

Diffusion Models of Cycles of Protest as a Theory of Social Movements

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The writing of this paper was supported in part by grant SBR 96-01409 from the National Science Foundation. Material from this paper was previously presented at the Congress of the International Sociological Association, Montreal, July 1998.

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Abstract

This paper develops a theoretical framework for understanding social movements as interrelated sets of diffusion processes and explains why such a conception is broadly useful to scholars of social movements. A social movement can be understood as a complex set of many actions by many different collective actors all oriented toward some very broad issue or goal. These actions affect each other as actors respond to what others have done, and as they accumulate, they build into the broad phenomena we collect under the label “social movement.” This conception of a social movement is closely linked to the common recognition of cycles or waves of protest and collective violence. In particular, this conception recognizes that movement actors are affected by actions in other movements, not only their own, and that the dynamics of cycles of protest are driven by the interplay between dissidents and regimes, and between peaceful and disruptive forms of protest. Our view of social movements closely reflects current thinking among scholars of collective behavior and also has important consistencies with social constructionist images of collective identities as emergent processes. By adding explicit diffusion concepts, we are able to formalize many of our theoretical understandings, thus making it possible to create a coherent theoretical structure which can be linked to the wealth of new time series data being collected on various kinds of violent and nonviolent events in a number of different nations.

Diffusion Models of Cycles of Protest as a Theory of Social Movements

This paper sketches the contours of a newly evolving theoretical conception of social movements which promises to yield important new insights into the dynamics of social movements and cycles of protest. It joins three intellectual streams. The first stream builds upon political process and cycles of protest theories to emphasize the strategic interactions among protesters and their opponents in shaping the trajectory of social movements. The second is the growing body of data and analysis of protest events. More and more scholars are collecting data from police and media sources on protest events across time, and are showing how these events affect and are affected by other political and social events. The third stream comes from advances in diffusion theory and modeling which make the application of formal mathematical diffusion models to real-life instances of collective action much more straightforward and informative. This new approach has the potential of embedding protest actions in a larger context in which protest co-evolves through interaction with movement organizations, electoral politics, police repression, media coverage, ideological discourses and frames, and public policy. It is not an attempt to dismiss older work on resource mobilization, political process, and framing theory, or to ignore recent synthetic theorizing relating these different aspects of movements to each other, but rather it is an attempt to build on prior work and cast it in a new light.

We begin with the fundamental observation that in social movements, actions affect other actions: Actions are not just isolated, independent responses external economic or political conditions—rather, one action changes the likelihood of subsequent actions. That is, diffusion processes are involved. This inter-action influence has long been recognized. Tarrow's work on cycles of protest (e.g. 1998) has long recognized these interrelations. McAdam's work on

"tactical diffusion" showed that the civil rights movement was not a steady stream, but a series of bursts of action each driven by a tactical innovation: bus boycotts, freedom rides, sit-ins, demonstrations, and riots (1983). Many scholars have also noted the many ways that protest actions cannot be understood in isolation, but rather need to be viewed as interactions with the police and other social control forces, particularly as the police learn more effective methods of repression over time. Protest actions obviously interact as well with social policy changes and political speech-making (what we often call "elite support"). And, of course, over time one social movement affects another, as tactics and frames diffuse and produce the effects that Meyer and Whittier (1994) call "movement spillover." The civil rights demonstrations and marches of the early 1960s not only led to civil rights legislation, but indirectly fostered the increased militancy and anger of Blacks and the elite responsiveness which contributed to the wave of black urban riots. The Black movement, in turn, was a direct inspiration for activists who explicitly studied the histories and writings of Black movement activist, including for example the Chicanos who founded La Raza (García 1989) and early feminists (Evans 1980).

These interconnections between events are directly tied to cycles of protest. It has long been recognized that social turmoil comes in waves. Social movements come and go. There are "rebellious centuries" (Tilly, Tilly and Tilly 1975) and quieter ones. Recent history brings such surges readily to mind, including the late 1960s, which saw waves of protest around the world, and the late 1980s, which witnessed the global waves of pro-democracy movements. Although there is evidence that these cycles are affected in part by larger economic cycles (Frank and Fuentes 1994), the dynamics specific to each cycle are clearly more complex than can be explained by simple responses to external circumstances.

