

Newsletter of the Mathematical Sociology Section of  
the American Sociological Association

**Section Officers:**

**Chair**

Barbara Meeker  
University of Maryland  
(bmeeker@socy.umd.edu)

**Chair-Elect**

Ronald Breiger  
University of Arizona  
(Breiger@arizona.edu)

**Past Chair**

Diane Felmlee,  
University of California-Davis  
(dhfelmlee@ucdavis.edu)

**Secretary-Treasurer**

James Moody  
Ohio State University  
(jmoody77@soc.duke.edu)

**Council Members**

Guillermina Jasso  
New York University  
(guillermina.jasso@nyu.edu)

Eugene C. Johnson  
University of California-  
Santa Barbara  
(johnsen@math.ucsb.edu)

James Kitts  
Columbia University  
(jak2190@columbia.edu)

Michael W. Macy  
Cornell University  
(mwm14@cornell.edu)

Dawn Robinson  
University of Georgia  
(sodawn@uga.edu)

Jane Sell  
Texas A&M  
(j-sell@tamu.edu)

Brent Simpson  
University of South Carolina  
(bts@sc.edu)

Kazuo Yamaguchi  
University of Chicago  
(kyamagu@uchicago.edu)

**Student Member**

Cyprian Wejnert  
Cornell University  
cwejnert@gmail.com

**Newsletter Editor**

Pamela Emanuelson  
University of South Carolina  
(Emanuel@mailbox.sc.edu)

**Webmaster**

Matthew Brashears  
University of Arizona  
(mbrashea@email.arizona.edu)

## Greetings from the Chair ... Barbara Meeker

A look at the activities of the Mathematical Sociology Section for the last year shows that we are a very active group. We sponsored the normal sorts of events at ASA that sections organize to support research and teaching in our area: an open submission papers session, a session of invited talks from members at different career stages, presentation of four Section awards, a business meeting, a Council meeting and a reception held jointly with the Rationality and Society Section. In addition to all of these ASA activities we co-sponsored an international conference (jointly with Japanese mathematical sociologists) and continued to support an endowed fund for support of dissertation research. At next year's ASA meeting we will once again have a section open submission session (look on the ASA website 'call for papers' under Section on Mathematical Sociology), a reception, a business meeting, a council meeting and an invited talk session. Our Section day will be **Monday, August 10.**

Another feature that strikes me about our section is that our intellectual range is broad: we have strong interdisciplinary ties, as indicated by

collaborations between sociologists and mathematicians, economists and biologists and we have very strong international ties, as indicated by our history of bi-annual international conferences and the active participation of European sociologists in our Section. Within sociology, mathematical sociology encourages thinking across subfields. Presentations are likely to include topics from interaction in small groups to the spread of AIDS and to draw from theoretical perspectives as diverse as symbolic interaction and demographic models. It seems to me that we are also especially aware of and knowledgeable about philosophy of science issues such as the nature of formal theory construction, assumptions needed for models, and problems of interpretation involving the relationship between theory, data, and evidence.

In spite of all these virtues, we remain a small section and we need to retain and recruit members. The **deadline for ASA membership renewal is December 31**; you can now renew your ASA and section membership for 2009 at the ASA website, and ASA reminds us that people who fail to renew by December 31st will be kicked off the listserv on



January 2nd. Please renew your membership, and also think which of your students and colleagues would be appropriate to urge to join.

### Inside this issue:

2008 Section Awards Recipients	2
Past Chair's 2007-2008 Annual Report	4
Call for Special Edition Submissions & New Resource Announcement	6
Call for 2009 Section Award Nominations	7
Interdisciplinary Workshop Announcement	8
Three Perspectives on Mathematical Sociology	9
Preliminary Information about 2009 ASA & Call for Dissertation Award Donations	13

**Outstanding Article Publication Award****Delia Baldassarri and Peter Bearman**

“Dynamics of Political Polarization,”  
*American Sociological Review* 72: 784-811, 2007.

