Networks, Diffusion, and Cycles of Collective Action

Pamela Oliver and Daniel Myers

This chapter shows how different 'network' arguments about how protest spreads imply quite different underlying mechanisms that in turn produce different diffusion processes. There is considerable ambiguity about the relationships among networks, diffusion, and action cycles and the way these can be identified in empirical data. We thus both seek to unpack the 'network' concept into different kinds of processes, and then show how these different network processes affect the diffusion processes we are studying. We sketch out some formal models to capture some of these distinctions.

This chapter extends recent work (Oliver and Myers forthcoming) that develops diffusion models of protest cycles, and focuses on discussing link between network concepts and diffusion concepts in understanding protest cycles. We perceive of social movements as diffuse action fields in which actions affect other actions and the action repertoires of the different actors coevolve through time and through interaction with each other. Movement activists and regimes engage in strategic interactions, each responding to the actions of the other. Different organizations within a movement respond to the actions of others, as successful tactical innovations and movement frames diffuse to new organizations. News media cover or fail to cover particular protests, and thus encourage or discourage future protests. Each of these processes affects the others, in a complex, multifaceted set of interactions. Over time, the action set of each actor evolves in response to the actions of the others and, thus, the whole field is one large coevolving environment in which the characteristics and actions of any actor is constrained and influenced by the characteristics and actions of all other actors in the environment.

One central concern about understanding diffusion and networks in protest waves is that we do not actually have straightforward data about the underlying social networks or mobilization processes. Protest event data usually just contain records of the timing and location of events along with some (often incomplete) information about the participants in the event, their forms of action, their stated claims or other rhetoric (McAdam 1982; Olzak 1992; Kriesi et al. 1995, and
Rarely, if ever, will the data contain information on the social relationships or communication processes that were involved in organizing and mobilizing that event. Lacking this kind of data, we want to know whether different patterns of social organization will give rise to different patterns in protest event data, and how what we already know about how protests get organized might influence our analysis of protest event data.

After a brief review of the interplay between diffusion concepts and network effects, we develop some important distinctions among different processes often lumped together as ‘network effects.’ We then develop preliminary models for three empirically important network processes in movements: the flow of information, the flow of influence, and the construction of joint action. All of these models are built on a core modelling ‘engine’ which we explain. Our models of information flow are most complex, as we stress on the importance of two kinds of networks: broadcast networks, and node-to-node networks. Finally, we show how the models we are constructing are capable of representing the strength of network ties, not just their presence or absence, and of permitting network ties themselves to evolve and be dependent on other processes.

The ideas of cycles of protest, diffusion, and network effects are often discussed without making clear distinctions among them. Diffusion is the process whereby past events make future events more likely. In ‘classic’ diffusion models, there is a transmission of some innovation between people, and it is impossible to have any diffusion without some kind of contact or network tie between individuals. But this equation between networks and diffusion arises because of the assumption of permanent and irreversible ‘adoption’ in classic diffusion models, an assumption that is inappropriate for the diffusion of collective action (Myers and Oliver 2000; Oliver and Myers forthcoming). Individuals and groups or populations can and do protests or riot on multiple occasions, and the performance of an action by an individual or group often makes a repetition of that action more likely. One could insist on using the word ‘diffusion’ only when demonstrably different people are protesting or rioting, but this definition is problematic for at least two reasons. First, empirical data on protest events almost never contain sufficient detail to distinguish clearly between new actors and repeaters. If repeated events of the same type occur in the same geographic area (e.g. riots), the rioters are quite likely a mixture of previous and new participants. Available data generally provide only numerical counts of numbers of participants and perhaps the names of a few key leaders. They would never provide sufficient detail to track exactly how many new people are entering a form of action and where they came from. Data of that level of detail are only available in detailed case studies of well-structured events,
not in data across a large number of events or more amorphous events. The second reason is theoretical. The reinforcement process, whereby an actor's own actions and its consequences influence that actor's future actions, is theoretically almost identical to a diffusion process, whereby one actor's actions and their consequences influence other actors' future actions. Most of the same processes and factors are involved in the repetition of actions by the same actors and the adoption of actions by new actors. Either way, the 'diffusion' effects of an action are mediated by whether the action is repressed, whether it gets media coverage, whether it affects policy, and so forth. The only difference is that actors presumably know about their own actions and its immediate consequences, while group cannot be affected by other groups' actions unless they know about them. Only the 'network processes' themselves are different between self-reinforcement and diffusion to other actors. Because protest is a repeatable, reversible action, diffusion models of protest must focus on the spread of actions, not the spread of actors (Myers 1996, 1997, 2001).

An additional distinction needs to be made between diffusion and cycles. Diffusion processes tend to generate waves or cycles of events, but not all waves of events arise from diffusion processes. Waves of protest can also arise from rhythms and from common responses to external events. A major event such as a disaster or an act of war may trigger independent responses in many locales. Rhythms are what the term 'cycle' most often means in other contexts, periodic rhythms of physical or social life that structure time. The ordinary rhythms of life structure protest just as they structure any other activity, so that protest generally occurs when people are awake and around the constraints of work, school, and political schedules. Beyond these quotidian rhythms are the rhythms of protest itself. There is a recovery or regrouping interval after most actions before a group is ready to act again. At a minimum, people must eat and sleep. Big events such as marches on Washington necessarily require relatively long intervals between them for organizing the logistics. Ritualized protests are often held at regular intervals. The presence of rhythms and external shocks does not, however, mean that diffusion processes are absent. Empirical research has often demonstrated diffusion processes in the spread of information about a major event (Shibutani 1966) and Myers (1996) found clear evidence of diffusion effects within the 'long hot summers' of the 1960s riots and after the assassination of Martin Luther King, Jr.