In short, diffusion processes are critical to the evolution of social movements. Scholars are increasingly recognizing the theoretical importance of diffusion processes, and using diffusion language in discussing social movements. Until recently, however, these discussions have stayed at a fairly superficial level. The fact of the diffusion of action has been repeatedly demonstrated in quantitative data showing the dispersion of events across time or space, and in qualitative research documenting the direct connections between events. A wealth of new data has been and is being collected giving the time series of various kinds of violent and nonviolent events in a number of different nations (Hocke 1998; Jenkins and Eckert 1986; Kriesi et al. 1995; McAdam 1982; Olzak 1990; Olzak 1992; Olzak and Olivier 1994; Olzak, Shanahan and McEneaney 1996; Olzak, Shanahan and West 1994; Rucht, Koopmans and Neidhardt 1998; Rucht 1992). Careful analyses of these data are yielding great payoffs in our understanding of the dynamics of collective events and the interplay between different modes of action by different actors. The combination of these data and recent advances in the technology of modeling diffusion make it possible to give a much more detailed account of the mechanisms of diffusion and to integrate diffusion processes with the other processes known to be important in social movements.

Taking advantage of these data and technical advances requires reorientation of both social movement theory and traditional diffusion theory so that the two can be integrated. In this paper, we discuss the issues involved in integrating these theories, the steps that have been taken so far, and the tasks that remain. Although it is possible to imagine a full theoretical conception that is more complex than we are able to fully portray at present, we believe that the work accomplished so far indicates the tremendous advances that will be possible from completing the process of theoretical integration.

Re-orienting Social Movement Theory: From Entities to Distributions of Events

The linchpin of the integration of social movement theory with diffusion concepts is to re-conceive the basic concept of a social movement. As we, among others, have written elsewhere, there has never been much clarity about just what kind of thing a social movement is. All scholars agree that broad social movements need to be distinguished from specific social movement organizations, but disagree about whether movements are fundamentally types of social entities, preference structures, or sets of people. It has been argued elsewhere that it is a fallacy to conceive of a social movement as a coherent decision-making entity because social movements are generally characterized by large numbers of people doing different things for different reasons with different visions of their purpose (Oliver 1989). Social movements are not at all like hierarchical armies with generals and strategies, although some of the organizations in them are. Instead, social movements are more like diffuse actions fields. This very general point has been argued in a variety of different ways by scholars from a variety of different theoretical traditions (Gusfield 1981; Melucci 1989; Oberschall 1978).

If we are to gain the advantages of diffusion theory, we need to give up the conception of a social movement as some kind of coherent entity, and instead conceive a social movement as a distribution of events across a population. We use the term "event" here in a general sense to encompass the actions of the various actors in a population, as well as their beliefs. In this sense, specific protest actions are events, but so is a resource flow from one group to another. It is also an event when a certain proportion of the population comes to hold a particular belief. Under this conception, a social movement peaks when there are a lot of protest actions happening involving a large proportion of the population "at risk" for participating.

An emphasis on the diffusion of action as the core process in a social movement is central to studies of waves of conflict and cycles of protest. Some scholars have focused specifically on the rise and fall of various forms of social movement organizations by building on the concept of “density dependence,” in which movement organizations are founded and die off partly as a function of the number of other similar organizations creating legitimate models for action and competing for resources (Minkoff 1993; Minkoff 1997; Olzak and West 1991). Tarrow argues that a cycle of protest arises from an inflationary spiral, as groups compete for influence and increasingly radical actions are necessary to achieve disruptive impact (1994). Olzak and her colleagues argue that collective violence between ethnic groups first diffuses through a contagion effect and then declines through an exhaustion effect, when actors deplete resources or literally grow tired of acting (Olzak 1987; Olzak, Shanahan and McEneaney 1996; Olzak, Shanahan and West 1994).

For scholars not used to thinking this way, the transition is difficult, but it is very important if we are to achieve a real understanding of the protest phenomenon. The transition perhaps can be compared to that in the study of evolutionary biology, where it is recognized that a species is not a distinct entity which can make choices about how to adapt to an environment, but a statistical distribution of traits across individual organisms. Species evolve when the distribution of characteristics within a breeding population changes. Social movements rise when the overall frequency of protest events rises in a population, they become violent when their ratio of violent events to non-violent events rises, and so forth. Consonant with this view, social movements lack clear-cut beginnings and ends: their origins can always be traced back in history long before the sudden upsurge that calls them to public attention. After they seemed to have died down, they always continue operating at some lower level. Thinking statistically allows us to talk about the

beginning of a particular social movement protest cycle as the point at which action begins to accelerate, and its end as the point at which action falls back to a low steady-state rate of occurrence.

