

# D&SCRN ELECTRONIC NEWSLETTER

September /December 2001

Nos. 7 & 8

A quarterly publication of the Disaster and Social Crisis Research Network of the European Sociological Association  
Athens, Greece, [erc@otenet.gr](mailto:erc@otenet.gr)

## D&SCRN REPORT

The 5<sup>th</sup> Conference of the European Sociological Association-the D&SCRN Helsinki sessions. All the six scheduled sessions of the D&SCRN materialized; however, we had a general attrition of about 33% , despite the discounts given by the organizing committee to which we would like to express our gratitude for its consideration. We also would like to thank all those colleagues from SE Asia, Australia and the U.S. who joined us in spite of the great geographic distances. A great thanks also is due to the session organizers, panel chairs and the discussants. A special thanks to Dennis Wenger for chairing the first session. Although we missed our colleagues who for various reasons could not make it to Helsinki, more opportunity was given to those who managed to come to have more in-depth discussions.

### *D&SCRN Newsletter NO. 6, June 2001*

#### *Table of Contents*

*D&SCRN Coordinator's Report..... 1*

*D&SCRN Helsinki Session summaries..5*

*News, Activities, Analyses and Comments of D& SCRN members (Petropoulos, Fordham, Porfiriev Barton, Kirschenbaum..... 23*

*What are the Implications for Disaster planning from an Observation made in response to the attack on WTC by E.L. Quarantelli..... 33*

*Complex Disaster Production: The Case of the Depleted Uranium Bombing of Afghanistan by Vera Vratusa(-Zunjic). 35*

***Editor's Note:*** All "signed" texts express the opinions of the authors and not necessarily those of the D&SCRN, the Anglia Polytechnic University or ERC of Athens.

**Business meeting.** The business meeting of the D&SCRN was held as scheduled on Friday, August 31, at 14:00. During the meeting, the members were apprised as to the status of the network and a new Coordinating Committee was elected.

In regard to **membership**, the webpage shows growth, though this list includes both regular and associate members (40). A check with the secretariat during the meeting revealed that we have 13 paid members and many associate ones. Some of these became paid members with their registration. Founding members who did not come to the ESA conference and have not become members through registration need to renew their membership.

The members discussed the possibility of greater formalization (e.g. network fees by laws, elections etc), but decided to retain the informal structure until the next conference.

A new [Coordinating Committee](#) was selected consisting of Maureen Fordham (UK), Boris Porfirev (Russia), Vera Vratusa (-Zunjic) (Yugoslavia), Anne Eyre (UK), Murat Balamir (Turkey), Lindy Newlove (Sweden), Elke Geenen (Germany), Robert Stallings and Nicholas Petropoulos (Coordinator).

Programming for the next two years was discussed. For the short run it was decided to publish summaries of the sessions in the Electronic Newsletter and the full papers in the Network's webpage. Maureen Fordham apprised the members of the ISA conference in Brisbane and how D&SCRN members could participate. The coordinator of the Network proposed to explore the possibility of an interim Network meeting in Athens in the Spring of 2002 on the general topic of "cross-border, transnational disasters" and also explore the EU funding opportunities during his trip to Belgium to attend a meeting on the psycho-social aspects of disasters.

[News from the New Vice President Responsible for Research Networks.](#) The new Vice President for the ESA Networks is Margareta Bertilsson, Department of Sociology, University of Copenhagen ([margareta.bertilsson@sociology.ku.dk](mailto:margareta.bertilsson@sociology.ku.dk)). She took Yasemin Soysal's position who became the President of ESA ([esapresident@wiko-berlin.de](mailto:esapresident@wiko-berlin.de)). Margareta informs us that the ESA Secretariat has relocated in Paris ([esa@iresco.fr](mailto:esa@iresco.fr)) and that the next ESA conference will take place in Murcia Spain (24-27 September, 2003). As yet the Executive Committee has not decided on the title of the conference, and they are open to suggestions. She also informs us of the EC's discussion regarding the possibilities of ESA economic support for Network interim meetings and that more exact knowledge regarding this will be available following the next EC meeting in Paris (22-23 March 2002). Finally, she informs us that the new editor for the ESA Newsletter, the European Sociologist, is Eva Cyba ([eva.cyba@univie.ac.at](mailto:eva.cyba@univie.ac.at)) and that Research Network contributions (brief reports on their activities) are welcome.

With regard to the last point, the Coordinator of the D&SCRN completed a questionnaire sent to us by the Vice President for the Research Networks. The questionnaire focused on (1) activities at Helsinki (2) organizational matters (e.g. composition of Coordinating Committee, number of registered Network members, plans to broaden membership) (3) networking activities (e.g. webpage, newsletter, collaborative research and writing etc.) and (4) conference/workshop activities in 2002-2003 (including plans for Murcia 2003, even if tentative). For some of the above sections (e.g. collaborative research and writing), the Coordinator did not have sufficient information (e.g. mention was made of the Greek-Turkish proposal, see below), and requests of the Network members to apprise him of any joint activities which have been the by-product of D&SCRN activities so that he can pass on this information to Margareta. In addition, the Coordinator would like to have suggestions for the Murcia 2003 conference, for our Network sessions as well as for the general title of the conference. Perhaps the September 11 events should somehow figure in the general title of the ESA conference. These suggestions will be discussed further in the Network Coordinating Committee for a final decision.

[News with regard to interim meeting in Athens and EU Funding.](#) Soon after his return to Greece, the Coordinator of the Network met with the General Secretary for Civil

Protection, Prof. D. Papanicolaou, regarding the possibility of funding an interim meeting in Athens. It was proposed to the General Secretariat that it sponsor an interim meeting to be held in Athens during a two day conference which would be organized around the following five themes: (1) The EQs as Windows of Opportunity for New EQ Mitigation Policies, (2) The EQs and Civil Society: The Role of NGOs and the Mass Media in Disaster Response, Mitigation and Prevention, (3) EQs and the Scientific Community: Professional and Social Responsibility, (4) The Social, Economic and Psychological Effects of the EQs and (5) Transnational Responses to Disasters: Impacts, Problems and Prospects. It should be noted that the 5<sup>th</sup> theme is not restricted to EQs and covers all types of natural, technological and social disasters. The themes would give Greek and Turkish Social scientists an opportunity to present their relevant findings following the two EQs but would also allow the participation of the members of the Network. The General Secretary has committed itself (in writing) to grant the ERC 2.000.000 drachmas (5,869.4 EUROS) for the two day conference. However, according to Greek law, this grant cannot be allocated for travel and living expenses and can be used only for publication of proceedings and translation services.

The Emergencies Research Center intends to apply for supplementary funds from the EU-General Directorate for the Environment (Civil Protection Unit). During a recent meeting in Brussels on the “Psycho-social Support in Situations Mass Emergencies which was organized by the Belgium Ministry of Public Health (See below), the Coordinator of the Network had a meeting with the Mr. Panagiotis Alevantis, the Principal Administrator of the Civil Protection Unit ([Panagiotis.Alevantis@cec.eu.int](mailto:Panagiotis.Alevantis@cec.eu.int)). Mr. Alevantis informed him that the Civil Protection Unit is open to relevant proposals and that the chances for approval are increased when there is a national participation. However, information from the local Greek representative of the Secretariat for Civil Protection indicates that the funding from EU can be used only for the support of network members from EU countries. In this case, the decision and the campaign by the ESA Executive Committee to secure limited economic support for the interim meetings of the Networks which may be used for the support of non-EU members is welcome (See above).

More specific information regarding the interim meeting (whether or not it will materialize, details of the scientific program, the sponsors, and the scheduling etc) will be given to the Network members following consultation with the members of the Network Coordinating Committee. The meeting has been proposed for May-June 2002 but the date can be changed with the consent of the funding agency. In the meanwhile, suggestions by Network members regarding the proposed interim meeting are welcome.

**Progress on the Publication of the D&SCRN Helsinki Sessions in the Webpage.** Some progress has been made in the publication of our Helsinki Session proceedings in our Webpage ([www.anglia.ac.uk/geography/d&scrn](http://www.anglia.ac.uk/geography/d&scrn)). The summaries of Session II, “Deconstructing Disaster Management: Beyond the Command and Control Model”, chaired by Maureen Fordham, have already been published in the webpage along with the colored photographs of the speakers. In addition, interested readers can download the full papers of Session II. We are in the process of collecting and editing the abstracts and completed final papers for the remaining five sessions for publication in the webpage. The Session participants, who have not done so, are urged to send their final abstracts and completed papers directly to Maureen Fordham ([m.h.fordham@anglia.ac.uk](mailto:m.h.fordham@anglia.ac.uk)) for publication in the D&SCRN webpage. If they wish

they send their paper to the Coordinator of the Network, N. Petropoulos ([erc@otenet.gr](mailto:erc@otenet.gr)) for linguistic editing before submitting it for publication. Whatever changes if any are made will be done in consultation with the authors. The papers will be put on the Webpage as they come in rather than collectively by session.

**Call for newsletter materials.** Readers of the D&SCRN are requested to submit relevant materials (e.g. conference reportage, book reviews, country disaster diaries, examples of good practices, brief reports of research activities, announcements of future conferences etc.) for publication in the Network electronic newsletter. The availability of these materials will not only help in the more regular and timely publication of the newsletter, it will also hopefully increase collaborative efforts and contribute to an upgrading of civil protection. Contributors should also provide electronic addresses in case the readers would like further information.

