action events on micro level mobilization in their qualitative interviews. However, this does not mean that the data need to be recollected to be useful for the CAM framework. Instead, it simply needs to be reanalyzed from a perspective taking into account relationships between and within actors. Put this way, more attention would have been given to each collective action event and they influence and are shaped by relations between actors. As such, revisiting previous work with the CAM framework simply means to look for other phenomenon (i.e., relations within and between actors and events) that were previously neglected or overshadowed.

Different types of organizing

Figure 7.3 described different patterns that can be applied to different types of organizing. Although these describe some patterns more likely to be adopted by different organizations, it does not go into a more holistic conversation on the value of the CAM framework for other types of social systems. Future work has the opportunity to expand the framework beyond the study of SMs.

For instance, the CAM framework can be used to analyze any social system in which actors and events are constitutive elements. One fruitful area of research is terrorist networks. While previous work have analyzed relationships between terrorist actor networks (e.g., Krebs, 2002) and event networks (Mahmood et al., 2012), there is no study (to my knowledge) that incorporates both. However, who would deny that terrorist attacks as events and terrorist organizational communication networks are fundamental to understanding how terrorist network are produced and reproduced? As such, complicating our understanding of terrorist networks as a type of multidimensional social system via the CAM framework can assist and extend recent attempts using network analysis to provide suggestions on how to destabilize these networks

(e.g., Carley, 2004). A recent project I have undertaken will explicitly try to accomplish this, merging actor-actor network data from the Big Allied and Dangerous (BAAD) and actor-event network data from the Global Terrorism Database (GTD).

Event prediction

This dissertation has extensively used words like *events* and *modeling*, but has not commented how using modeling techniques to actually predict collective action events. However, this need not be as the CAM framework provokes an interesting assumption on the nature of actors and events. That is, if actors and events are in fact interdependent, then it would be safe to assume that using one to predict another should be feasible.

Quantitative protest event prediction (i.e., forecasting models) is not a very common area of study. It is notably difficult and has provocative implications: The ability to predict massive protest event before they even happen. However, with the rise of Big Data and social media analytics, it has garnered a recent interest, mostly by computer scientists. Kallus's (2014) study has gained the most attraction, even in mainstream news articles. His research looked at the influence of predictive signals like hashtags on Twitter and news articles that contained 'forward-looking' content on predicting protest events.

Via the CAM framework, Kallus (2014) simply looked at how the content of one event predicts the occurrence of another (e.g., using event by event semantic networks to predict meso level protest networks). What can be added however, is the micro level communication network to aid in prediction. That is, if the micro communication network can be conceived of as different types of relational events between actors, then one can look at those different communication patterns to predict protest events. For example, does increasing transitivity between communication messages predict protest? This would not be unreasonable if the assumption is

that protest events inherently require a certain threshold of mobilization and are already influenced by previously established social networks. Thus, future work that models micro level communication networks as relational events might be useful if we expect communication patterns between actors to be different than normal in leading up to a public protest (a realistic assumption if we are to believe that most protest is planned and orchestrated).

Contingent outcomes: Beyond instrumental and expressive action

Although this dissertation made an explicit link between different types of multidimensional organizing patterns and SM outcomes, there is still a further need to understand how different patterns might be more favorable towards different outcomes. For instance, in Chapter 4, Table 4.4 summarizes four distinct types of SM outcomes: (1) personal and biographical, (2) organizational, (3), political/institutional, and (4) cultural.

Theoretically, we might expect cultural outcomes (e.g., shifting norms) to be related to expressive collective action parameters and political outcomes (e.g., policy change, new elected officials) to be related to instrumental collective action parameters. However, this is still an empirical question that might be best left for exploratory data analysis. One specific avenue of future research is to correlate multidimensional organizing patterns and SM outcomes as recorded in the Global Nonviolent Action Database (GNAD) used in Chapter 6. Indeed, GNAD has quantitative outcome measures on 1082 different SM coalitions (demands, survival, and growth), allowing for more than enough of a sample size to draw inferences on multidimensional organizing patterns and different outcomes.

A network theory of framing: Integrating semantic and social networks

One of the arguments of Chapter 6 was that collective action event framing can impact social relations between actors. More specifically, the ‘us-versus-them’ frame in the Solidarity

movement in Poland (Osa, 2003) might help explain multidimensional network consolidation and centralization. Indeed, the implication is that if we can use semantic networks to understand framing theory (e.g., Baden, 2010), then the CAM framework can also link the social structure of actors to the semantic structure of frames.

The argument is in line with growing work and programs linking semantic and social networks together (e.g., Diesner, 2014). The claim is not unreasonable if we, as Benford and Snow (2000) do, speak of framing as a process, rather than a static variable. Indeed, certain processes in the framing literature are not limited to individual cognitive mechanisms. For instance, Benford and Snow (2000) conceptualize discursive processes in frame development as “the talk and conversations—the speech acts—and written communications of movement members” (p. 623). Studying the influence of discursive processes requires looking at “articulation and amplification processes rather than in the topics or issues comprising the frames” (p. 624). As such, future research integrating social and semantic networks might look at how different participation shifts (e.g., Gibson, 2003, conversational turn taking patterns) or social network structures are related to different framing mechanisms (e.g., frame adoption, diffusion, contestation), all consistent with the integration of actors and events via the CAM framework.

Concluding remarks

This dissertation began by asking how it can be possible that there were so many different interpretations of various SMs and their strategies for organizing for collective action. The short answer is that because so many perspectives are keen on their philosophical assumptions, they become blinded to see a phenomenon in new and different ways. For example, this static way of thinking has given rise to what I believe is a false dichotomy of collective

action either being organized or unorganized.

What I hope this dissertation has shown is that if a more nuanced theoretical framework is set up to analyze SMs and collective action (relationships within and between actors/events), then there is a realization that there are many different ways to organize for collective action. However, I do not mean dive into an abyss of relativism. Make no mistake, there are certain modes of organization, mostly depending on the type of public good being advanced, that are less and more effective than others. For example, the results of this dissertation suggest that the *cupid* organizing strategy mirrored by mobilization against Three Mile Island was not as effective as the *designated* organizing strategy of anti-Stalinist mobilization in Poland. But that does not mean that a cupid strategy might be more effective in other situations, especially if the good is of urgent need (e.g., action on climate change).

The next logical step might be a contingency theoretical approach, arguing what mode of organizing for CA would be more effective depending on different sets of factors and conditions. In other words, what is needed is a new set of “rules for radicals”, to paraphrase the infamous community organizer Saul Alinsky (1971). However, as alluded to earlier, there is a relational bent to it, a march towards a new set of *network rules for radicals*.

Tables and Figures

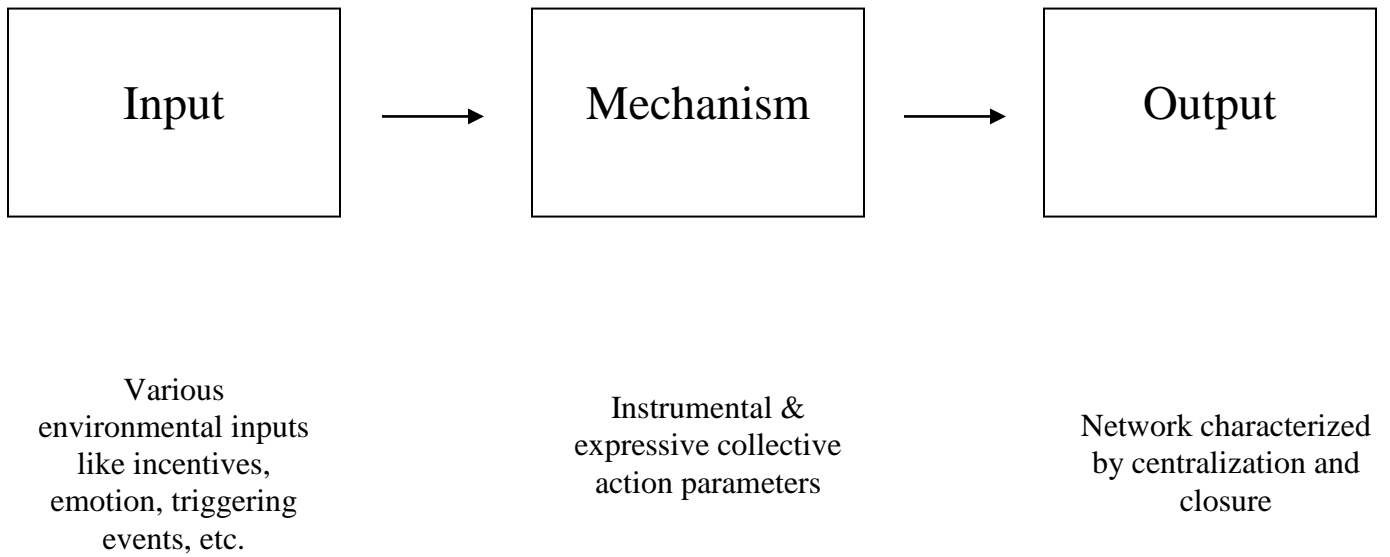


Figure 7.1. Mechanisms of network structure.

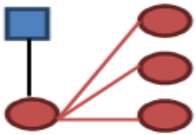
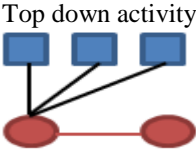
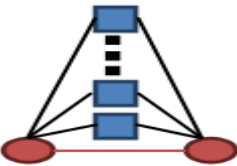
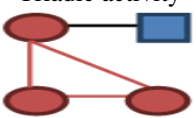
Domain	Parameter	Network rule	Real life example
Instrumental collective action	Bottom up activity 	<i>Step up when your number is called: If you are popular with many in the movement, then you cannot sit out when it comes to contributing to the cause</i>	When the Obama administration, an office with many ties to LGBT groups, finally publically supported marriage equality in 2012
	Top down activity 	<i>With great power comes great responsibility: If you are going to protest frequently, then at least get to know others on your side</i>	Polish Solidarity establishing ties with diverse groups like rural farmers, the Catholic Church, progressive academics, youth groups, and Western sympathizers
Expressive collective action	Alternating closure 	<i>Avoid protest one night stands: If you are going to demonstrate with others, then keep in touch</i>	English coal miners and gay rights groups maintaining their alliance after months of collaboration to support mining strikes (see the film <i>Pride</i> , 2014)
	Triadic activity 	<i>Someone has to take one for the team: If you a part of a smaller tight-knit clique in the movement ,then at least one of you has to contribute to the cause</i>	Representatives from feminist, African-American, and religious groups joining Anti-Vietnam War protests

Figure 7.2. Results of simulation studies translated into network rules.

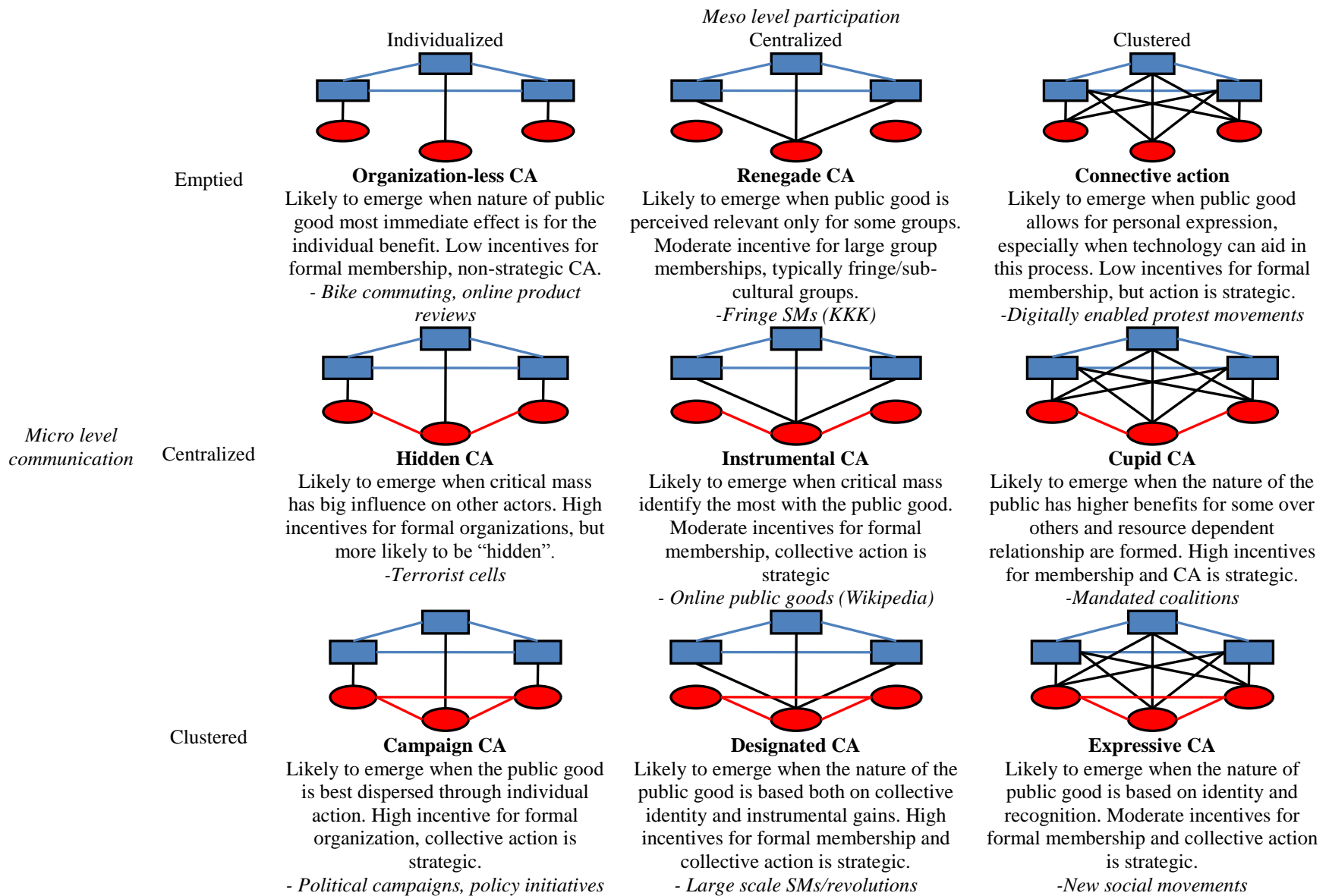


Figure 7.3. Modes of organizing for collective action, CA = collective action.

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APPENDIX A: PROCEDURES FOR COLLECTING EVENT DATA FROM THE
STANFORD COLLECTIVE ACTION PROJECT

Dynamics of Collective Protest in the U.S., 1960-1995
Manual for Microfilm Copying and Event Coding

I. Introduction

This technical report briefly summarizes the collection and coding procedures used in this project on social protest in the United States between 1960 and 1995. We begin by defining an event and its properties. We then describe the procedures used for collecting (i.e., locating and photocopying) events from the *New York Times*. Finally, we summarize the procedures and rules for coding protest events in an item by item format. This document should be given to all scanners and coders who should read it carefully and keep it close by while coding.

II. What is an Event? (See also the “Brief Event Guide”)

A. Four Defining Features

1. **Collective, not Individual Act.** We define a collective action event as one in which individuals collectively make a claim or express a grievance on behalf of a social movement organization or social category. A social movement organization (SMO) is a complex, or formal, organization that identifies its goals consistent with a set of beliefs or opinions about changing some element of the social structure. A social category is an identifiable subpopulation sharing some set of characteristics within a human society. Therefore, we exclude individual grievances, crimes, and public displays of anger as they tend not to be expressive of either SMO goals or the shared grievances of some social category.

2. **Claims Seek to Change System.** A collective action event contains a claim indicating that the group seeks to change the society in some fundamental way; i.e., seeks to redistributed resources, gain new political rights, change (or prevent) some public policy or law, affect public opinion, or fundamentally affect the attitudes, institutions, and/or social culture of civil society. We also code whether or not the protester’s claim favors, or opposes the issue or policy (in other words, the "valence" of the claim).

3. **Public Collective Action, Conventional and Unconventional.** We code both conventional and unconventional collective action events. The event must be initiated by non-elites and it must be public.

We code any reported activities initiated by social movement organizations (SMOs) or by a group of activists of one of these movements. This may include such activities as press conferences announcing a new social movement organization,

petitions, letter-writing campaigns, or lawsuits/legal actions. One could consider these types of activities "conventional collective action" on the part of activists or SMOs. We also code more disruptive or unconventional collective action events; events which occur outside of the institutional political system. This includes marches, demonstrations, sit-ins, or other acts of civil disobedience.

We exclude any activities in which SMOs or activists are engaged if it is state, management initiated or elite initiated, e.g. testifying before congress, labor negotiations initiated by management. However, we accept events sponsored or endorsed by politicians, management, or the elite provided that the event was initiated by the SMO or by activists. We code as an event any activity that expresses a grievance, claim, belief or opinion about changing some aspect of the social system, given that it is performed by some actor performing in a manner outside that actor's official capacity to express such a grievance, claim, belief or opinion. For example, we would code the following types of events: (1) employees walking out of a firm to protest the firm's stand on sexual harassment, (2) a sit-in within the doors of a government agency by students, teachers and principals, (3) a group of doctors voluntarily petitioning the state to repeal abortion laws. We would not include conventional collective activity of businessmen's associations, political party officials, lobbyists, and government office holders. For example, we would exclude four congressmen "protesting" a welfare reform act provision.

Thus, a key feature of a collective action event is that the actors instigating the events are likely to be social movement groups, organizations, quasi-organizations, ad hoc associations of activists, or spontaneous participants acting collectively to express some claim, grievance, or protest. A second key feature is that the event must publicly express the group's grievance. Therefore, we do not code conferences or meetings, as they generally do not occur in public space. In other words, they are not performed with a goal of getting the group's message out to the public. We also do not code the passage of resolutions or statements or organization formation announcements (unless they include a press conference), as they do not involve public action.

4. Type of Action - Was the action a *protest* event? Social movements include some activities that we are not recording, such as fundraising or closed group meetings

An important note on Ethnic/Racial Conflict. We also code all instances of ethnic and racial conflict, even if they do not satisfy the requirements defined above. This includes Hate Crimes. If an article describes a clash between members of two different ethnic or racial groups and provides evidence that the clash was motivated by prejudice, we code it, even if technically the participants are not engaging in what we typically think of as collective protest, and even if they do not state a claim. However, we do not code all instances of group violence. There must be some indication that the attackers were motivated by racial or ethnic prejudice, for example, by engaging in name-calling. See additional detailed notes on hate crimes below.

B. Event Form and Activities

A second dimension of a collective event concerns the behaviors of the participants in the event. These categories involve forms of the collective event, which attempt to classify the predominant form of an event or the most extreme form of protest or activity (when considering violence during an event). These range from peaceful civil rights marches to sit-ins, to violent attacks and race riots. Forms are made up of one or more detailed activities, which are actual behaviors by protesters or participants. Note that most business activities, the majority of individual crimes, terrorist attacks (such as the Uni-Bomber case), and/or vandalism (litter found in a Jewish cemetery) that has unidentified goals, claims, grievances, or participants would be excluded.

Arrests and crimes are difficult to judge as events because they involve both individual crimes and group protest that includes civil disobedience. These events need to be read carefully because we would wish to exclude individual persons (one's mother, for example) objecting to a given arrest by police. However, a group protesting racial discrimination on behalf of all blacks in the city or neighborhood in general, at or after a high-profile arrest would be included as an event. Thus, "hate crimes" are not automatically coded as events unless there is clear evidence that group efforts have been exerted against a specific ethnic, sexual orientation, or gender population as a statement of general political views.

An example of events that are difficult to code is the widespread reporting of fires burning down black churches throughout the south in the US. These events are difficult to code because vandalism and symbolic activities include both social movement activities and random crime events. Symbolic activities that are well-known such as Nazi symbols, burning crosses on black buildings, or terrorist attacks against new black residents in a neighborhood should be coded as collective action against respective ethnic or racial groups (even if no perpetrator can be identified).

Another tough type of event to code are lawsuits. If the lawsuit is collective and civil, we code it. We do not code lawsuits by individuals, nor do we code criminal lawsuits.

C. Temporal and Spatial Boundaries

Our criteria for judging when and where an event begins and ends is based on the discussion on time and space in the Appendix from the comparative project on new social movements in the Netherlands, Switzerland, Germany, and France. See *New Social Movements in Western Europe* by Kriesi, Koopmans, Duyvendak, and Guigni (1995: 263-265) and *The Dynamics of Ethnic Competition and Conflict* by Olzak (1992: Appendix). An event is coded as one event if it includes action that is mostly continuous, so that there are no gaps of more than 24 hours in time, and located within the same city or same part of the city, and if it includes some of the same participants whose goals are the same. Events are separated if there are significant time gaps in activity (over 24 hours or longer than a weekend for school events), if activity takes place in clearly different parts of a city, and includes different personnel and goals. The exception to these temporal and space rule would be a distinct "campaign" that takes place at the same time, with the same labels, goals, and forms. An example would be "Yesterday, 100,000 persons marched in support of

the Freedom Summer voter registration drive in Birmingham, Atlanta, and Selma." Because it would be difficult to distinguish these 3 events by size, goals, and targets, this event is most usefully classified as one campaign in three locations. However, if we had any information that would allow us to distinguish the events in one location from the other two, in any way, we would code that as a separate event.

We ignore the weekend gap only for collective action in two settings that end at the close of work on Friday and begin again early Monday morning: (1) labor unrest, strikes, and other employment protests, and (2) protests at public elementary, middle, and high schools. Because the work week structures the time and limitations of school related events, continuous activity from Friday which resumes on Monday morning is coded as one event. Boycotts of work organizations may also be coded from Friday to Monday signaling the week-end gaps.