Finally, we need to recognize the importance of diffusion processes nested within other diffusion processes. Long multi-year protest waves are the accumulation of smaller protest waves arising from particular campaigns and the smaller-scale diffusion processes that occur within them. McAdam (1983) showed that the bursts of activity in the civil rights movement followed tactical innovations. The diffusion of collective action across national boundaries also shows evidence of waves within waves, a general wave of mobilization that transcended national boundaries, and nation-specific waves (Kriesi et al. 1995). Similarly, a broad social movement is always made up of smaller campaigns in particular localities or involving particular issues. These smaller campaigns usually arise either from
a burst of repeated actions by one group or in one locality, or the diffusion of a particular movement issue, frame, or tactic between groups or localities. The term ‘network’ is often used in both cases, but in the former, it tends to refer empirically to the existing social and political ties within a community that permit a set of people to act in concert, while in the latter, it refers empirically to communication channels through which information is spread between different local networks.

Specifying these nested diffusion processes is theoretically critical, as it is clear that big protest waves are built from smaller campaigns that have their own logics, while influencing each other in the larger wave. These campaigns implicate network processes. A wide variety of network forms are involved in campaigns. At the most basic is a series of events around the same issue involving the same people in a single locale. If no new people are brought in, this is a simple case of repetitive action by the same actors, a pure ‘reinforcement model’ process, in which the consequences of earlier actions influence the rate of subsequent actions by these same people, but there is no interpersonal diffusion process involved. However, if these events become larger over time, then we would say that some kind of between-person diffusion has occurred. Of course, even if the number of participants stays constant, there could well have been turnover in who the participants are. We have developed an approach that is capable of being modified to capture these waves within waves, but we will not be developing such modifications in the scope of this chapter.

SPECIFYING NETWORK EFFECTS

As we dig into the mechanisms of diffusion, it is important to specify the very different kinds of ‘network’ relations that are involved in different kinds of diffusion. A very wide range of specific phenomena has been lumped together under the rubric of ‘network effects’ or ‘social ties.’ If we are going to understand the role of network effects in diffusion, we need to unpack the concept. There are at least three distinct (although related) processes that occur through network ties: communication, influence, and joint action. The relation among these three processes is somewhat hierarchical. A communication tie provides a basis for disseminating information that something has occurred. An influence tie provides a basis for one actor to affect the opinions or actions of another actor; influence requires communication but involves additional social processes beyond mere communication. Joint action may be considered an extreme case of influence, in which initially separate actors come to make joint decisions and act in concert. Influence requires communication, but not all communication entails influence. Joint action requires both communication and influence. It is important to recognize the concept of joint action because empirically researchers may not be able to distinguish multiple acts from concerted joint actions. Many protest event series exhibit huge ‘spikes’ in which a very big action ‘suddenly’ occurs or many different actors
‘suddenly’ engage in the same kind of action at the same time, and these spikes cannot possibly be modelled with standard diffusion models. However, we will show that a model of ‘hidden organizing’ outside the view of the data collectors can quite readily model such spikes. This chapter will provide detailed discussion of some of the issues involved in each of these three kinds of processes, and outline some approaches to formal modelling of each of these. In each case, we will give special attention to the question of how each of these processes might be reflected in observed empirical data on protests. However, before moving to these three sections, it is important to consider some other distinctions and dimensions among network processes.

**Dimensions of Proximity or Connection**

Information and influence flow through social networks, but there are different ways in which actors can be ‘connected.’ It would seem that there are at least three dimensions to network proximity that are relevant to the study of social movements: spatial, organizational, and other social. These may be expected to play different roles in protest and social movements.

**Spatial/social:** Movement actions are space-bound: people must be in the same place at the same time to act in concert. Riots and ‘spontaneous’ protests most often diffuse spatially: individuals become aware of the riot or protest because they are near it. However, there is no ‘pure’ space, and space itself is always socially organized. Neighbourhoods are usually segregated by class, ethnicity, or race, and are often segregated by political orientation, so that different ‘kinds’ of people are found in different kinds of public spaces. Social etiquette rules about class or ethnicity or gender, as well as language differences may create communication barriers that are the practical equivalent of great distances. A wide variety of routine social structures can create network ties. For example, Oberschall (1989) shows that early sit-ins in North Carolina after the first Greensboro sit-in diffused as black colleges played basketball games against each other. The mass media also have a decided spatial component. Mass media have clear geographic and linguistic catchments. Although there is ‘national’ news, which is usually broadly available, that ‘national’ news always has a bias toward events occurring near the site of publication or broadcast (Mueller 1997; Myers and Caniglia 2000). Myers (2000a) found for example that although large riots diffused nationally, presumably by way of national news coverage, smaller riots diffused within the boundaries of television broadcast ranges. Prior to electronic communication, collective disturbances diffused along transportation routes and took longer to diffuse (Rudé 1964; Hobsbawm and Rudé 1968; Charlesworth 1979; Myers 2000b).

**Movement/organizational:** Even within spaces, the participants in particular actions usually have additional ties to each other beyond mere proximity. Between spaces, actions may be coordinated through political/movement ties between movement organizations. Local chapters of the same national organization would