Empirical research about changes in social movements reflect this conception. For example, Diani and Lodi (1988) showed that the ecology movement in Milan always had three strands, that individual activists and organizations did not change strands, and that the character of the movement as a whole shifted as one strand gained members and became more active while another strand lost members and reduced levels of activity. Epstein (1991) makes a similar point about the women's movement in the US, showing that although socialist feminism and radical feminism were both strong strands in the 1970s, socialist feminists tended to be or become academics and came to dominate women's studies, while radical feminists were more likely to enter working class occupations and be activists in social movements. By the end of the 1980s, this trends made radical feminism a more significant presence in activist communities than socialist feminism. The NAACP never changed its basic politics and strategy, but the Black Movement as a whole changed sharply as it was dominated first by the NAACP, then the SCLC, and then SNCC and other black power organizations and the urban riots (McAdam 1982; Morris 1984). Talking about these shifts is awkward if one imagines a social movement as a "thing," but is straightforward if one shifts to a populational, ecological framework.

Strategic Interactions and Coevolution. Social movements researchers have often been criticized for focusing too much on the actions of the movement and ignoring the actions of opponents or others in the environment in shaping the trajectory of a movement. It is very clear that the evolution of a social movement is always shaped by the actions of its opponents and bystanders. Attempts to discuss the strategic interactions between movements and their

opponents have foundered when movements have been conceived as entities, because strategic analyses attribute more uniformity of purpose to both sides than ever is actually found to be true under empirical scrutiny. But a shift to an event-wise approach that recognizes dynamics distributions of traits and strategies minimizes much of this problem. Individuals actors often do behave strategically in particular actions at particular moments in response to particular events, even if they generally lack perfect knowledge or perfect wisdom. Erratic intermittent government repression arises not from a concerted choice to be erratic, but from inconsistent decisions by different actors in different situations. The strategic consequences for the trajectory of the movement as a whole often arise from such accumulations of smaller strategic events.

Again, the biological concept of coevolution appears to have utility for the study of interactions between movements and their opponents. Species often coevolve: for example, flowering plants and insects evolved together, in interaction with one another, as do parasites and their hosts. One example of this kind of coevolution in collective behavior has occurred between protesters and police in the US and Europe since the 1960s. Police have learned to channel and routinize protests to minimize their disruptive potential and protesters have learned to work with the police to maximize their dramatic potential while minimizing their risk of bearing severe costs (McPhail, Schweingruber and McCarthy 1998).

A growing body of work is points out the importance of the dynamic interplay between different groups of collective actors in a variety of settings. In particular, recent scholarship suggests that the dynamics of protest waves or cycles are driven by the interplay between regimes and dissidents. Dissidents experiment with a wide variety of tactics as they seek to improve their position or redress grievances, and regimes respond with various forms of concession or repression (Koopmans 1993; McAdam 1983). Both dissidents and regimes are constantly

learning both from their own experiences with each other, and from the successes and failures of other dissidents or regimes in other locales. Activists learn from others about new ways of disrupting or influencing the polity--what Oliver and Marwell (1992) call movement “technologies.” Social control agents learn new ways of dealing with activist through police agency training on controlling violence and protests (McCarthy and McPhail 1997; McCarthy, McPhail and Crist 1998; McPhail, Schweingruber and McCarthy 1998). Political and economic elites may respond to violent or disruptive dissent by encouraging or facilitating nonviolent or nondisruptive forms of collective action (Koopmans 1993). During the civil right movements, corporate foundations and government agencies sponsored moderate black organizations in response to disruptive civil rights protests and riots in an apparently-successful effort at “channeling black insurgency” (Jenkins and Eckert 1986; McAdam 1982). Elite money flowing into movement organizations creates jobs for activists and channels their activities into nondisruptive organizational influence strategies. These organizations may, at a later phase, initiate new forms of action, possibly sparking a new cycle of protest.

Another important interplay occurs between a movements and its counter-movements. Theorizing about major ethnic conflicts stresses the spirals of violence that arise as each side seeks revenge for the actions of the other. Competition theory (Olzak 1985; Olzak 1992) argues that ethnic conflict arises when groups come into economic competition with one another. These interactions are important even when the conflict is played out in largely nonviolent ways. For example, the two sides in the US abortion movement continually adjust their actions in response to the other side, as well as to the actions of the regime.

Waves within Waves and Campaigns Within Movements. A cycle of protest is typically conceived as one long wave of diffusion, but this is never actually the case. There are always

smaller waves within waves. McAdam (1983) showed that the bursts of activity in the civil rights movement followed tactical innovations. Myers' (1996) analysis of black riots showed three nested levels of waves: the decade-long wave, the seasonal waves ("long hot summers"), and, within those, clear evidence of smaller waves initiated by major riots which received extensive media coverage. Koopmans' (1995) data on the new social movements of Germany similarly shows clear evidence of smaller waves within the larger wave. 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 empirical patterns are well recognized and have led many scholars to note the importance of diffusion processes in protest waves. But until recently there has been no way to integrate this pattern into a larger understanding of cycles of protest.