D. Events with Multiple Goals, Forms, or Activities

How do we take into account an event that "changes" from peaceful protests of one group, but then later involves conflict with another group? Some events may start as a peaceful protest, then with the arrival of a second group, develop into a violent confrontation. The shift from civil rights protest to a violent conflict marks the beginning of a second stage of the event. Any change in characteristics should be documented by the presence of ACT1, ACT2, or FORM1, FORM2, FORM3, etc.. In other words, events that change form and include multiple activities should be counted as one event having different forms, activities, and groups. An event that begins peacefully and then becomes violent is coded by the highest level of violence ever present during the duration of continuous action. If there is a gap between protest and a retaliation of more than 24 hours, then the news report should be coded as two events.

Another potentially confusing issue is that a newspaper story can contain several events, or many newspaper reports can summarize just one long event. If there is sufficient identifying information, then a report that contains a listing of dates, places, and types of events should be coded as distinct events. If an event lasts for many months, then every attempt should be made to follow an event to its reported conclusion. Strikes, boycotts, campaigns are likely to be announced only at their inception, and their endings are often not reported. For these kind of events, we are likely to have missing data on ending dates and duration of the event.

III. Instructions for Photocopying Potential Events

In this section, we detail the instructions for skimming and photocopying articles from microfilm (NYT). We first list the sections of the paper we skim, then describe how to skim each page. We conclude by describing how to organize photocopied articles in preparation for coding.

A. Sections.

All sections of the newspaper are skimmed for potential events. However, we do NOT skim the following sections: Letters to the Editor, Editorials, Wedding and Anniversary

Announcements, Movie Listings, the Sunday magazine and Book Reviews. We have learned that there are often no events reported in Classified. However, occasionally small articles are reported on the bottom of these pages. Thus, we skim only the bottom half of the page.

B. Examining the Page.

When skimming each page for potential events, we first search the page systematically starting from the upper left corner and moving to the bottom right corner. Coders can begin by setting the microfilm reader to a magnification that allows the entire page to be viewed. Alternatively, coders can use a higher magnification and block the upper left hand quarter of the page, then move to the upper right quarter, lower left quarter and finally the lower right quarter.

C. Examining Articles.

The headlines, subtitles, and any captions of accompanying pictures for each article are examined. We first eliminate articles whose datelines are foreign cities. We then look for indications that an event has occurred. Keep in mind the definition of an event.

One common indicator of collective action is the event form. The title may indicate that a "Sit-in", "Melee", "Riot", "March", or "Protest", for example, has occurred. A second indicator is the listing of an organization name. These can include acronyms, all in capital letters, e.g. CORA, NAACP, SCLC, or MOVE. Third, numbers can signal an event, e.g. "200 Menace 2 Suspects After Patrolman is Shot". Finally, other words or phrases can identify an event. For example, "Blacks Upstate Voice Pessimism". Here the words to key from are "Blacks" joined with the word "Voice".

If no signs of an event are located in the headlines, subtitles or pictures, then, the rest of the article is skimmed starting at the beginning. Articles which detail plans or threats of collective action are not taken under any circumstance. If no event is found the coder continues to next article.

D. Photocopying and Organizing Copies.

When an event is located, we magnify the event's article to a readable size before photocopying. Once the article has been photocopied, we neatly print the article's date, page and column location under the article's headline for all articles on the page containing event information. If multiple events are detailed by several articles, then we mark each article as to which event it describes. For example, one can highlight the headlines of those articles describing a particular event in one color, while highlighting headlines describing a second event in a different color. In some cases more than one event is mentioned in an article. When we recognize that more than one event described in the article, we note that the article describes multiple events.

Frequently, complete articles do not fit on a single copy. Some articles are too long while others are continued on later pages of the newspaper. We copy the article in its entirety and

staple all copies together. When articles are continued on later newspaper pages we tag the first copied portion of the article. We then continue skimming each page in order photocopying events as they occur. When we reach the page where the continuation is located, the remainder of the article is photocopied and stapled to the initial portion.

Events sometimes are reported on more than one day. We photocopy each article with new information about the event. We then place all related articles in a binder clip, or other type of fastener, in chronological order. We finally place a note on the top page to indicate that follow-up articles are attached.

To finish the month, we order all photocopied articles chronologically in a file folder. This folder is then marked with the month and year of the newspaper reports.

IV. Coding Instructions

In this section, we detail the instructions for coding events. We first describe how we organize this task. We then list instructions for each item in the code sheet. Each item is listed in bold and a brief description of the item follows.

A. Organizing Coding Tasks.

We first confirm that all articles are in chronological order and that all related photocopies are together. Often many articles describe a single event. We consolidate this information into a single code sheet describing this one event. We staple all reports describing a single event to that event's code sheet. Also, articles may describe more than a single event. Each event is coded on a separate code sheet. We then photocopy the article, staple a copy to each code sheet, and mark the information in the article that matches the attached code sheet.

B. Primary Codes.

Variables GRP1 (item 17), TARG1 (18), CLAIM1 (21) represent the event's core characteristics. When coding groups and targets, we focus on the most salient defining boundaries for these actors. Similarly, when coding claims, we focus on the primary claims being made. Often many groups, targets or claims will be identifiable in the article. For example, on March 13, 1971 migrant workers and anti-war demonstrators targeted the federal legislature regarding farm subsidies. Because the issue is related to farming, we would code the migrant workers as group 1. The first space under GRP1C1 would be coded "01" for workers. The war demonstrators would be listed as the second group, with code 18, social movement actors, assigned in the GRP2C1 variable location. The article also describes the migrant workers as Spanish speaking. However, their identity as Spanish speakers was not the most relevant characteristic for this particular event. Therefore, we would code this as a secondary characteristic of the initiating group, putting code 04, ethnic/racial, in the GRP1C2 variable location.

C. Special Cases.

Following is a list of several special types of events and how to code them.

1. Events can be linked. Events may be linked in two ways: (1) subsequent events may be direct responses to an initial event, or, (2) two or more events may be related to the same issue or incident. We would code linked events as separate events.

2. Events can occur in several cities at the same time. For example, on March 2, 1971, thirty Stanford students were arrested after blocking draft board entrances in San Francisco, Oakland and San Jose. The Times reports that more than 250 students participated in this protest. We are unable to distinguish between the activities in these three cities. Therefore, this would be coded as a single event taking place in three cities. Record the codes for each city. However, were other information present that would allow us to distinguish between the events in each city, we could then code these as separate events.

3. Events can escalate or have multiple stages (e.g., a march ending in a rally). We include each form and or action in the coding (see instructions for items FORMS and ACTIVITIES).

4. Gaps of more than 24 hours constitute new events. Events often continue for several hours. When the action stops for more than 24 hours, then starts up again, we would consider the renewed action as a new event to be coded on a separate code sheet. However, in some cases, such as boycotts, the event ends at the date of the last reported action. Furthermore, events occurring in school or business settings may begin and end only during the "work week". For example, an anti-busing protest may be organized around the school week. The event could start on a Monday and continue daily through Friday. It may then stop activity on Saturday and Sunday, but finally resume the following Monday for several more days. We would code this as one continuous event, even though the action stopped for more than a 24 hour period.

D. Itemized Instructions for Coding Event Using the Codesheet and Accompanying Lists

1. CODER NAME.

2. TODAY'S DATE.

3. NEWSPAPER NAME. New York Times or NYT.

4. REPORT DATE. This is the dateline of the article or rather the date of the newspaper, e.g. Jan. 2, 1971. Some events are documented in several articles. For events that are documented with multiple articles, list the date information from the first article. Use a single code sheet for each event. Some articles include descriptions of many events. Use separate code sheets for each event described in a single article (sometimes referred to as "embedded events"). Remember the goal is to code events, rather than articles.

5. **EVENT DATE.** This is the date the event took place. The article's date line often contains the event date. The date line is the article's first line. Events that last several days may not have a date line. For these events, record the beginning date and then, in 5d, record the number of days that they event lasted. Also, if there is no date line, the event date can be calculated from statements in the article, e.g. "a week ago" or "ten days ago". Code as much information as you can. For example, if you know the month and year that an event occurred but not the day, go ahead and code the month and year. Some information is better than no information.

6. **EVENT ID.** Each event will be assigned a unique event id number. The following convention should be followed: 2-digit year, 2-digit month, 3-digit consecutive number. For example, an event that took place on January 3, 1966, which was the fifth event in January 1966, would get a code of: 6601005. If the coder finds a second (or third, or fourth...) event in an article simply assign the next consecutive event id number (6601006, 6601007, etc.).

7. **NUMBER OF ARTICLES ON EVENT.** Often there are more than one article describing the same event. If this is the case, please indicate the number of different articles describing the event.

8. **TITLE.** Article title.

9. **NUMBER OF DAYS THE EVENT LASTED.** Count the number of days the event lasted. If the event lasted less than 1 day (many of our events), simply code this as 1 day.

10. **DID THIS EVENT OCCUR IN SOME PREVIOUS MONTH.** If the article describes an event that took place in some other, earlier month (or even year, of course), then indicate "yes" here. Note: if this is the case, keep the EVENT ID (above) consistent with the month you are coding. Do not assign an EVENT ID for the month/year that the event actually took place.

11. **BRIEF NARRATIVE DESCRIBING PROTEST EVENT.** Coders should briefly answer each question. Who participated? What happened? Where did the event take place? Against whom or for what purpose did the event take place? Why is this a collective action or SM activity? That is, what evidence suggests that this is an event: it is collective; there is an SMO presence; the expression of grievances is non-routine, etc.

12. **LOCATION OF REPORT.** Note: For events with multiple articles, record the location information for the first article on the code sheet.

12a. **PAGE** Indicate the newspaper page where the report is located.

12b. **SECTION** Indicate the section of the newspaper where the report can be found, e.g. Sports, Metro, Living, World News, National News, New Jersey, etc. Most New York Times articles are from the main section of the paper, which we code as section 1. Unless otherwise noted, assume that the article is from section 1.

12c. NUMBER OF PARAGRAPHS. Record the number of paragraphs in the newspaper article. If there are multiple articles on the event, record the summed number of paragraphs in all of the articles.

13. LOCATION OF EVENT. Location codes will be assigned after the report has been fully coded (during data entry). Coders should list neighborhood, city, and state where the event took place as they are able. Any information that would locate the event should be recorded here. If the event took place in multiple states, multiple cities, or "Nationwide" please indicate this. If the event occurred in a borough of New York, write New York City in the city location, and list the borough as a neighborhood. If the event occurred at a university, write the University name in on the Neighborhood/Else line. If the event occurred in Washington, DC, indicate this.

14a. NUMBER OF PARTICIPANTS REPORTED. Record the number of participants in the event. If the article reports only a vague description of the number of participants, such as "a small group," or "hundreds of protesters," leave number of participants blank, and answer question 16b. If the article qualifies an exact number with the word "approximately," record the number...we do not consider this to be an estimate. For example, if the article says that "approximately 300 people participated," record 300 in the space by 14a.

14b. ESTIMATED NUMBER OF PARTICIPANTS

If the article does not provide an exact number of participants, leave question 16a blank and answer this question. Choose the most appropriate code from the list provided below the question, and write the number in the space provided. So, for example, if the article mentions that a small group held a press conference, choose 1 = small, few, handful (1-9 people).

15a&b. INITIATING GROUP. *See list of codes for initiating groups.* These are two digit codes representing the most salient social characteristics of the people initiating the collective action event. Coders should take care in deciding the number of groups and the most relevant characteristics of these groups. Coders should first record the number of groups involved in the event. We define a group as a social grouping, rather than organizations or any other way of defining a group. In other words, think about how many social groups are represented, in terms of how our society typically groups or categorizes people. The primary group involved in the protest, often the group which organized the protest, should be listed as the first group (GRP1). Coders may then list no more than two group characteristic codes in the spaces provided next to GRP1C1, GRP1C2, GRP2C1, etc.... These codes should reflect the most salient boundaries under which the actors are operating.

If the event has no clear initiating group, just list the groups in the event in the space provided.

Ethnic conflicts are special cases of events often with no clear initiating unit and no clear target. For conflicts, list the groups in the conflict and see below for target.

16a, 16b, 16c, 16d. TARGET OF PROTEST. Indicate whether the protest had an identifiable target. If so, in question 16b indicate the number of Targets. In question 16c, indicate whether that target was the government or state, a private individual, organization or business, university/school, medical facility/hospital, foreign government/state, or an ethnic/racial group. If the target was none of these, describe the target in the "other" space. If the target was an ethnic or racial group, you must indicate which groups were targeted in question 16d. *See the list of codes for targets, which also includes a list of potential ethnic or racial targets of protest activity.* Select the target code(s) from this list, and write them in the spaces labeled TARG1 and TARG2 (or ETARG1 or ETARG2, if ethnic event).

Note: Ethnic conflicts are special cases of events often with no clear target and no clear initiating unit. For conflicts, list the groups in the conflict at GRP1,GRP2, etc. ... in question 15. Then answer "no" to question 16a.

17a, 17b, 17c. ORGANIZATION NAMES. Were specific organizations named in the article? YES or NO, should be indicated. If there were organization(s) named, then question 17c asks for how many were named. If specific organizations or groups were mentioned as participating in the event, coders should list these names in the space provided. List up to 6 of these in 17d.

Note: Some organizations may be what we typically think of as "social movement organizations," groups organized specifically in order to pursue the goals of the movement. Other organizations may have been organized for other purposes, such as the Parent/Teacher Association (P.T.A.). We record both types of organizations in question 17. We are looking for specific names, not initials. W.A.R. could be the "White Aryan Resistance" or "Women Against Rape", S.A.F.E. could be "Students Against Faggots Everywhere" or "Students for an Assault Free Environment" (these are real organizations). Please list the entire name of the organization *and* use ALL CAPS when entering this information.

18. CLAIMS. *Refer to list of codes for claims.* Each claim is coded into two variables: 1) a four digit code indicating the general category and specific subcategory, and 2) a two digit "pro," "anti" or "valence cannot be determined" indicator (VAL). The first page of the appendix lists the general claims, for example, 0600=Women's Rights. Once you have identified the correct general claim, refer to the pages following for the specific sub-claim code (e.g., 0603=funding for women's initiative). Record the four digit code for each claim mentioned.

VALENCE Indicate whether the protesters were in favor of the claim as stated, or against the claim. For example, if the activists were protesting in favor of funding for women's shelters, you would write 0603-01. If they were against funding, you would code 0603-02. If the event was staged in opposition to the Gulf War, code 0709-01. If there is no specific claim listed which corresponds with the claim of the protesters, use one of the general codes. For example, if the event is regarding a women's issue not listed, use 0600, Women's Civil Rights, general.

If the coder cannot determine the VALENCE of a claim, whether the protesters were for or

against an issue, the valence code -03 should be used. The -03 code will primarily be used for codes under “Social 1300,” “Other 1400,” and “Anti-Ethnic Attacks 2500,” since the valence of these issues is difficult to determine. If you are inclined to use -03 for any other claim, please bring it to a coder meeting for discussion and approval.

The claims are worded in accordance with how the movement might state them. Therefore, if you are unsure whether to use -01 or -02, think of what position the movement might take regarding the claim. If they would agree with the claim, code -01. If the movement would be opposed, use -02. For example, if the Christian Coalition were making a claim about gays or lesbians, chances are the movement would disagree, and you would want to use the -02 code.

Important! Try to determine the primary issue being protested, and list that one first. Ethnic violence or conflict events will often have no claims listed, in which case you should use the code: 2517 Ethnic/Racial Conflict, Melees, Riots, confrontations.

19. FORM OF EVENT. *Refer list of codes for event forms.* The event form(s) is the predominant category(ies) of events engaged in during the duration of the event. There is space for four different event forms, however, if possible, coders should try to come up with one form which characterizes the event. If there are more than one, please list the predominant one first. The individual activities involved will be captured in the next question.

Notes on specific form codes:

- 04=Picket - Coders need to be careful with this code. Sometimes the newspaper’s definition of a picket differs from our definition. In other words, the newspaper sometimes says that people were picketing just because they had signs, when we might call the event a demonstration. Picketers must be moving and trying to block the entrance to a building.
- 05=Civil disobedience - We have included most illegal activities in this category, even though they may not be civil. For example, the bombing of a Selective Service Office may be coded here, even though it includes violence which is counter to a pure definition of civil disobedience.
- 07=Dramaturgical demonstration - The key to knowing what a dramaturgical demonstration is contained in the first five letters of the first word: drama. If the demonstration includes the acting out of some sort of drama, this code should be used. A typical example would be guerrilla theater.
- 10=Symbolic display - A symbolic display is an action which consists of a symbol of some sort. A picture or a sign are symbolic displays.
- 11 & 17 are used primarily for ethnic and racial conflict. When you know which group started the clash, use code 11. When it is unclear who started it, use code 17.

20. ACTIVITY(IES). *Refer to the list of activity codes.* Code the main behaviors used by protesters. You can code up to four different activities. Try to list the predominant activity first, usually the activity which is most highlighted in the article. This may be the activity

which most time was spent on, or that which made the biggest impact. Try to avoid using the Other code (98).

21a&21b. VIOLENCE. Indicate whether or not protesters used violence. If they did, circle what type of violence they used in question 21a (e.g., did they use rocks, bricks or stones?). If a type of violence was used that is not listed on the coding form, then circle "other." If, for example, the article indicates that fighting broke out and people were injured, but does not specify how exactly they were hurt, use the "other" category.

22. COUNTERDEMONSTRATORS. If counterdemonstrators were present, check "yes." If no counterdemonstrators were present, check "no."

23a-23f. POLICE. All sub-questions will be completed by coders, regardless of whether or not police were present at the event.

- a. Were police mentioned at the event? Indicate yes/no.
- b. If police were present at the event, check whether they took action or not, yes/no.
- c. If police used physical force, indicate yes/no. Usually if police used force it will be clear from the article.
- d. Indicate whether or not the police used violence, such as guns, tear gas, or other equipment.
- e. Record the number of arrests. If the article does not mention anything about arrests, assume that none were made. We do not consider this to be an estimate, since arrests are highly newsworthy, and are usually mentioned in the report. If the report uses terminology such as "a small number," or "hundreds," use the guide provided to determine the number of arrests. If you used this guide to estimate the number of arrests, indicate that this number is an estimate. If the event lasted several days, choose the appropriate code based on the *total* number of arrests.

24a. PROPERTY DAMAGE. If the article reports property damage, check "yes," otherwise check "no."

24b. If property damage occurred, write down the reported dollar amount of damage. If the report does not provide an amount, leave this question blank.

25a&25b. NUMBER OF INJURIES. Record the number of protester, bystander, police and other injuries. If the article indicates a vague number of injuries, that "several" protesters were injured, for example, use the estimation categories for arrests to assign a code. If you suspect that there were injuries but the article does not mention them, check "don't know." However, try to avoid using "don't know." If the article does not mention injuries, we generally assume that there were none.

26a&26b. NUMBER OF DEATHS. First indicate whether or not anyone was killed (a). If there were deaths, record the number of protester, bystander, police and other deaths in question (b).

Dynamics of Collective Action, 1960-1995

Procedures for Mapping a Policy Agenda Project Code Onto Each Protest Event from DAC

February 25, 2010

Candy Ku, Pat Rafail & Dan Wang

Introduction

The “crosswalk” generated claims codes for the *Dynamics of Collective Action* (DCA) data that are comparable with Baumgartner and Jones’ *Policy Agendas Project* (PAP) topic codes, which is called AGENDA_CODE in the dataset. Two major procedures were used: first, the majority of the cases were recoded based on a similar substantive topic grouping for both the DCA and PAP. Second, a total of 3,294 cases were examined individually and given appropriate PAP codes. These cases either had DCA values 1350 (Not In My Backyard), 1400 (Other Claims), and 1713 (Historical Grievances, Anti-Land Seizures), or had impossible values due to minor errors in data entry. Please note: only CLAIM1 was used in the crosswalk procedure.

Some events do not have PAP codes that are compatible with their claim (CLAIM1). For these events, the PAP code of 99 (“Other, Miscellaneous, and Human Interest”) was assigned. DCA claims codes (CLAIM1) for these events tend to also be 1350, 1400, and 1713 (See Table A2 for some examples of these events). Users should also bear in mind that the PAP codes do not always align perfectly with the DCA codes. A prime example is the DCA code of 2517 (“Racial/Ethnic Conflicts, Riots, Melees, Confrontations”), which has the PAP code of 201 (“Racial Discrimination”). Another prime example is the DCA code of 2503 (“Anti-Semitism”), which has the PAP code of 207 (“Freedom of Speech and Religion”). Other examples have implications on the scope of analysis: for instance, for events with the DCA code of 711 (“Anti-Vietnam War”) with the PAP code of 1619 (“Direct war-related issues”), the DCA code is arguably more specific than the PAP code. And, there are examples that have implications for the *level* of analysis. For example, many local events in the DCA database do not, by definition, have a PAP code, which tend to be more federally derived (see Table A2 below for concrete examples). Thus, users should consult the *complete list* of DCA and PAP codes (see Table A1 below) and consider the codes that best match their research needs when working with the data. It is important to note that only the ‘CLAIM1’ variable in the DCA was used to construct the crosswalk. A full listing of the PAP codes we used is available at: <http://www.policyagendas.org/codebooks/topicindex.html> (accessed 11/02/2009).

Generating the Crosswalk in Detail

To construct the claim-based recoding, two research assistants involved with the Policy Agendas project independently created a list of plausible values using the full listing of the DCA CLAIM1 values as a baseline. Upon completion, the results were compared, and any disagreements were discussed until a consensus emerged. During this process, it became apparent that certain claims codes (i.e., 1350, 1400, and 1713) could not be reliably coded using the CLAIM1 values alone. These were added to a list of cases that had either

impossible or missing values for CLAIM1. A complete listing of the DCA codes and the corresponding PAP values is appended as Table A1.

For the cases that were examined individually, a group of research assistants on the PAP project developed two central steps to assure comparability. First, the original article for each event was located in the *New York Times* Historical Archive and read in its entirety. Second, codes from the PAP were selected that corresponded to the values in the claims-based recoding. Any particularly difficult cases were sent to a senior research assistant on the PAP for final review.

