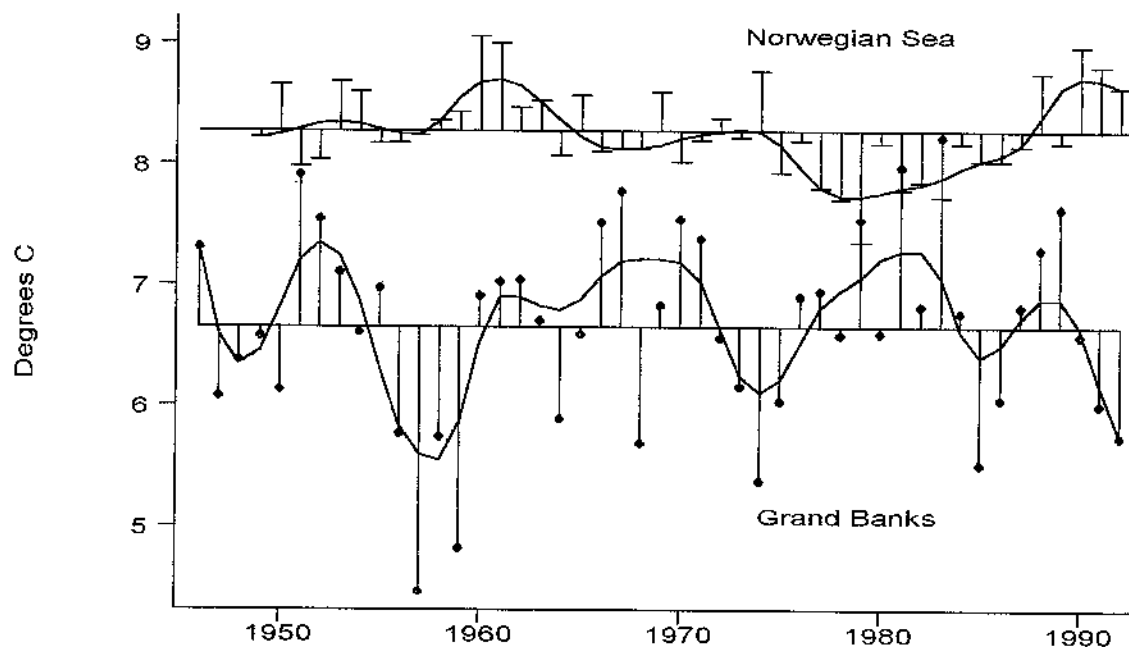

Environment, Technology, and Society

Newsletter of the Section on Environment and Technology
American Sociological Association

The North Atlantic Oscillation



Mean Atlantic sea surface temperatures 1946 - 92

* Turn to page 6 for Larry Hamilton's discussion of the above graph. *

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Jeffrey Broadbent & Adam Weinberg

Boguslaw Award: Allan Schnaiberg

Olsen Student Paper Award:

Ken Gould, Chair
Adam Weinberg & Lori Hunter

Distinguished Service Award:
Dorceta Taylor

Telecommunications Committee:
J. Timmons Roberts

Membership:

David Sonnenfeld, Chair
Mike Bell, Steve Couch,
Steve Zavestoski

Notes from the Editor...

I hope this issue of *ET&S* finds everyone well and refreshed after the holidays! This issue marks the beginning of a new column--the department spotlight. In this column, various environmental sociology programs will be highlighted. Sharing this information may help other programs develop, promoting the discipline of environmental sociology. If you would like to write a department spotlight for your program, do contact me.

The partnerships column also continues this quarter with Craig Humphrey's piece on collaborating with rural sociologists. (Submissions for future installments of this column are also needed.)

Also in this issue... The cover graphic is from Larry Hamilton, and presents some of his work on the effects of marine climate shifts. In case you missed the Annual Meetings in Toronto, or if you just want a reminder of what went on at the business meeting, check out the meeting minutes. Gene Rosa talks about the emergence of the study of risk within environmental sociology. Riley Dunlap and Aaron McCright review *Environmental Politics*. And, as always, member publications and activities are highlighted. Thanks to everyone who helped fill this issue with timely and interesting reading!

ET&S goes online! A portion of each newsletter may now be read on the Web, thanks to the efforts of Rik Scarce at Montana State University. The page may be accessed via the ASA-maintained E&T Section page, or directly at <http://www.montana.edu/wwwsi/scarce/eandt.htm>. Thanks, Rik, for this outreach effort!