Resources and Opportunities. Resource mobilization and political opportunity remain central concepts for understanding social movements. Both these concepts can be readily reconceived as actions in a strategic interaction context, although only by dealing with the ambiguities in the way both concepts have been used. Resources have been viewed both as constituent properties of a particular group and as stocks which can be transferred to others. In formal theorizing, these two conceptions must be distinguished. If a group has resources that permit it to engage in some actions and not others or has enough to invest some resources in procuring more, then these resources directly impact on the kinds of actions a group emits. Resources that are transferable stocks become salient when one group performs the action of giving the resource to another group.

Opportunities can similarly be reconceived as strategic interaction in a population of actors and actions. Although there has been some tendency to use the concept of political opportunity as a single dimension which there is more or less of, it is becoming increasingly clear that political opportunity is really a multidimensional space in which some groups or actions are facilitated or responded to, while others are repressed or ignored. In this sense, political opportunity becomes a vector of probabilities, where each element is the probability that a particular action will meet with a particular kind of response or action from particular other actors.

Networks and communication. It is well established that the social ties linking actors and groups are central elements of social movements, and that these networks change in the evolution of a protest cycle. Network ties determine the targets of action, flows of resources, and flows of information. Actors are connected by a direct tie when they have direct contact with each other. This occurs when they are in physical proximity to one another, or when they have a prior social relationship. Chains of direct ties can indirectly link actors with others who are quite distant from them and lead to the widespread diffusion of information. When indirect ties are involved, it is possible to track the diffusion over time through successive circles of influence or along well-defined physical paths. Crowd actions in the past have diffused across time from a point of origin along major transportation routes (e.g. Rude 1964, p. 25; Shibutani 1966, pp. 103-6). Individuals received communication about developing riots (Singer 1968) and sit-in campaigns (Morris 1984) by direct communication from prior acquaintances. Announcements at church services spread the word about the Montgomery bus boycott (Morris 1984). Activists encounter new ideologies and tactics at conferences with other activists (e.g., Rothman and Oliver 1998).

Mass Media. Even more important than chains of direct ties are the indirect ties actors have by way of mass media. In this instance, the actions of one group affect another by way of

media coverage, and the influence can spread as far as the media are broadcast, without prior connection between the actors. Myers (1996; 1998) shows that large riots which received national media coverage increased riot propensities nationally, while smaller riots increased riot propensities within their local media catchment areas.

The media themselves are subject to diffusion processes. One outlet picks up a story and it may be picked up by other outlets. If enough outlets begin to cover the story, it becomes news, and the media will begin actively seeking more stories on the same theme. The result is the "media attention cycle" which has been shown to under-represent movements at the beginnings and ends of their cycles, and over-represent them in the middle, when the issue is "hot" (Cancian and Ross 1981; Downs 1972; McCarthy, McPhail and Smith 1996).

Frames and Discourses. Making a speech, writing a pamphlet, and publishing an article or book are all actions which can be treated as events in a diffusion framework. While there are elements of ideology and identity construction that involve very different processes, frame shifts may be fruitfully analyzed in diffusion terms. It is possible to track the diffusion of particular terms through documents across time, for example the shift from "civil rights" to "black power" language, or the use of "Negro" to "Black" to "Afro-American" to "African American," or the shift from "feminism" to "women's liberation" to "women's lib" to "women's movement" or the shift from "Indian" to "Native American" to "American Indian." The shifting terms by which groups denote themselves are pointers to shifting political currents as they name and rename themselves in ongoing processes of collective identity construction. It is possible to trace the origin and diffusion of new terms such as "ecology" or "environmental biology." Literary analysts look for intertextual references in written works and the ways writers consciously or unconsciously play on the symbols and meanings they inherit from prior writers. It seems likely

that words, concepts, and frames diffuse in processes very similar to the diffusion of knowledge about actions (e.g., Kim 1999). Beginning with the programmatic statement of frame theory (Snow et al. 1986), a growing body of scholarship shows how frames interact with the kinds of actions groups pursue, the resources they attract, and the repression they receive. Thus, conceiving frame evolution in strategic interaction with other forms of action is certain to capture important elements of the dynamics of frame evolution. Just as with the actions and groups in a social movement, it is important to recognize that frames are always in competition with one another, and that there are always multiple frames available, even though one might be hegemonic in a particular period.