CODESHEET
Dynamics of Collective Action in the U.S., 1960-1995

1. Coder Name _____ 2. Today's Date _____ 3. Newspaper
Name _____

4. Report Date _____ 5. Event Date _____ 6. Event ID _____

7. Number of articles on Event _____

8. Article
Title _____

9. Number of days Event lasted _____

10. Did this Event occur in some previous month? _____yes _____no

11. BRIEF NARRATIVE DESCRIBING PROTEST EVENT: Please answer all questions.
Who?

What Happened?

Where?

Against

Whom? _____

For What Purpose?

Why is this a Collective Action

Event? _____

12. Location of Report. 12a. Page _____ 12b. Section _____ 12c. Number of paragraphs _____

13. Location of Event:

State Name(s) _____

Central City Name(s) _____

Neighborhood/Else Name(s) _____

14a. Number of PARTICIPANTS Reported (Exact Number) _____

14b. If exact number of participants is not reported, choose the most appropriate estimate from the following list. _____

1 - Small, few, handful (2-9 people) 4 - Hundreds, mass, mob (100-999 people)

2 - Group, committee (10-49 people) 5 - Thousands (1,000 - 9,999 people)

3 - Large, gathering (50-99 people) 6 - Tens of thousands (10,000 or more people)

15. What was the INITIATING GROUP of event? (*See Initiating Group List*)

15a. Number of Groups _____

15b. List the Main Initiating Group First, Followed by Secondary Initiating Group, if applicable:

1) GRP1C1 _____ GRP1C2 _____

2) GRP2C1 _____ GRP2C2 _____

3) GRP3C1 _____ GRP3C2 _____

16a. Was there a clearly identifiable TARGET? ____ yes ____ no

16b. If so, how many TARGETS were there? _____

16c. If so, what was the main TARGET? (*See Targets List*, which is also pasted below).

TARG1 _____ TARG2 _____

1 - Government/State

2 - Private/Business

3 - University/School

4 - Foreign Government/State

5 - Medical Facility/Organization

6 - Other

7 - Ethnic/Racial Group (If so, please see next question #16d.)

16d. If TARGET was an ethnic or racial group, which group(s) were the target? (*See Ethnic/Racial Targets List*).

ERTARG1_____ERTARG2_____

17a. Were specific ORGANIZATIONS mentioned as participating in the event? ____yes
____no

17b. If so, how many organizations were mentioned?_____

17c. If so, what were the organizations' NAMES (List up to six.):

18. What was the Main or Primary CLAIM or demand of Protesters? (*See Claims List*).

List main or major CLAIM first.

CLAIM1_____CLAIM2_____CLAIM3_____CLAIM4_____

VALENCE of CLAIM (1, 2, or 3)

VAL1_____VAL2_____VAL3_____VAL4_____

19. What was the main FORM of Event? (*See Forms List*).

List main or major FORM first.

FORM1_____FORM2_____FORM3_____FORM4_____

20. What was the main type of ACTIVITY? (*See Activities List*).

List main or major ACTIVITY first.

ACT1_____ACT2_____ACT3_____ACT4_____

21a. Did protesters use VIOLENCE? ____yes ____no

21b. If yes, what was the nature of the violence? (Circle all that apply.)

- 1 - Weapons (rocks, bombs, guns, firebombs, bricks, stones)
- 2 - Physical or hand-to-hand violence
- 3 - Other

22. Were COUNTERDEMONSTRATORS present? ____yes ____no

23. POLICE ACTIONS -- As reported in article.

- a. Police mentioned at event? ____yes ____no
- b. If yes, did they take action? ____yes ____no
- c. Was physical force used by police? ____yes ____no
- d. Was violence (e.g., guns, tear gas, equipment) used by police? ____yes ____no
- e. Number of ARRESTS reported (Exact Number) _____

f. If exact number of arrests is not reported, choose the most appropriate estimate from the following list: _____

- 1 - Small, few, handful (2-9 people) 4 - Hundreds, mass, mob (100-999 people)
- 2 - Group, committee (10-49 people) 5 - Thousands (1,000 - 9,999 people)
- 3 - Large, gathering (50-99 people) 6 - Tens of thousands (10,000 or more people)

24a. Was there PROPERTY DAMAGE reported? ____yes ____no

24b. DOLLAR Amount of Damage, if reported. \$ _____

25a. Was anyone reported as injured? ____yes ____no

25b. Who was injured *and* what was the number of injuries (if estimating, please use the same categories used above for participants and arrests)?

Protesters: # reported _____ #estimated _____

Bystanders: # reported _____ #estimated _____

Police: # reported _____ #estimated _____

Other: # reported _____ #estimated _____

26a. Was anyone reportedly killed (assume NO unless deaths reported)? ____yes ____no

26b. Who was killed *and* what was the number of deaths (if estimating, please use the same categories used above for participants and arrests)?

Protesters: # reported _____ #estimated _____

Bystanders: # reported _____ #estimated _____

Police: # reported _____ #estimated _____

Other: # reported _____ #estimated _____

PAP activities

Policy agenda code	Frequency	Percent
US Labor Policy Domain		
Ethnic and minority discrimination	28	34.6
Government Operations/General	11	13.6
Employee Relations and Labor Unions	10	12.3
Gender and sexual orientation	5	6.2
Government Operations/Other	5	6.2
Right to privacy	5	6.2
Freedom of speech & religion	4	4.9
Education/combination	2	2.5
Religion/General	2	2.5
Child abuse and child pornography	1	1.2
Community Development and Housing development	1	1.2
Consumer safety and consumer fraud	1	1.2
Housing assistance for homeless	1	1.2
Latin America	1	1.2
Prevention, communicable diseases	1	1.2
Prisons	1	1.2
Social welfare/general	1	1.2
Voting rights and issues	1	1.2
US Health Policy Domain		
Ethnic and minority discrimination	28	46.7
Employee Relations and Labor Unions	5	8.3
Immigration and Refugee issues	3	5.0
Employee benefits	3	5.0
Government Operations/General	3	5.0
Education/combination	2	3.3
International Aid	2	3.3
Inflation, Prices, and Interest Rates	1	1.7
Handicap or disease discrimination	1	1.7
Voting rights and issues	1	1.7
Right to privacy	1	1.7
Anti-government activities	1	1.7
Health Manpower & Training	1	1.7
Riots and Crime Prevention	1	1.7
Community Development and Housing Issues/General	1	1.7
Direct war-related issues	1	1.7
Industrial Policy	1	1.7
US Energy Policy Domain		

Environment/general	7	14.9
Government Operations/General	5	10.6
Employee Relations and Labor Unions	4	8.5
Ethnic and minority discrimination	3	6.4
Immigration and Refugee issues	3	6.4
Inflation, Prices, and Interest Rates	2	4.3
Drinking water safety	2	4.3
Species and Forest Protection	2	4.3
Nuclear energy and Nuclear Regulatory Commission	2	4.3
Anti-government activities	1	2.1
Waste disposal	1	2.1
Indoor Environmental Hazards	1	2.1
Police, fire, and weapons Control	1	2.1
Social welfare/general	1	2.1
Employee benefits	1	2.1
Direct war-related issues	1	2.1
Human rights	1	2.1
Industrial Policy	1	2.1
Polish Anti- Stalinist Domain		
Anti-government activities	43	100
Anti-Three Mile Island Domain		
Nuclear energy and Nuclear Regulatory Commission	13	100

APPENDIX B: SAMPLE AND POLICY AGENDA CODES

HEALTH POLICY DOMAIN

Professional Associations

American Academy of Child Psychiatry
American Academy of Dermatology
American Academy of Orthopaedic Surgeons
American Academy of Pediatrics
American Academy of Physician Assistants
American Association for Dental Research
American Association of Nurse Anesthetists
American Chiropractic Association
American College of Cardiology
American College of Obstetricians and Gynecologists
American College of Preventive Medicine
American Dental Association
American Dietetic Association
American Federation for Clinical Research
American Gastroenterological Association
American Medical Association
American Nurses' Association
American Osteopathic Association
American Psychiatric Association
American Psychological Association
American Public Health Association
American Society of Hematology
American Society for Microbiology
American Speech-Language-Hearing Association
Association for the Advancement of Psychology
Association of Teachers of Preventive Medicine
College of American Pathologists
Endocrine Society
Medical Library Association
Myopia International Research Foundation
National League for Nursing
Physicians National Housestaff Association
Renal Physicians Association
Society for Investigative Dermatology

General Interest Groups

American Association of Retired Persons/National Retired Teachers Association
(AARP/NRTA)
Chamber of Commerce of the United States

Children's Defense Fund
Common Cause
Consumer Federation of America
Environmental Defense Fund
National Abortion Rights Action League
National Association for the Advancement of Colored People
National Council of Senior Citizens
National Farmers Union
National Urban League
Planned Parenthood Federation of America
Veterans of Foreign Wars of the United States
Women's Lobby

Health Interest Groups

American Brittle Bone Society
American Cancer Society
American Diabetes Association
American Heart Association
American Social Health Association
Arthritis Foundation
Candlelighters Foundation
Citizens for the Treatment of High Blood Pressure
Coalition for Health Funding
Community Nutrition Institute
Cooley's Anemia Foundation
Cystic Fibrosis Foundation
Epilepsy Foundation of America
Friends of Eye Research, Rehabilitation, and Treatment
Joint Council of Allergy and Immunology
Juvenile Diabetes Foundation
Mental Health Association
National Association for Retarded Citizens
National Foundation for Ileitis and Colitis
National Health Law Program
National Hemophilia Foundation
National Kidney Foundation
National Rehabilitation Association
National Society for Autistic Children
National Women's Health Network
Pennsylvania Diabetes Institute
Public Citizen's Health Research Group
United Cerebral Palsy Associations
Washington Business Group on Health

Private Firms, Foundations, Research Institutions, and Insurance Plans

ARA Services, Inc.
Blue Cross and Blue Shield Associations
Hoffman-La Roche, Inc.
Hospital Corporation of America
Kaiser Foundation Health Plan
Merck & Company
National Academy of Sciences Institute of Medicine
Pfizer Pharmaceuticals
Robert Wood Johnson Foundation
Upjohn Company

Labor Unions

American Federation of Labor-Congress of Industrial
Organizations (AFL-CIO)
American Federation of State, County, and Municipal Employees (AFSCME)
National Union of Hospital and Health Care Employees,
Service Employees International Union, AFL-CIO
United Automobile Workers (UAW)
United Mine Workers (UMW)

Educational Associations

American Association of Colleges of Pharmacy
American Association of Colleges of Nursing
American Association of Dental Schools
Association of American Medical Colleges
Council of Teaching Hospitals

Trade Associations

American Association of Professional Standards Review Organizations
American Health Care Association
American Health Planning Association
American Hospital Association
American Insurance Association
Calorie Control Council
Federation of American Hospitals
Group Health Association of America
Health Industry Manufacturers Association
Health Insurance Association of America
National Association of Home Health Agencies
National Coalition of Hispanic Mental Health and Human Service Organizations
National Council of Community Mental Health Centers
National Council of Health Care Services
National Association of Community Health Centers
Pharmaceutical Manufacturers Association

Associations of Government Officials and Organizations

Association of State and Territorial Health Officials
National Association of Counties
National Association of State Alcohol and Drug Abuse Directors
National Conference of State Legislatures
National Governors' Association
United States Conference of Mayors

Government Organizations

Federal Trade Commission

Department of Health and Human Services

Office of the Secretary
Office of the Assistant Secretary for Health
Alcohol, Drug Abuse, and Mental Health Administration

Food and Drug Administration

Commissioner and associated staff
Bureau of Drugs
Bureau of Foods
Health Resources Administration
Health Services Administration

National Institutes of Health

Director and associated staff
National Cancer Institute
National Heart, Blood, and Lung Institute
National Eye Institute
National Institute on Aging
National Institute of Allergy and Infectious Diseases
National Institute of Arthritis, Metabolism, and Digestive Diseases
National Institute of Child Health and Human Development
National Institute of Dental Research
National Institute of Environmental Health Sciences
National Institute of General Medical Sciences
National Institute of Neurological Communicative Disorders and Stroke
Health Care Financing Administration
Office of Management and the Budget
Veterans Administration
The White House Office

LEGISLATIVE BRANCH - HOUSE OF REPRESENTATIVES

Appropriations Committee

Democratic Party members and staff
Republican Party members and staff

Subcommittee on Labor and Health, Education and Welfare Appropriations

Democratic Party members and staff
Republican Party members and staff

Interstate and Foreign Commerce Committee

Democratic Party members and staff
Republican Party members and staff

Subcommittee on Health and the Environment

Democratic Party members and staff
Republican Party members and staff

Ways and Means Committee

Democratic Party members and staff
Republican Party members and staff

Subcommittee on Health

Democratic Party members and staff
Republican Party members and staff

LEGISLATIVE BRANCH - SENATE

Appropriations Committee

Democratic Party members and staff
Republican Party members and staff

Subcommittee on Labor and Health, Education and Welfare Appropriations

Democratic Party members and staff
Republican Party members and staff

Finance Committee

Democratic Party members and staff

Republican Party members and staff

Subcommittee on Health

Democratic Party members and staff
Republican Party members and staff

Human Resources Committee

Democratic Party members and staff
Republican Party members and staff

Subcommittee on Health and Scientific Research

Democratic Party members and staff
Republican Party members and staff

ENERGY POLICY DOMAIN

Congressional Committees: House

Subcommittee (Energy & Environment): Democrats
Subcommittee (Energy & Environment): Republicans
Subcommittee (Energy & Power): Democrats
Subcommittee (Energy & Power): Republicans
Subcommittee (Oversight & Investigation): Democrats
Subcommittee (Oversight & Investigation): Republicans
Subcommittee (Energy Development and Applications): Democrats
Subcommittee (Energy Development and Applications): Republicans
Subcommittee (Energy Research & Production): Democrats
Subcommittee (Energy Research & Production): Republicans

Congressional Committees: Senate

Subcommittee (Surface Transportation): Democrats
Subcommittee (Energy Conservation & Supply): Democrats
Subcommittee (Energy Conservation & Supply): Republicans
Subcommittee (Energy Regulation): Democrats
Subcommittee (Energy Regulation): Republicans
Subcommittee (Energy Research and Development): Democrats
Subcommittee (Nuclear Regulation): Democrats
Subcommittee (Nuclear Regulation): Republicans
Subcommittee (Energy and Foundations): Democrats
Subcommittee (Energy and Foundations): Republicans

Federal Agencies

The White House Office

Council of Economic Advisors
Council on Environmental Quality
Office of Management and the Budget
Office of Science and Technology
Department of Agriculture
Department of Commerce
Department of Energy
Economic Regulatory Administration
Federal Energy Regulatory Commission
Department of Interior
Department of Transportation
Environmental Protection Agency
Federal Trade Commission
Interstate Commerce Commission
National Science Foundation
National Transportation Safety Board
Nuclear Regulatory Commission
Solar Energy Research Institute
State Planning Council on Radioactive Wastes
Tennessee Valley Authority

Associations of State and Local Governments

California Energy Resources Conservation & Development Commission
California Public Utilities Commission
Coalition of Northeast Governors
National Association of Counties
National Conference of State Legislatures
National Governors Association
National League of Cities
United States Conference of Mayors
Western Governors Policy Office

Research Units

Mitre Corporation
National Economic Research Associates
National Academy of Sciences
Resources for the Future

Labor Unions

AFL-CIO
Oil, Chemical & Atomic Workers International Union
Metal Workers of America
United Automobile Workers of America
United Mine Workers

Trade Associations

American Gas Association
American Petroleum Institute
American Petroleum Refiners Association
Associated Gas Distributors
Association of Oil Pipe Lines
Gas Research Institute
Independent Gas Marketers Council Inc.
Independent Petroleum Association of America
Independent Terminal Operators Association
Institute of Gas Technology
Interstate Natural Gas Association of America
National Oil Jobbers Council
Natural Gas Supply Association
New England Fuel Institute
Petroleum Industry Research Foundation
Rocky Mountain Oil and Gas Association
Service State Dealers of America
Society of Independent Gasoline Marketers of America
Western Oil and Gas Association
American Mining Congress
Mining and Reclamation Council
National Coal Association
Slurry Transport Association
American Nuclear Energy Council
Atomic Industrial Forum
American Public Power Association
Edison Electric Institute
Electric Power Research Institute
National Association of Regulatory Utilities Commissioners
National Electric Reliability Council
National Rural Electric Cooperative Association
Utility Waste Management Group
American Wind Energy Association
Solar Energy Industries Association
American Bakers Association
American Institute of Merchant Shipping
American Iron and Steel Institute
American Paper Institute Inc.
Association of American Railroads
Chamber of Commerce of the U.S.
Chemical Manufacturers Association
Gas Appliance Manufacturers Association
National Association of Manufacturers
National Automobile Dealers Association

National Council of Farmer Coops
National Forest Products Association
National Retail Merchants Association
Petrochemical Energy Group

Professional Societies

American Association of Petroleum Geologists
American Institute of Architects

Business Corporations

American Natural Resources Company
Atlantic Richfield Company
Cities Service Company
Continental Oil Company
El Paso Natural Gas Company
Foothills Pipelines Ltd.
Gulf Oil Company
Houston Natural Gas Corporation
Northern Tier Pipeline Company
Northwest Energy Company
Phillips Petroleum Company
Shell Oil Company
Standard Oil of California
Standard Oil of Indiana
Standard Oil of Ohio
Sun Oil Company
Texaco Inc.
Tosco Corporation
Union Oil Company of California
AMAX Coal Company
Consolidated Coal Company
U.S. Steel Corporation
Allied General Nuclear Service
Babcock and Wilcox
Combustion Engineering Inc.
General Atomic Company
General Electric Company
Westinghouse Electric Corporation
American Electric Power Service Corporation
Brooklyn Union Gas
Columbia Gas System, Inc.
Commonwealth Edison Company
Consolidated Edison Company
Consumers Power Company
Detroit Edison Company

General Public Utilities
Hampton Roads Energy Corporation
Houston Lighting and Power Company
Montana Power Company
Northeast Utilities Service Company
Pacific Gas and Electric Company
Public Service Electric and Gas Company
Southern California Edison Company
Texas Utilities Company
Virginia Electric and Power Company
KMS Fusion Inc.
Republic Geothermal Inc.
Rio Blanco Oil Shale Company
Allied Chemical Corporation
American Motors Company
Boeing, Company
Burlington Northern Inc.
Chrysler Corporation
Dow Chemical, U.S.A.
Ford Motor Company
Foster Wheeler Energy Company
General Motors Corporation
Grumman Aerospace Corporation
Rockwell International Corporation
Stone and Webster Engineering Corporation
Thermo-Electron Inc.
TRW Inc.
Union Carbide
Union Pacific Corporation
United Technologies Corporation
Wheelabrator-Frye Inc.

Public Interest Groups

American Automobile Association
Center for Auto Safety
Citizen/Labor Energy Coalition
Consumer Energy Council of America
Consumer Federation of America
Critical Mass Energy Project
Energy Action Education Foundation
Environment Action Inc.
Environmental Coalition on Nuclear Power
Environmental Defense Fund
Environmental Policy Center
Friends of the Earth
National Audubon Society

National Consumer Law Center
National Wildlife Federation
Natural Resources Defense Council Inc.
New Directions
Public Interest Research Group
Sierra Club
Solar Lobby
Union of Concerned Scientists
U.S. Labor Party
Worldwatch Institute

LABOR POLICY DOMAIN

Labor Unions

Amalgamated Clothing & Textile Workers Union
American Federation of Government Employees
AFL-CIO
American Federation State, County, Municipal Emp
American Federation of Teachers
Communications Workers of America
International Assn of Fire Fighters
International Assn of Machinists
International Brotherhood of Teamsters
International Ladies Garment Workers Union
International Longshore & Warehouse Union
International Union of Operating Engineers
Oil, Chemical, & Atomic Workers Union
Service Employees International Union
United Auto Workers
United Electric Radio & Machine Workers of Am
United Food & Commercial Workers Union
United Mine Workers
United Steelworkers of Am

Business Associations and private corporations

Alliance of Am Insurers
American Bankers Association
American Council of Life Insurance
American Electronics Association
American Farm Bureau Federation
American Insurance Association
American Mining Congress
American Trucking Associations
Associated Builders and Contractors
Associated General Contractors of Am
Association of Private Pension & Welfare Plan
Blue Cross & Blue Shield Association

Business Roundtable

Chamber of Commerce of the United States
Chemical Manufacturers Association
Committee for Economic Development
Health Insurance Association of America
Ford Motor Company
General Motors Company
EI du Pont de Nemours & Co
Manville Corporation
National Alliance of Business
National Association of Home Builders
National Association of Independent Insurers
National Association of Manufacturers
National Association of Rehabilitation Facilities
National Federation of Independent Business
National Small Business United
National Tooling and Machining Association
Printing Industries of America

Professional Associations

American Academy of Actuaries
American Association of Community & Junior Colleges
American Hospital Association
American Lung Association
American Medical Association
American Nurses Association
American Society for Training & Development
American Society of Pension Actuaries
American Vocational Association
National Academy of Sciences
National Education Association

Political Interest Groups

American Association of Retired Persons
American Civil Liberties Union
American Jewish Committee
American Legion
Citizens Committee on Civil Rights
Congressional Black Caucus
Equal Employment Advisory Council
Lawyers Committee for Civil Rights
League of Women Voters
League of United Latin Am Citizens
Manpower Demonstration Research Corp
Mexican Am Legal Defense & Ed Fund

National Association Advancement of Colored People
National Association of Counties
National Conference of State Legislatures
National Conference of Black Mayors
National Council of Senior Citizens
National Federation of the Blind
National Governors Association
National League of Cities
National Organization for Women
National Right to Work Committee
National Urban League
National Women's Law Center
National Women's Political Caucus
National Youth Employment Coalition
Pacific Legal Found
Pension Rights Center
SER/Jobs for Progress
United States Conf of Mayors
Urban Institute
Wider Opportunities for Women
Women Employed
Women's Equity Action League
Women's Legal & Defense Fund

Federal agencies

Committee on Civil Rights
Council of Economic Advisors
Department of Education
National Institute of Occupational Safety & Health
Department of Justice
Office of the Secretary of Labor
Assistant Secretary for Policy
Employment and Training Administration
Mine Safety & Health Administration
Occupational Safety & Health
Equal Employment Opportunity Committee
General Accounting Office
Immigration & Naturalization Service
National Committee for Employment Policy
National Labor Relations Board
Pension Benefit Guaranty Corp
Small Business Admin
The White House Office

Legislative Groups

House Republicans
House Democrats

Senate Republicans
Senate Democrats

POLISH ANTI-STALINIST MOVEMENT

Civic Initiative

Independent group for academic cooperation
Movement for defense of human and civil rights
Society of Scientific courses (Flying Univ.)