The E&T Section welcomes new members... The following new members joined the Section in 1997: Troy Abel, James Absher, Diane Bates, Susan Crafts, Adele Cummings, Geoff Curran, Cynthia Duncan, Oscar Eggers, Steven Epstein, Anne Figert, Edward Hackett, Lowell Hargens, Virginia Hustling, Laura Kelley, Eric Costello, Deborah McCarthy, Shunji Mikami, Kelly Moore, Brenda Nordenstam, Todd Paddock, Steven Picou, Debra Rusz, Laurel Smith-Doerr, Yuko Takubo, David Tumilowicz, Jesse Walmsley, Peter Whalley, Donald Wheeler, and Sharon Wisner. We do hope you enjoy being part of the E&T Section.

Everyone, please remember to renew your E&T Section membership and encourage others to join. Let's keep this Section the vibrant and active group we've come to know!



What are you working on? What great books have you read in the field? What have you published recently? What useful websites have you found or created? What effective new teaching techniques are you using? What are your Earth Day plans? What do you see going on in environmental sociology today? Share your ideas with the Section! Send along your submissions for the Spring issue as you prepare them.

Environment, Technology, and Society Newsletter

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Publication Schedule:

The deadline for submissions for the Spring issue is March 15. If at all possible, please submit text items electronically or on IBM-formatted diskette, as this greatly facilitates the newsletter production process. Articles on current research that can be represented graphically on the front page are especially sought.

ET&S is a publication of the American Sociological Association, Section on Environment and Technology. The newsletter is a member benefit.

Please note that you must be a member of the ASA in order to join a Section. Contact the American Sociological Association, Membership Services, at 1722 N Street, NW, Washington, DC 20035-2981

Capitalizing on the 'Issue-Attention Cycle' in Environmental Affairs

As I write, jet-lagged delegates to the first international talks on global warming are assembling in Kyoto, Japan; the massive forest fires from earlier in this year still smolder in Indonesia, and prominent news media (The International Herald Tribune, the New York Times, and the Los Angeles Times) have increased the number of column inches that they devote to environmental issues. It appears that we are entering another upswing phase in what Anthony Downs has called the 'issue attention cycle' (Downs, 1972).

According to Downs, modern publics attend to many issues in cyclical ways. A problem "leaps into prominence, remains there for a short time, and then, though still largely unresolved, gradually fades from the center of public attention" (1972:38). Environmental problems have gone through several issue-attention cycles during the past forty years. The first post-WWII cycle probably began in 1964 with the publication of *Silent Spring* and lasted until 1973 when an economic crisis turned peoples' attention elsewhere. A second, less pronounced cycle began in the late 1980s when the coincidence of a long, hot (New York) summer and massive fires in the Amazon basin helped people appreciate the realities of 'global warming'. Public interest in this issue may have slowly dissipated during the early and mid-1990s. The first post-WWII attention cycle characterized all environmental issues, but later ones have become more issue specific and do not occur in historically synchronized fashion. For example, the 1997 public's interest in issues of global warming may be increasing while its' interest in issues of toxic waste may remain basically unchanged. There is however something of a synergistic effect operating here. Interest in one environmental problem begets interest in another environmental problem.

These ideas are worth recalling because they have real consequences for environmental sociologists. Courses in environmental studies that did not enroll enough students two years ago might attract more student interest in the fall of 1998. Foundations and agencies may decide to increase the funds and programs directed at environmental problems. Deans and department heads may look with more favor on proposals to add more environmental social science to curricula or hire an environmental social scientist. The implications of issue-attention cycles and their effects for our own behavior are clear. If you have been nursing an idea for a significant new initiative in your own work, wondering when to launch it, the appropriate time might be now! Given that issue attention cycles govern the availability of funding and political support for our efforts, 'he/she who hesitates, when interest is rising, is lost!'

References

Downs, Anthony, 1972, "Up and down with ecology - the issue attention cycle." *The Public Interest*. 28:38-50.

Department Spotlight

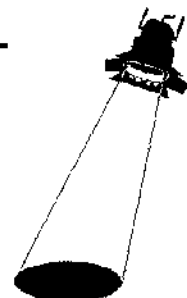
The Environmental Sociology Program at University of California at Santa Cruz

by
Andrew Szasz

The Sociology Department at UCSC underwent a formal reorganization a few years back. The faculty organized themselves into three "areas of specialization." One of these is called "Political Economy, Development and Environment." Six faculty members are identified primarily as members of this group, Wally Goldfrank, Paul Lubeck, Andrew Szasz, Helen Shapiro, Ben Crow and Melanie Dupuis. All share a common theoretical framework, political economy, although I should hasten to point out that our approach is neither dogmatic nor reductionistic and that we are very sympathetic to sociological approaches that foreground the importance of culture, language, representation in the analysis of societal processes. Of the six, four primarily do "Development" and two "Environment," but in fact almost all of us do both. Our view is that the division between economic sociology and environmental sociology is unproductive, a distinction which cannot and should not be maintained.