N. Petropoulos  
Coordinator  
[erc@otenet.gr](mailto:erc@otenet.gr)

**THE 5<sup>TH</sup> CONFERENCE OF THE EUROPEAN SOCIOLOGICAL ASSOCIATION DISASTER  
AND SOCIAL CRISIS RESEARCH NETWORK SESSIONS  
(HELSINKI, AUGUST 28-SEPTEMBER 1, 2001)**

**Session I. Disaster Research and Management: New  
Sociological and Other Perspectives Wednesday  
29.8./9:00-10:30**

E.L. Quarantelli, Organizer  
Dennis Wenger, Chair

Dennis Wenger chaired Session I, replacing E.L. Quarantelli who organized the session but was unable to attend the Helsinki Conference. Three of the scheduled participants (Allen Barton, Dennis Wenger and Philip Buckle) and two of the scheduled discussants attended the Conference and presented papers or acted as session discussants. Two of the session presenters (Robert Stallings and V. Ivanova) did not attend the conference; however, a brief presentation was made of the Stalling's paper by the Chair, Dennis Wenger.

[Bob Stalling's](#) presentation ("Disasters, Epidemics, Terrorism, and other Calamities: Resurrecting Simmel's Form and Content") examined how George Simmel's classical distinction between form and content can be used to analyze the underlying similarities and differences among nominally disparate collective stress events such as genocide, tornadoes, holy wars, cyclones, explosions and earthquakes. While most critics have focused on the alleged weaknesses of Simmel's treatment of "form", Stallings maintained that it was Simmel's mishandling of "content" that needs to be overcome to make the distinction useful in disaster research and theory. Applying the resurrected form-distinction to a range of calamitous events, he concluded that Simmel's distinction can clarify but by itself cannot resolve the issue of generalization. Combining the recast form-content distinction with Max Weber's work on ideal types can provide a resolution to the theoretical problem. According to Stallings, more abstract concepts such as "crisis", "system stress", "mass casualty situations", "extreme environments", "unscheduled events", "mass emergencies", "normal accidents" and "system failures" etc. which are not constrained to nature, physical destruction or personal injury can have more heuristic and practical value than concepts such as disaster([rstallin@usc.edu](mailto:rstallin@usc.edu))

[Veronica Ivanova's](#) paper ("Pre-disaster Situation: Towards the Prevention of Hazards") was based on a comparative survey of citizen's attitudes toward new economic, political and social risks in Russia, the Ukraine and Lithuania during the period of 1996-1999. On the basis of this survey, the researchers developed a multi-factor model for a stage by stage risk reduction (disaster prevention). Special attention is devoted to preventive negative feedback as the most effective prognostic tool in each stage of a pre-disaster situation. The relative simplicity and tractability of the model makes it a useful prototype for studying different situations that entail risk of complex social problems([nika\\_i@go.ru](mailto:nika_i@go.ru)) .

In his presentation (“Re-examining the Theory of Collective Stress”), [Allen Barton](#) uses a broad and all-encompassing notion of collective stress (whereby many members of a social system fail to receive expected conditions of life from the system’) to include “natural”, “technological” and “social” calamities, which vary in intensity (e.g. genocide, tornadoes), scope ( national, local community) and suddenness (e.g. earthquakes, famine). This typology and theory of collective stress was elaborated in his earlier publication “Communities in Disaster” (1969), but the original analysis was limited mainly to the U.S.. He proceeded to a re-examination of the collective stress theory, in the light of “disasters” of the last 35 years, changes in social organization to cope with large scale stresses, and developments in the theory of response to collective stress. Barton illustrated his presentation with collective stress phenomena and collective responses to stress in both “developed” and “developing” countries ([allenbarton@mindspring.com](mailto:allenbarton@mindspring.com)).

[Dennis Wenger](#) (“The Influence of Collective Behavior on Social Research and Vice Versa”). During his brief oral presentation, Wenger gave a brief review of the impact of CB on disaster research (e.g. panic, rumor, convergence phenomena etc.) and concluded that currently CB as a field is almost non-existent. However, during the discussion that followed, questions were raised regarding the possible resurgence of interest in CB as a result of new social movements (e.g. anti-globalization movement) although this would be more related to a social crisis perspective in general rather than to a specific disaster approach ([wenger@taz.tamu.edu](mailto:wenger@taz.tamu.edu))

The presentation by [Philip Buckle](#) (“Assessing Resilience and Vulnerability: a Radical Paradigm for Disaster Management”) focused on the research done by the Department of Human Services in Victoria Australia and RMIT University and whose purpose is to develop models and tools for assessing vulnerability and resilience on various levels of the human systems (individual, family, group, community, agencies and governments). He discussed recently developed analytical models and associated diagnostic tools and placed them in the context of field research and applied emergency management. Integral elements of these models are the key concepts of resilience, vulnerability and community, the development of analytical tools to draw out the elements of vulnerability and resilience and the establishment of linkages to other areas of social research and social action, including primary health, community capability, international assistance. Buckle placed these models distinctly in the context of development which views disaster management as an opportunity for social, economic and political development rather than as a reactive operational response to the hazard occurrence (See also Session VI Summaries) ([p-buckle@msn.com.au](mailto:p-buckle@msn.com.au)) .

### Discussant:

Elke M. Geenen, Department of Sociology, Christian-Albrechts-University, Germany;  
[www.geenen.ch](http://www.geenen.ch); <mailto:elke@geenen.ch>

### **1. Comment on Philip Buckle’s . `Assessing resilience and vulnerability: a radical paradigm for disaster management@**

Philip Buckle elaborates systematically the difference between the command and control concept in disaster management and the hazard focused approach on the one

side and a disaster-sociological perspective centered around the concepts of vulnerability and resilience. As he explains, both terms are not in opposition to each other. They have to be seen within the context of complex social relations and processes.

Buckle's paper describes a research and implementation program and ways to reach decision makers and disaster managers.

It is not necessary to neglect the importance of assessing and analyzing vulnerability and resilience on several levels in society (the individual and organisational and the social, technical and political systems), if a hazard-oriented approach is taken. The disaster reveals the failures, shortages and vulnerabilities of a society. But in practice a neglecting of vulnerability often takes place, because the time of striking impact of disaster is seen as a time for management and immediate action and not as a time for ex-post analysis of processes which led to disaster.

It is important to involve the inhabitants and victims actively when vulnerability and possibilities for enhancement of resilience are assessed. Buckle points out that people in the Victoria community, Australia, have been asked about their perspective on vulnerability and how their own vulnerability could be reduced. The perspectives of the inhabitants were quite different from those of the organisations and local government. In the view of the people, everyday problems - as emigration, depopulation, changes in land use and settlement patterns - seem to be more important than the immediate disaster impact.

On the one hand the findings that everyday problems are seen as more important by the people than immediate disaster impacts is understandable because the everyday problems return and stay when restoration and recovery have ended. On the other hand, especially in developing countries, chronic problems and vulnerability may interfere with disasters and the one is possibly amplifying the other.

A second point is that the subjective assessment of inhabitants in respect to their own vulnerability depends on a lot of factors and can be quite different from the estimation by experts. So disaster prevention is not necessarily present in everyday life.

Nevertheless, the peoples' perspectives widens those of the experts and so it makes sense to plan together with those involved to reduce vulnerability in a sustainable way and to improve resilience.

A third question is the role of power, distribution of power and power balances in the process of generating vulnerability. In Buckles paper this point is not explicitly mentioned. That power is not systematically conceptualized, could be a weakness of the vulnerability approach in general.

## **2. Comment on Allen Barton's , "Re-examining the theory of collective stress"**

Barton's paper shows an impressive variety of empirical findings and cross-cultural

comparisons which he uses to build an inclusive and systematic theory of collective stress. He emphasizes the neglect of chronic stress in disaster sociology. His approach encloses different forms of collective stress, triggered by sudden events as well as by chronic miseries.

His comparisons between societies and the variations of political systems shows that one severe form of collective stress can be reduced while another form appears or is being enforced. With the fall of socialism, for example, in the former soviet union the persecution of political enemies and their imprisonment in labour camps and the Gulag Archipelago ended. On the other hand, affordable hospitals and schools and plants have been partly closed. And life expectancy fall ten years.

Barton shows the importance of establishing an altruistic community in situations of collective stress. And he analyses factors which increase altruism and those which reduce altruism.

To solve the problem of altruistic action when people in other regions of the world are in collective stress is difficult because the pitch-in-effect or snowball-effect of an altruistic community is lacking. The pitch-in-effect characterizes the feeling of being obliged to help because other people in the community are helping (see Barton's paper, p. 12). Social attention starts especially from those who are sympathetic or in solidarity with those who are under collective stress in far distant regions. (In the words of Simmel: to whom the far are near.)

The theory building strategies of Barton and Buckle to make social processes visible in disaster tend to extend the subject. First, to chronic disaster, second, to vulnerability and, on the other hand, resilience. If disaster is conceptualized as one especially critical moment within a long social process, in which the conditions for disaster have been socially created, then the theoretical approach should include vulnerability and factors generating collective stress.

But it should be seen that the subject of disaster sociology may loose contour if deprivation is extended to civil wars, death camps, suppression by political regimes and long lasting starvation and so overlaps with the subjects of the sociology of development, political sociology and conflict research.

To go this way is useful because it is necessary to examine whether disaster-generating processes have aspects in common with and differences from other social processes which can produce vulnerability and collective stress, and those which can reduce them. In so far it is necessary to lay out the concept wide enough and transgressing a strictly shaped subject of disaster sociology.