Committee Members:

Micheal Macy, Chair

Ron Burt and James Moody

**Outstanding Graduate Student Paper****Micheal Genkin and Alexander Gutfraind**

“How do Terrorist Cells Assemble? Insights from an Agent-Based Model”

Committee Members:

Guillermina Jasso , Chair

Eugene Johnsen, Brent Simpson,  
Yoshimichi Sato, Charlotta Stern and Peter Bahr

**Mathematical Sociology Dissertation Award****Pamela Emanuelson**

“Extension and Refinement of Network Exchange  
Theory”

Committee Members:

Diane Felmlee , Chair

Ken Land, Robert Shelly,  
Nancy Tuma and Brent Simpson

**Congratulations to this year's winner of the  
James S. Coleman Distinguished Career Award**

**Scott A. Boorman**



The James S. Coleman Distinguished Career Award in mathematical sociology for 2008 went to Scott A. Boorman, Professor of Sociology at Yale University. The Committee was: James Moody (chair), Matthew Brashears, Peter Hedstrom, Matthew Bothner and Barbara Meeker.

Committee Chair James Moody provided the following description of Boorman's work in mathematical sociology:

The Coleman Career Award Committee is extremely pleased to give this year's award to SCOTT BOORMAN. Scott has been a long-time contributor to mathematical and analytic sociology, with a clear commitment to using formalized tools for understanding deep social puzzles.

Among his many contributions is his fundamental book on understanding social conflict: *The Protracted Game: A Wei-Ch'i Interpretation of Maoist Revolutionary Strategy*. It replaces the traditional western model for conflict — chess — with the strategies and understandings derived from "Wei-Ch'i" - better known to those of us in the west as "Go". As one of the book reviewers put it:



"This was possibly the most insightful book I have ever read. It improved my understanding of strategic human conflict on the Wei-ch'i board, in modern society, and on the battlefield as well."

Scott has written widely in the areas of social networks and block-modeling, with particular attention to semi-groups and the algebraic construction of network models, multi-dimensional scaling and formal approaches to biology, evolution, social life and law. His other key publications include the key book: *Genetics of Altruism* (1980), and numerous publications appearing in places ranging from the *Proceedings of the National Academy of Sciences* (PNAS), *American Journal of Sociology*, *Journal of Mathematical Psychology*, *Journal of Mathematical Sociology*, *Journal of Mathematical Psychology* and *Economics Letters*.

**Mathematical Sociology Annual Report, 2007-2008**

Diane Felmlee, Past Chair  
October 2007

**The Business and Council Meetings**

The business meeting's agenda included the following items, each of which had initially been discussed and approved at the section's council meeting:

- 1) Announcements of the new section officers, the new webmaster (Matt Brashears), and the new Newsletter Editors for the past year (Alison Bianchi and Pamela Emanuelson).
- 2) A financial report from the Secretary/Treasurer, James Moody, which indicated that the section was in solid financial standing.
- 3) A discussion of current membership.
- 4) Report by Gene Johnsen on the 2008 Joint Japan-North Mathematical Sociology Conference that was held in Redondo Beach, CA, by Gene Johnsen. The conference was quite successful this past year, and it included a number of scholars from both countries.
- 5) An open-ended discussion of the name of the Section's dissertation award. Applicants for the award have been confused as to whether the award was intended for a completed dissertation or for one in progress. In order to clear up the confusion, the Section decided unanimously on a new name: "Outstanding Dissertation In Progress Award."
- 6) Discussion of the Section's Dissertation Fund by Geoff Tootell. Fundraising for the endowment for this award continued during the year, and the assets should soon pass \$100,000. Tootell encouraged members to continue to increase the endowment in order to raise the annual award amount from \$1000 to \$2000. The Section discussed various methods to increase funds and expressed appreciation to Tootell for his efforts in that regard.
- 7) A report from the *Journal of Mathematical Sociology* by Phil Bonacich.
- 8) A presentation of section promotion by Carter Butts and the dissemination of Section pencils and folders. We discussed the possibility of creating a Section logo to enhance section identity and visibility.
- 9) Barbara Meeker announced a call for mathematical sociologists to present their work to the community of U.S. mathematicians. The venue was the annual national joint meetings of the Mathematical Association of American and the American Mathematical Society.
- 10) Announcement of grant funding opportunities by Elisa Bienenstock. She discussed a multidisciplinary social science initiative, called Minerva, designed to support basic research in topic areas of importance to current and future U.S. national security. Mathematical sociologists are encouraged to apply.
- 11) Barbara Meeker was welcomed as the new Chair of the Section for 2008-2009, beginning at the end of the business meeting.