Integrating Different Factors. As our discussions indicate, we believe that a diffusion perspective can encompass the diverse kinds of factors which different groups of scholars have identified as feeding into the ongoing process of social movements. It provides a framework for thinking about how different kinds of factors affect each other over time in the ongoing flow of events. Activists stage protest events, but they may also write influential articles or books. Their actions or their communications may be responded to by the authorities or their opponents. Information about their actions and responses spreads to other actors through mass media and personalized communication networks. This information influences the likelihood of subsequent actions and communications by others, as well as their opinions and understandings. Social movements are not well-bounded phenomena. A diffusion perspective is a way of talking about social movements without reifying them.

Re-Orienting Diffusion Theory to Encompass the Realities of Collective Action

While the tremendous promise of diffusion theory for the study of collective action has just recently begun to be recognized, some scholars have already taken important steps toward the marriage of the two. In particular, scholars have identified several aspects of collective action phenomena that do allow direct application of classic diffusion models. The realities of collective behavior are considerably more complex than the assumptions of traditional diffusion models allow and ways of relaxing these assumptions was necessary before diffusion theory could make a legitimate vehicle for advancing our understanding of collective action.

Prior to these recent advances, diffusion modeling for collective action had become largely stagnant due to the mismatch between the simplifying assumptions necessary to make deterministic diffusion models mathematically tractable and the empirical realities of collective action waves. Scholars had done well developing mathematical functions that seemed to closely fit cumulative event-count waves (e.g., Hamblin, Jacobsen and Miller 1973; Pitcher, Hamblin and Miller 1978), but advances beyond this level were hard to come by. Even the best of this work was of questionable usefulness--the lack of follow-up, application, or extension in the last 20 years is one evidence. Furthermore, it had proved quite difficult to directly test these diffusion-based models against other theories that accounted for waves of protest and scholars abandoned the mathematically technical models for ones that seemed more substantively grounded.

Recent advances in diffusion modeling have provided an opportunity to re-orient diffusion modeling to overcome many of the difficulties of earlier approaches. In large part, this re-orientation is due to the introduction of diffusion notions into an event history or survival time framework. In classical diffusion models, analysts were forced to make a series of assumptions about the population so that mathematical models were tractable. These assumptions clearly

aided the analysts ability to derive, modify, and test diffusion models, but at the same time forced the models in a realm of questionable validity since the assumptions were difficult to justify for virtually any social process (Mahajan and Peterson 1985).

Spatial and Temporal Homogeneity. Perhaps the two most damaging (and most useful for mathematical purposes) shortcuts were the twin assumptions of spatial and temporal homogeneity. Classic diffusion models operate under the assumption that the number of prior adopters is the key element driving the adoption rate at any given point in time. In these models, all prior adopters contribute the same amount of pressure to adopt--no matter where they are or when they adopted. This condition implies that all actors in a social system have equal contact with each other (or at least have an equal probability of contact with all other members) and that the influence of their behavior today is not more or less salient than their behavior of a week, a year, or even ten years ago.

Our empirical understanding of social systems and collective action does not reflect well on these assumptions. It has been clearly demonstrated that in many social processes, recent events have stronger diffusion effects than older events and that actors are more affected by others who are physically or socially close to them than those that are farther away. Myers' analyses of riot data, for example, showed that there was a long-cycle effect of total riots in the decade, but that riots also had a short-term effect on the probability of rioting that died out over approximately one week (1996; 1997b). These studies also examined geographic distance and found that the contagiousness of riots had distance related limitations. A follow-up study examined social space (as determined by mass media distribution) and showed that riots were most infectious in areas linked to a riot via a television station (Myers 1998). In a study of the

shanty-town divestment protests, Soule (1997) found that protest traveled according to proximity in several types of social space.

Correct models of the diffusion of collective action then, must be able to capture both the effects of the total number of prior actions (like earlier deterministic models) and the additional effects of more proximal actions. As Strang and Tuma (1993) authoritatively establish and numerous follow-up studies and related approaches substantiate (Davis and Greve 1997; Grattet, Jenness and Curry 1998; Greve, Strang and Tuma 1995; Hedström 1994; Mintrom 1997; Mooney 1997; Mooney and Lee 1995; Soule 1997; Soule and Zylan 1997; Strang 1990; Strang 1991), event history diffusion models can accomplish this aim. Event history models do so by shifting from a population focus to focus on individual risk of acting. Using such models, the analyst can easily test multivariate models in which the hazard of individual adoption is the dependent variable and a variety of standard and diffusion-based covariates can be tested. For example, if one were studying riots on the city level, one could incorporate variables indicating "intrinsic" properties such as the unemployment rate in the city or racial characteristics of the cities population (Myers 1997b; Olzak and Shanahan 1996). Along side these, one can test diffusion models by specifying the total number of prior riots at a given point in time, or the total number that have occurred in the prior week (temporal heterogeneity), or the number that have occurred in nearby cities (spatial heterogeneity). In this way, diffusion process can be directly tested against alternative theories about collective action waves.