Some other members of the Sociology Department are beginning to share our interest in environmental issues, even though they are formally members of another area. In addition, our graduate students work with UCSC faculty in other departments, Environmental Studies, History of Consciousness, Politics and Anthropology.

USCS Sociology admits about 8-10 new students into its graduate program every year. We have about 45 students in residence at any one time. About a third of these are affiliated with the "Political Economy, Development and Environment" area. Our students have won a number of the E&T Section's student paper awards in recent years.



JOURNAL REVIEW: *Environmental Politics*

Riley E. Dunlap and Aaron McCright
Washington State University

Environmental Politics. U. S. and Canadian Orders: Frank Cass, c/o International Specialized Book Services, 5804 N.E. Hassalo St., Portland, OR 97213-3644. Phone: (800) 944-6190; Fax (503) 280-8832. Subscription rates for Vol. 6 (1997) are \$45 (U.S.) for individuals and \$170 (U.S.) for institutions.

Now in its sixth year of publication, *Environmental Politics* has become an important and stimulating forum for environmental social science. This quarterly journal focuses considerable attention on topics directly related to its title, but it also carries articles, notes and essays on a very wide range of topics by a diverse set of authors. To give readers a better sense of its orientation, we conducted a quick "content analysis" of the 20 issues published in the first five volumes (1992-96).

In terms of subject matter, a majority of articles were understandably related to the political aspects of environmental issues, as environmental policy, environmental politics, elections/voting, Green Parties and the Environmental Movement were the most common topics. However, a diverse range of topics such as eco-philosophy, causes of ecological degradation, sustainable development, environmental economics and environmental attitudes were also the subject of several articles in the first five volumes. In general, the journal appears to be open to a wide variety of topics, and certainly is far broader in orientation than a narrow interpretation of its name would suggest.

The approach used by authors varied greatly, from abstract, theoretical discussions to case studies to quantitative analyses of election/survey data, and nearly a fourth could be termed "empirical/quantitative." In terms of geographical focus, national-level analyses of individual nations were most popular, followed by international/global analyses and local-level analyses.

Since the Co-Editors, Michael Waller and Stephen Young, are both British political scientists, it is not surprising that British authors have been heavily represented thus far. However, Australian, American and Dutch scholars have also been well-represented, and several articles have been published by Canadians, New Zealanders and other Europeans. Authors from Israel, Nepal and Sri Lanka further indicate that *Environmental Politics* is becoming a truly international journal.

Given the journal's name, it comes as no surprise that a large majority of articles have been authored by scholars identified with political science/government. However, geography, sociology, and philosophy have been represented rather frequently, and several articles have appeared by authors in social science, economics, human ecology, cultural studies and environmental science. Thus, like most environmental journals, *Environmental Politics* is clearly interdisciplinary.

Two other features of *Environmental Politics* deserve special mention: First, it regularly has an enormous book review/notes section (edited by Andrew Dobson). We found a whopping 500 reviews thus far, for an average of 100 per year! A second feature has been the regular appearance of thematic "symposia," including issues devoted to "European Community's Environmental Politics," "Rio and UNCED," "Network Analyses and Water Politics" and "Ecology and Democracy" (some of which have been reissued in book form).

All things considered, we find *Environmental Politics* to be a very good journal. We think most environmental sociologists will want to have it in their institutional library (and perhaps their personal library as well), and will also find it a promising outlet for their scholarship.

Environment and Technology Section Awards 1998 Calls for Nominations

The Robert Boguslaw Award for Technology and Humanism

The Robert Boguslaw Award for Technology and Humanism is given annually by the Section to a doctoral student or a young investigator whose paper or article investigates the relationship between technology and humanism. The purpose of the award is to recognize work that addresses technology and human affairs, social action and social change, conflicts over values, or work that proposes innovative solutions to emerging social issues associated with technology. In accordance with Robert Boguslaw's wishes, the honored work should address the concerns of ordinary people rather than reflecting organizational or institutional agendas. The award is limited to doctoral students or young investigators who have obtained their Ph.D.s in the past five years. Please send nominations (preferably by email) by March 1, 1998 to Allan Schnai-

berg, Department of Sociology, Northwestern University, 1810 Chicago Avenue, Evanston, Illinois 60208-1330. Email: a-schnaiberg@nwu.edu, tele.: 847-491-3202, fax: 847-491-9907.

