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978-0-521-30839-7 - The Critical Mass in Collective Action: A Micro-Social Theory

Gerald Marwell and Pamela Oliver

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People who have a common interest in a collective good do not necessarily find it easy to act collectively in pursuit of that interest. There is usually some mismatch between individual and group interests. There may be an *efficacy problem*, when no individual is able to provide enough common benefit to make acting worthwhile, or a *free-rider problem*, when most or all individuals hope that someone else will provide the good. Any attempt to overcome these problems through coordination and collaboration entails costs and problems of its own.

This book is a formal mathematical analysis of some of the processes whereby groups solve the problems of collective action. The authors break new ground in showing that the problem of collective action requires a model of group process and group heterogeneity and cannot be deduced from simple models of individual behavior. They emphasize the role of small subgroups of especially motivated and resourceful individuals who form the “critical mass” that sets collective action in motion.

The book will be read with special interest by sociologists, social psychologists, economists, and political scientists. It will also be of concern to those in industrial relations, communications research, and other fields who are working on issues in collective action and rational choice.

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University of Wisconsin-Madison

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Preface

First separately and then together, we have been writing about collective action since the mid-1970s. The work that forms the basis for this book began in the early 1980s, and most of the formal results presented here have previously appeared in published articles. But because our ideas and assumptions changed over time, differences among the articles in models, notation, and approach have made it difficult for scholars to evaluate and use our published work. Thus, although the formal mathematical results in most chapters of this book stand largely intact from prior publication, their presentation has been completely revised. We have developed one overarching general model (explicated in Chapter 2) and explain in detail how the specific models in later chapters are special cases of the general model. We explicitly discuss the similarities and differences in the assumptions of the different analyses. We have also revised the exposition to use one consistent example throughout the book, in another attempt to provide the reader with a more unified point of reference for evaluating our results. Finally, the analysis of selectivity and information cost in Chapter 6 is wholly new.

We have several audiences in mind for this book, and their requirements are not entirely compatible. We want to speak not only to experts in collective action theory, but to scholars who study social movements and other empirical instances of collective action and to graduate students studying collective action or mathematical models. We have added to this volume extended expositions of the underlying logic of our models and of the considerations involved in creating a model of a collective action process. We realize that these expositions will seem unnecessary or irritating to the experts and to the mathematically sophisticated, and we realize that those who are comfortable with mathematics will find our mathematical tools elementary. We ask these readers to bear with us. We feel that there is too little appreciation in our discipline of the value of mathematical

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models and too little understanding of how to think about them. Unso-phisticated readers often feel unable to evaluate mathematized models critically and must either accept or reject them with little more to go on than faith or prejudice. Although people who are not used to thinking mathematically will find parts of our work tough sledding, we have tried to put into words the assumptions about process embodied in our math so that the reader can think about the plausibility of those assumptions. We also try to persuade the reader to think of assumptions not as true or false, but as applicable or inapplicable to particular empirical instances.

Our work is driven by two intellectual imperatives. The first is to set up plausible assumptions and then work out the deductive consequences of those assumptions. We believe that one of the most important jobs of theorists is to push theories to the limit, to figure out just where you have to go if you follow the logic of your premises. In this, we agree with the small cadre of formal theorists in our discipline, but disagree with the majority who seem to believe that the central stuff of theory is trying to list exactly the “right” set of initial premises. In particular, although we employ simplistic instrumentalist or rationalist *assumptions* about individuals in our work, we do *not* claim that these assumptions are “true” about real people, and certainly do *not* “prove” that collective actors are rational or instrumentalist.

We think the major contribution of our work is to explore the consequences of group heterogeneity and interdependent action for collective action. What we find interesting and important is that group outcomes cannot be determined from models about individuals, but must include specific information about the distributions of important properties among group members and specific information about how group members communicate and interact. Our understanding of how our models behave leads us to conclude that the assumptions we make about individual psychology play almost no role in determining the outcomes. Throughout the book, we return to this issue, illuminating the underlying mechanisms in each result and reflecting on the work each assumption does or does not do in producing the outcome. We try to guide the reader to thinking about the kinds of situations to which each result might apply. We are confident that any thoughtful reader will be able to think of counterexamples to every one of our results. Nothing we say in this book is true in any absolute empirical sense. The question is whether it helps to illuminate some of the processes in complex empirical cases.