### **3. Comment on Robert A. Stallings, "Disasters, epidemics, terrorism and other calamities: resurrecting Simmel's form and content"**



Robert Stallings theoretical considerations show the fruitfulness of using general sociological theoretical concepts for disaster sociology. The central question of Quarantelli “What is a disaster?” easily gets lost if disaster research is mainly concentrated on case studies in the context of disaster impact. The comparison of case studies is necessary to find out similarities and differences.

For this comparison theoretical tools are important, so that phenomena are analysed on an adequate level of abstraction. The form-content distinction by Simmel, as Stallings points out, is such a heuristic and systematic tool.

As he shows in his example, the level of abstraction increases from the form earthquake to the form disaster and crisis as the highest level of abstraction. On each level other contents get into the focus of analysis. With the form as a social construction it becomes possible to use the same case studies and compare them with possibly different ones under different perspectives, if the question of the form-content problem is asked from another abstraction level. For example: Not all earthquakes are disasters and vice versa.

Because the form is a sociological construction, it will be necessary to develop analytical criteria to distinguish between forms not only when the level of abstraction differs.

Simmel has pointed out that forms can get independent from the content and the meaning which they got, when they have been created.

The difference between form and content allows one to analyse how forms are filled with meaning and content by different social groups, on the one hand, and on the other hand, how different forms are used to be filled with one and the same content. For example, if the government of a nation interprets all kinds of disasters as punishment by god.

With this study Stallings shows us one way to strengthen theoretical foundations in disaster sociology. They help to construct subjects of disaster research in a more clearcut manner without losing the empirical basis, because the content is always to be taken into consideration.

## Session II: Deconstructing Disaster Management: Beyond the Command and Control Model

### Maureen Fordham Organizer/Chair

#### 1. Murat Balamir “Disaster policies and social organisation”

Murat Balamir’s paper was based in part on research work he undertook between 1997-1999 for the World Bank to evaluate Turkish development law. He presented a spectrum of idealized conditions of disaster policy from the advanced (‘risk society’: ‘State as Protector’) to the regressive (‘fatalist society’: ‘State as Healer’). Turkish development law lacks mitigation elements and conventional disaster policy has not pursued a risk avoidance stance. However, following the earthquakes of 1999 awareness has been raised and the topic has become politicised: attitudes have changed in favour a more proactive position although many deficiencies remain ([balamir@arch.metu.edu.tr](mailto:balamir@arch.metu.edu.tr)).

#### 2. Avi Kirschenbaum “The Organization of Chaos: The Structure of Disaster Management”

Avi Kirschenbaum argued that once upon a time we survived disasters – they were just nature. However organic community adaptation has been replaced largely by bureaucratic models of disaster management which have done little to mitigate disasters; on the contrary, they often make things worse. If disaster management organizations had been successful we should have seen a decrease in the number and severity of disasters but this had not happened. This contention was based on scrutiny of a database of reported disasters covering a 100-year period from 1900 to 2000. He asked “can it be said that public sector disaster management units instigate disasters, increase their ferocity, and boost their human and economic costs?”

This was a provocative paper which elicited a number of heated responses from the floor ([avik@techunix.technion.ac.il](mailto:avik@techunix.technion.ac.il)).

#### 3. Hank Fischer “The deconstruction of the command & control model: A Post-Modern Analysis”

Hank Fischer argued that the command and control model of disaster management that remains dominant in many societies is ineffective: in the event, emergency managers command little and control nothing. A more effective model for a post-modern society is one in which disaster management personnel partner with community organizations – in normal and disaster time periods – to maximize their skills. As post-modern society matures the formal role of emergency manager is likely to disappear as will the differentiation between ‘normal time’ and ‘disaster time’. In post-modern society one model is insufficient. Several alternative models of disaster management were presented with the expectation that, in time, those with responsibility in this area would adopt one or more of these alternatives according to skills, interests or resources ([Hank.Fisher@millersv.edu](mailto:Hank.Fisher@millersv.edu)).

#### 4. [Graham Marsh](#) “Disaster Management and the Role of Community in a Post-Modern Age”

Graham Marsh’s presentation began with the concept of community rather than disaster risk. He argued that while the top-down, command and control model may not be the most effective, there are pitfalls in adopting community-centred methods. He questioned whether emergency managers understand the complexity of ‘communities’ – however defined. A typical common sense definition of community was one based on geographical proximity. Within these (physical) bounds the assumption was that there was also a ‘community of interest’ and yet this is more likely not to be the case. A further issue raised was that of volunteerism, a central plank of much Australian (and other) risk management, and its reduction through processes of economic rationalism. For effective community recovery to occur, local residents must be heavily involved in managing their recovery ([graham.marsh@rmit.edu.au](mailto:graham.marsh@rmit.edu.au)).

#### 5. [Philip Buckle](#) “New Models for Managing Disasters”

Philip Buckle argued against the effectiveness of the command and control model for anything other than short-term combat operations. He described a ‘community engagement model’ that is being used increasingly successfully in Australia. He went on to discuss the broadening of the definition of disaster by community members and resistance to this notion by some disaster managers who see the community as an object to be acted upon rather than a dynamic grouping of willing partners([p-buckle@msn.com.au](mailto:p-buckle@msn.com.au)).

#### 6. [Rohit Jigyasu](#) “Holistic eco-developmental framework for building local skills and capacity and reducing vulnerability of traditional rural settlements against earthquakes in South Asia”

Rohit Jigyasu asked is it possible to have a community model of disaster management? What are the dynamics? Models of disaster and development management are essentially reactive and assume an underlying duality and separation between ‘we, the experts’ and ‘they, the weak and vulnerable communities’. Furthermore there is an urban bias based on euro-centric notions of ‘modern and progressive’ development processes. A holistic perspective to broadly ecological development processes is vital. Disasters will be managed once development is managed ([Rohit.Jigyasu@ark.ntnu.no](mailto:Rohit.Jigyasu@ark.ntnu.no)).

#### 7. [Russell Dynes](#): **Discussant**

Russell Dynes could not be at the conference but he sent a written version of his paper, a summary of which was read by the Chair, Maureen Fordham.

### **General Discussion**

The general discussion returned to Russell Dynes’ comments which elicited much comment and the desire by speakers to address the issues raised in some detail. However, lack of time precluded lengthy debate which would otherwise certainly have occurred. The other topics of major interest were the difficult notion of community and

further discussion of the critique of disaster management organizations raised by Avi Kirschenbaum.

## **Session III. Global Economics, Transitional Economies, Social Crises and Complex Disasters**

### **Vera Vratusa (-Zunjic), Organizer/Chair**

During email preparation phase of the ESA 2001 Disaster and social crisis research network Session III, seven authors addressed the research topic taking into account at least implicitly contemporary context of contradictory processes of globalisation and transition/ trans-formation of dominant social relationships in their written contributions.

**Allen Barton** argued that globalisation recreates the Malthusian basis for increasing crises of capitalism, as capital moves to countries with subsistence-level wages and a shift from command to market economy in China and Eastern and Central Europe brings a fresh supply of cheap labour into the world labour market. As wages fall in industrial nations, welfare state and Keynesian remedies no longer work, and ownership of the means of production again becomes an issue in advanced countries. Developing countries face the urban squalor and health problems typical of early capitalism, particularly where political-military disorder prevails. Data corroborating the thesis that developing countries with strong working-class movements or socialist governments have had some success in offsetting these problems by public health, education, fertility control and redistributive programs, attracted the attention of the audience during discussion([allenbarton@mindspring.com](mailto:allenbarton@mindspring.com))

**Ivan Angelov** elaborated the thesis that the "boom" witnessed by the Western capitalist economy during the last decade of the previous century, had been experienced not as a sequence of a drastic increase of productivity or of some other very specific economic or managerial skills. Rather it was experienced mainly as a result of a systematic appropriation of the already accumulated world's wealth and its continuing concentration under the control of a very limited number of states, institutions or persons. The most characteristic data corroborating this thesis, privatisation of Bulgarian assets estimated at about \$30 billions at the total sale price of only \$2.6 billions, were highlighted in a brief presentation of the paper by the chairperson. The author himself was not able to come to the Conference, experiencing a disastrous fall in living standard amidst massive dismissals, closedowns leaving just the environment-polluting phases of the production cycle in the country, rising prices and inaccessibility of privatised health services([donka08@bgnet.bg](mailto:donka08@bgnet.bg)) .

**Veronika Ivanova** focused on the results of the 1996-1999 survey in Russia, Ukraine and Lithuania, and examined the status of mass fears of anthropological, natural and social catastrophes. She treated as well the impact of society and culture upon the appearance and disappearance of various fears and the social distribution of fear and

anxiety in post soviet economic, political, cultural and social reality. Since this author could not make it to the Conference as well, the chairperson introduced into discussion her proposition to take more explicit interest in the extent to which social processes and cultural developments should be considered responsible for making people vulnerable to experience a high state of fear([konstant@isras.rssi.ru](mailto:konstant@isras.rssi.ru)) .

The main findings of **Juri Plusnin**, the third panelist who was also not able to come to Helsinki, were also briefly presented by the chairperson and thus made available for discussion. Focused interviews of 1800 Russian respondents conducted from 1991 to 1999 revealed the tendency of both urban and rural respondents to express increasingly negative attitude towards liberal political, economic, and social reforms of the federal government. Respondents also increasingly tended to orient themselves toward firm centralised power and materialistic survival values, away from higher self-affirmation values. General debate underlined the need to understand and explain these trends within the context of a decade-long all-embracing crisis in Russia. ([plusnin@philosophy.nsc.ru](mailto:plusnin@philosophy.nsc.ru))

Analogous multidimensional crisis presented implicit social background for the **Anna Markovskaya's** study of economic crime and corruption problems in the Ukraine, especially its energy sector. The author's explicit recommendation to Western bankers to avoid processing transactions involving the proceeds of crime and corruption in "transition" countries, provoked the question with regard to the extent of the contribution of transnational financial capital to the criminalisation of these countries([aam28@hermes.cam.ac.uk](mailto:aam28@hermes.cam.ac.uk)) .