Single, Irreversible Adoption Acts. A second technical problem related to classic models of diffusion is their assumption of single and perpetual adoption. Because so much diffusion research has been oriented to understanding the spread of technological innovations (such as color television, a new farming method, and a new prescription drug), the assumption that adoption

occurs once and use of the adopted technology continues from that point forward is, in fact, quite reasonable. Unfortunately, this assumption is not as reasonable for collective action. Units that engage in collective action can not only act more than once (repeated events), they also can return to their pre-adoptive state (reversibility). While the single adoption model may be reasonable in some few cases (e.g., Hedström's 1994 analysis of Swedish trade unions formation in which only a few unions failed after being founded), it is not even approximately true for collective violence. For example, of the 313 cities that experienced urban civil disorders from 1964-1971 (Carter 1986), 160 (51 %) experienced two or more riots and all cities went through long periods when they did not experience a riot--they had return to their pre-riot state of peace. Non-violent protest also does not fit the single adoption pattern. Activist cadres can and do initiate dozens of specific actions.

Classic diffusion models are not well suited to handling these sorts of events because their focus is squarely on the adopter as the key unit of analysis. Accommodating repeated events requires a shift to the adoption act as the key unit of analysis (Myers 1996; Pitcher, Hamblin and Miller 1978) and focusing on reversibility also requires some knowledge of the duration of the adoption act. Event history extensions of diffusion models allow both of these conditions. Multiple adoption events from each unit can be accommodated via repeated events analysis and the duration of the event can either be examined alongside the duration between adoption events or as the focus of the analysis itself. This focus on events does not mean that the characteristics of the adopter have become irrelevant however. Event history diffusion models focusing on events (singular or repeated) allow both characteristics of the event and the actors to be examined in the same model, and in fact, all recent diffusion analyses using event history approaches have identified key elements of the actors that contribute to the diffusion process.

Determinants of the Decline of Diffusion. A third modification necessary before applying diffusion models to collective action concerns the decline of the action wave. In classic diffusion models, the rate of adoption at any given time is a function both of the number of actors who have previously adopted and the number who have not yet adopted. This joint dependence accounts for the wave-like pattern: In the beginning, there are few prior adopters to levy influence--so the rate of adoption is low; in the middle, there are a large number of prior adopters who exert influence on a large body of potential adopter--so the rate of adoption is high; toward the end of the cycle, there are many to influence, but the body of potential adopters has waned and the rate of adoption returns to very low levels. In other words, the decline of the action wave depends on the saturation of the population: Adoption must slow when there remains no one to adopt.

Collective action waves are not subject to the same kind of population depletion. They do decline, but because actors can adopt repeatedly, the population of potential actors does not decline. Thus we see a second complication introduced by repeated events: Some other mechanism, other than a declining population at-risk, must be introduced in the models to account for the decline of an action wave. Some work has been done toward this end. Olzak (1987) and Myers (1997b) suggest that some sort of "exhaustion" effect is at work, in which actors use up their stocks of resources and/or literally become tired and give up. Myers (1997a) has developed a model in which the diffusion of repression counter-acts the surge of dissent and eventually brings the action wave down. These are only first attempts, however, and there is considerable work to be done to specify and verify the processes driving the downswing of collective action waves.

Mechanisms and Processes of Diffusion. Apart from areas where work has begun, developing models of collective action diffusion will also need to address a series of theoretical issues related to the mechanics of the diffusion process. For each particular form of collective action, a careful specification of the proposed diffusion mechanism is necessary to before achieving a reasonable specification of the model that represents the diffusion process. Classic diffusion models of contagion assume that infection occurs with a certain probability whenever a susceptible person encounters an infectious person. Although contagion-like models appear appropriate for the diffusion of beliefs or frames and the spread of rumors, and "new institutionalist" theory is based on the assumption that this kind of process produces the adoption of particular organizational innovations, the specification of the actual process of collective action diffusion is incomplete. We know that events cluster and that some events are connected to others, but how diffusion actually occurs is somewhat of a black box.

To look inside the black box, we must first ask the question "what is diffused?" Early diffusion models were constructed as if action directly begets action, but there are a number of steps in the diffusion process that have been overlooked and specifying these steps can lead to better theoretical models.