The Marvin E. Olsen Graduate Student Paper Award

The purpose of this award is to recognize an outstanding paper presented by a graduate student at the annual American Sociological Association Meetings. The recipient is announced at the annual business meeting of the Section, and is presented a certificate acknowledging the honored paper and a monetary donation to help defray expenses associated with attending the ASA meetings. Nominees are limited to graduate students who are giving presentations at the annual meetings. All members, including potential recipients are encouraged to submit nominations. The deadline for submission is April 15th, 1998. Papers should be

sent to Ken Gould, Department of Sociology, St. Lawrence University, Piskor Hall, Canton, N.Y. 13617.

Distinguished Service Award

The purpose of this award is to recognize individuals for outstanding service, innovation, or publication in environmental sociology or sociology of technology. The award is intended to be an expression of appreciation, to be conferred when an individual is deemed extraordinarily meritorious by the Section. The award will be announced and a commemorative plaque will be given to the recipient at the Section's Annual Business Meeting. The deadline for submitting nominations and supporting materials is May 1, 1998. Nomination letters should be sent to Dorceta Taylor, Department of Sociology, Washington State University, 14204 NE Salmon Creek Avenue, Vancouver, Washington, Washington 98686.

Minutes of the 1997 Environment & Technology Section Business Meeting Toronto (August 10, 1997)

The 1997 Section business meeting was brought to order by the Chair, Gene Rosa. He reported on the Section's Council meeting and called for approval of the minutes of the 1996 business meeting. By voice vote, the minutes were approved.

OLD BUSINESS

The Secretary-Treasurer (Loren Lutzenhiser) reported on Section expenditures and budget balances for the year. The Chair reported that membership was at precarious levels. The incoming Chair, Tom Rudel, and the Membership Committee are working to sustain membership above the 400 level.

Susan Roschke, *Environment, Technology, and Society* editor, reported on matters related to the newsletter. She always needs more copy and encourages submission of articles as well as notes about papers presented, articles published, conferences, meetings and special events. A report on the Section's listserve and web page was given by Timmons Roberts (Electronic Networking Committee). For problems with either or suggestions, he may be contacted at: timmons@mailhost.tcu.tulane.edu.

The Nominations and Elections Committee reported that Jean Blocker and Timmons Roberts had been elected to the Council, Dorceta Taylor to the post of Secretary-Treasurer, and Carol Seyfrit to the post of Chair-Elect.

The Secretary-Treasurer presented the 1997 Distinguished Contribution Award to Tom Dietz. Members were reminded that the deadline for nominations for next year's award should be submitted to the Secretary-Treasurer by April 1, 1998. Ken Gould presented the 1997 Marvin E. Olsen Student Paper Award to Suzsa Gille of the University of California, Santa Cruz. Allan Schnaiberg presented the Robert Boguslaw Award for Technology and Humanism to Valerie Kuletz, also of the University of California, Santa Cruz.

The Chair thanked outgoing Council members Dora Lodwick and Celene Krauss for their service on the Council and Loren Lutzenhiser for his work as Secretary-Treasurer. He also thanked other Section members who have served on committees during the past year, with special thanks for the efforts of Newsletter Editor, Susan Roschke. And the Chair welcomed new Council members, as well as foreign scholars in attendance.

The Chair reported that Section participation at this year's meetings included section tables at the welcoming party and a registration information table (organized by Greg Guagnano). The Section also sponsored two paper sessions, a roundtable session, and a reception co-sponsored with the Sections on Racial & Ethnic Minorities, Sex & Gender, and Asia & Asian America. Section members also organized or participated in two regular sessions on environmental sociology, three risk sessions, one human ecology session, one technology and society session, and nine related sessions. The incoming Chair will work with the ASA Executive Office to minimize some of the time conflicts between sessions experienced this year as a result of Section members' success in organizing regular sessions on topics related to environment and technology.

NEW BUSINESS

John Bellamy Foster, Co-editor of the journal *Organization and Environment* reported on the journal's goals, editorial approaches, and rapidly growing readership (over 900 subscribers after the publication of the first three issues). The journal's

primary affiliates are the members of the Organization and Natural Environment division of the Academy of Management and the ASA's Environment and Technology section. The journal seeks manuscripts across a very broad range of topics related to organization and environment. It has, for example, already become a major forum for eco-feminist work. Innovative features of the journal include the publication of art and poetry, an archives feature (citation classics and foundation works), book reviews and film reviews, as well as regular articles. Its editorial board sees it as a mainstream journal with a critical character and outlook. Section members who are familiar with the journal's review process and editorial procedures commented that both are very helpful and efficient.