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Our second intellectual imperative is to understand at least some of the empirical phenomena known as collective action and to use theory to create a cognitive map of the different kinds of collective action, a map that can help us and others improve our ability to theorize meaningfully about collective action. We draw extensively, if unsystematically, on our wide experience in and reading about social movements and voluntary action. All theories, no matter how abstractly written, are created by people who have specific empirical cases in mind when they write. As we have talked with other scholars about our ideas, we have found it helpful to acknowledge that our ideas are rooted in our experiences in a wide variety of voluntary associations, and that they draw culturally more on the ethos of the 1970s and 1980s than on the ethos of the 1960s. For example, the central insight of Chapter 4 on production functions – the difference between accelerating and decelerating functions – arose directly from our observation of the dynamics of neighborhood associations. The organizer-centered model employed in later chapters similarly comes from our own experiences as activists and our observations of and conversations with activists in the field. Turning these experiences into abstract mathematical models necessarily divorces them from their empirical base, and it is easy for us to get so interested in the abstract deductive consequences of our models that we lose sight sometimes of the complex empirical reality that gave rise to them. But because both of us also read and write about social movements and voluntary action in other, more substantive forms, we hope that we have been able to maintain enough contact with empirical cases to provide at least a partial reality check on our theorizing.

Throughout this project, we have experienced the pleasure and pain of receiving thoughtful critical commentary on our work from some of the finest intellects in social science, many of them disguised as anonymous reviewers. We have had enough time to incorporate at least some of this commentary into our thinking and hope that we have used this occasion to improve our work in light of it. Where we think the critics had a point, we have tried to deal with the issue, although perhaps too often with a patch instead of a whole new part. Of course, we still find some of the criticism wrongheaded. In these cases, we have tried in this volume to explain more carefully why we believe we are right.

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Ralph Prahl deserves special mention. As coauthor of Chapter 7 and the first author of the article on which that chapter was based, he made major contributions to conceptualizing the problem and theory, performed most of the analyses, and wrote the first draft. A draft of this material became his master's thesis in sociology at the University of Wisconsin-Madison. Ralph also served as our assistant and programmer for other parts of this project and was a junior coauthor of a second paper.

While they were graduate students, Ruy Teixeira and David Weakliem also worked as programmers and assistants. Ruy was a junior coauthor of one article from the project. All three of these assistants were enormously helpful, skilled, reliable, and professional. We were lucky to have them work with us.

We have also been lucky to be in a department that is enormously supportive of intellectual work – both materially and affectively. We thank all of our colleagues for making this a positive environment. A few were particularly helpful on this project, reading drafts and giving advice: Charles Halaby, Robert Mare, Elizabeth Thomson, and Erik O. Wright.

John Lemke aided the project in many ways over the years – always as a supportive spouse and coparent for Pam, and from time to time as a mathematical editor and programming consultant. Pam would also like to acknowledge Elizabeth and Robert, who were major impediments to the completion of the project, but who created more than enough joy to make it all worthwhile. Jerry's kids were launched and caused no problems. Bobbie has survived thirty-five years of collective effort, and survived this book too.

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Chapter 3: Pamela Oliver and Gerald Marwell. 1988. "The Paradox of Group Size in Collective Action: A Theory of the Critical Mass. II." *American Sociological Review* 53:1-8.

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Chapter 5: Gerald Marwell, Pamela Oliver, and Ralph Prael. 1988. "Social Networks and Collective Action: A Theory of the Critical Mass. III." *American Journal of Sociology* 94:502-34.

Chapter 5: Gerald Marwell and Pamela E. Oliver. 1991. "A Theory of the Critical Mass. VI. Cliques and Collective Action." In *Disciplin und Kreativitat*, ed. Henrik Kreutz and Johann Bacher, pp. 49-62. Opladen: Leske and Burdich, 1991.

Chapter 7: Ralph Prael, Gerald Marwell, and Pamela Oliver. 1991. "Selectivity as Strategies of Recruitment for Collective Action: A Theory of the Critical Mass, V." *Journal of Mathematical Sociology* 16:137-64.