**Other ASA Activities**

- 1) Two new Newsletter Editors, Alison Bianchi and Pamela Emanuelson, upgraded our Section's Newsletters substantially. For several years, the Section did not have newsletter editors. The Editors produced Fall and Winter editions of the newsletter as well as a Summer Supplement that informed members about the upcoming ASA meetings.
  - 2) The Section helped to sponsor a 4<sup>th</sup> Joint Japan-North America Mathematical Sociology Conference held in Redondo Beach, May 29-June 1, 2008. The organizers were Eugene C. Johnsen, Carter T. Butts, Jun Kobayashi and Meiji Gakuin.
-

## Mathematical Sociology Annual Report, 2007-2008

3) The Section continued its efforts to increase an endowment that provides a \$1000 annual award to a graduate student for the most outstanding dissertation. According to Geoff Tootell who is one of the founders of this endowment, the assets should soon pass \$100,000. We will attempt to increase the endowment in order to raise the annual award amount from \$1000 to \$2000. Discussion focused on ways to encourage guidelines for donating to the endowment.

4) Two sessions were organized for the ASA meetings. One was the section allocated by the ASA based on the section size. The second session, "Mathematical Sociology at Three Career Stages," took place during the time allotted for the Council meeting, and preceded the business meeting. The sessions were extremely well attended. For example, over 50 people signed an attendance sheet at the second session, and there were not enough seats for everyone.

5) We held an awards ceremony at the joint reception for the Mathematical and Rationality and Society Sections of the ASA.

6) The Chair arranged an informal Section Council breakfast meeting that was held on the morning of the Section's ASA meeting day. All Section officers and council members, both current and newly elected, were in attendance with the exception of one, for a total of 12 people. Several business items were discussed.

7) Elections were held in the manner that is stipulated by the Section's bylaws. The Past-Chair, Douglas Heckathorn, served as Chair of the Nomination Committee. Heckathorn worked with the current Chair, Diane Felmlee, and other section officers to produce a list of nominees for officer positions. Two candidates were offered for each of the open officer positions.

8) The results of the elections were as follows:

**Chair-Elect:** Ronald Breiger

**Council Members:** James Kitts and Dawn Robinson

**Student Representative:** Cyprian Wejnert

### Activities during the Current Year

- The Chair of the Section will carry out the duties specified in the bylaws. These include appointing award committees, conducting the section elections in the manner stipulated in the bylaws, planning the sessions for the 2009 ASA meetings, working with the Newsletter Editor to produce a regular newsletter, and arranging for the section's reception and award ceremony.
  - The Chair also will cooperate with the Secretary-Treasurer to manage the Section's budget. Budget obligations include the following:
    - \$1000 for each recipient of the Outstanding Dissertation In Progress Award
    - \$500 for the recipient of the Outstanding Graduate Student Paper
    - Appropriate expenses for the section's ASA reception
  - The Past Chair will preside as Chair of the Nominations Committee for electing new Section officers.
  - The Section website will be updated with the help of the new webmaster, Matt Brashears.
  - The Section will produce a regular Newsletter in order to keep members informed of Section activities.
  - Fundraising will continue for the endowment for the Dissertation Award.
-

## Announcement and Call for Papers: Vincent Buskens

\*\*\*\*\*

### **Journal of Mathematical Sociology** double special issue

\*\*\*\*\*

#### Special Issue Editors:

Marcel van Assen  
Tilburg University

Vincent Buskens  
Utrecht University

Werner Raub  
Utrecht University

\*\*\*\*\*

Thirty years after the appearance of Schelling's famous *Micromotives and Macrobehavior*, the special issue focuses again on the micro-macro link in sociology and on the role of micro-foundations for proper micro-macro links. One topic for our special issue is the modeling of the micro-macro link. Schelling and others highlighted an important contribution of mathematical models: they can help us to investigate the non-trivial ways in which individual decisions aggregate and evolve into group behavior and macro-phenomena. For instance, Schelling showed that increasing acceptance of non-whites by whites in their neighborhoods does not need to decrease residential segregation, thus contradicting a simple common sense theory. Schelling could only come to this unexpected result by

simple though rigorous modeling of the group process.