**Bram Peper** presented the theoretical framework for the planned empirical study of new uncertainties in modern "risk societies" due to social and technological changes influencing the "flexibilization" of especially female labour and increasing the instability of families. Welfare states undergoing major restructuring, but still based on 'male standard production worker', are ever less able to secure people from these new risks. The need to examine comparatively these global transformations and how people deal with ensuing uncertainty and risk, was pointed out during discussion.

**Vera Vratusa** causally connected the ongoing complex disaster of war in South Eastern Europe and Yugoslavia with the exacerbation of the global accumulation of the capital crisis since the fall of the Berlin wall and with ramifications in all spheres of existence beyond this region and beyond present generations. She underlined the most disastrous human and ecological consequences of transnational financial capital's use of economic, covert military, overt diplomatic, mass media, (il)legal, and overt military instruments for gaining (neo)colonial control of material and human resources along the corridor leading to the Middle Eastern and Central Asian raw materials, cheap labour force, market outlets and industrial waste dumping grounds. These consequences were illustrated with relevant chronologically ordered data, maps and pictures([vvratusa@dekart.f.bg.ac.yu](mailto:vvratusa@dekart.f.bg.ac.yu)) .

General debate brought up the exigency to supplement the description, theoretical

understanding and explanation of global social crisis and complex disaster, with explication of practical social action strategies for alleviation of their most vicious consequences and prevention of their escalation into terminal nuclear catastrophe.

## **Session IV. Disaster and Sociocultural Changes other than those in the Organization of Civil Protection.**

### **Nicholas Petropoulos, Organizer/Chair**

Session IV lost three of its participants, one because of a happy occasion (graduate of daughter) and the other two because they could not secure funding. All three of them had papers which would have added much to our discussion, while one of these would have increased our understanding of events following the September 11 terrorist attacks.

Two of the papers which were not presented, dealt with the impact of the 17. 8. 1999 Turkish EQ. The first of these by [Ayse Gunes Ayata](#) (“Community, Solidarity and Legitimacy Crisis: Perspectives of Female Victims”) focuses on the perceptions and expectations of Turkish women regarding the performance of welfare organizations (including the state) and draws conclusions with respect to the political ramifications of changes in the perception of women([ayata@metu.edu.tr](mailto:ayata@metu.edu.tr))

The second by [Ali Kose and Talip Kucukcan](#) (“Natural Disasters and Religion: Socio-psychological Study of the Marmara EQ in Turkey”) is based on an empirical study of 76 living in emergency tent-towns and investigates the role of religious beliefs in the process of attribution and coping in the face of a large scale tragedy. It concludes that perception of the EQ as “punishment” has little to do with religious beliefs since retribution can be religious (e.g. punishment for societal corruption), natural (punishment by nature for its exploitation) or social (EQ equalized social differences). Rather, it has more to do with the reward-punishment structures present in the various subcultures of the society([alikose@hotmail.com](mailto:alikose@hotmail.com)) .

The third of the scheduled papers by [Ali Gohar](#) (“Traditional and Modern Approaches to Peace-Building Initiatives: the Case of Afghan Refugees in Pakistan”) focuses on the results of a “social crisis” (the so-called complex disasters) and examines the role of the Pakistan Social Welfare Organizations ,working with the UN and international relief, in reducing the dependence of 3.2 million Afghan refugees and working for peace-building (crisis prevention). The paper demonstrates how peace-building, gender equality and self-reliance were promoted through the use of Afghan traditions and leadership structures, the cooperation of the social workers and the coordination of UN and International Relief Organizations([gbacha@pes.comsats.net.pk](mailto:gbacha@pes.comsats.net.pk)) .

Among the three papers which were presented at the ESA conference, two of them focused on the impact of the Turkish (17.8.1999) and the Greek (7.9.1999) earthquakes and the other on the 1999 Buenos Aires blackout. The first of the three papers (“Changing Stereotypes after two Major EQs in Turkey”) by [Serdar Degirmencioglu and M. Ozdemir](#), working on the theory that meaningful contacts between peoples who had been traditionally polarized have positive effects, they examined the changes in attitudes, stereotypes etc. of 485 Turkish relief workers toward Israelis and Greeks, whose countries had dispatched relief workers and rescue teams to Turkey following



the 1999 Turkish EQs. A content analysis of the open-ended questions showed that Turkish relief workers either experienced themselves or perceived positive changes among volunteers and survivors. The authors point out that crisis research has given undue emphasis to post-traumatic stress and there is a need to correct this by focusing on the positive, post-traumatic growth experiences. During the discussion, it was suggested that the research be connected with the classical intergroup contact experiments of Muzafer Sherif—especially with the notions of superordinate tasks([serdar@bilgi.edu.tr](mailto:serdar@bilgi.edu.tr)) .

The second paper on EQs (“The Impact of the August-September 1999 EQs on Greco-Turkish Relations: A Preliminary Study”) was presented by [Nicholas Petropoulos](#) and focused on the macrosocial impacts of the 1999 EQs on Greek-Turkish relations. Using several archival and secondary sources, the study observed changes in several sectors. Increases were noted in bilateral agreements (9 signed), Turkish tourist movements to Greece, the volume of trade between the two countries and the number of Greek investments in Turkey. Along the same lines, reductions were noted in the number of Greek air space and FIR violations by Turkish military aircraft. No changes were observed in the handling of the property rights of the Greek minority in Turkey. Finally, no conclusions were made with regard to the conceptions and beliefs of Turks and Greeks toward the “Other”, in view of the fact that the two relevant gallop polls were conducted after the two EQs and no base measure was available. Besides the EQs, several other interpretations are cited, including Greece’s decision not to exercise the veto (December 1999) in Turkey’s access to the EU, the low-key politics of the two Ministries of Foreign Affairs and the economic recession. Nonetheless, the EQs were viewed as important catalysts and as “windows of opportunity” in the further improvement of Greco-Turkish relations (post-crisis growth experiences on the societal level)([erc@otenet.gr](mailto:erc@otenet.gr)) .

The third of these papers (“Crisis and Cultural Change-The Buenos Aires Blackout and Argentine Democratization Processes”) was presented by [Susann Ullberg](#). Using an historical, political and economic analysis, Ullberg documents the cumulated crises confronting Argentine since 1955 (e.g. recession, unemployment, inflation, poverty, etc. ) that remained unresolved through the 1990s despite the restoration of democracy in 1983. In fact, by the late 1990s, resignation and social indifference had set in and public manifestations had become rare. The 1999 blackout, which lasted for 11 days and affected more than 1 million residents, provoked feelings of impotence and alienation. These feelings followed a period of increased efficiency in public service, after the privatization of the Electric Company. By activating various civil institutions (e.g. the regional and federal Ombudsman, the consumer rights organizations etc.), to claim the rights of the residents and by a revival of public manifestations and demonstrations, the blackout served as an important catalyst to the reinforcement of the democratization processes which had started with the fall of the dictatorship in 1983 ([uggla@merlo-sl.com.ar](mailto:uggla@merlo-sl.com.ar)).

## **Session V. Disasters, Crises and Accidents: New Challenges and Paradigms for Building Disaster-Resilient Communities**

### **N. Petropoulos, Organizer/Chair**

Originally, seven papers were scheduled for presentation in this session. Two of the scheduled participants ([Marcos Mattedi](#) of Brazil and [Boris Porfiriev](#) of Russia) did not make it to the conference. Papers were presented by Philip Buckle (Australia), Gordon Gow (Canada), Yuri Sayenko (Ukraine), Lindy Newslove (Sweden) and Irina Khaliy (Russia). Mattedi's paper, "The Process of Risk Institutionalization in Brazil: the Flood Case in the State of Santa Katarina" purports to explain the contradiction between the increased investment of public resources and the intensification of the flood impacts. He concludes that the problem results when public institutions view floods as only a natural phenomenon, rather than as an interactive phenomenon between nature and society ([Cecile@cfh.ufsc.br](mailto:Cecile@cfh.ufsc.br)). Along the same lines, Porfiriev's paper, "Re-conceptualization of a Disaster: from an Emergency to Crisis Theoretical Framework," deals with the shift away from a management, agent-specific perspective toward an approach that looks at disasters as crises embedded in social processes ([b\\_porfiriev@prin.msk.su](mailto:b_porfiriev@prin.msk.su)).

[Philip Buckle's](#) presentation, "Disaster Management, Community Capability, Resilience and Vulnerability," identified a local community-centered strategy for reducing vulnerability and increasing resilience to disasters. In all cases, the local community should have priority over the state and regional services, which should be supplementary in nature. He identified several principles for effective community-based emergency management and elaborated the notion of "community capability" in building resilience, saying that community capability is more than "social capital" and may rely more on "intangibles" such as networks and skills and less on physical infrastructure and financial resources. Buckle also connected "community" capability with developmental sustainability which may have a cumulative impact on reducing vulnerability and increasing community resilience to disasters. He pointed out to the need for stronger links between the local community capability and disaster management ([p-buckle@msn.com.au](mailto:p-buckle@msn.com.au)).