Members discussed goals and ideas for enhancing Section membership. Suggestions were noted by the Chair and the Membership Committee. The Chair announced that the Council had, once again, provided funding for up to 20 first-time student memberships in the Section. Requests for this funding should be made to the Secretary-Treasurer. All members were also urged to join the Section's list server: ENVTECSOC (at listproc@csf.colorado.edu).

A proposal to add a student member to the Council (requiring Bylaw amendment by the Section membership) was discussed, including the value of the proposal in terms of professional socialization, a broadening of the diversity of views on the Council, and as a tangible underlining of the Section's commitment to the students who make up a large fraction of its membership). A motion to put the matter to the membership passed unanimously.

New committee assignments were made: Val Gunter, Jeffrey Broadbent and Adam Weinberg (Nominations and Elections), Allan Schnaiberg (Boguslaw Award), David Sonnenfeld, Mike Bell, Steve Couch, and Steve Zavestoski (Membership), Ken Gould, Adam Weinberg and Lori Hunter (Olsen Award), Dorceta Taylor and the Council (Distinguished Contribution Award), Timmons Roberts (Telecommunications).

Next year's ASA meetings will be held in San Francisco. Tom Rudel, the Chair-elect, solicited papers for three Section-sponsored sessions. Because ideas for 1999 thematic sessions are due in September, members were encouraged to submit suggestions as soon as possible. The XIII World Congress of the International Sociological Association will be held in Montreal in 1998. Members were urged to attend and participate.

Under other new business, the membership discussed the prospects for enhancing the diversity of Section membership and participation, including: invitations to organize jointly-sponsored sessions, continuing to organize sessions on topics related to environment/technology and ethnicity, gender, etc. (e.g., environmental justice), and Section members joining other sections in an outreach effort.

The incoming Chair, Tom Rudel, recognized the retiring Chair, Gene Rosa, for innumerable contributions to the Section during his term in office.

Forty-six members of the Section were present at the business meeting.

Respectfully submitted,
Loren Lutzenhiser, Secretary-Treasurer



Partnerships and Collaborative Possibilities

Working With Rural Sociologists

by

Craig R. Humphrey; Associate Professor of Sociology
The Pennsylvania State University; University Park, PA 16802

For longer than I care to admit, my life has involved a labor of love, learning how to articulate environmental issues and problems sociologically. Doing so involved developing new courses: Wilderness, Technology, and Society; Environment, Energy, and Society; and a graduate seminar, Environmental Sociology. I also have collaborated with Fred Buttel, a truly gifted scholar, to write *Environment, Energy, and Society*. And I have collaborated with other rural sociologists as well.

An exciting chapter in this labor of love occurred after a sabbatical in 1987. During the sabbatical I transformed myself into a Visiting Associate Professor at the University of Wisconsin (Madison) where I became good friends with Gene Summers, Professor of Rural Sociology. Within a year Summers would be elected President of the Rural Sociological Society. In his Presidential Address Gene committed the intellectual resources of the Society to wage a fight against rural poverty by forming the Rural Sociological Society Task Force on Persistent Poverty in Rural America.

Of the nine working groups within the Task Force, Gene asked me to form and chair the Working Group on Poverty and Natural Resources. Having no record of scholarly publication on rural poverty, except as part of work with Buttel, I was apprehensive. However, I could not imagine any more significant way to learn more environmental sociology. Two years later, with all my vacations vanishing into thin air, I managed to bring the effort to a successful completion. You can find the work in a chapter, "Theories in the study of natural resource-dependent communities and persistent rural poverty in the United States," in *Persistent Poverty in Rural America*, written by the Task Force (1993).

Apparently, I was not alone in thinking about the importance of the problem. Within two months after taking on this venture, my Working Group had grown to twelve scholars, at least twice the size of any other group in the Task Force. My new colleagues included Mat Carroll, a forester at Washington State working on the sociology of loggers; his mentor, Bob Lee, a forester at the University of Washington researching the sociology of the Spotted Owl controversy; Chuck Geisler, a Cornell rural sociologist interested in rural land tenure in the United States; Tom Johnson, a resource economist at Virginia Tech interested in poverty in Appalachian mining towns; Pat West, a natural resource sociologist at Michigan working on regulatory agencies; Gigi Berardi, a Gettysburg College geographer working on poverty in Alaska; Sally Fairfax, a natural resource policy historian at Berkeley; Louise Fortmann, a social forester and colleague of Sally's at Berkeley; Jonathan Kusel and Seth Macinko, Ph.D. candidates at Berkeley working with Sally and Louise; Nancy Peluso, a natural resource sociologist at Berkeley who had just completed work on poverty and the restructuring of the Indonesian Forest Service; and Mike Schulman, a rural sociologist at N.C. State with lots of work on changing U.S. rural labor markets.