A second and closely related topic for our special issue is how alternative micro-models of behavior affect macro-level outcomes. For quite some time, economists as well as (some) other social scientists have employed the standard model of the rational and selfish agent at the micro-level, sometimes assuming that macro-level outcomes are rather robust relative to deviations from this standard model. Contemporary research seemingly indicates, however, that deviations from the standard model can result in different, sometimes even fundamentally different, outcomes at the macro-level. The model deviations at the micro-level can be numerous, including assumptions on altruism, fairness, inequity-aversion, reciprocity, and risk preferences, but also assumptions on other than fully rational behavior.

For our special issue we invite submissions on these two topics. More specifically, we welcome submissions with (i) examples of modeling the micro-macro link, preferably examples with conclusions that might not have been reached, had the micro-macro link not been formalized explicitly, or (ii) examples showing whether and how different reasonable models of individual preferences and behavior result in different macro-level outcomes.

We do not want to be restrictive in terms of substantive topics or mathe-

matical approaches. We thus welcome (i) contributions from diverse substantive fields of interest for sociologists, (ii) studies using analytic and simulation methods, and (iii) theoretical as well as empirical contributions.

\*\*\*\*\*

#### SUBMISSION:

Authors who intend to contribute to the special issue should send an abstract to [v.buskens@uu.nl](mailto:v.buskens@uu.nl) before February 1, 2009. Please observe this deadline. The subsequent deadlines are provided below. Final versions of papers should be no longer than 8,000 words plus tables and figures.

\*\*\*\*\*

#### IMPORTANT DATES

- \* Submission of abstracts: before February 1, 2009
- \* Editorial decisions on submissions that seem suitable for further elaboration: March 1, 2009
- \* Submission of full papers: before July 2009
- \* Returning reviews: before November 1, 2009
- \* Submission of revised versions of papers with "revise and resubmit" or "conditional accept": before February 1, 2010
- \* Final acceptance decision: before March 1, 2010
- \* The special issue will appear in 2010

## New Resource for Modeling Social Dynamics

This website will provide space to share demonstrations, proofs, sensitivity analyses, source code, and other supplementary materials for research using formal models of social dynamics. It will also link to learning materials, including syllabi, exercises, and tutorials. Lastly, it will host anonymous supplements for authors submitting manuscripts in this area.

Visit: <http://www.socdynamics.org/>

## Mathematical Sociology Section Award Nominations

Call for nominations for  
Mathematical Sociology  
Section Awards for 2009

### Outstanding Article Publication Award

This award honors an article that made an outstanding contribution to mathematical sociology. Eligible articles must have been published during the three years prior to the award year. Please send a copy of the article and a nomination letter by February 1, 2009 to: Dawn Robinson, Department of Sociology, University of Georgia, Athens, GA, 30602-1511, e-mail:

[sodawn@uga.edu](mailto:sodawn@uga.edu)

### Graduate Student Paper Award

This award is presented for the best paper written by a graduate student that makes a significant contribution to mathematical sociology. Papers can be published or unpublished. The submission can consist of a dissertation chapter, but not the entire dissertation. The submission must have been written or published during the three years prior to the award year. The author/first author must be a graduate student at the time of submission, and all authors must be graduate students when the paper was written. Nominations and self-nominations are welcome. The graduate student paper award includes \$500 to help defray the costs of attending the ASA meetings or other expenses. Please send a copy of the paper and a nomination letter by February 1, 2009 to: Kazuo Yamaguchi, University of Chicago/NORC 1166 East 60th Street, Chicago IL 60637. e-mail:

[kyamagu@midway.uchicago.edu](mailto:kyamagu@midway.uchicago.edu)