The presentation by [Gordon Gow](#), "Technological Change and Domestic Emergency Telecommunications: A Constructive Technology Assessment", was based on ongoing research that looks at the problem of call completion for priority users of the public telephone network during mass emergency or disaster situations. The research was motivated by the need to assess the impact of new socio-technological developments in the field of communications involving the convergence of voice and data networks, the emergence of wireless personal communication systems and the liberalization of telecommunications in Canada and throughout the world. According to Gow, these developments are transforming the social field within which domestic emergency telecommunications programs and policies have historically operated and they present an opportunity for opening a wider debate on the public safety function of telecommunications networks. Relying on the methodology of "constructive technology assessment" which provides for the anticipation of impacts, the involvement of social stakeholders and the occurrence of societal learning, the long-term objective of the

research is to develop a range of feasible intervention strategies for the disaster management community. We are looking forward to Gow's conclusions regarding the added value of these new technologies to public safety in the case of mass emergencies and disasters and especially with regard to the classical problems of "convergence" and the assessment of the emergency-disaster situation following impact. The communication systems contain a large potential for reducing vulnerability and increasing community resilience([gagow@sfu.ca](mailto:gagow@sfu.ca)) .

The third presentation by [Yuri Sayenko](#) (Social Phenomena and Lessons from Chernobyl: 15 Years after the Catastrophe), focused on the results of the continuous socio-psychological monitoring of the victims of the 1986 nuclear reactor accident. According to Prof. Sayenko, the Chernobyl accident left Ukraine with 2.2 million victims, including 600,000 children and 50,000 liquidators (rescue or rehabilitation workers). Three categories of victims were distinguished: "liquidators", "self-settlers" (within the 30-km zone) and "resettlers". The monitoring includes an assessment of a wide spectrum of life conditions, health and social well-being, risks and orientations in life of all categories of victims. Sayenko reported several "syndromes" (e.g. victim, social exclusion, evacuation/resettlement, lost health and low knowledge of risks and rights) which cannot be resolved only by medical and economic intervention but require special rehabilitation methods and an interdisciplinary approach. During the discussion which followed, a question was raised regarding the impact of Chernobyl on political changes in the former Soviet Union([csep@csep.kiev.ua](mailto:csep@csep.kiev.ua)) .

The presentation by [Lindy Newlove](#) ("To Serve and Protect' or Deserve to Regret? A Sequence of Organizational Failures leading to Sociotechnical Disaster in the Fire-Fighting Services of a Transitional State") focused on the collapse of a hydraulic lift constructed for use by the National Fire-Fighting and Rescue Service of Latvia in rescue operations involving inaccessible heights. This ironic tragedy occurred during a public demonstration of the lift and resulted in nine deaths, mostly of children. In her well documented and well-grounded in theory and research analysis, Newlove examined systematically the immediate and ultimate, cognitive, organizational, technological, and institutional factors which led up to the accident. She also pointed out to the increased vulnerability of transition-economy states, despite the recent development of preventive legislation and concluded with recommendations for prevention following her cognitive-psychological-institutional-organizational analysis. It seems that there is a greater challenge for these states, so preoccupied with economic and political stabilization, to concern themselves with safety in mass emergencies and disasters([lindy.newlove@fhs.se](mailto:lindy.newlove@fhs.se)).

The last presentation of the session by [Irina Kaliy](#) ("Social and Environmental Consequences of the Nature Exploitation Strategy in Russia") covered the economic and social changes that took place among woodcutters settlements in Russia. These settlements were originally set up (in Soviet Union times) for the purpose of forest exploitation and were supported by the State Timber Industry Enterprises. Following the transformations of the Soviet Union, the STIEs and the woodcutter settlements experienced recession and losses in production and a reduction in the standards of life. Greater vulnerability was experienced by the monosettlements which relied only on the woodcutting industry and economy. To compensate for the general economic problems following the transformation, the STIEs have intensified export activity, and have paid less attention to the quality of life of the settlers. In addition, the STIE has come into

conflict with ecological movements, which stress forest protection and development of alternative economies. The classical “conflict” (contradiction”) between environment and economic development (jobs) became evident during the presentation, which means ecology is still considered a luxury in transition economy states and requires more systematic struggle to convey the message to the States and make “sustainable” development a reality([faes@online.ru](mailto:faes@online.ru)) .

## Session VI: Disaster and Development: A Vital Connection

### M.H. Fordham & Hanna Schmuck, Organizers/Chairs

#### 1. James Lewis “Continuum or contiguum? Development for vulnerability reduction”

James Lewis questioned the appropriateness of the commonly used term ‘continuum’. This suggests an overly linear process from relief to development and even implies that a disaster is the necessary precursor to development. A more appropriate term is contiguum which implies disasters (of whatever size or at whatever time) and development occur in overlapping juxtaposition. Furthermore, our general understanding of the term disaster is dominated by media-led images of massive events whereas it is the much more common, small events - representing ‘normal hazardousness’ - which require attention, as they are the cause of vulnerability to the larger occurrences. Disasters are the monitors of development – post-disaster relief is too late([datum@gn.apc.org](mailto:datum@gn.apc.org))

#### 2. Ian Christoplos “Whose Agenda after Hurricane Mitch? Situating risk in Nicaraguan rural development policy”

Ian Christoplos used the case of post-Hurricane Mitch Nicaragua to discuss the complex relationship between disaster and development. Post-Mitch debate was polarised around different development models. While we know that vulnerability is closely related to poverty, this position was used to justify the lack of engagement in disaster mitigation and preparedness: disasters are indicative of underdevelopment; only the poor suffer in disasters; development is thus the solution to everything so why specifically focus on disaster risk? There is a need to bring together the economic agenda with the ethical and moral agenda in order to ensure a humanitarian element in development. Models for growth from both left and right have tended to ignore risk and aggravate vulnerability([ian.christoplos@intkursgard.uu.se](mailto:ian.christoplos@intkursgard.uu.se))

#### 3. Amjad Bhatti “Risk Perception, Culture and Communication: A South Asian Experience”

Amjad Bhatti discussed the processes of risk perception and communication in the South Asian context. He argued for a dialogue between sender and receiver to deal with the cultural differences between encoding and decoding. The social and cultural context of risk communication must be understood. The advent of the modern nation state and its assumption of responsibility for risk communication, created the danger of a dependency syndrome in which local knowledge and traditional coping mechanisms lost respect or ceased to exist. What was needed was a dialogue between technology and folklore([jrc@isb.sdnpk.org](mailto:jrc@isb.sdnpk.org)) .

#### 4. Madhavi Malalgoda Ariyabandu “Bringing together disaster and development - concepts and practice: some experience from South Asia”

Madhavi Ariyabandu presented summary findings from case study material from Bangladesh, India, Sri Lanka, Nepal and Pakistan. These came out of work for ITDG South Asia on Livelihood Options for Disaster Risk Reduction. Studies point to the continued operation of the dominant model of disaster management based upon post-

event relief and where development work is external to hazard management. Despite this there are examples of an alternative approach in which the socio-economic forces leading to vulnerability are addressed. Both disaster management development must evolve into and incorporate risk management([madhavi@itdg.lanka.net](mailto:madhavi@itdg.lanka.net)) .

5. *David Sanderson* (Contributed paper) “Urban livelihoods and natural disasters” ([sanderson@ciuk.org](mailto:sanderson@ciuk.org))

**Discussant:** *Hanna Schmuck*– see below ‘General Discussion’

### **General Discussion**

The discussion following the papers was very lively and a decision was made by those present to extend the session time to enable more dialogue. Hanna Schmuck stimulated the debate by referring to the many different ways in which the concept ‘community’ had been used but generally not specifically defined. She presented a challenge to the presenters to define in one sentence, community as they see it. Following the speakers’ efforts, other session participants contributed to a fruitful exchange of ideas.

## **NEWS, ACTIVITIES, ANALYSES AND COMMENTARY OF D&SCRN MEMBERS**

### **I. Nicholas Petropoulos: Psycho-social Conference Participation, Network Activity, ERC Meeting with Hoffman and Research Projects**

Aside from the exploratory activities pertaining to the organization of an interim meeting of the D&SCRN in Athens (See D&SCRN Report), Petropoulos participated in a conference on psycho-social support, organized an informal meeting at the ERC with Prof. Susanna Hoffman, cooperated with Turkish colleagues in submitting a joint research project to the research agencies of the two countries, and also made progress on the implementation of the research project on the impact of the 1999 Athens Earthquake.

**a. Psycho-social Support in Situations of Mass Emergency.** Upon the recommendation of the Secretariat for Civil Protection of Greece, the Network Coordinator, N. Petropoulos and Prof. Nadia Bergiannaki, Psychiatrist from the University of Athens, participated in the Second Working Conference on Psycho-social Support in Situations of Mass Emergency” which took place in Brussels (14-15 September 2001) and was organized by the Ministry of Public Health of Belgium in the context of the Belgian EU presidency. The conference was attended by representatives (practitioners, researchers, academics) of member countries and focused on the provision of psycho-social support both to “primary” (disaster) and “secondary” (e.g. rescue workers) victims during the various phases of a mass emergency. During the conference all the participants took part in one of four parallel workshops which discussed the following four major themes:

- General principles and model concerning psychosocial support in situations of mass emergency,
- Managing psycho-social support during the acute phase of mass emergency situations,
- Managing psycho-social support during the transition and the long-term phases of mass emergency situations and
- Preparation and evaluation of the psychosocial response for mass emergencies (includes stress management for rescue workers and other staff who respond to mass emergencies).