It looks as though I assembled the finest set of mentors in the world to teach me about theoretical links between natural resource dependency and rural poverty in the United States, you are on the mark.

For what I think is a fair and constructive critique of this effort, I recommend William R. Freudenburg and Robert Gramling's (1994) "Natural resources and rural poverty: a closer look," *Society and Natural Resources* Vol. 7: 5-22. They have good suggestions for what needs doing next with a very important problem. If you want to know more about what Gene and I are doing as a next step on this problem, focusing exclusively on forest-dependent communities, I would be happy to talk with you (CH8@PSU.EDU).

The North Atlantic Oscillation

Marine climate shifts can have large impacts among fishing-dependent people and communities. The well-known El Niño/Southern Oscillation (ENSO) phenomenon, for example, affects fisheries along the west coast of South America that account for 15% of the world's total marine catch, and appears linked to the recent failures of Alaska's Bristol Bay and Kuskokwim salmon runs. In the Atlantic, a different decadal climate cycle called the North Atlantic Oscillation (NAO) has drawn research attention. The NAO tends to produce opposite phases in the Northeast and Northwest Atlantic: colder winters in the Barents Sea coupled with warmer winters in Labrador, and vice versa. In the late 1980s/early 1990s, overfished and economically crucial codfish populations declined or collapsed throughout the North Atlantic, undermining the livelihoods of hundreds of fishing communities in Norway, Atlantic Canada and elsewhere. The governments of both Norway and Canada took strict conservation steps after their crises occurred. Norwegian cod populations subsequently began to recover, but those of Canada did not—in both cases, with political, economic and social consequences. Some observers

credited the superiority of Norwegian management efforts for their more favorable outcome, but climate change may well have played a role. Water temperatures on Newfoundland's Grand Banks fishing grounds tend to be colder and also more variable than those of the Norwegian Sea. Newfoundland's codfish collapse coincided with a Grand Banks cooling phase. At about the same time in the Northeast Atlantic, Norwegian fisheries' partial recovery after their crisis coincided with a warming phase. Norwegian catches increased during the early 1990s, although perhaps because of this the most recent (1996-97) estimates indicate that cod populations are now falling again.

This analysis comes from an NSF-funded project studying environment and social change in the Northern Atlantic Arc (NAARC). Principal investigators are Lawrence Hamilton, Cynthia M. Duncan and Nicholas Flanders.

editors note: please refer to the graphic on page 1.

Member Publications and Presentations

- Ali, S. Harris. 1997. "Trust, Risk and the Public: The Case of the Guelph Landfill Search." *Canadian Journal of Sociology*, 22(4):481-504.
- Connor, Desmond M. 1997. *La Participación Pública: Un Manual*, Development Press, Victoria, B.C., Canada, 38 pp.
Our new, brief, practical, how-to-do-it manual for project staff is now available in Spanish, with two Latin American case studies for \$19.95 U.S. Get details in the Spanish section of our website www.connor.bc.ca/connor
- Farhar, Barbara C. and Jan Buhrmann. 1998. "Public Response to Grid-tied Rooftop PV Systems in Colorado: A Qualitative Market Assessment." National Renewable Energy Laboratory, Golden, Colorado. Forthcoming in early 1998. For a copy, contact Barbara Farhar at FarharB@tcplink.nrel.gov
- Frank, David John. 1997. "Science, Nature, and the Globalization of the Environment, 1870-1990." *Social Forces*, 76: 411-437.
- Meyer, John W., David John Frank, Ann Hironaka, Evan Schofer, and Nancy Brandon Tuma. 1997. "The Structuring of a World Environmental Regime, 1870-1990." *International Organization*, 51: 623-651.



M. Alario served as guest editor for a Special Issue of the *International Journal of Contemporary Sociology*, entitled "Democratic Process, Environmental Destruction and Social Assymetry." 1997, volume 34, number 2.