Farmers

Independent self-governing trade union solidarity of individual farmers, aka Rural Solidarity

Labor Unions

Group against job discrimination
workers national movement
Independent self-governing trade union solidarity
Free trade unions
Independent self-governing union of teachers and educational employees

Liberals

Movement of free democrats

Mainstream Catholic

Club of catholic intelligentsia
Round table club
Universal weekly
Link
National Catholic union
The sign

Nationalist

Polish committee for the defense of life, the nation, and family
Civic committee to build a monument in honor of victims of Katyn
Confederation of independent Poland
Clubs in service of independence
Independence current
Polish independence accord
Committee accord for national independence

Radical Youth

Commandos
Independent association of students
Simply speaking
Young Poland movement
The movement

Revolutionary youth union
Student revolutionary committee
Student solidarity committee
The gray ranks
The mountaineers
Union of young democrats
Union of polish youth
Union of working youth
Union of rural youth

Regime Catholic

Christian Social Society
Pax fragment: Fronda
Pax fragment: Secession

Secular Left

Club of the crooked circle
National center of cooperating clubs
Movement of Polish socialists accord

ANTI-THREE MILE ISLAND MOVEMENT

Labor unions

United Automobile Workers
United Mine Workers

Public interest groups

Union of Concerned Scientists
Musicians for Safety
Mobilization for Survival

Local interest groups

Environmental Coalition on Nuclear Power
Three Mile Island Alert
Central Pennsylvanians United
Susquehanna Valley Alliance
People Against Nuclear Energy
Newberry Township anti-TMI
Anti-Nuclear Group Representing York

POLICY AGENDA CODEBOOK

General Introduction

Observations in Policy Agendas Project datasets are coded according to the guidelines and topic system described below. This codebook is an updated version of the original codebook created by Baumgartner and Jones.

Each entry is coded into one of 20 major topics and 220 subtopics. In this codebook, we provide a series of general coding guidelines for classifying observations, a complete list of all major topics and subtopics, and examples of cases coded in each subtopic. Users should note that not all the topic and subtopic numbers are consecutive and that the coding system is hierarchal: each subtopic falls within a single major topic. Analysts concerned with identifying each case dealing with a particular issue may want to use care in also examining the textual summaries for cases in related subtopics and in the ‘general’ subtopic, since these can include cases that discuss multiple subtopics. Also note that some Project datasets use limited additional codes (for example, New York Times and Encyclopedia of Associations) and these are described in related data codebooks.

2014 Update to Codebook

As of February 2014, this codebook reflects significant revisions to the PAP major and subtopic coding system that are now implemented in all public datasets. These changes include the closest implementation of the international Comparative Agendas Project codebook in the U.S. Context, and are listed below. All datasets now include two sets of codes: major topic codes and subtopic codes updated to the 2014 codebook described below, and major topic codes and subtopic codes that correspond to the Comparative Agendas Project (www.comparativeagendas.info/). These changes include, but are not limited to: the addition of a new major topic for “Immigration”, the addition of a subtopic code for “Fisheries,” and the merging of some country/region subtopic codes within “Foreign Affairs.”

Changes relevant to datasets with subtopics (Hearings, Laws, Executive Orders, State of the Union, Supreme Court, Roll Calls, Bills):

Moved 530 to 900

- Merged 1907/1908/1909/1911/1912/1914/1919/1920 as 1921
- Merged 342/343/344 as 342

Recoded obs. mentioning domesticated animal welfare in 709 as 405

Recoded obs. mentioning fishing issues and fisheries in 709 as 408

Recoded obs. mentioning specific industries in 504 as substantively related subtopics

Changes relevant to NYT dataset:

Moved 28 to 23

Recoded obs. mentioning immigration within 5 (as included in subtopic 530) as 9

Recoded obs. mentioning domesticated animal welfare within 7 (as included in subtopic 709) as 4

Recoded obs. mentioning fishing issues and fisheries within 7 (as included in subtopic 709) as 4

Recoded obs. mentioning specific industries in 5 as substantively related subtopics

Changes relevant to Most Important Problem dataset:

Moved “Immigration/illegal aliens” in 5 to 9

Changes relevant to Encyclopedia of Associations dataset:

Moved “Immigration” related observations into 9

Changes relevant to Policy Mood dataset (see data codebook for more information)

Moved 530 to 900

Recalculated 500s

For comparability with any existing analyses, the 2013 Codebook and corresponding archived versions of all datasets are available at <http://www.policyagendas.org/page/archive>. Any future fixes or data updates will not be reflected in these archived versions.

General Coding Guidelines

Observations are coded according to the single predominant, substantive policy area rather than the targets of particular policies or the policy instrument utilized.

For example, if a case discusses mental health programs for returning veterans it would be coded according to the predominant substantive policy area (mental illness, code 333) rather than the target of the programs (veterans affairs, code 1609). If a case discusses changes to the home mortgage tax deduction, it is coded according to the substantive policy area (consumer mortgages, code 1504) rather than the policy instrument (the tax code, code 107).

Observations that discuss appropriations for particular departments and agencies are coded according to their substantive policy area. Those that discuss appropriations for multiple departments and agencies that span multiple major topic codes are coded as general government operations (code 2000).

For example, cases that discuss appropriations for the Dept. of Energy are coded as energy (code 800) and those that discuss appropriations for the FAA are coded as air transportation (code 1003).

Cases that discuss appropriations across multiple major topic areas, such as appropriations for the Dept. of State (code 1900), the Dept. of Defense (code 1600), and the Dept. of Energy (code 800), are coded as general government operations (code 2000).

Observations that discuss terrorism and homeland security issues are coded according to their substantive policy focus.

Since 2001, the U.S. government has revised its nomenclature for many government activities, often associated with the creation of the Department of Homeland Security. Because we are sensitive to the historical consistency of our category system going back to 1947, this has required some adjustments. As a result, and according to the first guideline above, cases discussing terrorism and homeland security are coded according to the particular substantive aspect of terrorism or homeland security at issue. For example, if an observation discusses a terrorist act outside of the United States by a foreign entity, it will be coded as international terrorism (code 1927), while an observation that discusses strengthening airline security will be coded as air transportation (1003). Further, a case that discusses the protection of citizens from bioterrorist attacks with public health dimensions will be coded as health promotion (code 331), a case that discusses the prevention of terrorist attacks on crops or farm animals will be coded as animal and crop protection (code 405), and a case that discusses the prevention of terrorist attacks on nuclear energy facilities will be coded as nuclear energy (code 801). Observations dealing with the Department of Homeland Security (DHS) budget requests,

appropriations and other broad or cross-cutting issues involving DHS are coded as Civil Defense and Homeland Security Functions (code 1615), which includes general domestic terrorism prevention efforts.

Observations that discuss Native American affairs (code 2102), D.C. affairs (2014), or the affairs of U.S. Dependencies and Territories (code 2105) are placed in their corresponding subtopic codes regardless of substantive policy area. This is an exception to the first guideline.

For example, a case that discusses restrictions on firearms in D.C. are coded as D.C. affairs (code 2014) rather than weapons control (code 1209).

Observations that mention foreign countries are coded according to the following sub- guidelines.

Observations that discuss U.S.-focused implications related to the policy of a foreign country are coded according to the substantive policy area. For example, if a case discusses the implications of a country's CO₂ emissions policy on U.S. domestic climate change policy, it is coded as global warming (code 705).

Observations that discuss the U.S. and another country in a dyadic relationship are generally coded within "Foreign Trade," "Foreign Affairs," or "Defense" depending on the substantive policy focus. General U.S. foreign policy issues are coded as foreign affairs (code 1900) and non-specific bilateral agreements are coded according to the country mentioned (code 1910 or 1921).

Observations not mentioning the U.S. are coded according to substantive policy area within Foreign Affairs. For example, if a case discusses violations of human rights in a specific country it is coded as human rights (code 1925). Remaining cases without a substantive policy focus are coded

according to the region or specific country mentioned. These include cases discussing the entry of a new country into the E.U. (code 1910), the tax system of another country (code 1910 or 1921), or political developments in another country (code 1910 or 1921).

The “general” (NN00) subtopic includes cases where more than one distinct subtopic was discussed within a single major topic area.

For example, if a case discusses both water pollution (code 701) and air pollution (code 705), it is coded as a general environmental issue (code 700). Thus, the general category within each major topic area includes some cases that are truly general as well as some cases that are the combination of as few as two subtopics. Each major topic includes an “other” category (NN99) for issues that do not fit into any of the categories and for which there were too few cases to justify the creation of a new category.

While it is uncommon that observations not related to appropriations equally span two major topic areas, these observations are assigned the numerically lower major or subtopic code.

For example, a case that discussed both drinking water safety (code 701) and hydroelectricity (code 802) with equal weight is coded according to the numerically lower code (code 701). This is a rarely used, arbitrary guideline employed for cases that do not clearly have a distinguishable, predominate substantive issue focus.

List of Major and Subtopic Codes

Macroeconomics

100: General Domestic Macroeconomic Issues (includes combinations of multiple subtopics)

Examples: the administration's economic plans, economic conditions and issues, economic growth and outlook, state of the economy, long-term economic needs, recessions, general economic policy, promote economic recovery and full employment, demographic changes, population trends, recession effects on state and local economies, distribution of income, assuring an opportunity for employment to every American seeking work.

101: Inflation, Prices, and Interest Rates

Examples: inflation control and reduction, anti-inflation programs, calculation of inflation statistics and price index statistics, consumer price index, food prices, cost of living, interest rates, bureau of labor reports on inflation, effects of inflation on business, general economic statistics.

103: Unemployment Rate

Examples: unemployment and employment statistics, economic and social impact of unemployment, national employment priorities, employment and labor market development, bureau of labor reports on unemployment.

See also: 502, 503 solutions to unemployment problems.

104: Monetary Supply, Federal Reserve Board, and the Treasury

Examples: monetary policy issues, Federal Reserve's yearly monetary policy reports, Department of Treasury and Federal Reserve Board budget requests and appropriations, credit availability, national savings rate, relationship between fiscal and monetary policies, control of gold supply, gold reserve issues, savings bonds, treasury bonds.

See also: 1808 exchange rates; 1501 Federal Reserve banking issues.

105: National Budget and Debt

Examples: administration's yearly budget proposals, balanced budget act and enforcement, budget process, federal debt and deficit, deficit reduction and management proposals, budget projections, increases in the public debt limit, concurrent budget resolutions, impact of budget reductions on industries, states and communities, move trust fund accounts off-budget, move trust fund accounts on-budget, public debt issues, including retirement of public debt, changes in fiscal year status.

107: Taxation, Tax policy, and Tax Reform

Examples: state taxation of income, state and local income taxes, clarification of tax code, tax code reform, luxury and excise taxes, estate and gift taxes, corporate income taxes, administration tax proposals, income tax reform, tax treatment of charities, federal

tax code reform and simplification, revenue acts, impact of taxes on business, multiple tax changes (excise and capital gains), general tax changes, charitable contribution deduction bills, domestic tax breaks for foreign businesses, omnibus tax issues, general legislation that amends the Internal Revenue Code.

(Special Note: Specific tax changes should be coded based upon the subject matter. For instance, deductions for mortgages should go in mortgages; tax incentives to promote child care should go in child care.)

See also: 2009 IRS administration.

108: Industrial Policy

Examples: manufacturing strategy, technological capacity of industry, assistance to specific industries, national industrial policy, industry revitalization and growth, decline in U.S. industrial productivity, plant closings and relocation, industrial reorganization, commission on productivity, industrialization centers.

See also: 1806 international business competition; 1403 economic development programs.

110: Price Control and Stabilization

Examples: economic stabilization programs, wage-price control and freezes, administered pricing programs, emergency price controls.

199: Other

Civil Rights, Minority Issues, and Civil Liberties

200: General (includes combinations of multiple subtopics)

Examples: Civil Rights Commission appropriations, civil rights violations, Civil Rights Act, Equal Rights amendments, equal employment opportunity laws, discrimination against women and minorities, appropriations for civil rights programs, civil rights enforcement, coverage of the civil rights act, employment discrimination involving several communities (age, gender, race, etc. in combination), taking private property, impact on private property rights, employment discrimination due to race, color, and religion, and fair housing initiatives and discrimination in housing.

201: Ethnic Minority and Racial Group Discrimination

Examples: minority set aside programs, minority contracting and business development, appointment of minorities to federal judgeships, school desegregation, minority discrimination by rental car agencies, FBI hiring and promotion of minorities, race based crimes, investigation of the Ku Klux Klan.

202: Gender and Sexual Orientation Discrimination

Examples: gender and sexual orientation discrimination in the military, social security inequities affecting women, employment barriers to women, female salary inequities, sex discrimination regulations, equal pay for women.

204: Age Discrimination

Examples: age discrimination in employment, mandatory retirement ages, age discrimination in selection of federal judges, EEOC problems in enforcing age discrimination laws, retirement age policies.

205: Handicap or Disease Discrimination

Examples: discrimination against the disabled, airline discrimination against blind people, employment of persons with disabilities, insurance discrimination of blind people, civil rights of institutionalized persons and the mentally retarded, travel problems of the handicapped, discrimination based on genetics or health conditions, Americans with Disabilities Act.

206: Voting Rights, Participation, and Related Issues

Examples: state discriminatory barriers to voting registration, banning literacy tests, Voting Rights Act and enforcement, free mailing of voter registration forms, lowering the voting age to 18, abolition of poll taxes.

207: Freedom of Speech & Religion

Examples: amendments to the civil liberties act, religious freedom, physical desecration of the flag, school prayer, religious speech protection, anti-obscenity legislation.

208: Right to Privacy and Access to Government Information

Examples: privacy of consumer and worker records, employee drug and polygraph testing, computer access and security, police wiretapping, privacy of medical records, access to government records and information, disclosure and confidentiality standards for government information, electronic funds transfer and financial privacy, security and privacy of criminal arrest records, Freedom of Information Act (FOIA), dissemination of USIA films, programs or information within the U.S. or at museums, protection of women's abortion rights.

209: Anti-Government Activities

Examples: theory and practice of Communism, subversive activities control act, investigate the activities of the Black Panther Party, internal security laws, investigation of the Students for a Democratic Society, investigation of anti-Vietnam War protesters, investigation of the activities of the New Left, communist involvement in urban race riots, investigation of the Communist Party of Puerto Rico, investigation of student unrest at various universities, investigation of communist youth activities, establishing agencies to educate the public on the tactics of communist subversives, investigate the scope of

Soviet activity in the U.S., investigate communist infiltration of education institutions and the U.S. military.

299: Other

Examples: right to livelihood, legal fees equity act, misuse of OEO funds, membership on the Commission on Civil Rights

Health

300: General

Examples: National Institute of Health (NIH) appropriations, Department of Health and Human Services (DHHS) appropriations, activities that provide little evidence of policy direction, commissions to study health issues, solvency of Medicare.

301: Comprehensive health care reform

Examples: proposals to reform broader health system (rather than specific aspects of a program), including establishment of a national health care system, comprehensive Medicare reform, delegation of responsibilities to the states, changing responsibilities of states, regulation of state health care reform, initiatives in women's health, initiatives in rural health, federal assistance percentages, state share of Medicare or Medicaid payments.

See also: 334 long-term health care reform; 302 insurance reform.

302: Insurance reform, availability, and cost

Examples: Access, eligibility, the uninsured, Medicare premiums, Medicare supplemental insurance (Medigap), establishment of tax free medical savings accounts, regulation of the individual insurance market, health-related ERISA issues, coverage of veterans under Medicare, coverage of veterans under federal employee health plans (FEHB), regulation of HMOs and insurers with respect to general availability of coverage (e.g. patients' bill of rights), enrollment mix requirements for HMOs, catastrophic coverage under Medicare.

See also: 331-36 specific benefits; 334 long-term care insurance.

321: Regulation of drug industry, medical devices, and clinical labs

Examples: Generally about safety of products and procedures, approval processes, drug labeling and marketing, organ transplant allocations, safety of the blood supply, faulty cholesterol screening, prescription drug counterfeiting, pacemaker regulation, prescription drug labeling, over-the-counter drug safety, fatal allergic reactions to drugs, drug abuse in nursing homes, vitamin, mineral and diet supplements, regulation of drug marketing procedures, approval of drugs to combat specific diseases, FDA drug approval process, FDA regulation of medical devices, FDA approval of contraceptive devices, regulation of clinical trials, inspection of x-ray equipment by PHS.

See also: 335 prescription drug costs; 398 research; 1520 for antitrust issues.

322: Facilities construction, regulation, and payments

Examples: Construction of hospitals, laboratories, health centers and nursing homes, including issues of undersupply of such facilities in rural or urban areas (disproportionate share payments to hospitals) payments to hospitals for inpatient services under Medicare, emergency care facilities, regulation of standards and activities within these facilities, including personnel qualifications, HHS certification of long-term health care facilities, nursing home standards and regulation, Public Health Service (PHS) appropriations, PHS activities and regulation, medical lab reliability issues, Hospital Construction Act.

See also: 323 payments to providers; 325 teaching hospitals.

323: Provider and insurer payment and regulation

Examples: Reimbursement rates and methods for physicians, insurance companies, or specific procedures, peer review procedures, prospective payment system (PPS), appeals processes, payment rates for HMO services, regional adjustments, risk adjustment, reimbursement for chiropractors, foreign medical graduates, nurse practitioners, payment for outpatient services.

See also: 325 workforce training programs; 302 insurer or managed care consumer protections.

324: Medical liability, fraud and abuse

Examples: Malpractice issues, fraudulent medical degrees, unfair sales practices, misuse of federal funds for mental health care, Medicare overbilling, conflicts of interest, misuse of federal funds for mental health care, medical malpractice insurance coverage, revocation of physician licenses,

suspension of physician privileges, dispute resolution for medical malpractice claims, unfair sales practices in the diet and medical industries, liability protection for federal physicians.

See also: 325 physician certification and licensing.

325: Health Manpower & Training

Examples: Issues of undersupply and oversupply of health personnel, including incentives to practice in underserved areas, certification and licensing procedures, coverage of services provided by training programs and medical schools, reimbursement rates for teaching hospitals, collective bargaining, health manpower training, nurse training, public health training grants, physician training, medical libraries, nurse midwifery.

See also: 324 Malpractice issues, 323 compensation and regulation of health care providers.

331: Prevention, communicable diseases and health promotion

Examples: Cancer screening, health promotion programs, consumer guides, medical information, health education in schools, immunization, prevention programs for osteoporosis, sexually transmitted diseases, tuberculosis, federal response to AIDS, breast cancer treatment, skin cancer, renal disease, treatment of high blood pressure,

Legionnaire's disease, communicable disease control, sickle cell anemia prevention, polio, Center for Disease Control funding, designation of national health promotion holidays.

See also: 208 right to privacy; 341-44 drug and tobacco programs.

332: Infants and children

Examples: Preventive services for children, prenatal care, child and juvenile health care, school health programs, child immunization, Comprehensive Child Immunization Act, reduction of infant mortality, promotion of breast feeding, prenatal care programs, child health care, sudden infant death syndrome, childhood malnutrition, fetal alcohol syndrome, child dental care.

See also: 331 health education programs; 208 abortion related issues.

333: Mental illness and mental retardation

Examples: Federal role in providing services to the mentally ill, mental health services, quality of care for mentally ill, mentally ill and handicapped children, specialized housing for mentally retarded, mental health centers, veteran's mental health.

See also: 324 misuse of federal funds for mental health care; 322 reviews of hospital psychiatric programs.

334: Long-term care, home health, terminally ill, and rehabilitation services

Examples: Benefits and costs issues related to Medicare catastrophic costs, hospice, nursing homes, in home care, regulation of the sale of long-term health care to the elderly, long-term care insurance improvement, court appointed guardianships for the elderly and infirm, aging, gerontology research, National Institute of Aging, problems in financing long-term care, community alternative to

institutional care, approaches to long-term care for the elderly, conferences on aging, comprehensive home health care, rehabilitation needs of persons with head injuries, life-sustaining treatments for the terminally ill.

See also: 322 nursing home standards; 333 long-term care for the mentally ill; 1304 disability benefits; 1609 veterans' disability benefits; 323 payment for outpatient services; 336 provision of outpatient benefits.

335: Prescription drug coverage and costs

Examples: Medicare prescription drug coverage, coverage of specific drugs under Medicaid, rising costs of drug coverage, coverage of clinical trials and experimental treatments.

See also: 321 regulation of drug industry.

336: Other or multiple benefits and procedures

Examples: Treatment for Alzheimer's, dental services, vision services, renal disease, breast cancer detection and treatment, durable medical equipment (e.g. wheelchairs).

341: Tobacco Abuse, Treatment, and Education

Examples: cigarette advertising and regulatory issues, ban on smoking in federal buildings, increase public awareness of smoking health risks, smoking prevention education programs, health effects associated with smoking.

