Hans Günter Brauch
Úrsula Oswald Spring
Czeslaw Mesjasz
John Grin
Pál Dunay
Navnita Chadha Behera
Béchir Chourou
Patricia Kameri-Mbote
P. H. Liotta
(Eds.)

VOL 3 / HEXAGON SERIES ON HUMAN AND ENVIRONMENTAL SECURITY AND PEACE

Globalization and Environmental Challenges

Reconceptualizing Security in the 21st Century

Springer

Hexagon Series on Human and Environmental Security and Peace **Vol. 3**

Series Editor: Hans Günter Brauch

Hans Günter Brauch, Úrsula Oswald Spring, Czeslaw Mesjasz,
John Grin, Pál Dunay, Navnita Chadha Behera,
Béchir Chourou, Patricia Kameri-Mbote, P. H. Liotta
(Editors)

Globalization and Environmental Challenges

Reconceptualizing Security in the 21st Century

With Forewords by Stavros Dimas, Commissioner for the Environment, European Union; Professor Hans van Ginkel, former Rector of the United Nations University and Under-Secretary General of the UN (1997-2007); Professor Klaus Töpfer, former Executive Director, UNEP and Under-Secretary General of the UN (1997-2006)

With Prefaces by Ambassador Jonathan Dean; Professor Úrsula Oswald Spring, former Environment Minister, Morelos, Mexico; Dr. Vandana Shiva, Alternative Nobel Prize; Dr. Narcis Serra, former Vice President of the Government and former Defence Minister of Spain

With 85 Figures

Springer

PD Dr. phil. habil. Hans Günter Brauch, Privatdozent at the Free University Berlin, Department of Political and Social Sciences, member of the College of Associated Scientists and Advisors (CASA) at UNU-EHS, AFES-PRESS chairman, editor of this HEXAGON book series; *address*: Alte Bergsteige 47, 74821 Mosbach, Germany

Prof. Dr. Úrsula Oswald Spring, Research Professor, Centro Regional de Investigaciones Multidiscipinarias (CRIM), National University of Mexico (UNAM), MRF Chair on Social Vulnerability at UNU-EHS;
address: Priv. Río Bravo Num. 1, Col. Vistahermosa, 62290 Cuernavaca, Mor., México

Assoc. Prof. Dr. habil. Czeslaw Mesjasz, Professor, Vice Dean, Faculty of Management, Cracow University of Economics, Pl-31-510 Kraków, ul Rakowicka 27, Poland

Prof. Dr. John Grin, Professor, Department of Political Science, University of Amsterdam, Director, Amsterdam School for Social science Research, Dept. of Political Science, University of Amsterdam, OZ Achterburgwal 237, 1012 DL Amsterdam, The Netherlands

Dr. Pál Dunay, faculty member, Geneva Centre for Security Policy, Avenue de la Paix 7bis, P.O. Box 1295, CH-1211 Geneva 1, Switzerland

Prof. Dr. Navnita Chadha Behera, Professor, Nelson Mandela Center for Peace and Conflict Resolution, Jamia Millia Islamia University, Maulana Mohamed Ali Jauhar Marg, New Delhi – 110025, India

Prof. Dr. Béchir Chourou, Professor of International Relations, University of Tunis-Carthage, 12 Avenue 7 Novembre, 1164 Hammam-Chatt, Tunisia

Assoc. Prof. Dr. Patricia Kameri-Mbote, Chair, Department of Private Law, School of Law, University of Nairobi; Programme Director for Africa, International Environmental Law Research Centre, Kenya Office, PO Box 2394 KNH, 00202 Nairobi, Kenya

Prof. Dr. P. H. Liotta, Professor of Humanities, Director, Pell Center for International Relations and Public Policy, Salve Regina University, 100 Ochre Point Avenue, Newport, Rhode Island, 02840-4129, USA

Library of Congress Control Number: 2007937518

ISSN 1865-5793

ISBN 978-3-540-75976-8 Springer Berlin Heidelberg New York

Cover design: deblik, Berlin
Cover illustration: Aerial Photo of the City of Mumbai, India,
by Thomas Loster, Director, MunichRe Foundation, Munich, Germany
Typesetting and layout: Thomas Bast, AFES-PRESS e.V., Mosbach, Germany
Production: Christine Adolph
Printing and Binding: Stürtz GmbH, Würzburg

Printed on acid-free paper 30/2133/ca 5 4 3 2 1 0

Foreword

The title of this volume – *Globalization and Environmental Challenges: Reconceptualizing Security in the 21st Century* – sums up many of the dilemmas and challenges facing policy-makers today. First, environmental change is global; no part of the world is spared. Second, we have to face change now; ignoring the challenge is not an option if our children are to thrive. Third, in an increasingly connected world, security is more than just the absence of war; it depends on diverse, but linked – indeed, often competing - factors such as political, social, economic, and environmental interests. Central to these, as the title of this book suggests, is the environment.