The conclusions of the working groups were presented in the plenary session and will become an integral part of a working policy document on psycho-social support for mass emergency situations in the EU countries (For more information, interested readers should contact Dr. Geert Seynaeve ([geert.seynaeve@health.fgov.be](mailto:geert.seynaeve@health.fgov.be))).

**b. Meeting with Susanna Hoffman.** On 31.10.2001, an informal meeting was organized at the Emergencies Research Center with Prof. Susanna Hoffman, social anthropologist and writer of many books and articles on the anthropological perspective to disasters. Prof. Hoffman, a Scholar Participant in the “Fulbright Foundation’s Aegean Initiative” whose aim is to reinforce the cooperation between the Greece and

Turkey following the 1999 EQs in the two neighboring countries, spoke to a small interdisciplinary group consisting of sociologists, geophysicists, civil engineers, human engineers and medical doctors involved in emergency medicine. She spoke to the group about the anthropological perspective to disasters, the book that she co-authored with Oliver Smith (*The Angry Earth: Disaster in Anthropological Perspective*, New York: Routledge), her upcoming publications and her personal experiences as a “victim” in the Oakland Firestorm. Prof Hoffman is in the process of organizing a collaborative workshop between Greece and Turkey in January 29-31 and in the context of the “Fulbright Foundation Aegean Initiative.”

**c. Joint Research Project between Greek and Turkish Scientists.** Taking advantage of the new bilateral agreements between Greece and Turkey on scientific cooperation (See N. Petropoulos, Helsinki Conference, Session IV of D&SCRN) and following preliminary contacts at the Helsinki conference, Prof. Murat Balamir and Nicholas Petropoulos, both members of the D&SCRN, submitted a joint research proposal (“Comparative Methodologies Development for Comprehensive Urban Earthquake Mitigation: The Cases of Istanbul and Athens”) to the respective research organizations of the two countries: the Scientific and Technical Research Council of Turkey (TUBITAK) and the General Secretariat for Research and Technology (GSRT) of the Ministry of Development of Greece. The proposed bilateral project provides for the participation of interdisciplinary teams on both sides (urban planners, sociologists, psychologists, psychiatrists, civil engineers, seismologists, soil mechanics engineers, economists and legal experts), the implementation of meetings, workshops and visits to EQ campsites and emergency services, as well as for publication of the results. Information regarding the approval of the proposed project and the launching of it will be given in subsequent newsletters.

**d. “The Athens 1999 EQ: Self-Evaluation and Proposals of Agencies for the Improvement of Civil Protection”: A Progress Report.** During the last weeks of November 2001, the research team completed the pilot study. Questionnaires were submitted to samples of scientists (seismologists, civil engineers, geologists, psychiatrists etc), mayors or directors of technical services in the municipalities, rescue workers, journalists, state emergencies personnel, NGO representatives, temporary settlement administrators etc. who were involved in one way or another (e.g rescue, rehabilitation, public information etc) with the 1999 EQ. Following the readjustments on the questionnaires and the interviewer instructions calculated to increase the response and cooperation of the key persons in the various agencies, the research team launched the regular field project in the beginning of December 2001. However, data collection was temporarily suspended-especially for the emergency workers and the municipal authorities-- due to the unprecedented snow and ice storm that hit the Attica region during the first week of January 2002. The field work on the 1999 EQ impact will be resumed soon and will be completed by the end of February 2002.

**e. Comment on Attica Snow-Ice Storm.** On occasion of the snow-ice storm, the dilemma of emergency infrastructural investments (e.g. snow clearing equipment, caterpillar tread emergency vehicles, chains for vehicles, etc) for low probability events (such storm is said to have occurred about 50 years ago), is widely discussed in the Greek mass communications media. Nonetheless, the question can be raised if urban planners can rely on historical probabilities when they take into account the impact of the greenhouse and the el nino phenomena.



Nicholas Petropoulos  
Emergencies Research Center  
[erc@otenet.gr](mailto:erc@otenet.gr)

## **II. Maureen Fordham: Disaster Studies Project - What's Been Happening?**

### June

Maureen Fordham was one of 25 invited participants to a 'work-conference' on Vulnerability in Disaster Theory and Practice in Wageningen, The Netherlands on 29 and 30 June 2001. It was organized by Disaster Studies, Centre for Rural Development Sociology, Wageningen University and Research Centre. The Chair was Georg Frerks, and the Organizing Committee comprised: Greg Bankoff, Ian Davis, Zen Delica, Kenneth Hewitt, Thea Hilhorst and Anthony Oliver-Smith. Over two days, papers were presented and discussed on the themes of: the theory and discourse of vulnerability; the relationship between vulnerability and environmental hazards; the relationship between vulnerability and governance; and vulnerability in the policy and practice of disaster prevention, relief and rehabilitation. The outcome is to be a book which is undergoing editing at the present time.

### September

Also on the subject of vulnerability was a Workshop on "Assessing Resilience and Vulnerability: Risk and Disaster Management," a joint initiative of RMIT University, Australia and Middlesex University, UK held at Middlesex University on 3-4 September 2001. The invited participants were: Philip Buckle – Convenor – RMIT University and Dept. Human Services, Victoria Australia; John Handmer and Graham Marsh – RMIT University; Mike Tarrant – Emergency Management Australia; Ian Davis – Cranfield University; Terry Cannon – Greenwich University; Ben Wisner – London School of Economics; Anne Eyre – Anne Eyre Trauma Training; Maureen Fordham – Anglia Polytechnic University; Katrina Allen and Edmund Penning-Rowsell – Flood Hazard Research Centre, Middlesex University; Mark Pelling Liverpool University; Neil Adger University of East Anglia; Nick Hall – SouthBank University.

The workshop was convened to investigate and to work towards clarifying vulnerability and resilience as a central themes in contemporary disaster management and allied and parallel research areas including development, environmental management, risk management, community development, human rights and other areas. Over a period of two days the participants drew on their own research, expertise and several case studies to critically examine threads and themes in disaster management pertinent to vulnerability and resilience. It became clear early on that both resilience and vulnerability are complex, multi-dimensional concepts and that these need to be unbundled or disaggregated for further significant progress in the development of concepts, policy and practice to occur.

Two further meetings are proposed. The first in Brisbane, Australia in July 2002 at the conference of the International Sociological Association and the second in London in late 2002 or early 2003.

## November

Maureen Fordham was an invited Expert and elected Rapporteur at a United Nations Expert Group Meeting (EGM) on "Environmental management and the mitigation of natural disasters: a gender perspective" at Ankara, Turkey from 6 to 9 November 2001. The EGM was organized by the Division for the Advancement of Women (DAW) in collaboration with the Secretariat for the International Strategy for Disaster Reduction (ISDR). The Commission on the Status of Women (CSW) selected this topic as a priority theme in its multi-year programme of work for 2002-2006. The combination of these three elements, gender, disaster and environmental management, was a new departure and placed disaster management firmly within a holistic, sustainability context.

This lively meeting heard papers from a number of academics, practitioners and activists from around the world - a number of papers are available on the accompanying website (address below). It started from the position that women are part of the solution rather than the problem and focused on positive aspects, experiences and characteristics that reduce women's vulnerability, promote gender equality and provide concrete solutions to global problems. The role of women as key environmental managers and key actors in natural disaster management were primary issues which were explored. Following the presentations the participants divided into three working groups for some intensive debate to construct concrete recommendations. The writing of the draft report meant long days and sleepless nights for many of us and yet what we produced in those few days is an important milestone and perhaps the true beginning of a mainstreaming of gender at the highest policy levels. The report is expected to be considered by the United Nations Commission on the Status of Women (New York, March 2002), and become a possible contribution to the World Summit on Sustainable Development (Johannesburg, Summer 2002).

Prior to the meeting there was an on-line discussion (E-forum) on "gender equality, environmental management, and natural disaster mitigation" which ran from 24 September to 2 November 2001. The results of the on-line discussion were presented to the Expert Group Meeting in Turkey and can also be accessed via the web.

Home page for the EGM: [http://www.un.org/womenwatch/daw/csw/env\\_manage/](http://www.un.org/womenwatch/daw/csw/env_manage/)

Documents: [http://www.un.org/womenwatch/daw/csw/env\\_manage/documents.html](http://www.un.org/womenwatch/daw/csw/env_manage/documents.html)

E-Forum: [http://www.un.org/womenwatch/daw/csw/env\\_manage/e-forum.html](http://www.un.org/womenwatch/daw/csw/env_manage/e-forum.html)

Maureen Fordham  
Anglia Polytechnic University  
[m.h.fordham@anglia.ac.uk](mailto:m.h.fordham@anglia.ac.uk)

### **III. Boris Porfiriev: ECMA Conference, International Seminar on Civil Aviation Safety and a Book on Russia Crisis Management**

1. **Conference of the European Crisis Management Academy (ECMA)** 'Foundations for Cooperative European Crisis Management: Establishing Common Ground'. Held in Stockholm, Sweden, November 22-23, 2001.

Attended by almost 120 people from European countries (and just a couple of people from USA). On the first day the plenary session, with two reports by Sture Ericson, the Director of the Swedish Agency for Civil Emergency Planning (OCB) and Prof. Guy Peters, University of Pittsburgh, was followed by four parallel sessions. These involved:

(1) Regional security and crisis management in Europe. Three presentations were followed by a special sub-session on managing crises in Iceland and a discussion.

(2) Crisis management and institutional resilience in applicant countries: implications for EU enlargement - Poland and Slovenia (four presentations and discussion).

(3) Crisis management and institutional resilience in the EU: risk and crisis management in France: the state of the art (four presentations and discussion).