342: Alcohol/Controlled and Illegal Drug Abuse, Treatment, and Education

Examples: implementation of the national minimum drinking age act, alcoholic beverage advertising act, alcohol abuse among the elderly, prevention of adolescent alcohol abuse, health insurance coverage of alcohol abuse treatment, drunk driving victims protection, drunk driving enforcement aid for states, alcoholism prevention programs, drug abuse education and prevention programs in schools, community based anti-drug programs, federal prison substance abuse treatment availability act, drug abuse treatment programs and insurance coverage, extension of drug and alcohol abuse prevention programs, health coverage of drug and alcohol abuse treatment programs, drug and alcohol abuse prevention programs in schools, drug and alcohol abuse in the armed services, juvenile alcohol and drug abuse, entertainment industry efforts to curb drug and alcohol abuse.

See also: 1203 drug trafficking; 321 drug safety.

(Special Note: This topic merges previous subtopics 342, 343, and 344.)

398: Research and development

Examples: Alzheimer's research, research on women's health, government tax incentives for research and development, research grants to organizations and educational institutions, conferences on health-related issues, genetic engineering issues, medical research and regulatory issues, sleep

disorders research, NASA-NIH biomedical research, fetal tissue transplant research, health policy research programs, medical applications of biotechnology research, research on increased life expectancy, human genetic engineering research, biomedical and behavioral research.

399: Other

Examples: health consequences of a nuclear attack.

Agriculture

400: General (includes combinations of multiple subtopics)

Examples: DOA, USDA and FDA appropriations, general farm bills, farm legislation issues, economic conditions in agriculture, impact of budget reductions on agriculture, importance of agriculture to the U.S. economy, national farmland protection policies, agriculture and rural development appropriations, family farmers, state of American agriculture, farm program administration, long range agricultural policies, amend the Agriculture and Food Act, National Agricultural Bargaining Board.

401: Agricultural Trade

Examples: FDA inspection of imports, agriculture export promotion efforts, agricultural trade promotion programs, tobacco import trends, agricultural export credit guarantee programs, impact of imported meats on domestic industries, country of origin produce labeling, USDA agricultural export initiatives, value added agricultural products in U.S. trade, establish coffee export quotas, effects of Mexican produce importation, international wheat agreements, livestock and poultry exports, amend Agricultural Trade Development and Assistance Act of 1954, reemphasize trade development, promote foreign trade in grapes and plums, prohibit unfair trade practices affecting producers of agricultural products, extend Agricultural Trade Development, enact the Agriculture Trade Act of 1978, establish agricultural aid and trade missions to assist foreign countries to participate in U.S. agricultural aid and trade programs, Food, Agriculture, Conservation and Trade Act Amendments.

See also: 1800 general foreign trade; 1502 agricultural commodities trading.

402: Government Subsidies to Farmers and Ranchers, Agricultural Disaster Insurance

Examples: agricultural price support programs, USDA crop loss assistance, farm credit system financial viability, federal agriculture credit programs, agricultural disaster relief programs, subsidies for dairy producers, farm loan and credit issues, reforming federal crop insurance programs, credit assistance for family operated farms, federal milk supply and pricing policies, renegotiation of farm debts, USDA direct subsidy payments to producers, establishing farm program payment yields, peanut programs, wheat programs, evaluation of the supply and demand for various agricultural commodities, beef prices, cotton acreage allotments, shortages of agricultural storage facilities, agricultural subterminal storage facilities, financial problems of farm banks, Agricultural Adjustment Act, farm vehicle issues, Wool Act, Sugar Act, feed grain programs, cropland adjustment programs.

See also: 1404 farm real estate financing.

403: Food Inspection and Safety (including seafood)

Examples: FDA monitoring of animal drug residues, consumer seafood safety, budget requests for food safety programs, food labeling requirements, grain inspection services, regulation of health and nutrition claims in food advertising and labeling, sanitary requirements for food transportation, regulation of pesticide residues on fruit, food irradiation control act, regulation of artificial food coloring, federal control over the contamination of food supplies, meat grading standards, meat processing and handling requirements, improvement of railroad food storage facilities, shortage of grain storage facilities, food packaging standards, food buyer protection, regulation of food additives, federal seed act, definition and standards of dry milk solids.

See also: 401 inspections of food imports.

404: Agricultural Marketing, Research, and Promotion

Examples: soybean promotion and consumer information act, USDA commodity promotion programs, cotton promotion, wheat marketing problems, livestock marketing, new peanut marketing system, establishing a national commission on food marketing,

fruit and vegetable marketing, industrial uses for agricultural products, meat promotion program, national turkey marketing act, federal marketing quotas for wheat.

405: Animal and Crop Disease, Pest Control, and Domesticated Animal Welfare

Examples: USDA regulation of plant and animal mailing to prevent the spread of diseases, control of animal and plant pests, pork industry swine disease eradication program, virus protection for sheep, grasshopper and cricket control programs on farmland, USDA response to the outbreak of citrus disease in Florida, eradication of livestock diseases, brucellosis outbreak in cattle, USDA integrated pest management program, toxic contamination of livestock, fire ant eradication program, proposed citrus blackfly quarantine, predator control problems, biological controls for insects and diseases on agricultural crops, eradication of farm animal foot and mouth diseases, efforts to protect the food-supply from terrorist attacks, treatment and welfare of domesticated animals or animals under human control, use of animals for research, sale or transportation of animals

See also: 403 pesticide residues on foods; 704 pollution effects of pesticides; 709 welfare of wild animals and humane trapping.

408: Fisheries and Fishing

Examples: regulation of commercial fishing and fisheries, fisheries conservation and management; fish hatchery development; fishery resources; fish trapping; fishing licenses; general loans to fisheries or fisherman's associations; rebuilding of fisheries; fishing quotas.

See also: 498 fisheries research; 709 protection of fish species/populations, or restoration of fish habitats; 1007 regulation/safety of fishing vessels; 1902 international fishing agreements; 2103 public land conveyance for fisheries.

498: Agricultural Research and Development

Examples: condition of federally funded agricultural research facilities, USDA nutrition research activities, USDA agricultural research programs, regulation of research in agricultural biotechnology programs, organic farming research, potential uses of genetic engineering in agriculture, agricultural research services, research on aquaculture, fisheries research.

499: Other

Examples: methodologies used in a nationwide food consumption survey, agricultural weather information services, federal agricultural census, designate a national grain board, home gardening, redefinition of the term "farm", farm cooperative issues.

Labor, Employment, and Immigration

500: General (includes combinations of multiple subtopics)

Examples: Department of Labor budget requests and appropriations, assess change in labor markets to the year 2000, human resources development act, recent decline in the number of manufacturing jobs, national employment priorities, employment security administration financing, current labor market developments.

501: Worker Safety and Protection, Occupational and Safety Health Administration (OSHA)

Examples: mine safety regulations, lead exposure risks during construction activities, improving OSHA safety and health programs, petrochemical plant worker safety, repetitive motion illnesses in the workplace, OSHA penalties and procedures for violations resulting in employee death or disability, investigation of a fatal fire at a chicken processing plant in North Carolina, construction safety standards, improve procedures for occupational health hazards identification, identification of high-risk diseases in the work place, worker protection at Superfund clean-up sites, drug and alcohol abuse in the work place, compensation for occupational diseases, safety at DOE nuclear facilities, black lung benefits and black lung disease.

502: Employment Training and Workforce Development

Examples: job training partnership acts (JPTA), job opportunities and basic skills training programs, federal aid for job retraining, job displacement programs among timber workers, workforce 2000

employment readiness act, elderly workers and job re-training, DOL bonuses to states for training and employment of long-term welfare recipients, national employment priorities act, work incentive programs, manpower and employment problems in Cleveland, manpower development and training act, public service jobs for unemployed, public service job programs, Comprehensive Employment and Training Act (CETA), job training for veterans.

503: Employee Benefits

Examples: underfunded pension plans and pension plan protection, emergency unemployment compensation, guarantees of retirement annuities, employee stock ownership plans, pension benefit guarantee corporation, voluntary employee leave sharing program, unemployment compensation system financing, worker compensation ratemaking reform, tax treatment of employee fringe benefits, disability insurance legislation, railroad employment benefits, welfare and pension plans disclosure act, corporate solvency of health benefit plans, ERISA.

See also: 2004 federal employee benefits; 300s employee health benefits and access to coverage.

504: Employee Relations and Labor Unions

Examples: general labor-management relations, striker replacement legislation, operations of the NLRB, federal agency guidelines for worker dispute resolution, unions

and collective bargaining problems, labor law reform and unfair labor practices, terms of office for local labor union officers, investigation into the causes of labor disputes, notification of plant closures or layoffs, amend the National Labor Relations Act, right to organize, employee organization efforts.

See also: 1202 illegal activities of labor unions; 1926 International Labor Organization. (Special

Note: Industry-specific observations are coded according to substantive issue

area when possible: 1003 FAA regulation of pilot rest periods; 1005 federal mediation of railway employee dispute; 602 teacher strikes.)

505: Fair Labor Standards

Examples: minimum wage regulation for federal contracts, increase the minimum wage rate, enforcement of wage and hour standards, require contractors to pay wages at the rate in locality where the construction occurred, fair labor standards act, application of the fair labor standards act in Puerto Rico, penalties on employers for overtime work requirements, Davis-Bacon Act (or Davis Bacon).

506: Youth Employment, Youth Job Corps Programs, and Child Labor

Examples: youth employment through conservation projects, increase youth participation in job training centers, youth employment regulation and protection, voucher system to promote youth service programs, youth involvement in community service programs, summer youth education and employment programs, job training for disadvantaged youths, summer camps and youth camps (all activities and issues associated with summer and youth camps).

See also: 501 child labor safety.

508: Parental Leave and Child Care

Examples: Family and Medical Leave Act, child care assistance programs, child care for low and moderate income families, meeting the child care needs of working parents, affordability of insurance for day care centers, parental and medical leave, child care placement assistance for working parents, dependent care, dependent and Child care.

529: Migrant and Seasonal workers, Farm Labor Issues

Examples: migrant and seasonal worker housing, national office for migrant farm workers, migrant children's nutrition and education needs, improvement of migrant living and working conditions, social and economic problems of migrant workers, migrant workers and their effect on American labor, Mexican farm labor programs, migratory labor bills, health clinics for migratory farm workers, farm labor supply programs.

599: Other

Examples: discontinuance of monthly press briefings by the Bureau of Labor Statistics, worker alienation research, materialism and the American family work ethic, DOL automatic data processing system.

Education

600: General (includes combinations of multiple subtopics)

Examples: Department of Education (DOEd) appropriations, state of education in the U.S., education programs development, education quality, national education methods, impact of education budget cuts, white house conference on education, National Institute of Education.

601: Higher Education

Examples: student loan reform, reauthorization of the higher education act, higher education student financial aid programs, violations of NCAA regulations by some colleges, direct loan programs for graduate students, student loan fraud and default, role and financial need of black colleges and universities, Montgomery GI bill, military education, veterans education assistance, foreign students at U.S. military academies, rising costs of operating higher education institutions, improving the quality of higher education, Pell Grant eligibility changes, status of university endowments in light of federal aid reduction to higher education, national defense education act, Sea Grant and Space Grant programs.

602: Elementary and Secondary Education

Examples: federal elementary and secondary education programs, school funding disparities, education choice programs, high school dropout intervention programs, certification standards for public school teachers, impact of federal budget cuts on school districts, elementary and secondary

school student discipline problems, the Safe Schools Act, construction assistance for school facilities, high school scholarship programs, elementary and secondary schools and supplemental educational centers, preschool issues, charter schools, No Child Left Behind Act (NCLB), accountability in education, crime and violence in schools, general funding, broad curriculum reforms, broad testing reforms and teaching standards that do not emphasize specific subjects such as math, science, etc.

See also: 607 specific measures under NCLB aimed to increase the quality of education, math and science teacher certification standards.

603: Education of Underprivileged Students

Examples: Head Start programs, teaching disadvantaged students, Even Start Education Act, education needs of Hispanics, bilingual education needs, Department of Education grants to improve skills of economically disadvantaged students, effects of Head Start on later performance, adult literacy programs, combating adult illiteracy in the U.S., Head Start grant allocation formula, education for children from low income homes, enrichment programs for disadvantaged secondary school students, rural education initiatives.

See also: 201 school desegregation efforts.

604: Vocational Education

Examples: appropriations for vocational education programs, federal aid for vocational training, technical and vocational education programs, vocational aid program requirements, impact of proposed budget cuts on vocational education, vocational and occupational education, displaced homemakers vocational and education assistance.

606: Special Education

Examples: education programs for the deaf, DOEd grants for early intervention services for disabled infants and toddlers, appropriations for Education of the Handicapped Act, progress in implementing program for learning disabled youth, handicapped education, free public education for the handicapped, education assistance for the blind, Disabilities Education Act.

607: Educational Excellence

Examples: promotion of excellence in education, promotion of science and math education, education standards and testing, improvement of science education facilities, increase foreign language competency in U.S. schools, programs to promote teacher excellence, grants for improving computer education in schools, establish centers for gifted and talented students, use of telecommunications to share teaching resources, grants for library construction, federal library program developments, public library facilities, teacher certification standards for math and science teachers, subject-specific curriculum, testing standards and/or teaching reforms.

See also: 602 general reform efforts aimed at increasing the quality of education (e.g., NCLB), teacher certification standards for all teachers.

609: Arts and Humanities

Examples: Appropriations for NEA, NEH, Department of Interior loans for performing arts at parks, national endowment for local arts development programs, federal role in funding arts programs, federal funding for the Kennedy Center, White House conferences on the arts and humanities, American folklife.

See also: 1707 public broadcasting; 1798 NSF funding.

698: Research and Development

Examples: education research appropriations, Department of Education research and development programs, research on education technology.

699: Other

Examples: propriety of a videotape made by the Department of Education (DOEd), DOEd internal problems, review National Center for Education Statistics activities, dismissal of Education Appeal Board cases, retirement and lifelong learning.

See also: 2103 school land conveyances.

Environment

700: General (includes combinations of multiple subtopics)

Examples: EPA, CEQ, ERDA budget requests and appropriations, implementation of the Clean Air Act, implementation of National Environmental Policy Act (NEPA), review of EPA regulations, Environmental Crimes Act, U.S. policies and international environmental issues, requirements for states to provide source pollution management programs, EPA pollution control programs, Comprehensive Environmental Response Act (CERPA), environmental implications of the new energy act, environmental protection and energy conservation, adequacy of EPA budget and staff for implementing pollution control legislation.

701: Drinking Water Safety

Examples: Clean Water Act, EPA water pollution abatement, pesticides in groundwater, lead contamination of drinking water, drinking water safety programs, comprehensive program to assess the quality of the nation's groundwater, drinking water availability, dioxin levels in drinking water, fluoridation of water, Federal Water Pollution Control Act.

703: Waste Disposal

Examples: interstate waste disposal, solid waste management, federal management of municipal waste, municipal sewage problems, EPA municipal sewage treatment construction grants program,

recovery of energy from municipal solid waste, garbage and/or trash collection issues, waste treatment facility, storm water runoff.

704: Hazardous Waste and Toxic Chemical Regulation, Treatment, and Disposal

Examples: EPA administration of the Superfund program, hazardous waste sites cleanup, hazardous materials transportation, international movement of hazardous waste, insurance company liability for cleanup costs of hazardous waste sites, DOT routing of ultra hazardous cargoes, hazardous waste landfills, possible sites for nuclear waste repositories, toxic substances control and regulation, advance notice of hazardous of hazardous material storage for firefighters, pesticides regulation.

705: Air pollution, Global Warming, and Noise Pollution

Examples: Clean Air Act, air quality issues affecting national parks, EPA regulation of chemical plant emissions, costs and effects of chronic exposure to low-level air pollutants, ambient air quality criteria, global warming, national action plan for reducing greenhouse emissions, ozone layer depletion, national program to control acid rain, effects of chlorofluorocarbons on the ozone layer, regulation of automobile emissions, EPA noise control programs, CAFE standards, effects of climate change on the Chesapeake Bay.

707: Recycling

Examples: recycling contaminated materials, beverage container recycling, state and local recycling efforts, promotion of recycling as a means of reducing solid waste, resource conservation and recycling.

708: Indoor Environmental Hazards

Examples: radon awareness and disclosure act, indoor air quality and radon abatement legislation, lead exposure reduction, childhood lead poisoning prevention, public school asbestos inspections, management and control of asbestos in government buildings, EPA programs relating to indoor air contamination, airliner cabin air quality, health effects of exposure to low level radiation from video display terminals, EPA regulation of indoor disinfectants.

709: Species and Forest Protection

Examples: endangered species protection act, gray wolf restoration, protection of spotted owls, exotic bird conservation, protection of performance animals, regulation of trapping devices, bald eagle protection, regulation of laboratory animals, fish and wildlife protection and management programs, marine mammal protection, Bristol Bay fisheries protection, salmon conservation issues, sport fish restoration programs, protection of certain tuna species, scientific findings on late-successional forest ecosystems, old growth forest protection, wilderness refuge protection, control of illegal trade in animals and plants.

See also: 405 treatment of domesticated animals or animals under human control; 408 fishery conservation and management; 1902 international agreements on resource/wildlife conservation; 2101 national parks; 2103 public lands management.

710: Pollution and Conservation in Coastal & Other Navigable Waterways

Examples: preservation of wetlands, regulation of ocean dumping, pollution from cruise ships, plastic pollution/invasive species control, marine sanctuaries appropriations, pollution in the Chesapeake Bay, protection of coral reef systems, Columbia river water pollution, coastal barrier improvement, coastal erosion and management, federal and state coastal zone protection policies, toxic pollution in the great lakes, regulation of the incineration of hazardous wastes at sea, oil spills.

See also: 2104 water resources development; 711 pollution in small lakes, rivers, and streams and/or watershed protection.

711: Land and Water Conservation

Examples: watershed protection, including pollution/invasive species in small lakes, rivers, and streams; land and water conservation fund amendments, USDA soil conservation promotion, soil conservation for watershed projects, topsoil conservation standards, water supply problems, federal-state water resources rights with conservation or other environmental dimensions, beach erosion.

See also: 2104 water development projects.

798: Research and Development

Examples: environmental research and development programs, EPA research and development appropriations, global climate change research, ocean research using satellite technology, marine biotechnology research, National Environmental Data System.

799: Other

Examples: Environmental education, environmental citizens, eco-terrorism.

Energy

800: General (includes combinations of multiple subtopics)

Examples: Department of Energy (DOE) budget requests and appropriations, DOE and NRC budget requests and appropriations, national energy security policy, U.S. energy goals, U.S. energy supply and conservation, regulation of natural gas and electricity, impact of taxation on national energy policy, global energy needs, emergency plans for energy shortages, promotion of energy development projects, long-range energy needs of the U.S., energy capital requirements, establish the DOE, energy advisory committees.

See also: 2104 energy and water development projects.

801: Nuclear Energy and Nuclear Regulatory Commission Issues

Examples: Nuclear Regulatory Commission and Atomic Energy Commission budget requests and appropriations, nuclear power licensing reform, nuclear power plant fire safety legislation, U S. nuclear power policy, safety of nuclear facility storage tanks for high level radioactive waste, revise the claims system for nuclear accidents, standardized design for nuclear power plants, NRC regulation of the TVA nuclear power program, new technologies for safer nuclear reactors, need for international nuclear safety standards, Three Mile Island nuclear plant accident, state of the atomic energy industry, atomic energy patents, fusion energy act, Energy Research and Development Administration (ERDA), protection of nuclear plants from attack.

See also: 501 nuclear worker safety; 1614 defense related nuclear waste; 704 nuclear waste.

802: Electricity and Hydroelectricity

Examples: Tennessee Valley Authority (TVA) and Bonneville Power Administration (BPA) budget requests and appropriations, electric power plant construction, hydroelectric project licensing, hydroelectric power development, utility payment reform, FERC licensing of electric power plants, rural electrification programs, ability of rural electric cooperatives to provide adequate power, BPA electric power rates and ratemaking procedures, electric utility rate reform and regulation improvement, regional shortages of electric power, financial management of the TVA, electric utilities financial problems, regulation of electric power plants use of natural gas, vulnerability of U.S.

electric power systems to accidents, increase in rural electric rates, emergency sales of electric power, impact of inflation and recession on the electric utility industry.

803: Natural Gas and Oil (Including Offshore Oil and Gas)

Examples: natural gas regulation, natural gas pipeline safety issues, Trans-Alaska pipeline development, natural gas and oil exploration on federal lands, estimates of natural gas reserves in the U.S., state jurisdiction of the transportation of natural gas, process, collection and dissemination of information on winter heating fuels, oil prices and demand, gasoline price increases, OPEC crude oil prices, oil shortages, increase in world oil prices, long-term outlook of the world oil supply, oil imports and foreign commission payments, administration's gasoline rationing program, oil imports and energy security, foreign oil production and consumption, oil shale mining claims and regulation, estimating domestic oil production, petroleum storage facility fire prevention and safety, strategic petroleum reserve.

See also: 2103 mineral resources of the outer continental shelf; 710 oil spills.

805: Coal

Examples: DOE clean coal program, clean coal technologies, regulation of coal slurry pipelines, extent and recoverability of U.S. coal reserves, Great Plains coal gasification project, regulation of federal land leases for the extraction of coal, federal standards for surface coal mining, coal imports.

806: Alternative and Renewable Energy

Examples: hydrogen and renewable energy programs, promotion of solar and geothermal power, promotion of alternative fuels for automobiles, issues of ethanol gasoline, biomass fuel and wind energy programs, ocean thermal energy research, solar energy development program, assistance for the Synthetic Fuel Development Corporation, loans for alcohol fuel research, geothermal leases on federal lands, hydrogen programs.

807: Energy Conservation

Examples: energy efficiency in the U.S. government, home energy efficiency programs, community energy efficiency act, energy conservation in cities, energy conservation standards for household appliances, establish building energy performance standards, diesel fuel and gasoline conservation act, promotion of carpooling, daylight savings time extensions, motor vehicle fuel efficiency.

898: Research and Development:

Examples: national energy research and development policy, DOE energy technology research and development, energy storage research and development programs, role of national laboratories in energy research and development, hydrogen research and design programs.