### Mathematical Sociology Outstanding Dissertation in Progress Award

This award provides a grant of \$1,000 to meet some of the scholarly expenses of a student whose dissertation is still in progress and employs mathematics in an interesting, imaginative or ingenious way to advance sociological knowledge. The applicant should submit a copy of his or her approved dissertation proposal, with a list of any requirements added by the graduate committee. The packet should also include a letter of support from the student's sponsor, which describes the student's qualifications for the completed task and the potential importance of the project. The requirements include membership in the ASA and the mathematical sociology section during the period to be covered by the grant. Please send a copy of the dissertation proposal and a nomination letter by March 1, 2009 to: Barbara Meeker, Department of Sociology, University of Maryland, College Park, MD 20742. e-mail:

[bmeeker@socy.umd.edu](mailto:bmeeker@socy.umd.edu)

### Harrison White Outstanding Book Award

This award honors a book that has made an outstanding contribution to mathematical sociology. Eligible books must have been published during the four years prior to the award year. This award is given in odd-numbered years. Please send a copy of the book and a nomination letter by February 1 2009 to: Jane Sell, Department of Sociology, Texas A&M University, College Station, TX 77843. e-mail: [j-sell@tamu.edu](mailto:j-sell@tamu.edu) .

Nominations must come from American Sociological Association members.

## Workshop Announcement

\*\*\*\*\*  
 Second International Workshop on  
 Social Computing, Behavioral Mod-  
 eling, and Prediction

March 31-April 1

Phoenix, AZ

\*\*\*\*\*

The Second International Workshop on Social Computing, Behavioral Modeling, and Prediction, which will be held in Phoenix on March 31-April 1 should be of particular interest to those sociologists interested in interacting with the growing community of computer scientists who are delving into social science issues. Last year's workshop brought together almost 100 computer scientists and others working on social modeling, simulation, and prediction. It also included presentations by representatives from the National Institutes of Health, Office of Naval Research, and Air Force Research Lab, who are jointly providing funding for it. The workshop is put on in cooperation with the Association of Computing Machinery, the main professional

organization for com-  
 puter scientists.

As some of you may know, there has been a huge increase in recent years of federal department and agency funding for scholars doing formal and/or positive analysis of social behavior, as exemplified by the Department of Defense's \$50 million per year Minerva Research initiative. Up until now, however, most of this funding has gone to computer scientists and engineers rather than to social scientists themselves. There are many reasons for this, but certainly one of them is the lack of familiarity by most social scientists of the potential funding sources and the criteria used in judging applications. This workshop is one way to gain such familiarity and to cross the "soft/hard" science boundary.

\*\*\*\*\*

More information on the workshop can be found at:

<http://www.public.asu.edu/~huanliu/sbp09/>

The program and presentations from last year can be found at:

<http://www.public.asu.edu/~huanliu/sbp08/program.html>

and the conference volume at:

<http://www.amazon.com/Social-Computing-Behavioral-Modeling-Prediction/dp/0387776710/>

\*\*\*\*\*

Feel free to contact me if you have questions.

Sun-Ki Chai

Associate Professor and  
 Graduate Chair  
 Department of Sociology  
 University of Hawai'i  
 2424 Maile Way 247  
 Saunders Hall  
 Honolulu HI 96822  
 Office (808) 956-7234/7292  
 Message (808) 956-7693  
 Fax (808) 956-3707  
 Email [sunki@hawaii.edu](mailto:sunki@hawaii.edu)

*The Future of Mathematical Sociology: Three Perspectives*

SPOTLIGHT: GEOFF TOOTELL

## PROSPECTS OF A PROGRAM WITHIN MATHEMATICAL SOCIOLOGY

Fifty years ago most of the few mathematically trained sociologists often spoke of needing to develop a branch of mathematics that was especially suited to the social sciences, as calculus fits Newtonian physics. Some explored uses of partial orderings or lattices. Arrow's early enduring accomplishment was to use logic to show that it is impossible to generate a completely acceptable social utility function, absent a dictator, with respect to a set of three or more individuals' preferences, unless they agreed at first. Less widely known is Lazarsfeld's use of probability theory to infer existence of latent classes from qualitative data. (Per Szmatka and Lovaglia, choices of methodological procedures contour theoretical development.) Next, mathematical sociologists Coleman, White, Bonacich, Fararo, Davis and others focused on applying existing mathematical theory to specific problems. Their successes were notable, diverse, and widely recognized. Roberts surveyed uses of graph theory and combinatorics.