(4) Organizational crisis in public domain (four presentations and discussion).

These sessions were then concluded by a plenary meeting lead by Prof. Bengt Sundelius (CRISMART and Uppsala University, Sweden).

The second day of the Conference also featured four significant parallel sessions:

(1) Crisis simulation (Leader - Dr. Werner Overdijk, CRISISPLAN, the Netherlands)

(2) Why leadership before, during and after crisis is essential and how to train for it (Leader - Prof. Laurent Carrel, University of Bern and Zurich, Switzerland)

(3) Training crisis managers: from case research to case teaching (Leaders: Prof. Vicki Golich, California State University, USA and Dr. Eric Stern, CRISMART, Sweden).

(4) Coping with media during Crises: A simulated press conference (Leaders: Anders Johansson, Main Lecturer, Media and Communication Science, The Swedish Defense College and Malin Modh, Desk Officer, Swedish Board on Psychological Defense).

These sessions were then concluded by a plenary meeting with a keynote address by Prof. Raimo Vayrynen, University of Notre Dame, USA and a business meeting. The latter was convened by Prof. Bengt Sundelius and formally established ECMA as a

network organization of and for crisis researchers and practitioners. More details on ECMA could be found at its very useful and informative site: [www.ecm-academy.nl](http://www.ecm-academy.nl)

**2. The International Seminar on 'Civil Aviation: Safety Strategy for the 21st Century'** was held on September 4-5, 2001 in Tyumen (Russia). The life's irony is that this very interesting seminar attended by almost 50 people and lead by John Enders, former deputy director of both NASA and FAA, occurred about a week before the unprecedented terrorist air attacks in New York and Washington DC.

The seminar included four presentations by Mr. Enders on modern concept of flight safety, historical and factors' analysis of some major recent air accidents, efficient organization and management methods providing flight safety. These were supplemented by multiple comments from air company safety professionals and discussion.

**3. Book on Crisis Management in Russia.** The international team of Russian and Swedish scholars finished a book on crisis management in Russia. The volume is co-edited by Prof. Boris Porfiriev and Lina Svedin (CRISMART, Sweden and Syracuse Univeristy, USA). It constitutes part of a series of studies exploring problems of national crisis management in an international perspective and is an organic component of the CRISMART Crisis Management Europe Program. The book will be published and could be ordered in February 2002 from CRISMART (Forsvarshogskolan, Valhallavagen, 117, PO Box 278 05, SE-115 03 Stockholm).

The book explores the crisis development and experiences of crisis management in contemporary Russia, with some links to polices formulated in the former Soviet Union in the cases where they have a direct baring on the current situation. The **first** part of the volume provides a survey of the evolution of the institutional and legislative framework of Russia's crisis management structure and places this development in the broader picture of Russian sociopolitical change. In this section the crisis as seen through the eyes of the Russian media is also explored. The **second** part of the book presents case studies of critical policy problems with regard to a broad range of crises, both instant and creeping, provoked by natural, technological and social agents. These cases studies consider preparedness and response to the 1995 Neftegorsk earthquake disaster on Sakhalin Island and the post-emergency management concerning the Russian 'liquidators'- rescue workers involved in the emergency response to the disaster at the Chernobyl nuclear power plant. In addition, these studies include crisis management of the massive ecological disaster in the town of Karabash in the Russian Urals and focus on crisis management with regard to the Kursk submarine accident in the Barents Sea in the year 2000. The **conclusion** of the volume discusses the validity of a number of hypotheses concerning patterns of crisis development and management in transitional states in light of the case studies. These hypotheses are based on earlier contributions to this series on transitional crisis management. They express some empirically derived ideas on what are typical challenges and characteristics for transitional states as they find themselves meeting new and old difficult situations. These ideas are summed up in the introduction of the book and they are tested in the second part of the book and finally provide the format for considering the Russia's experience of crisis management in a broader comparative context.

Boris Porfiriev  
Institute for Systems Analysis  
Russian Academy of Sciences  
[b\\_porfiriev@prin.msk.su](mailto:b_porfiriev@prin.msk.su)

## **IV. A Day to Mourn and to Think: An Observation by Allen Barton Following the September 11 Events**

A date to remember for tragedy. A day to mourn, and to think.

This is the day the war in Israel and Palestine came home to the United States. Now we can really feel how it is to live in those tragic countries, locked in a conflict which both sides have thrown away opportunities to end, where suicide bombers are answered with assassinations and no one is safe.

How should one respond to such an escalation of tragedy – an escalation because the killing has been going on all along “over there” while our current government has decided to do nothing and take a long vacation. Now the killing has moved “over here” and our security precautions failed to stop it.

A news reporter in Jerusalem told of cheering from Palestinians who felt that now they might be listened to, even as Palestinian leaders denied complicity and condemned the attack. Our President expressed his anger and threatened vengeance against “those responsible.”

This is not a time for cheering nor is it a time only for anger and vengeance.

*This is a time to restart peace making*, so that the terror will not go on here or in Israel and Palestine.

This horror would not have happened if an Israeli-Palestinian settlement had been reached. Peace undermines terrorism, reduces its heated motivations and organized support. It is time for us to lead in ending this conflict in which we have been involved since its beginning. In the last days of the Clinton administration we were trying desperately to end it, by a compromise creating a Palestinian state which would live in peace with Israel and demobilize Palestinian terrorism.

No security measures and no “tracking down those responsible” will make us safe, however necessary these may be. Pure force will not make Israel safe. Terrorism will not make Palestine safe. Only *peace* will make us all safe.

*Justice* is needed for peace -- not perfect justice but some sufficient approximation of justice to win over those now in despair to try peace rather than terror. We must again sit down with the leaders of Israel and Palestine and try again to achieve the agreement we almost had last year.

Peace is the memorial which today’s victims need, and all the victims of this long war.

Allen Barton

Tuesday, April 22, 2008

[allenbarton@mindspring.com](mailto:allenbarton@mindspring.com)

## **V. An Abstract from Avi Kirshenbaum of his latest paper on the “Effectiveness of Public Service Organizations: A Constituency Analysis of Disaster Management”**

This study utilizes both multiple constituency and goal attainment theories to assess the effectiveness of Israel’s national disaster management organization (Home Front). Analyzing responses from a representative national sample of Israeli households (814) showed that client-constituency scores on levels of performance depended on organizational sub-goals. Primary goal concern among the sample was found to differ from officially stated goals and cluster around three principal goal-related factors; ‘clear instructions’, ‘gas mask kits’, and ‘hazardous materials’ (Hazmat). Each goal could be traced to experience based perceptions among the client sample.

These results imply that measuring organizational effectiveness in service oriented public sector agencies is far more complex than previously thought. For one, stated goals, upon which most measures of effectiveness are based, are not necessarily those perceived or even evaluated by its clients. In addition, factors contributing to these evaluations originate from outside the organization and not necessarily related to the services provided. This stands in sharp contrast to traditional measures of organizational effectiveness and highlights the need to reevaluate the role that client evaluations should be incorporated into such measures.

Prof. Avi Kirshenbaum  
Faculty of Industrial Engineering & Management  
Technion-Israel Institute of Technology  
[avik@tx.technion.ac.il](mailto:avik@tx.technion.ac.il)



## **What Are the Implications for Disaster Planning From the Following Observation Made in the Response to the Attack on the World Trade Center?**

E.L. Quarantelli

About six weeks before the attack on the World Trade Center I visited the EOC of the New York City Office of Emergency Management. It was a new facility with state of the art equipment (computers, data banks, records, phone banks, etc). The EOC was set up to house representatives from about 60 organizations although there was perhaps enough space to expand to include another 40 groups. This EOC was located on the 23 floor of Building # 7 (a 51 floor building) in the World Trade Center Complex. When I checked I was informed that there was no standby or secondary EOC if the basic one could not function, and there had been no planning for one. The EOC had never been used in an actual crisis or disaster situation, although simulations had been undertaken (in fact my visit there was to observe a bioterroristic attack simulation).

After the plane attack on the first tower the EOC functioned for less than half an hour. But the debris showering down on Building # 7 forced an evacuation of the EOC; nothing was saved by way of equipment, records, etc. All personnel survived although most had very narrow escapes and many saw others being killed around them. Building # 7 totally collapsed about five hours later.

By Friday morning, a new EOC was being created on a cruise line pier (#92) on the Hudson River. It was fully functioning on Friday. When I visited it on the next Wednesday, 8 days after the attack, it was housing by my actual count representatives of 242 organizations almost all with their own computers and phone lines where one could make free calls to any place in the world, as well as a welter of other kinds of equipment including map printers, etc. More important, the operation at least on the surface appeared to be relatively effective. During an observation period of nearly 9 hours I saw almost no disagreements or conflicts, no obvious problems, etc. Also, in contrast to previous observation of EOCs over 30 years, this was the quietest one I have ever seen, and also the neatest (the use of computers made the location almost paper free). Another visit to the EOC about 10 days later found that by that time, there were representatives of over 300 in the EOC. In the third week the EOC was still operating in a crisis mode, with most personnel still on 12 hour shifts.

These observations and others I can not detail here, raise an interesting

question. How was it possible to fairly quickly set up a larger and apparently effective EOC when there had been no plans for one and when everything had been lost from the original EOC? One hint: only the officials survived but they did survive and while most had never done more than crisis simulations they had worked together before with some of the others that ended up in Pier 92.

The Disaster Research Center will be studying the emergence of the emergency operating system in this situation. What we shall learn of the improvisation that took place and of the resilience that was operative should tell us much about what constitutes good disaster planning and managing.