899: Other

Examples: DOE and EPA use of consultants, energy materials and equipment allocation, standby energy authorities legislation, future requirements for energy data, establish the institute for long-range energy analysis.

Immigration

900: Immigration and Refugee Issues

Examples: immigration of Cuban refugees to the U.S., refugee resettlement appropriations, HHS authority over immigration and public health, INS enforcement of immigration laws, legalization procedures for illegal immigrants, assessment of Haitian refugee detention by the U.S., immigration and education issues for aliens, adjusting visa allocations based on applicant job skills, DOL certification process for foreign engineers working in the U.S., denial of visas to political refugees, appropriations for the INS, citizenship issues, expedited citizenship for military service.

See also: 529 migrant and seasonal workers; 1524 tourism; 1929 passport issues.

Transportation

1000: General (includes combinations of multiple subtopics)

Examples: Department of Transportation (DOT) and National Transportation Safety Board (NTSB) requests and appropriations, budget requests and appropriations for multiple agencies (NTSB, FAA,

CAB), surface transportation programs, national transportation policy, rural transportation needs, adequacy of transportation systems, Interstate Commerce Commission policies and procedures, impact of budget cuts on DOT programs, highway and mass transit programs, transportation assistance programs, high-speed ground transportation systems.

See also: 1003 budget requests and appropriations for FAA and CAB.

1001: Mass Transportation and Safety

Examples: mass transit grant programs, development of new urban public bus system, financial condition of the intercity bus industry, emergency subsidies to urban mass transportation programs, metrorail safety, public transportation.

1002: Highway Construction, Maintenance, and Safety

Examples: National Highway Transportation Safety Administration (NHTSA) budget requests and appropriations, federal aid for highway construction, highway safety and design, highway trust fund surplus, national maximum speed limit laws, pavement deterioration of highways in Florida, freeway problems in California, federal funding for bridge maintenance projects, highway user taxes, defense highway needs, control of advertising on interstate highways, infrastructure development, bridges, National Highway Academy, highway beautification programs, adding trees and plants along highways.

1003: Airports, Airlines, Air Traffic Control and Safety

Examples: Federal Aviation Administration (FAA) and Civil Aeronautics Board (CAB) budget requests and appropriations, aviation safety issues, financial condition of the airline industry, uses of satellite technology in aviation, FAA delay in procurement of air traffic control equipment, development of new commercial aircraft, commercial air service restrictions, airline compliance with FAA safety regulations, nationwide airport expansion needs, FAA air traffic controller standards, airlines fares and services, airplane crash liability standards, problems with airline computer reservation systems, air traffic control computer failures, oversight of CAB practices and procedures, CAB regulation of charter air carriers, rates and fares of foreign air transportation, federal airport construction aid, civil aviation academy.

1005: Railroad Transportation and Safety

Examples: AMTRAK budget requests and appropriations, federal railroad safety inspection and enforcement programs, development of high speed passenger rail transportation, growth of regional railroads, sales of short line and regional railroads, ICC rail rate regulation, AMTRAK passenger safety issues, freight rail industry regulation, Northeast Rail Service Act, shortage of railroad cars for commodity transportation, revitalization of Northeast Corridor rail properties, railroad deregulation.

1006: Truck and Automobile Transportation and Safety

Examples: trucking industry regulation, establish a national system of licensing for truck and bus drivers, truck safety audit and investigation procedures, prohibition of tandem trucks, size and weight limitations for trucks on interstate, impact of federal regulations on independent truckers, long and short haul trucking provisions, regulation of freight forwarders, ICC regulation of the trucking industry, motor vehicle safety issues, auto industry development of airbags, motor vehicle

information programs, automobile safety belt usage, automobile crash testing and standards, economic status of automobile manufacturing, all-terrain vehicle safety, trucking industry deregulation, efforts to reduce drunk driving.

See also: 705 automobile emissions regulation, automobile CAFE standards.

1007: Maritime Issues, Including Safety and Security

Examples: U.S. Coast Guard, Merchant Marine, and Federal Maritime Commission budget requests and appropriations, cargo liability limits and the carriage of goods by sea, cargo preference laws, revitalization of the maritime industry, commercial fishing vessel safety, navigation safety issues, cruise ship safety, commercial shipbuilding industry, navy policies on transportation of military cargo by Merchant Marine, financing construction of merchant ships, maritime freight industry regulation, intercoastal shipping act, regulation of ocean shipping rates, Great Lakes pilotage, small boat safety, Coast Guard operation of ocean weather stations, navigation rules on inland waterways, designation and naming of channels, designation and naming of vessels.

See also: 1902 international fishing and wildlife agreements; 1915 Panama Canal; 2104 port development and construction.

1010: Public Works (Infrastructure Development)

Examples: budget requests and appropriations for public works and civil works projects, transportation infrastructure improvements, public works investment needs, local public works employment projects, local public works capital development and investment act, Public Works Acceleration Act.

See also: 800 energy projects; 2104 water projects.

1098: Research and Development

Examples: surface transportation research and development, DOE requests for transportation research and development funding, research and development in ground transportation.

1099: Other

Examples: metric signing on highways.

Law, Crime, and Family Issues

1200: General (includes combinations of multiple subtopics)

Examples: emerging criminal justice issues, administration of criminal justice, revision of the criminal justice system, role of the U.S. commissioner in the criminal justice system.

1201: Executive Branch Agencies Dealing With Law and Crime

Examples: Judiciary, Department of Justice (DOJ), FBI, ATF, Border Patrol and Customs budget requests and appropriations, U.S. federal marshals witness protection program, review of FBI programs, improving criminal justice information systems at the state and local level, computerizing criminal records for nationwide law enforcement access, law enforcement assistance programs, ATF gang information network, debt collection by the DOJ, Secret Service protection of government officials.

(Special Note: For issues related to the Department of Homeland Security and domestic terrorism prevention efforts see the coding guidelines above.)

1202: White Collar Crime and Organized Crime

Examples: Asian organized crime activities in the U.S., racketeering control, organized crime in Atlantic City, organized crime in labor unions, white collar crime in the oil industry, RICO penalties, gambling and organized crime, president's commission on organized crime, credit card counterfeiting and fraud legislation, corporate criminal liability, prosecution of organized crime labor racketeering cases, cigarette bootlegging, general money laundering, efforts to counter cyber-crime.

See also: 1203 drug related money laundering.

1203: Illegal Drug Production, Trafficking, and Control

Examples: Drug Enforcement Administration (DEA) appropriations, national drug control strategy, federal interagency cooperation in drug control border drug interdiction, international narcotics control strategy, status of DEA drug interdiction programs, U.S.-- South American drug control strategy and cooperation, airborne drug trafficking deterrence, U.S. military involvement in drug interdiction, Coast Guard drug confiscation and search policies, drug trafficking and money laundering, money laundering detection and penalties, federal seizure of drug related property, drug trafficking in New York City, crack-cocaine trafficking in Delaware, legalization of drugs, the relationship between drug trafficking and crime, criminal penalties for drug trafficking.

See also: 1202 general money laundering (non-drug related).

1204: Court Administration

Examples: Judiciary budget requests and appropriations, federal courts administration act, restructuring district courts, construction of new federal courthouse, administration of the federal courts, reorganization of federal courts, reducing the workload of the Supreme Court, reform grand jury procedures, time limits for federal criminal cases, capital punishment procedures, effectiveness of the pretrial services agency, oversight of the Legal Services Corporation, jurisdiction of lawsuits made by foreigners on U.S. companies, criminal fine collection efforts, conditions for pre-trial release, bail guidelines and bail reform, establish an office of the public defender, Supreme Court issues, criminal records, legal services issues, confer jurisdiction upon Court of Claims (with no specific references to other subject matter), judicial pay.

(Special Note: many issues fall within this category regarding court administration so do not be surprised if you use this category many times during coding.)

See also: 1205 parole issues; 1210 criminal sentencing requirements and civil suit guidelines.

1205: Prisons

Examples: Federal Bureau of Prisons appropriations and budget requests, Federal Bureau of Prisons programs, halfway house contracts, alternatives to traditional incarceration for criminal offenders, prisoner 'boot' camp proposals, prison overcrowding, prison construction plans and policy, prison violence, shortcomings of the correction system, reform of the present parole system, national correction standards, penal reform.

1206: Juvenile Crime and the Juvenile Justice System

Examples: violent crime involving youth, juvenile justice and delinquency prevention act, juvenile court system, youth criminal activity, homeless and runaway youth assistance programs, adolescent drug use and related criminal activity, juvenile delinquency prevention programs, correlation of unemployment and the crime rate for youth, alternatives to juvenile incarceration, detention and jailing of juveniles, Institute for

juvenile justice, institute for continuing studies of juvenile justice, Juvenile Justice and Delinquency Prevention Act.

1207: Child Abuse and Child Pornography

Examples: child abuse prevention, national child search system, regulation of child pornography, violence against children, sexual exploitation of children, problems and incidence of missing children, federal efforts to relocate missing children, sexual abuse of children in day care homes, parental kidnapping of their children.

1208: Family Issues

Examples: court-ordered child support, battered women and child custody legislation, state of child welfare services, adoption and foster care programs, domestic violence, federal family planning programs, impact of drugs on children and families, aid for abandoned infants and children, teenage pregnancy issues, teenage suicide prevention, family services support for adoption, family economic problems, consequences of divorce, elderly abuse, domestic violence, child tax credits.

1209: Police, Fire, and Weapons Control

Examples: Federal financial assistance to state and local law enforcement, rights of police officers during internal investigations, police misconduct, neighborhood crime reduction programs, arson prevention, handgun control, revise federal gun control laws, seven-day waiting periods for handgun sales, control of explosives, establishment of a national police academy.

1210: Criminal and Civil Code

Examples: revisions of the federal criminal code, federal crime sentencing disparities, hate crimes sentencing enhancement act, federal rape law reform, judicial sentencing in narcotics cases, sentencing in capital cases, criminal penalties for assaults on firemen and policemen, proposals to abolish the death penalty, apply federal law to crimes committed on aircraft, civil penalty guidelines and limitations, criminal justice statistics, habeas corpus reform.

1211: Riots, Crime Prevention, and Crime Control

Examples: programs to prevent crimes against women, crimes against the elderly, deterring auto theft, violent crime control, national crime survey, federal criminal diversion programs, compensation programs for victims of violent crime, causes of urban riots and civil disturbances.

See also: 1208 domestic violence.

1299: Other

Social Welfare

1300: General

Examples: Health and Human Services (HHS) and Health, Education and Welfare (HEW) appropriations and budget requests, administration's welfare reform proposals, effectiveness of federal and state public welfare programs, social services proposals, public assistance programs, effects of economic and social deprivation on the psychology of underprivileged persons, social security and welfare benefits reforms, related state and local issues.

See also: 300 HHS appropriations specific to health; 300 HEW appropriations specific to health; 600 HEW appropriations specific to education.

1301: Food Stamps, Food Assistance, and Nutrition Monitoring Programs

Examples: USDA grants to states for women, infant and children (WIC) supplemental food program, childhood hunger relief, child nutrition programs, consumer nutrition awareness, food stamp abuse and fraud, approach to the U.S. hunger problem, USDA school breakfast/lunch program, malnutrition problems among the elderly, food assistance for low income families, coordinate USDA and HHS programs for nutrition monitoring, USDA food programs for the homeless, administration task force on food assistance, food stamp reductions, special milk program eligibility for public schools, national nutrition policy study, food assistance for the elderly, national school lunch act.

See also: 331 the role of diets in disease prevention.

1302: Poverty and Assistance for Low-Income Families and Individuals

Examples: Economic Opportunity Act antipoverty programs, programs to alleviate long-term welfare dependency, examine proposals to reform Aid to Families with Dependent Children (AFDC) program, needs of disadvantaged children from low-income families, efforts of Southern states to reduce poverty, mandatory work and training programs for welfare recipients, promotion of economic self-sufficiency for single mothers receiving AFDC benefits, HHS low-income energy assistance programs, budget cut impact on AFDC programs, general or cross-cutting issues related to Supplemental Security Income (SSI).

(Special Note: AFDC issues go in this category even if it also refers to Social Security Act or Administration (Title IV), child welfare issues associated with Social Security Act go in this category as well, Earned Income Tax credit.)

See also: 1204 legal assistance for the poor.

1303: Elderly Issues and Elderly Assistance Programs (Including Social Security Administration)

Examples: contributions into the social security fund, Older Americans Act, revise social security retirement earnings test, social security system filing problems, SSA procedures for handling claims for denied benefits, improve social security benefits for older women, social services for the elderly, management of the social security trust funds surplus, reduction of social security benefits, elderly assistance programs under the older Americans act, problems and needs of elderly women, cost of living adjustments for social security benefits, impact of budget cuts on the elderly, social security financing issues, energy cost assistance for the elderly, needs of rural elderly.

(Special Note: Omnibus legislation which includes multiple topics under Social Security goes in this category. In addition, specific topics such as changes to the SSA for the purpose of child welfare, housing, etc. should be coded in those more precise subtopics. Bills with no specific references to health care but are SS related, should be coded in this subtopic.)

See also: 1301 elderly nutrition assistance programs; 1408 elderly housing.

1304: Assistance to the Disabled and Handicapped

Examples: residential living programs for the mentally retarded and developmentally disabled, revision of aid to handicapped, technologies for assisting disabled persons, HHS grants for persons with chronic disabilities, needs of the elderly blind, rehabilitation assistance for disabled, programs for the deaf and hearing impaired, independent living programs for the handicapped, federal aid for the mentally ill and retarded, aid to physically handicapped, Randolph-Sheppard Act for the blind.

See also: 205 handicapped access to federal buildings.

1305: Social Services and Volunteer Associations

Examples: domestic volunteer service programs, youth volunteer programs, community volunteer programs, providing volunteer services for the elderly, ACTION agency older Americans volunteer programs, federal management of volunteer services, national meals-on-wheels programs, state social services programs, boy scouts of America, older worker community service programs, boys and girls clubs.

See also: 1929 Peace Corps.

1399: Other

Community Development and Housing Issues

1400: General

Examples: Housing and Urban Development (HUD) budget requests and appropriations, housing and the housing market, HUD policy goals, building construction standards,

future of the housing industry, national housing assistance legislation, administration and operation of national housing programs, housing safety standards.

1401: Housing and Community Development

Examples: HUD housing and community development programs, HUD loans for neighborhood revitalization efforts, HUD block grants, neighborhood development and preservation, housing and urban development, National Housing Act, making repairs and improvements to a residence.

See also: 1403 urban economic development; 1405 rural economic development.

1403: Urban Economic Development and General Urban Issues

Examples: urban enterprise zones, local partnership act, economic development needs of urban areas, community reinvestment act, urban revitalization, economic problems in various cities, national urban policy, effects of budget cuts on cities, federal role in dealing with urban decline, reducing urban sprawl, New York City financial bailout, model cities programs.

See also: 2001 intergovernmental relations.

1404: Rural Housing and FmHA Housing Assistance Programs

Examples: management of FmHA rural housing assistance program, FmHA home loan appeals procedure, shortages of low-income rural housing, housing credit needs in rural areas, FmHA management problems, agriculture real estate loans, FmHA farm loans.

See also: 1405 rural economic development.

1405: Rural Economic Development

Examples: credit assistance and availability for rural economic development, investment in rural areas, rural conditions, Appalachian Regional Development Commission, Economic Development Administration assistance, rural development oversight, economic and social problems of rural America, rural community development.

See also: 802 rural electricity development, 1706 rural telephone development.

1406: Low and Middle Income Housing Programs and Needs

Examples: housing affordability problems of low and moderate income families, federal housing assistance programs, low-income housing shortages, condominium conversion trends and housing affordability, rent control, deficiencies in public housing projects, budget renewal for HUD's Section 8 program, alleged mismanagement of HUD programs, tenant-management initiatives in public housing projects, HUD management of multi-family housing programs, security in public housing, neighborhood preservation, slum clearance and related problems, multifamily housing projects, housing affordability and availability.

See also: 200 fair housing initiatives and discrimination in housing; 1408 elderly housing.

1407: Veterans Housing Assistance and Military Housing Programs

Examples: VA home loan guaranty program, use of national service life insurance funds to underwrite mortgage loans to veterans, VA mortgage foreclosures, veterans emergency housing act, low cost rental housing for veterans, sale of permanent war housing to veterans, substandard housing of military personnel, housing in military areas, defense housing act.

See also: 1608 on-base military housing.

1408: Elderly and Handicapped Housing

Examples: Elderly housing needs, housing shortages and the elderly, alternative approaches to housing for the elderly, condominiums and the elderly, housing facilities for the elderly and handicapped, adequacy of federal response to housing needs of older Americans.

1409: Housing Assistance for Homeless and Homeless Issues

Examples: permanent housing for the homeless, federal aid for the homeless, Homeless Outreach Act, assistance for homeless veterans, lack of housing for homeless and low-income groups, use of emergency assistance funds for housing for homeless families, extent and causes of homelessness in the U.S.

See also: 603 education of homeless children.

1410: Secondary Mortgage Market

Examples: FHA mortgage insurance fund, soundness of the Federal Home Loan Mortgage Corporation and FANNIE MAE, abuses of FHA mortgage programs, mortgage marketing and mortgage credit, FHA to insure loans for residential mobile home purchases, examine the secondary mortgage market for industrial mortgages, FHA mortgage foreclosure procedures.

See also: 1504 consumer mortgages.

1499: Other

Examples: architectural competition, cellulose home insulation.

Banking, Finance, and Domestic Commerce

1500: General

Examples: Department of Commerce (DOC) and National Bureau of Standards (NBS) budget requests and appropriations, financial system structure and regulation, DOC reorganization plan, national materials policy, regulatory sunshine act, federal regulation of the economy, Interstate Commerce Act.

See also: 1800 Federal Trade Commission.

1501: U.S. Banking System and Financial Institution Regulation

Examples: Regulatory burden on financial institutions, FDIC and Resolution Trust Corporation (RTC) policies, interstate banking efficiency, RTC procedures for disposal of assets of failed savings and loan banks, FDIC bank insurance fund, banking regulation reform, failed federally insured savings and loan associations, need for financial service industry restructuring, financial institution fraud investigations, savings and loan crisis, FSLIC acquisition of insolvent savings and loan associations, uniform standards for saving institution advertising, standards for U.S. commercial bank foreign loan transactions, Federal Reserve regulation on check clearing systems--limit length of time that banks can hold checks, financial institution deregulation, electronic fund transfer act, interest rate regulation on savings accounts, national credit union administration, operation of federal intermediate credit banks, Reconstruction Finance Corporation, Federal Credit Union Act, Bank Holding Company Act, financial services industry reform.

See also: 104 Federal Reserve Board issues; 1525 Truth-in-Lending Act; 1202 prosecution of financial institution crimes.

1502: Securities and Commodities Regulation

Examples: Securities Exchange Commission (SEC) budget requests and appropriations, regulation of commodity markets, federal securities regulations, securities laws violations, regulation of commercial bank involvement in the securities market, SEC regulation of corporate bonds, examine stock market volatility problems, municipal bond market regulation, commodity futures trading commission, growth of money market mutual funds, pension fund investment policies, protection for securities investors, amend the Securities Exchange Act, regulation of mutual fund investment companies, commodities, Public Utility Holding Company Act.

1504: Consumer Finance, Mortgages, and Credit Cards

Examples: mortgage financing reform, consumer credit protection, real estate settlement procedures, consumer access to credit records, consumer information on credit card interest rates, consumer information on mortgage settlement costs, fraud and abuse among credit repair agencies, adjustable rate mortgages, regulation of credit card solicitations, inaccurate credit bureau information reporting procedures, Credit Control Act.

See also: 1410 government mortgage programs.

1505: Insurance Regulation

Examples: fraud and abuse in the insurance industry, insurance industry financial status, effectiveness of state regulation of insurance companies, insurance company failures, automobile insurance affordability and availability, no-fault motor vehicle insurance, life insurance industry regulation, sales of commercial life insurance on military bases, product liability insurance rates.

See also: 1523 flood and earthquake insurance.

1507: Bankruptcy

Examples: reform of consumer bankruptcy laws, professional fees in bankruptcy cases, bankruptcy code reform, depositor treatment in bankruptcy proceedings of uninsured financial institutions, bankruptcy regulation for farm families, municipal bankruptcy.

See also: 1204 bankruptcy courts; 530 employee benefits during bankruptcy; 1003 bankruptcies in airline industry.

1520: Corporate Mergers, Antitrust Regulation, and Corporate Management Issues

Examples: unfair competition in the tourism industry, meatpacking industry concentration, intellectual property antitrust protection, Sherman Antitrust Act, vertical price-fixing restrictions, price fixing agreements, monopoly problems in regulated industries, limited partnership regulations, foreign acquisition of U S. firms, corporate management structure, hostile corporate takeovers, seed-money corporations, Clayton Act, Sarbanes-Oxley Act.

See also: 1501 banking deregulation; 1003 airline deregulation; 1005 railroad deregulation; 1006 trucking deregulation; 1706 telephone deregulation; 1526 sports regulation; 803 oil industry deregulation; 1505 insurance industry regulation.

1521: Small Business Issues and the Small Business Administration

Examples: Small Business Administration (SBA) budget requests and appropriations promoting small business exports, small business credit availability problems, health insurance cost burden on small businesses, government assistance to small business, federal set aside contracts for small business, small business competitiveness under current liability laws, problems of small businesses complying with EPA regulations, SBA loans to small businesses, impact of deregulation on small

trucking businesses, SBA implementation of small business programs for veterans, promotion of women in small business, impact of product liability costs on small business, increases in small business failures, impact of federal regulations on small business, access to capital for small business, government competition with small business.

See also: 1523 small business disaster loan programs; 201 SBA minority business programs; 1609 VA small business loans.