Formalization of social theories has been fertile. Prime examples include balance theory (Harary, Cartwright), affect control theory (Heise and others), network exchange theory (NET: Markovsky, Willer, Skvoretz), structural influence theory (SIT: Friedkin, Johnsen, and Kalkhoff), and status characteristics theory (SCT: Berger, Norman, Zelditch, Fisek, Webster, Balkwell, Whitmeyer and others).

NET demonstrated that the concept "power" must be differentiated. We must redefine concepts of social power, social class, and many others (use logic, measure theory). SIT and SCT began with micro-sociological foci. By extending their mathematics, it's clear that they apply to macrosociology too. Consequences look exciting. Both can be viewed from within prospect or (e.g., assurance) game theories. Many social theories could benefit from formalization, e.g., implementing theory generalization (e.g., Friedkin and Johnsen). As formal models become the basis of research, theories and research results display less ambiguity and greater precision, consistency and credibility.

Many branches of mathematics are under used. Network theorists have still only scratched at graph theory, e.g., studying formal models can improve theory structure (Robertson and Seymour, Diestel). So to with algebra, which has many unplumbed applications: theorists could incorporate power terms and tiny coefficients, allowing predicting rates of change and maxima and minima.

It's possible to predict strength of expected correlations between variables. Mathematical norms and limits can have many uses in theory. Recently Moody and also Land have used topological concepts. Causation may be deterministic or probabilistic, but where many factors combine to produce non-trivial consequences, wider use of measure theory is needed.

Sociology's future rests on generating practical, reliable theories, not researching popular legends or slogans. Formalization warrants hope. To maximize utility, we must attract more mathematicians (e.g, Johnsen, Harary, Norman, Kemeny, Roberts). We must challenge them with real mathematical problems: The bait of more advanced mathematics, with deep problems, will intrigue, attract and reward new scholars.



#### SPOTLIGHT: PHIL BONACICH

### THE FUTURE OF MATHEMATICAL SOCIOLOGY

An intense interest in complexity and emergence has developed that transcends academic boundaries. On my shelves are books on complexity and emergence in sociology, economics, the physical sciences, and the biological sciences. The non-social science authors are awe struck by the idea of emergent properties because their fields tend to be dominated by reductionism, the belief that adequate knowledge of the properties of the units of a system always guarantees that system properties can be explained. According to this perspective, the best way to understand systems is to learn more about their constituents, but physical and biological scientists have become more aware that systems themselves are worthy of study. There has also been an explosive and cross-disciplinary interest in networks, which represent a particular type of emergence.

Whenever I thumb through these books, especially those by non-sociologists, I have a strong sense of *déjà vu*. Many years ago my fellow graduate students and I would argue about the importance of emergent properties of social systems. Most of us concluded that sociology, as distinct from psychology was, at its essence, the study of processes within social systems that emerge from sets of interacting individuals but are not themselves processes within these individuals. Sociology has always had networks and emergence as a central focus, and thus often I am both amused and irritated by the books I read on complexity, emergence, and networks – amused by the *naïveté* of the authors and irritated by their ignorance when they try to extrapolate their models to social phenomena.

---

Mathematical sociologists are in a perfect position to contribute to this groundswell of interest in complexity and in social networks. Sociologists have thought in these terms for decades. As mathematical sociologists we can serve as bridges: we can communicate to the larger scientific community the advances made by sociologists; we combine the mathematical background to evaluate, modify, and use the models proposed by physical scientists along with the substantive expertise they



### SPOTLIGHT: DAVID WAGNER

#### ON THE FUTURE USE OF MATHEMATICS IN SOCIOLOGY

I see three possible futures for the use of mathematics in sociology. Each has different implications for the existence and character of a sub-discipline called “mathematical sociology.” I will discuss them in order of increasing desirability (to me, at least!), but, alas, in probably decreasing likelihood of realization.