E. L. Quarantelli  
Research Professor  
Disaster Research Center  
University of Delaware  
Newark, Delaware 19716  
phone: (302) 831 6618  
fax: (302) 831 2091  
Email: [elqdr@udel.edu](mailto:elqdr@udel.edu)

## **Complex Disaster Production - The Case of the Depleted-Uranium Bombing of Afghanistan**

**Vera Vratusa-Zunjic**

The genesis and functioning of the latest U.S.-led "war on terrorism" confirms the hypothesis that war as a complex disaster is being produced by dominant social groups in the circumstances of the systemic economic crisis of capital hyper-accumulation. This crisis manifests itself as the excess production of merchandises that can not find the payment capable demand due to the structurally unequal distribution of income. The most powerful fraction of the ruling class attempts to overcome these halts in capital accumulation and to recreate conditions for new periods of economic growth through non-economic means - destruction through wars of apparently surplus work force and capital that can not be profitably employed<sup>1</sup>

According to the U.S. Commerce Department, Federal Reserve and Labor Department reports from October and November 2001, the world's most powerful economy experienced negative rates (often expressed in two digits) of business investment, industrial production, capacity utilisation, durable goods orders, export, import, and the paper value of the stock market holdings, ever since September 2000, on the one hand. During the same period, there was a steep rise in unemployment and indebtedness by private households, on the other. The Dow Jones Industrial Average dropped nearly 900 points in late August 2001. Such downward trend in the U.S. economy as the "the last resort importer" exacerbated further the deterioration in business confidence in European Union and deepened the depression in the entire East and Southeast Asia.<sup>2</sup>

Under the growing pressure of the precipitously declining manufacturing sector profit rates for twelve consecutive months, generated through the intensified speculations of the transnational financial oligarchy since the 1980's, the transnational corporate and financial capital, concentrated in USA and the former colonial and neocolonial powers, financially organised in IMF and WB and militarily organised in NATO, opted for a continuation of war production as the way out from the worldwide accumulation of capital crisis.

The chronology of events preceding the latest bombing of Afghanistan that can be

---

<sup>1</sup> (Vratusa-Zunjic, V., 1995: Development, Religion, War, ISIFF, Beograd; 2000: "The Future of the Balkan Region Within the World System", <http://filebox.vt.edu/users/wdunaway/vratusa.htm>).

<sup>2</sup> (Komp, Lothar, 2001: "The World is Sinking in Economic Depression", Executive Intelligence Review, November 16, No. 44, 24-27).

reconstructed from the US, EU, Indian and Pakistani press, suggests that it had been planned and prepared by powerful circles in U.S. and NATO allies for months before the September 11th 2001 terrorist suicide attacks on the World Trade Center and Pentagon<sup>3</sup>. Thus, three US state officials, told the Taliban representatives in July 2001 in Berlin that the U.S. was planning military strikes against Afghanistan in October. The U.S. department of defense official visited Tajikistan already in January 2001, while U.S. Rangers were training special troops in Kyrgyzstan by summer of 2001.<sup>4</sup> From September 1 to September 10 25,000 British troops, part of Operation "Essential Harvest" in the Former Yugoslav Republic of Macedonia, were pre-positioned in Oman.<sup>5</sup> Simultaneously two U.S. carrier battle groups arrived on station in the Gulf of Arabia, and some 17,000 U.S. troops joined more than 23,000 NATO troops in Egypt for Operation "Bright Star."

Before these military threats and preparations, there existed close business cooperation at least since 1998 between the Carlyle Group, the 11th largest private defense contractor in the U.S, represented by the former U.S. President George H.W. Bush Senior, the Saudi royal family and the bin Laden family who was one of the investors in the Carlyle Group until it sold their stake on October 26 2001.<sup>6</sup> As late as May the US Secretary of State gave \$43 million in aid to the Taliban regime, purportedly to assist hungry farmers who were starving since the destruction of their opium crop in January on orders of the Taliban regime,<sup>7</sup> while the head of the Pakistani secret service after he had met with the CIA Director, ordered in summer 2001, an aide to wire transfer \$100,000 to Mohammed Atta, later to be designated by the FBI, as the lead terrorist in the September 11 terrorist suicide hijackings.<sup>8</sup>

Probable foreknowledge and even complicity in the events to come by powerful actors in the U.S. is suggested by two reports. The first of these affirms that while in a Dubai American hospital receiving treatment for a chronic kidney infection from 4 to 14 July, Osama bin Laden, who together with his Taliban Afghan Pastun hosts was a close U.S. ally in the proxy jihad war against Soviet Union ever since the late 1970s and who in July 2001 was already a wanted fugitive for the bombings of two U.S. embassies, met with a top local CIA representative.<sup>9</sup> The second report based on an analysis of stock movements reveals that on the 6<sup>th</sup>, 7<sup>th</sup> and 10<sup>th</sup> of September, 4744 + 4516 "put options" (a speculation that the stock would go down) were purchased 600% above normal level just in the two firms whose planes were going to be hijacked on September 11, as well as in

<sup>3</sup> The main source for this reconstruction is the chronology published at <http://www.khilafah.com/1421/category.php?DocumentID=2705&TagID=2>.

<sup>4</sup> The *Guardian* (22.9.2001 and 26.9.2001); BBC (18.9.2001).

<sup>5</sup> The *Guardian* CNN, FOX, and *The Observer*, International Law Professor Francis Boyle, The University of Illinois, quoted at <http://www.khilafah.com/1421/category.php?DocumentID=2705&TagID=2>.

<sup>6</sup> The *Wall Street Journal*, September 27, 2001 sheds some light on the interwoven material interests that preceded these military plans and preparations.

<sup>7</sup> *The Los Angeles Times* (22.5.2001).

<sup>8</sup> *The Times of India* (11.10.2001); The Indian SAPRA News Agency (22.5.2001); MSNBC (7.10.2001).

<sup>9</sup> *Le Figaro* (31.10.2001).

related banking and insurance companies.<sup>10</sup> Many of the United Airlines put options were purchased through Deutschebank/ AB Brown, a firm managed until 1998 by the current Executive Director of the CIA.

Ever since September 11, the US financial authorities have been attempting to stop and reverse the negative tendencies in stock exchange through a massive infusion of government spending on "war on terrorism", defense programs, subsidies for "affected" industries and tax cuts for corporations. The other events since September 11 also suggest the interests behind the "war on terrorism" in Afghanistan. On October 10, 2001 the U.S. Ambassador paid a call on the Pakistani oil minister, to put "back on the table" a previously abandoned U.S.<sup>11</sup> Unocal and Saudi Delta oil and gas pipeline project from Turkmenistan, across Afghanistan, to the Pakistani coast, for the purpose of selling oil and gas to China, "in view of recent geopolitical developments". Escobar Pepe concludes in his commentary on "The New Imperialism" that "the whole thing was a sub-plot of the New Great Oil Rush: how America would win against the stiff competition of Russia and Iran"<sup>12</sup>

The US-led "anti-terrorist" coalition is using the hard target weapons loaded with the Bunker Buster bombs containing reprocessed nuclear waste in the air strikes in Afghanistan.<sup>13</sup> After the retreat of the Taliban militia, the US-led allies continued to target the water-supply tunnels that riddle the landscape with the intention to "flush out" Osama bin Laden, his Al-Qaeda group and the Taliban fighters from the hillside caves. This is done even though NATO country governmental, media and military-industrial complex leaderships are very much aware that "inhaled insoluble [DU] oxides stay in the lungs longer and pose a potential cancer risk due to radiation. Ingested DU dust can also pose both a radioactive and toxicity risk."<sup>14</sup> They are attempting to cover up, deny or minimise these calamitous effects of the use of DU shells, presenting them as being as harmless as a "handful of dirt from your backyard"<sup>15</sup>. The interest behind this misinformation campaign is to avoid the responsibility for the crimes against humanity ("collateral damages"), the costs of medically helping and compensating both civilian and military victims, as well as of the costs of DU storage and cleaning up of the contaminated areas in Iraq, Bosnia and Herzegovina, Yugoslavia and now in Afghanistan.

---

<sup>10</sup> The Herzliyya International Policy Institute for Counterterrorism (21.9.2001); FOX News (16.10.2001); *The New York Times* (15.9.2001) reported that Mayo Shattuck III has resigned, effective immediately, as head of the Alex (A.B.) Brown unit of the Deutschebank.

<sup>11</sup> *The Frontier Post* (10.10.2001)-a Pakistani newspaper.

<sup>12</sup> c2001 Asia Times Online Co, Ltd., contact address [ads@atimes.com](mailto:ads@atimes.com)).

<sup>13</sup> Pakistani *Weekly Independent* (No. 23, 29.11-5.12.2001).

<sup>14</sup> The 1993 US General Accounting Office report GAO/NSIAD-93-90

<sup>15</sup> (Bein, Piotr, Zoric, Pedja, " Propaganda for Depleted Uranium - a Crime against Humankind", contribution to International Conference "Facts on Depleted Uranium", Praha, November 24-25, 2001, <http://groups.yahoo.com/group/du-watch/files/DUPraha.doc>).

Vera Vratusa(-Zunjic)  
FACULTY OF PHILOSOPHY, Department of Sociology  
Cika Ljubina 18-20, 11000 Beograd, Yugoslavia  
fax: + 38111 - 639-356  
phone: + 38111 - 3282-141  
e-mail: [vratusa@dekart.f.bg.ac.yu](mailto:vratusa@dekart.f.bg.ac.yu)