1522: Copyrights and Patents

Examples: Patent and Trademark Office appropriations, copyrights and telecommunication, biotechnology patent protection, intellectual property rights, copyright infringement remedies, industrial design protection, patents for inventions made in space, copyright protection for computer software, music copyrights, piracy of intellectual property, patent application procedures, trademark use and clarification, home recording of copyrighted material, performance royalties, patent office fees.

1523: Domestic Disaster Relief

Examples: Federal Emergency Management Agency (FEMA) budget requests and appropriations, aid for flood disasters, national flood insurance reform, earthquake preparedness, FEMA disaster planning and relief operations, FEMA civil defense

programs, FEMA--national fire academy training programs, SBA disaster loans, interest rates on disaster loans, emergency credit extension to farmers in disaster areas, hurricane protection projects, early warning systems, drought relief, establishment of a national fire academy.

1524: Tourism

Examples: White House conference on tourism, promotion of tourism in the U.S., using tourism to promote development of rural economies, problems for foreign visitors, status of U.S. tourism industry, national tourism programs, regulation of travel agents.

See also: 530 immigration and refugee issues; 1929 passport issues.

1525: Consumer Safety and Consumer Fraud

Examples: Consumer Product Safety Commission (CPSC) budget requests and appropriations, deceptive mailings and solicitations, consumer reporting reform, auto repair fraud, state consumer protection standards, federal standards for product liability, child car seat safety, infomercials and consumer protection, deceptive ads in the diet industry, telemarketing fraud, debt collection and consumer abuse, penalties for consumer product tampering, the consumer protection advocacy movement, Truth-in-Lending Act, labeling of alcoholic beverages, regulation of deceptive practices in the funeral industry, cosmetic safety, false and misleading advertising, consumer affairs, control of flammable fabrics.

See also: 708 protection from indoor radiation hazards; 1504 fraudulent land sales.

1526: Sports and Gambling Regulation

Examples: regulation of greyhound racing, health and safety standards for boxing, promotion of professional standards for boxing, regulation of gambling on vessels, , regulation of interstate horse racing, status of amateur sports in the U.S., antitrust immunity for professional sports teams, President's Council on Physical Fitness and Sports, use of performance enhancing drugs in sports.

1599: Other

Examples: conversion to the metric system, emergency chlorine allocation, uniform time standards.

Defense

1600: General

Examples: Department of Defense budget requests and appropriations (DOD), Department of the Air Force, Army, or Navy appropriations, armed services bills covering multiple subtopics, DOD operations and maintenance, defense production act, reorganization of the DOD, status of the national military establishment, establishment of

the DOD, funding for defense activities of DOE, termination or designation of special defense areas.

See also: 1701 NASA\DOD issues.

1602: U.S. and Other Defense Alliances, U.S Security Assistance

Examples: NATO strategy and U.S. military presence in Europe, Japan-U.S. joint military operations, mutual security acts, changes in the Soviet Union and the future of NATO, NATO defense capabilities in Europe, Warsaw Pact status, Soviet Union and China defense and economic development needs, Soviet strategic force developments, U.S. military commitments to NATO, NATO military equipment, Southeast Asia collective defense treaty, inter-American military cooperation act, security assistance, UN peace-keeping activities.

1603: Military Intelligence, CIA, Espionage

Examples: foreign economic espionage, U.S. intelligence reorganization, congressional oversight of U.S. covert intelligence activities, DOD security review commission, intelligence activities of Soviet-bloc diplomats, CIA funds for the support of Nicaraguan rebels, leaks of classified defense information, national intelligence act, CIA estimates of Soviet defense spending, role of the national security advisor, foreign intelligence electronic surveillance, organized subversion in the U.S. armed forces, communist bloc intelligence activities in the U.S., CIA illegal involvement in Chile, testimony of a KGB defector, intelligence reports on the necessity of ABM missile deployment, workings of the Cuban intelligence network, recent Soviet navy and military activities in Europe, CIA employee retirement and disability system, U.S defense strategies, national security acts, national security council briefings, threats to U.S. interests, Soviet Union and China military capabilities.

1604: Military Readiness, Coordination of Armed Services Air Support and Sealift Capabilities, and National Stockpiles of Strategic Materials

Examples: DOD plans for modernization of nuclear forces, military sealift performance in the Persian Gulf War, defense mobilization requirements of domestic industries, DOD efforts to improve defense communication systems, national defense stockpiles, modernization requirements, integration of military traffic management and military sealift command, U.S. military readiness, DOD combat readiness programs, DOD mobility fuel requirements, fleet readiness, test and evaluation of the armed forces, shortages of essential materials, stockpiling of critical materials, disposal of various stockpiled materials, military air transportation readiness, production of fluorspar.

See also: 803 strategic petroleum reserves; 1616 defense industry.

1605: Arms Control and Nuclear Nonproliferation

Examples: Arms Control and Disarmament Agency (ACDA) budget requests and appropriations, nonproliferation of weapons of mass destruction, destruction of nuclear weapons in the Soviet Union, North Korean nuclear program, U.S. arms control policies, nonproliferation of chemical weapons, nuclear testing moratorium, DOE export controls of nuclear production material, arms export controls, arms reduction agreements between NATO and the Warsaw Pact, international ban on chemical weapons, global spread of

chemical and biological weapons, prevention of sale of weapons system to Japan, START arms control treaty, conventional forces reduction, violation of arms control agreements, nuclear proliferation in developing countries, implication of INF treaty for NATO, Soviet Salt II treaty violations, UN report on nuclear proliferation, arms trade in the western hemisphere, nuclear exports to India, U.S.-Soviet arms race control, EURATOM agreements, atomic weapons research and development, Arms Export Control Act revisions.

See also: 1803 chemical and advanced technologies export control.

1606: Military Aid and Weapons Sales to other Countries

Examples: military assistance to other countries, conventional arms sales policies, sale of f-15 aircraft, commercial military sales, donation of an obsolete aircraft carrier, proposed sale of weapons, DOD costs related to sales of military equipment to foreign countries, sale of decommissioned ships

See also: 1901 economic and military aid

1608: Manpower, Military Personnel and Dependents (Army, Navy, Air Force, Marines), Military Courts

Examples: DOD authorization requests for armed forces personnel strength levels, military personnel issues, child care programs at military installations, armed forces staffing requirements, imminent danger pay for those serving in the Persian gulf, DOD morale, welfare, and recreation programs, DOD officer promotion procedures, shortage of affordable housing for military families, benefits for military retiree spouses, special pay to encourage personnel retention, survivor benefit plans, defense officer personnel management act, status of army manpower, selective service system funding, unionization of military personnel, enlistment bonuses for service in a critical skill, increase flight pay for military aviators, recruiting and retention of military personnel, life insurance for military personnel, various personnel issues during W.W.II, Americans missing or prisoner in Asia, POW's in Vietnam, live sightings of U.S. prisoners of war, retired military personnel issues, military court martial, transportation of armed forces, air travel of armed forces, mail for armed forces, mail for servicemen, defense department overseas teachers pay and issues.

See also: 601 GI Bill and military academies.

1609: Veteran Affairs and Other Issues

Examples: veterans programs budget requests, veteran's benefit claims, VA national cemetery system, illness of Persian Gulf veterans, disabled veterans compensation, VA board of appeals adjudication procedures, VA benefits eligibility, compensation for veterans, cost of living adjustments for veterans, delays in processing veterans claims, problems faced by Vietnam era veterans, federal services for women veterans, VA life insurance programs, reorganization of veteran's food service operations, small business loans to veterans, consolidation of the veterans administration, veterans readjustment assistance act, veterans pay, veterans transportation issues.

See also: 300 series for veterans health care (.3 denotes military or veterans health); 601 veterans education benefits; 1407 veterans housing; 1409 homeless veterans; 2008

designating/naming Veterans Administration hospitals and medical centers; 1608 on-base military housing and retired military personnel; 502 for job training.

1610: Military Procurement and Weapons System Acquisitions and Evaluation

Examples: DOD budget requests and appropriations for procurement of weapons, DOD procurement process, DOD aircraft procurement, funding for the B-2, shipbuilding and conversion programs, weapons system testing and evaluation, DOD contracting for support services, procurement of the Navy SSN-21 attack submarine, DOD purchasing and control of military supplies, contracting out of core logistic activities, M-16 rifle procurement program, health of strategic U.S. Industries.

See also: 1617 oversight of defense contractors and contractor fraud; 1604 adequacy of supplies.

1611: Military Installations, Construction, and Land Transfers

Examples: military construction budget requests and appropriations, military construction programs, DOD commissary system, military lands withdraw, national war college restoration act, Fort Hood land acquisition, expansion of U.S. military bases in Spain, construction of bridges by the military, management of military clubs, military land conveyances, military real estate projects, national defense facilities act, military housing supplies, disposal of military property, construction of ordinance facilities, DOD real estate acquisitions, disposal of synthetic rubber facilities, sale of military stores to civilian employees, war plants disposal.

1612: National Guard and Reserve Affairs

Examples: reserve officer personnel management, army reserve force structure, deactivation problems of reserve units participating in Desert Storm, management of military reserve vessels, management of reserve air fleet, national guard tort claims, survivor benefits for reservists, reserve members payments for life insurance, national guard retirement credit, reserve pay, flight training for ROTC, status of reserve facilities, promotion system for reserve officers, composition of the naval reserve.

See also: 601 ROTC college education.

1614: Military Nuclear and Hazardous Waste Disposal, Military Environmental Compliance

Examples: environmental crimes at rocky flats nuclear weapons facility, radioactive and chemical contamination at nuclear weapons facility, disposal of defense related wastes, hazardous waste identification at military bases, navy shipboard waste disposal policy, nuclear site decontamination, DOD compliance with the clean air act, DOE nuclear weapons hazardous waste management, army disposal of chemical weapons stockpile, DOD shipment of toxic chemicals by rail, radioactive spills at an air force base, uranium mill tailings radiation control act, environmental impacts of MX missile siting.

See also: 704 nonmilitary hazardous waste disposal.

1615: Civil Defense & Homeland Security

Examples: radiological emergency planning, civil reserve air fleet, federal civil defense act, effects of limited nuclear warfare, federal fallout shelter construction, civil defense air raid shelter program, civil defense for national survival, civil air patrol, dept. of the army appropriations for civil functions, Dept. Homeland Security and related functions, DHS and efforts to prevent domestic terrorism within U.S. borders.

(Special Note: for issues related to the Department of Homeland Security and domestic terrorism prevention efforts see the general coding guidelines above.)

See also: 1523 FEMA domestic (weather related) disaster relief.

1616: DOD Civilian Personnel, Civilian Employment by the Defense Industry, Military Base Closings

Examples: assist workers affected by defense spending cuts, assist communities affected by DOD facilities closures, peacetime conversion of defense industry, base closure recommendations, maintenance of the U.S. defense industrial base, defense industry employment, protection of DOD civilian employees, closure of overseas military bases.

1617: Oversight of Defense Contracts and Contractors

Examples: defense contract audit agency, management and pricing of DOD defense contracts, overpricing by DOD contractors, defense procurement fraud, DOD inventory control system problems, defense contractor financial data reporting requirements, inventory control and accounting procedures used Bell Helicopter, DOD employees ethics program, DOD contractors health insurance reimbursement policy, prosecution of fraudulent defense contractors, problem of product substitution by defense contractors, establish system for documenting defense contractor performance, fraud/cost overruns at General Dynamics, quality assurance problems at Hughes missile production facility, Navy spare parts procurement overpricing, DOD contract profit policy, DOD contract award

procedures, review of military catalogue supply system, employment of DOD personnel by defense contractors.

1619: Direct War Related Issues and Foreign Operations

Examples: appropriations for military operations in Vietnam, U.S. relations with Laos, cost of the Vietnam War, impact of the Vietnam War, war-related civilian problems in Laos and Cambodia, air war against North Vietnam, Gulf of Tonkin incidents, U.S- Laotian security relations, military strategy in the Korean War, military supplies and equipment in Korean War, ammunition shortage in Korean War, Korean War mobilization programs, prisoners of war, Geneva convention for protection of POW's, elimination of German resources for war, shipment of war relief supplies, Pearl Harbor attack, war assets administration, investigation of the Katyn Forest massacre.

See also: 1620 settlement of war related claims against the U.S. Government.

1620: Relief of Claims Against U.S. Military:

Examples: refunds or settlements for military dependents, relief of citizen injuries caused by the military, refunds for veterans, return of confiscated property, settlement of damage claims caused by war, settlement of foreign claims against military.

See also: 1929 International or Foreign Claims Act; Foreign Claims Settlement Commission; 2015 claims against the U.S. Government.

1698: Research and Development

Examples: DOD budget requests and appropriations for research and development, advanced materials research, laser technology, R&D on aerospace plane, office of Naval research, tilt rotor technology, DOD testing of airborne radar jammer, nuclear weapons R&D.

1699: Other

Examples: issues arising from the explosion aboard the U.S.S. Iowa, resolution honoring a DOD staff director, army helicopter safety, government liability for atomic weapons testing, army food irradiation program, military commemorative legislation, including the award of military medals and commemoratives, Congressional Gold Medals for military personnel, incorporate American War Mothers.

See also: 2101 military parks and memorials.

Space, Science, Technology and Communications

1700: General

Examples: Federal Communications Commission (FCC) and the Office of Science and Technology Policy budget requests and appropriations, science and engineering personnel requirements for the 1990s, U.S. technology policy, FCC oversight review, reorganization of the FCC, national engineering and science policy, automation and technological change, FCC regulation of multiple subtopics (TV, telephone, cable, etc.).

See also: 1798 NSF research funding.

1701: NASA, U.S. Government Use of Space, Space Exploration Agreements

Examples: NASA budget requests and appropriations, NASA administrative issues, president's proposal for the space station Freedom, costs of the space station, policy goals for NASA space programs, problems with the Hubble Space Telescope, nuclear power and space exploration, review the space shuttle Challenger accident, international space policy, shuttle deployment of satellites, U.S. space cooperation with the Soviets, NASA satellite communications, Skylab 1 mechanical difficulties, Apollo 16 mission report, status of the Apollo program, NASA-DOD space programs budget requests and appropriations, DOD-NASA national aerospace plane program, NASA and DOD space launch vehicle requirements, prototype construction of a commercial supersonic transport airplane, DOD use of space.

1704: Commercial Use of Space, Satellites

Examples: international competition in space launch services, U.S. commercial space launch industry, Landsat satellite sale to private sector, encourage private sector development of satellite launch vehicles, status of private investment in space activities, solar power satellite research, earth resources technology satellite program, communication satellites.

See also: 1707 satellite TV broadcasting; 1708 weather satellites.

1705: Science Technology Transfer, International Scientific Cooperation

Examples: technology transfer improvements act, technology transfer barriers and limitations, science cooperation between U.S. and Latin America, U.S.-East European cooperation in science research, U.S. policy of cooperation with foreign countries on science and technology, international science cooperation, technology transfer from the U.S. government to private industry, U.S.-Japan agreement to conduct more joint science and technology research, Department of Commerce technology transfer activities, international support for supercollider program, university and industry cooperation for technological advancements, create a national scientific information data processing center.

See also: 1803 restrictions on exports of high technology.

1706: Telephone and Telecommunication Regulation

Examples: national communications infrastructure, mobile communications, telephone network reliability, unauthorized switching of consumers to long distance carriers, international communications regulation, FCC regulation of 1-900 numbers, telecommunication development in rural areas, AT&T regulation, FCC regulation of telephone rates, review FCC awarding of cellular licenses, regulation of interstate telecommunications, FCC regulatory practice in telecommunications, dial-a-porn regulation.

See also: 208 telephone privacy; 1525 telephone marketing fraud.

1707: Broadcast Industry Regulation (TV, Cable, Radio)

Examples: Public Broadcasting Corporation budget requests and appropriations, FCC regulation of cable, reallocation of radio frequencies from federal to private sector use, FCC regulation of radio, use of TV in the classroom for educational purposes, regulation of violence on TV, closed caption regulation of TV, competitive problems in the cable industry, requirements for transferring radio/TV broadcast licenses, oversight of Board for International Broadcasting, FCC network acquisition approval, national public radio financial problems, establish the committee on film classification, regulation of films and broadcasts demeaning ethnic, racial or religious groups, FCC authority to regulate subscription TV, TV and movie rating system, newspaper industry regulation, Newsmen's Privilege Act.

See also: 1929 Radio Free Europe program

1708: Weather Forecasting and Related Issues, NOAA, Oceanography

Examples: NOAA budget requests and appropriations, modernization of the national weather service, weather forecasting and warning technologies, NOAA and NASA global change research program, NOAA ocean research vessels, geological surveys of the U.S., agriculture weather information service, tornado forecasting and detection, status of the federal oceanographic fleet, adequacy of the national weather service severe storm forecasting, ocean and marine resources programs, U.S. marine and atmospheric science programs, arctic weather reporting stations.

See also: 710 protection of marine environments.

1709: Computer Industry, Computer Security, and General Issues related to the Internet

Examples: high-performance computer development, computer viruses, superconductivity research, lease of computer software.

(Special Note: Issues related to specific issues with the Internet should be coded in their respective categories. For example, financial exploitation over the Internet should go in white collar crime (code 1202).)

1798: Research and Development

Examples: National Science Foundation (NSF) budget requests and appropriations, mission of NSF, alleged abuses of federal research grants to universities, federal cooperation with universities for science research, electric and magnetic field research, telecommunications equipment research, metals research and development, DOE superconducting supercollider program, improving research facilities for science in U.S. universities, HDTV research, robotics research., national aerospace plane technology, missile development and space science.

1799: Other

Examples: establish a systematic approach to value engineering, consider various proposals for defining U.S. time zones, sightings of UFOs, establish a national science academy.

Foreign Trade

1800: General

Examples: Federal Trade Commission (FTC), U.S. International Trade Commission, or International Trade Administration, budget requests and appropriations, world steel trade trends and structures, various tariff and trade bills, oversight hearings on U.S. foreign trade policy, U.S. trade relations with socialist economies, trade reform act, trade expansion act, tax and trade regulations, customs court issues, trading with enemy acts.

See also: 401 foreign agricultural trade.

1802: Trade Negotiations, Disputes, and Agreements

Examples: north American free trade agreement (NAFTA), Caribbean basin free trade agreements, U.S. job market implication of NAFTA, GATT final agreement, U.S.-EC meat trade disputes, multinational trade negotiations, U.S. and China trade relations, normalize economic relations between U.S. and the former Soviet Union, U.S. and Japanese commercial trade, MFN trading status of China, energy trade between U.S. and Canada, U.S.-Canada Free Trade Agreement, MFN status for Romania, taxation convention with Pakistan.

See also: 401 agricultural trade.

1803: Export Promotion and Regulation, Export-Import Bank

Examples: export development administration, compliance with U.S. trade laws related to the Arab boycott, export promotion programs, EX-IM bank export financing programs, restrictions on high technology exports, tax incentives to encourage exports, encourage formation of export companies, national security export licensing, export control to the Soviet Union and Warsaw Pact countries.

1804: International Private Business Investments, Overseas Private Investment Corporation (OPIC)

Examples: foreign acquisition of U.S. owned companies, foreign direct investment in the U.S., improve federal coordination of information on foreign investments in the U.S., reciprocal foreign investment protections, U.S. business investment abroad, review foreign bank takeovers, evaluation of the overseas private investment corporation, investors involvement in illegal payments to foreign officials, activities of American multinational corporations abroad, foreign investment and American jobs, removal of tax barriers as an incentive for increased foreign investments, trade fairs, international business exchange and investments.

1806: Productivity and Competitiveness of U.S. Business, U.S. Balance of Payments

Examples: international competitiveness of the U.S. automobile industry, national competitiveness act fostering technological development, report of the competitiveness council policy, U.S. industrial

trade competitiveness, federal role in supporting hi-tech competitiveness, U.S. international economic competitiveness, foreign competition in the banking industry, international competitive status of the U.S. electronics industry, Buy American Act.

See also: 108 domestic industry productivity.

1807: Tariff and Import Restrictions, Import Regulation

Examples: violation of country of origin documentation to avoid import quotas, steel import restrictions, increase of duties on materials to make pipes, expedite Commerce Dept. responses for import restriction requests, restrict import activity that adversely affects industries vital to national security, country of origin labeling requirements, U.S. textiles import quota program, countervailing duty waivers, aviation tariff charges, prohibit importation of Rhodesian chrome, duty-free entry, various tariff proposals, meat import restrictions, antidumping act and import restrictions, import restrictions for the

domestic shoe manufacturing industry, import relief for leather industry, free entry of various items to colleges, universities, and for other purposes, foreign trade zones.

1808: Exchange Rates and Related Issues

Examples: Dept. of Treasury exchange rate policy, DOT international financial policy, currency manipulation and foreign exchange rates, exchange value of the dollar, U.S. policy regarding dollar decline in foreign exchange value, impact of exchange rates in U.S. trade, international monetary reform, eurocurrency monetary control, Vietnamese currency transfer legislation, fluctuation of the yen-dollar exchange rate.

1899: Other

International Affairs and Foreign Aid

1900: General (Department of State and U.S. Information Agency appropriations)

Examples: Department of State and U.S. Information Agency Budget Requests and Appropriations, U.S. foreign policy in view of recent world political developments, U.S. post-cold war foreign policy, U.S. foreign policy and national defense issues, international tax treaties, international development and security, the U.S. ideological offensive--changing foreign opinion about the U.S., role of the diplomatic corps in foreign policy development and administration, foreign operations appropriations, information and educational exchange act, require Senate approval of treaty termination, establish the U.S. academy of peace, role of multinational corporations in U.S. foreign policy, Department of Peace, National Peace Agency.

1901: U.S. Foreign Aid

Examples: Foreign Assistance budget requests and appropriations, emergency food assistance program, U.S. economic aid to eastern Europe, U.S. foreign aid to the Soviet Union, foreign

assistance and Peace Corps programs, U.S. assistance programs in Africa, proposals for financial assistance to Northern Ireland, donation of surplus agriculture products to countries with famine, U.S. international health assistance activities, migration and refugee assistance, food for peace program, European recovery program, international disaster relief, Foreign Assistance Act and its relationship to drugs.