First, mathematics may continue to provide an island of methodological precision in a sea of generally much more nebulous (but often perhaps richer) sociological investigation. Tools like network analysis will continue to provide very specific answers to very specific research questions. Those of us with an interest in the use of mathematics in sociology will probably see the questions asked and the answers provided as interesting and often provocative. (See, for example, the work investigating the strength of weak ties) However, much of the rest of sociology will see the questions asked as narrow and the answers provided as very limited in their scope of application. Indeed, some sociologists will continue to see mathematical work in sociology as irrelevant to, or perhaps even destructive of, the pursuit of “real” sociological investigation. Our self-regard may remain high, we may continue to maintain a viable presence in sociology, but the rest of sociology may regard us as a “backwater” of the discipline.

A second possible future for mathematics in sociology depends on more frequent implementation of mathematics for *theoretical* analysis. Many of the same mathematical tools would remain available, but the nature of the questions asked and the answers provided would be derived more directly from theoretical considerations. That is, mathematical techniques would be shaped to fit the theoretical issues at hand more often than theoretical issues would be shaped to fit the mathematical techniques available. (See, for example, Axelrod’s investigations of cooperation using iterative Prisoners’ Dilemma simulations) The math becomes more theory-driven, rather than the theory being

more mathematically-driven. I believe this future would bring mathematical thinking in sociology more into the mainstream. Of course, there will always be those who find mathematical precision disreputable (e.g. postmodernists), but I believe more of sociology is likely to see mathematics is valuable to the discipline if we can show the use of math can help us answer questions the discipline already considers important.

I have begun to see this occurring, for example, in the application of some of the mathematical models of status characteristics theory (SCT) to the study of gender roles. The confusing welter of results regarding how men and women think and behave (and when they think and behave that way) becomes much clearer when the graph-theoretical version of SCT is applied to it. I've had several investigators in the area express their appreciation of the value of SCT in making sense of the research (although they may not be fully aware of the importance of graph-theoretical techniques in accomplishing this). I believe this future would bring mathematics more into the mainstream of sociology, although we may remain distinct as a branch (a tributary?) of sociological analysis.

Finally, in a *Candide*-like "best of all possible worlds" mathematics may eventually become central to the way in which sociological analysis and investigation is normally performed. The questions sociologists ask inherently involve mathematical formulation; the answers we provide are generated at least in part through mathematical analysis, much as the physical sciences now operate. I believe theory-driven mathematical work in sociology—my second "future" above—is a step along the path to this most desirable future, but we clearly have a long way to go.

Interestingly, were we to achieve this ultimate goal, the viability of a distinct area of the discipline called "mathematical sociology" would evaporate. Our success would lead to our extinction as a unique species of sociology. We would become like most other sciences in treating mathematics simply as one of the core tools of the discipline, rather than as some kind of specialty of value to only a few initiates. This is the future I look forward to. I doubt I will see it in my lifetime, but that shouldn't prevent us from planning for that future and doing everything we can to move "mathematical sociology" in that direction.

---

## Preliminary Information about the Mathematical Sociology Section Sessions at ASA

Don't forget that there is now a call to submit your papers for the 2009 American Sociological Association's Annual Meeting. This year, the meeting will be held from August 8–11 in San Francisco, California.

To submit your papers, go to the appropriate ASA Website:

<http://www.asanet.org/>

cs/root/leftnav/meetings/2009\_call\_for\_papers

... and follow the directions to submit. Submissions should be made December 1 – January 31. (Look for 'Section on Mathematical Sociology').

At ASA 2009, The Mathematical Sociology Section will sponsor an open submission session, with title: New

Directions in Mathematical Sociology. All new work in mathematical sociology is invited, but papers using methods or models that are underrepresented in current journals and other publication outlets are especially encouraged. The session organizer is David Wagner, University at Albany, SUNY email: [d.wagner@albany.edu](mailto:d.wagner@albany.edu).