The special issue of the *International Journal of Contemporary Sociology* highlights the urgent necessity to study the form and content of environmental risks linked to the intrinsically social assymetric character of its impact, and the possibilities for democratic participatory responses in an increasingly complex local, national, regional and global context. At stake is the study of strategies to preserve a fragile ecosystem in connection with the advancement of social equity and environmental conservation within and between nations, a system of national and international laws, and a world political economy. The depletion of natural resources and various global environmental challenges such as ozone depletion and biodiversity loss, add instability to the global order and to the difficulties within nation-states. Scientific and technological solutions alone have not worked out in the past, and there is no reason to believe that they alone will be able to take care of such a multifaceted host of problems. The effort must extend itself beyond single disciplines and open up the net of discussion more widely. Without making any claims of complete answers and over reaching solutions, this collection of articles raises important questions that need to be addressed.

Thomas Dietz (George Mason University) and Eugene A. Rosa (Washington State University) presented the paper, "Modeling the Human Driving Forces of Global Environmental Change," abstracted below, at the 150th anniversary meetings of the American Association for the Advancement of Science in Philadelphia (the city where the organization was founded). They also organized the session where the paper was presented. The session: "Human Dimensions of Global Change: Where Do We Go From Here?" also included Solange Simoes, University of Michigan, Roger E. Kasperson, Clark University, Emilio F. Moran, Indiana University, Riley E. Dunlap, Washington State University, Oran R. Young, Dartmouth College, and Carlo Jaeger, EAWAG--Swiss Federal Institute for Environmental Science and Technology.

Abstract: What human actions drive global environmental change? Answering this question is essential to both sound scientific understanding and to effective policy. Over the last decade a growing body of studies have attempted to answer this question through cross-national comparative research and especially through quantitative modeling. Most work in this area has attempted to explain the driving forces of either CO₂ emissions or deforestation, although a few studies look at other aspects of global change. We review the existing literature, and suggest answers to the following questions: What are the limitations of current data? What methods and specifications seem most appropriate for conducting macro-comparative research on driving forces? What causes have been adequately examined, and which have been neglected? What global change phenomena deserve further attention? How can better links be made between the biophysical sciences and the social sciences in this work? How can hypothesis testing efforts be better linked to case studies and to modeling efforts?

Call for Papers

XIV World Congress of Sociology, of the International Sociological Association
26 July to 1 August, 1998--Montreal, Canada
RC24: Session on the Sociology of Risk

This is a call for abstracts (600-800 words) on the topic of the Sociology of Risk. We encourage the widest range of orientations to this topic--theoretical, analytical, empirical, or critical, as well as the widest range of contexts--local, national, and international. We especially encourage submissions that include risk as an element of reflexive modernization. The initial deadline for submissions was 1 December 1997, but since the official call arrived so late we are extending the deadline to 15 December 1997. Send your abstracts to: Eugene Rosa, Department of Sociology, Washington State University, Pullman, WA 99164-4020, USA, Tel: +1-509-335-4163; Fax: +1-509-335-6419; email rosa@wsu.edu or to Mercedes Pardo, Universidad Publica de Navarra, Department of Sociology, Campus Arrosadia, 31006-Pamplona, Spain, Tel: +34-48169494; email Mpardo@upna.es

Note that the deadline has passed, but if you are interested in participating, please contact Gene Rosa, as there may still be room!*

Risk and Environmental Sociology

Eugene A. Rosa
Washington State University

At the annual Council meeting of the E&T Section in Toronto several of us agreed to submit brief contributions summarizing our areas of expertise within environmental sociology. I volunteered to do this for "risk."

Background: Risk was not one of the early specialties of environmental sociology (ES), but emerged several years after the formation of the E&T Section. It is perhaps for this reason that members of the section are generally aware of the risk topic, but are not quite clear about its place within ES. How does risk fit into the intellectual agenda of ES? My intention here is to offer a brief answer to this question via an historical account of the risk specialty.

Introduction: The use of risk analysis can be traced as far back as 18th century BC Babylon where it is mentioned in the code of Hammurabi (Dietz, Frey, and Rosa, 1998). Subsequent development of the field took place in sporadic fits and starts, with the first signs of sophistication appearing in the insurance industry from the 15th century onward in response to the enormous amount of sea exploration and trade by the European powers.

But, in essence, risk is really a twentieth century phenomenon. Its sophistication as an analytic and management tool and its widespread adoption can be traced, in part, to space exploration but mostly to the intent of several nations to produce commercial energy with nuclear power. Early nuclear power plants were small and relatively simple, operating more or less within a range of deterministic physical processes. Thus, there was virtually zero probability of a serious failure. But, in order to take advantages of the economies of scale the size of plants was rapidly increased—dramatically increased, introducing the probability (however small) of a serious mishap. As a consequence there was a need to assess the risk (or safety, its semantic complement) of serious mishap at nuclear installations. The need was filled by Probabilistic Risk Analysis (PRA), a reductionistic engineering technique that estimates the risk of a plant mishap by computing the probability of failure of all of the plant's parts and sub-systems and by then aggregating these probabilities.