1902: International Resources Exploitation and Resources Agreement

Examples: Antarctic environmental protection, prevention of high-seas drift net fishing, U.S. territorial sea boundaries, international agreements on fishing, Antarctic minerals policy, U.S. policy regarding the International Whaling Commission, foreign fishing in U.S. Territorial waters, regulation of exploration and recovery of international seabed hard minerals, north pacific seal fur treaty between the U.S, Canada, Japan, and the Soviets, UN conference on the law of the sea, attempts to outlaw whaling, international conservation efforts.

See also: Major topic 7 environmental protection, especially 700 for U.S. policies and international environmental issues.

1905: Developing Countries Issues

Examples: developing countries population problems, global hunger and food availability, impact of AIDS on children in developing countries, homeless children in developing countries, international family planning, role of environmental degradation in causing famine, assess elementary and secondary education programs in developing countries, effect of economic development projects on public health in developing countries, infant nutrition education practices, world population growth and its impact on natural resources.

1906: International Finance and Economic Development

Examples: International Monetary Fund (IMF), World Bank, multilateral development bank loans, Inter-American development bank, third world debt problems, Council on International Economic Policy, Agency for International Development (AID), private sector development in Africa, U.S. financial contribution to the IMF, European development and the U.S. economy, promotion of economic development in Latin America, Paris economic summit issues, international financial management systems improvement, economic development in the Caribbean Basin, strategies to alleviate third world debt, world economic situation and U.S. economic policies, international debt and implications for international financial institutions, east-west economic relations, international energy development assistance programs, Bretton Woods agreement increasing U.S. contributions to the IMF.

1910: Western Europe and Common Market/European Union Issues

Examples: 1990 German reunification, political and economic conditions in Europe, tax convention with the UK, European Union, treaty of friendship and cooperation with Spain, labor market policy in Sweden, British entry into the Common Market and general implications for the U.S., civil conflict in Northern Ireland, peace treaties with Italy and Romania.

(Special Note: Please see guideline #5 regarding the coding of observations that mention foreign countries.)

1915: Panama Canal Issues and Other International Canal Issues

Examples: Panama Canal Commission appropriations, strategic importance of the Panama Canal, claims for ship damages in the Panama Canal, Panama Canal treaty issues, Panama Canal traffic and capacity, maintenance and operation of the Canal, development of new transoceanic canal.

1921: Other Country/Region Specific Issues

Examples: the return of Hong Kong to China, political repression in China, economic conditions in Russia, political changes in Eastern Europe, investigation of communist takeover of Hungary, civil war in Liberia, South African war with Namibia, administration policies on apartheid, political developments in El Salvador, Japanese income tax system, declining political status of Taiwan, restoration of the Kuwaiti

government after the Persian Gulf War, peace process in the Middle East, Arab-Israeli conflict.

See also: 1605 U.S.-Soviet arms agreements; 1901 U.S. foreign aid to the former Soviet Union; 1910 issues dealing with the conflict between Turkey and Greece over Cyprus.

(Special Note: Please see guideline #5 regarding the coding of observations that mention foreign countries. This topic merges previous subtopics 1907, 1908, 1909, 1911, 1912, 1914, 1919, and 1920.)

1925: Human Rights

Examples: Human rights abuses in Latin America, human rights abuses in Middle East, war crimes tribunal hearings for Serbs, U.S. international human rights policy, Helsinki Accords human rights agreements, UN report on human rights in Cuba, Soviet human rights issues, government use of torture, human rights violations in Indonesia, worldwide religious persecution, crimes associated with genocide and crimes against humanity.

1926: International Organizations other than Finance: United Nations (UN), UNESCO, International Red Cross

Examples: U.N. conference on environment and development, management of the U.N., international labor organization, termination of U.S. membership in UNESCO, international games for the disabled, international criminal court, UN food and agricultural organization, UN activities in response to Iraq's invasion of Kuwait, review of U.S. role in the U.N., planning preparation for 1984 summer Olympics, U.N. position on major policy issues, International Health Agency, U.N. report on international housing, construction of Olympic facilities.

See also: 1602 UN peace-keeping force issues.

1927: Terrorism, Hijacking

Examples: U.S. protection of witnesses of terrorist acts, security of nuclear plants from terrorist attacks, impact of international terrorism on travel, legal mechanisms to combat terrorism, political killings in foreign countries and the international response, West Germany's political response to terrorism, international aircraft piracy.

See also: 1615 Dept. of Homeland Security related functions and domestic terrorism prevention efforts within U.S. borders.

1929: U.S. Diplomats, U.S. Embassies, U.S. Citizens Abroad, Foreign Diplomats in the U.S., Passports

Examples: State Department's management of U.S. embassies, U.S. citizens living abroad, regulation of travel for U.S. citizens, restrictions on foreign diplomatic immunity, Overseas Teacher Act, enhancement of security at U.S. diplomatic missions, reform the foreign service personnel system, U.S. citizens imprisoned in Mexico, passport fraud problems, training of foreign affairs personnel, Voice of America program, Radio Free Europe program, United States Information Agency (USIA), Peace Corps, U.S. Academy of Foreign Service or U.S. Foreign Service Academy, Radio Marti, designation of public

international organizations, International Claims Act, Foreign Claims Act, Foreign Claims Settlement Commission.

See also: 1603 espionage; 208 display of USIA programs in US.

1999: Other

Government Operations

2000: General (includes budget requests and appropriations for multiple departments and agencies)

Examples: budget requests for various agencies and independent commissions, budget requests for DOL, HHS, and DOE, appropriations for VA, HUD, and independent agencies, budget requests for DOC, DOS, and DOJ, appropriations for the GSA, budget requests for legislative branch programs, supplemental appropriation bills, appropriations for the Treasury, Postal Service, and general government appropriations

2001: Intergovernmental Relations

Examples: federal, state, and local sector role in economic development, general exchange or transfer of funds from federal to state governments, performance of the advisory committee on intergovernmental relations, general revenue sharing authorization, state implementation of federal block grants, general revenue sharing, federal grant management reform, problems with state and local government finances, federal v. state claims to offshore resources.

2002: Government Efficiency and Bureaucratic Oversight

Examples: quality improvement strategies, reinventing government--restructuring the public sector, performance standards for federal agency programs, role of the council on competitiveness in regulatory review, agency jurisdiction overlap and reform, financial soundness of government

corporations, need to improve government printing practices, government management problems, rule making committees in the development of federal regulations, federal agency use of advisory committees, oversight of the OMB, federal agency internal accounting standards, effort to reduce federal paperwork, allowing industry to comment on proposed federal regulations, decreasing agency reports to Congress, legislative oversight of federal agency programs, proposal to terminate DOE and transfer its functions, government waste and abuse, investigation into mismanagement of the GSA, government reorganization plans, conflicts of interest in regulatory agencies, applying economic analysis to public programs, Inspectors General, executive reorganization or executive branch reorganization, government goals, Administrative Conference Act, government printing office, recycled paper and products for government printing.

See also: appropriations for departments and agencies see topical field.

2003: Postal Service Issues (Including Mail Fraud)

Examples: United States Postal Service (USPS) budget requests and appropriations, USPS rental of property, need for additional postal facilities, oversight of USPS operations, USPS budgetary and cost issues, performance of USPS first class delivery, USPS implementation of a nine digit zip code, increase in overseas postal rates, operation and organization of the postal rate service, postal worker injuries, postal worker stress disorders, violence in the USPS, postal reorganization act, USPS efforts to automate mail processing, regulation of mail solicitations, deceptive mailing prevention act, commemorative stamps, annual report of the postmaster general, early retirement of postal employees, day care centers for postal employees, training for postmasters, regulation of obscene mail.

See also: 201 racial discrimination in the USPS; 2008 construction of post office buildings.

2004: Government Employee Benefits, Civil Service Issues

Examples: federal employee collective bargaining rights, civil service retirement benefits, federal agencies use of temporary employees, White House personnel authorization act, federal employees leave policy, federal and military wage policies, whistle blower protection for federal employees, federal personnel awards, executive personnel exchange, personnel management policies of the Senior Executive Service, tort protection for federal employees, reform pay system for federal workers, early retirement program for federal workers, government personnel training programs, federal employee contribution requirement, personnel performance appraisal system, payroll deductions for federal employees, oversight of the civil service retirement system, cost of living allowances for federal employees, authorize additional GS-16, GS-17, and GS-18 positions, civil service pension fund and interest earnings, manpower utilization in the federal government, Presidential compensation, federal employee management relations, congressional pay and

congressional wages, combinations of legislative, executive, and judicial pay, reduction in force, merit systems protection board.

See also: 200 discrimination in the federal government employment; 300s changes to federal employee health benefits; 2003 postal employees; 2012 political activities of federal employees.

2005: Nominations and Appointments

Examples: nominations and appointments for all departments and agencies.

2006: Currency, Commemorative Coins, Medals, U.S. Mint

Examples: appropriations for the U.S. Mint, minting of commemorative coins, replacement of one dollar bills with coins, statehood commemorative coins, gold medal awards for Olympic athletes, design of new U.S. currency, George Washington commemorative coin act, Susan B. Anthony dollar, additional mint facilities in Denver, increasing coin production, coin to commemorate the Louisiana purchase, congressional gold medals, Congressional Medals for non-military actions.

See also: 104 monetary policy.

2007: Government Procurement, Procurement Fraud and Contractor Management

Examples: appropriations for the Office of Federal Procurement Policy, government procurement system, federal acquisition improvement, arbitration of service contract disputes, DOE contractor management, penalties for federal procurement fraud, GSA auditing of contractor bills, timeliness of federal payments to private vendors, efforts by federal agencies to circumvent the competition in contracting act, federal contract auditing policies, fraud in federal procurement programs, federal consulting service contracts, commission on government procurement, federal contract renegotiation act, omnibus contracting legislation.

See also: 1610 military procurement; 1617 military contractor oversight.

2008: Government Property Management

Examples: federal facilities construction, GSA management of public building leases, GSA's capital improvement program, construction projects for federal courthouses, restrict smoking in federal buildings, operating costs of presidential libraries, government office space contract management, DOE property sale authorization, sale of a federal building to San Francisco, donation of surplus federal property to state and local governments, construction of a social security office, relocation assistance and property acquisitions, foreign service buildings act, post office buildings, designating or naming federal buildings, including postal service buildings, federal courthouses, and VA medical centers, donated surplus property to states and local governments, motor vehicles provided to officers and members of the federal government.

See also: 2100 conveyance of real property.

2009: IRS Administration

Examples: IRS tax system modernization, IRS employee misconduct, taxpayer assistance and treatment, settlement of disputes between tax payers and IRS, IRS collection of delinquent income taxes, , IRS internal management and quality of service, IRS processing of income tax returns,

reorganization of the IRS, taxpayers bill of rights, investigation or inspection of tax records by federal agencies or congressional committees, collection procedures for federal taxes.

See also: 107 taxation.

2010: Presidential Impeachment & Scandal

Examples: access to materials of the Nixon Administration, CIA involvement in Watergate, pardon of Nixon, transcripts of recorded presidential conversations, statement of information provided by Nixon, legal issues associated with the impeachment of Nixon, Kissinger's role in wiretapping, 1972 presidential campaign activities, special prosecutor and Watergate grand jury legislation, Whitewater, Clinton impeachment, Lewinsky scandal, Travelgate (White House Travel Office).

2011: Federal Government Branch Relations and Administrative Issues, Congressional Operations

Examples: line-item veto proposals, pocket veto issues, constitutional roles of the president and Congress in declaring and waging war, limits on presidential war powers, amendment to permit legislative vetoes, Supreme Court ruling on the legislative veto,

presidential claim of executive privilege for withholding information from Congress, continuity of federal government during an emergency, joint committee on the organization of Congress, operation of Congress, reorganization of Congressional committees, honoring retiring House members, presidential transition funding, TV broadcasts of Senate hearings, operation of the Senate Office of Sergeant at Arms, Congressional page system, investigation of a Senator, electronic voting equipment in the Senate, transmittal of executive agreements to Congress, require the president to submit annual social reports to Congress, House rules for debate, creation of a joint committee on the budget, president's emergency powers, impeachment of federal officers other than the President, legislative reference service, legislative research, Library of Congress issues, depository libraries, congressional investigations, franking privilege, legislative reorganization.

2012: Regulation of Political Campaigns, Political Advertising, PAC regulation, Government Ethics

Examples: appropriations for the Federal Election Commission and the Office of Government Ethics, federal election campaign reform, lobbying regulations for former federal employees, regulation of political campaign ads, televising debates on political issues, revising the presidential election campaign fund system, regulation on foreign corporation lobbying, campaign finance reform, political activities of federal employees, financial or business interests of Senate employees, lobbying regulations, polling, independent counsel (other than presidential investigations), Hatch Act (specifically dealing with political activities of federal employees), electoral college reform.

2013: Census

Examples: census bureau budget requests and appropriations, census bureau's population estimates and impact on state funding, census undercounting, census data collection techniques, management of the census, federal statistics collection, counting welfare payments as income on the census, reductions in force at the census bureau.

2014: District of Columbia Affairs

Examples: DC budget requests and appropriations, creation of the DC supreme court, DC public school system, health care reform in DC, water quality problems in DC, statehood for DC, transfer ownership of RFK to DC, revise the DC judicial system, overcrowding in DC correctional facilities, DC commuter tax, DC borrowing authority extension, Washington metropolitan area transit authority metrorail construction, DC fiscal problems, drug and crime crisis in DC.

(Special Note: This covers many subject areas that would normally be coded in other subtopics (housing, medical programs, transportation systems, etc.). See related coding guidelines above.)

2015: Relief of Claims against the U.S. Government

Examples: Refunds and settlements for individuals and corporations, terrorist attack compensation policies without other substantive dimensions.

2030: Federal Holidays

Examples: activities of federal holiday and commemorative commissions, enactment of MLK, Jr. birthday as a national holiday, provide for uniform annual observances of legal public holidays on Mondays, establish Veteran's Day as a holiday.

2099: Other

Examples: government check cashing problems, state lottery operations, former members of Congress organization, review winning papers in a high school essay contest, federal audio-visual materials, commemorative legislation, catalog of federal assistance programs, bicentennial celebration, free guide service at U.S. Capitol.

Public Lands and Water Management

2100: General

Examples: Budget Requests and Appropriations for the Department of Interior (DOI) and the Bureau of Land Management, proposed plan for the Department of Natural Resources, earth resources and drilling technology, resources planning, resource recovery act, activities and programs of the DOI, conveyance of certain real property of the U.S. government, conveyance of certain real property to states.

2101: National Parks, Memorials, Historic Sites, and Recreation

Examples: Budget requests for the National Park Service and Smithsonian Museums, concessions management at National Parks, Wounded Knee Park and Memorial, park protection legislation, management of Yellowstone Park, National Park Service feasibility study, threats to national parks,

establishment of Barrier Island National Park, inclusion of Alaska Lands in the national park system, national forest recreation facilities, national park management issues, river systems recreation assessment, aviation heritage national historic preservation act, community recreation enhancement, recreational boating safety, national African American museum, historical park designation, designation of scenic trails, maintenance on monuments and memorials, proposals for a national visitors center, military parks and memorials, land conveyance for national parks or national memorials, Wild and Scenic Rivers, land conveyance for monuments, national seashore issues, National Historic Preservation Act, National Register of Historic Places, Smithsonian Institution issues.

See also: 2103 public lands management.

2102: Native American Affairs

Examples: Budget proposals and appropriations for Indian programs, Indian health programs, Indian water claims, federal recognition of Indian tribes, assistance to Indian tribal courts, management of Indian irrigation projects, economic aid for Indian reservations, law enforcement on Indian reservations, Indian participation in government contracting, Indian health care programs, Native Hawaiian children educational problems, Alaskan natives claims settlement, land conveyance involving Native

American lands or Native American groups, Indian Child Welfare Act, Indian gambling and casinos, Indian Gaming Regulatory Act.

(Special Note: This covers many subject areas that would normally be coded in other subtopics (housing, medical programs, transportation systems, etc.). See related coding guidelines above.)

2103: Natural Resources, Public Lands, and Forest Management

Examples: Budget requests and appropriations for the Forest Service and the Bureau of Mines, national forest timber sales programs, timber supply stability, forest health and clear-cutting, Colorado wilderness act, wilderness area designation, management of Pacific-Northwest old forest growths, mine reclamation, various public lands bills, forest fire prevention and control, modification of public land boundaries, management of livestock grazing on public lands, grazing fees on public lands, public land conveyance bills, enforcement of federal mining standards, wild horse control on public lands, deep seabed mineral resources, development of mineral resources on public lands, mineral exploration and development, conveyance of lands to school districts, conveyance of sewage systems on public lands, protection of archeological resources on public lands, conveyance of fish hatcheries, conveyance of public lands, payments to states from receipts derived from national forests located within such states, protecting the shores of publicly owned property.

See also: 709 animal and forest protection; 803 oil and gas leasing; 805 coal leasing; 1611 military land conveyances; 2101 land conveyance for national parks/monuments.

2104: Water Resources Development and Research

Examples: Budget requests and Appropriations for civil works programs and the Army Corps of Engineers, budget requests and appropriations for energy and water development projects, Army Corps of Engineers water resources development programs, Mississippi water development, water resources development, appropriations for dam construction, Missouri River Basin irrigation project,

Colorado River Basin salinity control program, federal flood control programs, River and Harbor Flood Control Act, energy and water development projects, dredging in the Missouri River, deep water port construction, safety of dams and other water storage and control structures, Upper Snake River irrigation projects, various reclamation projects, reservoir construction, navigation and flood control projects, interstate water compacts, connecting bodies of water, Small Reclamation Projects Act, Bureau of Reclamation, general reclamation projects.

See also: 711 water and soil conservation, watershed protection; 802 hydroelectricity; 1007 navigation and maritime issues.

2105: U.S. Dependencies and Territorial Issues

Examples: future political status of Palau, Puerto Rico statehood issues, federal-territorial relationship between the U.S. and Guam, compact of free association between the U.S. and Pacific island nations, federal policies for economic development of Guam, termination of trusteeship of the Marshall Islands, proposed changes in the constitution of American Samoa, Alaska and Hawaii territorial issues, statehood for Hawaii and Alaska, Virgin Islands Corporation, various Organic Acts related to territories, former territories, and U.S. protectorates.

(Special Note: This covers many subject areas that would normally be coded in other subtopics (housing, medical programs, transportation systems, etc.). See related coding guidelines above.)

2199: Other

List of Major Topic Codes

- 1 = Macroeconomics
- 2 = Civil Rights, Minority Issues, and Civil Liberties
- 3 = Health
- 4 = Agriculture
- 5 = Labor, Employment, and Immigration
- 6 = Education
- 7 = Environment
- 8 = Energy
- 9 = Immigration
- 10 = Transportation
- 12 = Law, Crime, and Family Issues
- 13 = Social Welfare
- 14 = Community Development and Housing Issues
- 15 = Banking, Finance, and Domestic Commerce
- 16 = Defense
- 17 = Space, Science, Technology, and Communications
- 18 = Foreign Trade
- 19 = International Affairs and Foreign Aid
- 20 = Government Operations
- 21 = Public Lands and Water Management

Additional Major Topics for New York Times and Encyclopedia of Associations (Annual) Datasets

23: Arts and Entertainment

24: State and Local Government Administration

Examples (NYT): state and local candidates, campaigns, and elections, budget and tax issues, ethical issues about state and local officials, state and local buildings, museums, parks, landmarks, historical locations, state and local procurement and contracts, urban planning (zoning, land use, competition between cities to attract businesses, city boundaries), state and local services (water supply, street cleaning), constitutional issues (city charter revision), state and local statutes and ordinances, legislative action, speeches by the mayor or governor (inaugural, state of the city, state of the state addresses), partisan politics in the legislative arena, nominations to the state supreme court.

26: Weather and Natural Disasters 27: Fires

29: Sports and Recreation 30: Death Notices

31: Churches and Religion

99: Other, Miscellaneous, and Human Interest

(Special Note: More information about dataset specific topic coding issues can be found in each dataset's corresponding codebook. The EA full dataset version also utilizes a series of additional codes that are aggregated to the below for annual comparisons to other PAP datasets.)

APPENDIX C: MERGM MODELING TIPS

MPNet manual link:

http://sna.unimelb.edu.au/data/assets/pdf_file/0004/1185745/MPNetManual.pdf

Learned tips

1. Matrix construction

MPNet works in raw matrix text files. An easy way to create these files is in UCINET. Using Data > Export > Raw (obsolete) will give you the exact type you need. Make sure to specific Field width to 1 and decimal places to 0.

2. Diagnostic testing

The biggest obstacle to model degeneracy is a skewed distribution. Using UCINET or any other program to obtain the degree distribution, check the degree count of each node. There is no rule of thumb, but I have found that fixing ties to nodes that are over twice the standard deviation has dramatically improved convergence.

3. Visualization

The output files are actually formatted to be used in Pajek. Visualizing the networks should be a prerequisite to make sure you have imported your data correctly. For instance, if you have a gist of what the observed network looks like, the visualization can serve as a simple check to see if the network were imported correctly.

4. Estimation

In my experience, increasing the amount of runs will almost always cause degeneracy. Instead, a technique that has always served me well is slowly increasing the multiplication factor by 10 every run. Also, as a rule of thumb, the multiplication factor should max out at the highest number of nodes you have. Once you start going over that number, it is a good indication that the parameters selected are not going to work out.

5. GOF

The GOF should be checked at every run. There are two reasons for this. First, by checking the actual amount of observed instances for each parameter, you get a basic impression of which parameters will need to be entered or have a large influence. Second, by checking each time you have entered a different parameter, you will get an impression of how well or worse that parameter has made the fit.

6. Output

The output is sometimes very difficult to read in a text file. If you copy and paste it in excel, MPNet has formatted it to match the cells appropriately. This makes reading and creating tables much, much easier.