**San Francisco, California**

— site of the 2009 ASA Meetings

## Announcement: Donate to the Math Soc Section's Dissertation Grant Award

This year we have the opportunity to increase the Math Soc Dissertation Grant Fund so that its assets exceed \$100,000. Of course, this year giving is less fashionable than worrying, saving, and hoarding one's cash. And perhaps that's wiser. But even small gifts add up, and they are very welcome. If 200 members gave \$50 each, on average, that would suffice. At \$25 each, we'd be half way there, and maybe the next two or three people in the door might help a little more.

When the total reaches \$100,000, we shall be able to increase the amount of the award to a more meaningful size (at least 2000?). Ultimately, it will become increasingly significant, and extremely useful, as a means to lure more very bright and very talented scholars into our field. Right now it offers strong evidence to ASA and others of our section's vitality, intelligence, and commitment.

Please also recommend this opportunity to your good graduate students. While it is true that larger numbers of candidates lessen the chances of

each to win, greater fund income allows larger funding for awards and could lead to ties, with more than one winner. That result may not be the case, of course, but a 1 out 10 chance to win \$2000 beats not trying. This is all the more true because the real work is structuring the dissertation, something they must do anyway.

Again, would you please be sure to memo your check to ASA with "Math Soc Section Diss. Grant", and please send it to Jim Moody at Duke? His address is:

Prof. James Moody  
Department of Sociology  
332 Soc/Psych Building  
Duke University  
Durham, NC 27708

Happy Holidays, always, Geoff Tootell

### A Brain Teaser: The Sociology Baseball Dream

In academic heaven Saint Leonardo da Vinci, the reigning polymath, is setting up a disciplinary baseball league. To form a team he selects nine distinguished scholars from an academic discipline and assigns them to the nine standard baseball positions: (infield) first base, second base, third base, shortstop; (outfield) left field, center field, right field; (battery) pitcher, catcher.

After much cogitation, Saint Leonardo selects the following nine scholars for the sociology baseball dream team: Simone de Beauvoir (1908-1986, France), W.E.B. Du Bois (1868-1963, United States), Emile Durkheim (1858-1917, France), Charlotte Gilman (1860-1935, United States), Erving Goff-

man (1922-1982, Canada), Karl Marx (1818-1883, Germany), C. Wright Mills (1916-1962, United States), Talcott Parsons (1902-1979, United States), and Max Weber (1864-1920, Germany).

Saint Leonardo assigns these nine scholars to the nine baseball positions in a manner that satisfies these eight statements.

1. A woman plays an infield position and another woman plays an outfield position.
2. The battery consists entirely of Europeans.
3. The only European younger (measured by year born) than the person who plays third base plays an infield position.
4. The two youngest players on the sociology dream team are not in-

fielders.

5. The last names of the second base player and the shortstop begin with the same letter.
6. The catcher is younger than the second base player.
7. The center fielder is born in a different century than the left fielder.
8. The last names of the center fielder and the right fielder start with the same letter.
- 9.

The problem is to determine the positions to which Saint Leonardo has assigned the nine scholars. The solution will be published in the Spring issue.

Thanks to Tom Meyer, University of Colorado at Boulder

MATHEMATICS  
is one of the essential emanations  
of the human spirit, a thing  
to be valued in and for itself,  
like art or poetry.  
OSWALD VEBLEN 1924

#### Mission Statement of the Mathematical Sociology Section

The purpose of the Mathematical Sociology Section of the American Sociological Association is to encourage, enhance and foster research, teaching and other professional activities in mathematical sociology, for the development of sociology and the benefit of society, through organized meetings, conferences, newsletters, publications, awards, and other means deemed appropriate by the Section Council. The Section seeks to promote communication, collaboration, and consultation among scholars in sociology in general,

#### Greetings from the Editor!



be!

Please feel free to send us your comments, concerns, corrections, or any ideas you have for the newsletter.

Have a great Fall/Winter, and watch your e-mails for future newsletter editor requests!

— *Pamela fmanuelson*

Thank you all for your timely contributions to our Fall/Winter 2008/2009 Newsletter!

Please continue to send us your announcements, articles, book reviews, etc. The more you are involved with the newsletter, the better it will