The appeal of PRA as an analytic tool to the nuclear industry stimulated the growth of risk assessment for other technologies, for environmental problems, and for safety management.

What is Risk?: There are many definitions of risk, but the one I have developed is: *Risk is a situation or event where something of human value (including humans themselves) has been put at stake and where the outcome is uncertain.* (Justification and elaboration of this definition can be found in Rosa, 1998). In my way of thinking this definition goes to the core of environmental sociology, for the definition succinctly translates ES's orienting perspective. We conceive of the environment—however widely or narrowly defined—as something of human value and which, by our activities, is being put at perilous stake with some probability (seldom with certainty). Thus, concern for the environment is tantamount to making judgments about the risk of environmental impact or unwanted change. For example, concern about ecosystem sustainability is concern about the increasing probability that human activities are threatening the long-term viability of human survival (surely, a human stake of daunting consequence).

Risk analysis is a tool for operationalizing the human stakes (consequences to the environment, for example) and for estimating the probability of occurrence. It typically comprises three complementary activities: (i) risk assessment; (ii) risk evaluation; and (iii) risk management (Dietz, Frey, and Rosa, 1998). Risk assessment is the procedure for identifying technological or environmental

hazards and for estimating the probability of untoward end states (e.g. loss of life). Risk evaluation is the procedure for determining the acceptability of the estimated risk, an essential feature of informed policy making. Risk management is the full range of activities undertaken to avoid, reduce, mitigate, and control unacceptable risks.

That risk analysis is central to systematic evaluation of environmental impacts is made clear by activities of U.S. agencies such as the Nuclear Regulatory Commission (NRC), the National Park Service, and especially the Environmental Protection Agency (EPA). While the latter agency is engaged in an ongoing debate about risk evaluation (in particular, how to distribute the weight of judgment between scientific estimates of risks and public perceptions of those risks), risk analysis remains its core analytic tool. Risk analysis serves a similar role for other government agencies here and abroad and for a variety of non-government organizations (NGOs).

Risk and Sociology: Sociological interest in risk is about a decade and one-half old.† Early work in the field includes the 1983 ASA presidential address of my Washington State University colleague, Jim Short, ("The Social Fabric at Risk"), Chick Perrow's 1984 near-instant classic, *Normal Accidents: Living With High-Risk Technologies*, and a 1984 volume, *Public Reactions to Nuclear Power: Are There Critical Masses?*, co-edited by Bill Freudenburg and me.

This early work was followed by regular sessions on risk at the annual meetings of the American Sociological Association, at the World Congresses of the International Sociological Association, at the Congresses of the International Institute of Sociology, and at a variety of other professional venues. It was also followed by a fairly steady flow of research by Tom Dietz, Bill Freudenburg, Chip Clarke, Jim Jasper, Ortwin Renn, Ragnar Löfstedt, Jim Short, Scott Sagan, Diane Vaughan, Tom Webster, Carlo Jaeger, Kai Erikson, Carol Heimer, Allan Mazur, Paul Stern, Scott Frey, Dot Nelkin, Todd LaPorte, Stephen Hilgartner, Gary Machlis, Bob Stallings, Tim O'Riordan, and others (including me).

The most recent development in the sociology of risk is entrance into the field by European theorists: Anthony Giddens, Ulrich Beck, and Niklas Luhmann. This is both an important and challenging event. It is important because it is another step in the recognition by the larger discipline of the importance of environmental topics to sociological theorizing. It is challenging because the theories of Giddens, Beck, and Luhmann have been unmindful of the analytic literature on risk and, therefore, raise the question of whether their adoption of the term "risk" is epistemically justified or merely a metaphor for describing the current spirit of our age, our *zeitgeist*. I hope that environmental sociologists take up this challenge.

References:

Dietz, Thomas, R. Scott Frey, and Eugene A. Rosa. 1998. "Risk, Technology, and Society." In Riley E. Dunlap and William Michelson (eds.), *Handbook of Environmental Sociology*. Westport, CT: Greenwood Press (forthcoming).

Rosa, Eugene A. 1998. "Metatheoretical Foundations for Post-Normal Risk." *Journal of Risk Research*, 1:15-44.

†There is an even older tradition of sociological work on natural hazards and an emergent tradition on community risk studies, environmental and racial justice surrounding the siting of risky technologies and products, and community action and social movements stimulated by environmental risks. I cannot address these separate, but complementary risk traditions within my compass here.