In a collective action diffusion process there are three elements in some sense are diffusing: Information, attitude, and behavior. When using an infectious disease model, one element that is important is the actual biological entity that travels from person to person. Likewise in a social setting there must be an element that travels from actor to actor. This traveling element is not the action itself, but rather is information about prior actions and their outcomes. Information, however, is not what is adopted by the actors. Instead they adopt an action-oriented attitude that brings them into the pool of units who could engage in the diffusing

behavior. Finally there is action. Given that adherents of an action ideology do not constantly act, the behavior itself is a stochastic process dependent on appropriate opportunities arising. The move from attitude, to acceptance, to behavior, then, must also be specified in the model.

When specifying the movement of information, for example, one must carefully consider the communication network that carries the information and ascertain how it may affect adoption patterns. Some differences may arise because the communication network through which information flows only reaches some of the potential adopters. Furthermore, as the information travels the network, it is subject to filtering and distortion. The resulting distortion can further increase the rate of adoption or dampen it.

One communication system that commonly carries information in social diffusion processes is the mass media. Recently, there has been a surge in scholarly attention to media coverage of protest (e.g., Franzosi 1987; Hocke 1998; McCarthy, McPhail and Smith 1996; McCarthy et al. 1998; Mueller 1997a; Mueller 1997b; Oliver and Maney 1998; Oliver and Myers 1999), and as a result, we are presented with an opportunity to learn a great deal about how the media affects protest diffusion. For instance, several scholars have documented that newspapers are much more likely to report large events than small ones. If the media is the main communication network that drives a diffusion wave, we should be able to make predictions about the “infectiousness” of individual events and the overall trajectory of the protest wave on the basis of the size or severity of events. When this kind of distortion is produced by the media, it advantages movements with large events and disadvantages those who can only produce small events. Armed with this understanding of how a communication network reacts to different events, we can come closer to a correct model of the effect of discontinuous “shocks” to a system that come from large, dramatic events or tactical innovations. It could also lead toward formal

models that incorporate stochastic production of such innovations as action in general is accelerating.

Once information about a prior event reaches a potential adopter, the information creates an "occasion" for deciding (Collins 1981; Oliver 1989) whether or not to adopt. These occasions interrupt the daily routine that occupies most of people's lives. Typically, most people do not spend their days thinking about whether to march in a demonstration, petition city hall, or riot, and their daily interactions do not revolve around these questions. But hearing about collective action by others can lead people to start discussing the question of whether they, too, should do something that pursues collective interests. The likelihood that previous actions will create such an occasion is positively related to the size and drama of the action and to the similarity between the previous actors and the group of potential actors. Occasion-creating should also show strong recency effects given that the salience of the prior action declines rapidly. Once a decision is made to accept an action orientation, then the number of actions observed should be a stochastic manifestation of attitude. Thus, we should expect to see sharply peaked "imitative" waves resulting from occasion-creation: rapid rises followed by rapid declines. These kinds of sharp peaks are seen as oscillations inside the longer wave.

The racial riots of the 1960s provide an initial example of these kind of patterns. First of all, it has been shown that, consistent with what we know about media coverage of riots, more severe riots were considerably more contagious than less severe ones. The reach of the media network was showed to affect diffusion such that contagion was the most powerful within broadcast radii of television stations (Myers 1998). Riot contagion was also temporally limited such that immediate contagion effects died away with approximately a week (Myers 1996).

These repeated short-term bursts of activity are apparent when the frequency of riots is plotted over time (Figure 1).

| Figure 1 Here |

Movement from the adoption of an action orientation to actual behavior is not automatic, but rather conditional on the outcomes of prior acts. That is, it depends on the degree of repression the prior actor experience and the success (or failure) of prior action in gaining concessions or policy reforms, or at least in influencing public opinion. Some theorists attempt to deal with these effects without dealing with them, i.e. to embed in the diffusion model some sort of automatic downturn which, it is argued, arises from repression or the declining marginal returns to action. A correctly specified model would explicitly represent changes in these external factors and their dynamic effects on the diffusion of protest over time.

Discussion

We believe that incorporating diffusion notions into models of collective action will be an essential part of understanding protest waves. While many diffusion elements are particularly salient for the development of formal models, there are also important reasons why scholars of social movements more generally should shift to an event-based diffusion perspective. Only an event-based conception captures the complexity, fluidity, and strategic interaction that characterize social movements. Both qualitative and quantitative research can be informed by focusing on the interrelations among events. Case studies repeatedly show us the ways in which actors within social movement organizations actively choose how to respond to the prior actions of others in the context of their particular political, economic, and organizational situations. Beyond this, diffusion theory is the best way to understand the wealth of new data that are being

collected by protest events researchers. These researchers are increasingly studying the joint coevolution of protest forms, social control responses, and political structures and practices. For example, between the 1950s and the 1990s, popular and academic conceptions of democratic institutions expanded to include extra-parliamentary and non-electoral actions as part of democracy, rather than as threats to it. At the same time, police forces learned to use the velvet glove of intelligence and negotiation to dampen the disruptive power of demonstrations while simultaneously cooperating with demonstrators in staging their events. The result is a quite different protest context in which protest is relatively safe and popularly legitimate, but, at the same time, is more symbolic than disruptive.

Thinking in terms of the interaction between kinds of events will also help us to resolve some of the important methodological questions we face in analyzing protest events data. Most such data must be obtained from newspaper records, as they are the most readily available data source that spans times and places. But the media do not perfectly capture all events that occur, nor are the events covered an unbiased sample of all events. If we think of the media as another actor in the coevolution of protest, we have a way of theorizing and potentially studying these interrelations. In this conception, there are four kinds of actors: protestors, politicians or other elites, social control agents, and the media. Each influences the actions of others over time. If we understand the way the media interact with the other actors, then we are in a better position to make adjustments on media data of protest events to estimate what the "true" level of protest is within a population and to understand why certain actions diffuse in particular ways.

In sum, an event-centered diffusion model of the coevolution of protest promises to be a theoretical approach that integrates a wide variety of theorizing about social movements and opens the door to new ways of understanding and studying important phenomena.

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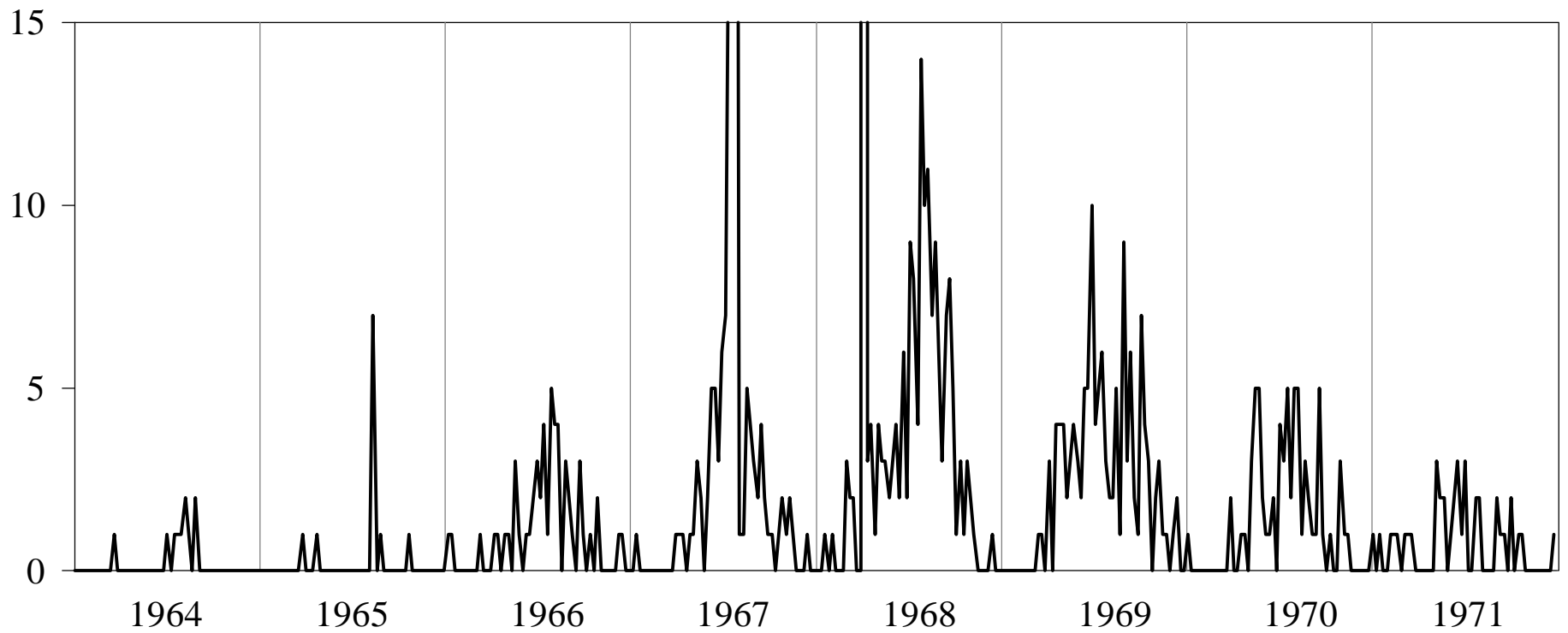


Figure 1: Riots per Week, 1964-1971