As a large and economically powerful union, the EU enjoys economies of scale. These can be exploited to address environmental threats - at local, national, and Union levels. It is sobering to recall, however, that even the enlarged EU is not autonomous and that the health of the European environment also depends on policies and practices in other parts of the world. Nowhere is this more evident than with climate change. Changes and challenges are now global, and thus our policy responses must be global too. Our security is indivisible, but our responses remain all too clearly fractured and divided.

Second, the concept of 'sustainable development' shows that time is a crucial factor in environmental security. The future can only be secured insofar as we act responsibly now; prevarication will have costs which future generations will pay. This implies urgent choices now. Fortunately, the developing science of costing environmental goods and services suggests that taking action on the environment not only has costs, but also has significant short- to medium-term financial and other benefits. Nonetheless, questions remain as to when best to take action and how such action can accommodate political and economic timetables.

Third, the environment is indeed a key component of modern security. Environmental degradation may destabilize societies by reducing economic opportunity. Degraded environments can be breeding grounds for other social ills, such as impaired human health or declining social cohesion. Developing countries with populations directly dependent on environmental resources are also particularly vulnerable to conflict over access to limited or declining resources. Environment is thus central to modern security, but also needs to be integrated with other factors such as energy, mobility, and food requirements. The question for policy-makers is how, in practical terms, to align these diverse interests.

Since the end of the Cold War, the security debate has changed fundamentally. A study which addresses the new challenges and suggests responses will therefore be a welcome addition to the policy-maker's toolkit. For this reason, I warmly welcome this volume.

Brussels, in June 2007

Stavros Dimas
Commissioner for the
Environment, European Union

Foreword

This volume on *Globalization and Environmental Challenges: Reconceptualizing Security in the 21st Century* implements the mission of the United Nations University of advancing knowledge for human security, peace, and development. This volume, written by over 100 experts from all continents, combines the two research programmes of UNU on 'environment and sustainable development' as well as on 'peace and governance'.

It addresses the question whether the fundamental change of the international order since the end of the Cold War has triggered a reconceptualizing of security not only in the OECD world but also in Africa, Asia and Latin America as it has been perceived by scholars from many disciplines as well as by government and international organization officials.

This book addresses the conceptual linkages between the four key goals of the United Nations system of security, peace, development and the environment, the conceptualization of security in Confucianism, Buddhism, Hinduism as well as in Jewish, Christian and Muslim thinking, in the philosophical and ethical traditions in the Orient and Occident as well as in the pre- and post-Columbian philosophy in Latin America. The book discusses also the spatial context and dimensions of security concepts, their reconceptualization in different disciplines and in international organizations within the UN system, OSCE, the European Union, OECD and NATO, and the conclusions that have been drawn in different regions and by regional organizations since 1990 and how this is reflected in alternative perspectives on future security.

The nine editors of this major scientific reference book – three women from India, Mexico and Kenya as well as six men from Europe, North America and the Arab world – offer multidisciplinary and multicultural analyses to key concepts of the UN Charter: 'international peace and security' and how these concepts have changed since 1990.

This reconceptualization debate on security was partly triggered by several reports of two Secretaries-Generals of the United Nations: *The Agenda for Peace* by Boutros Boutros-Ghali in 1992 and by the report *In Larger Freedom* by Kofi Annan in 2005 as well as by initiatives by UNDP, UNESCO and also by research conducted by the United Nations University.

This volume is the third in the *Hexagon Series on Human and Environmental Security and Peace*. The 'hexagon' is also the logo of the UNU system that combines under the goal of human security five research areas on peace, governance, development, science, technology and society as well as the environment.

This unique compilation of global scholarship deserves many readers and should be available in all major university and research libraries in all parts of the world and for all scholars also on the Internet.

Tokyo, June 2007

Hans van Ginkel
Rector, United Nations University and
United Nations Under-Secretary-General

Foreword

This volume on *Globalization and Environmental Challenges: Reconceptualizing Security in the 21st Century* in the *Hexagon Series on Human and Environmental Security and Peace* argues that the most immediate concerns for most human beings are soft threats to our common security, including those posed by environmental problems. Poverty, environmental degradation, and despair have killed people, and affected societies and nations in the global South.

As security policies insufficiently address environmental concerns a complementary approach based on North-South cooperation through sustainable development is needed. Sustainable development has become the precautionary aspect of peace policy.

UNEP's work on environment and conflict was based on three pillars: a) its *Post-Conflict Assessment Unit*, which assesses environmental conditions in post-conflict zones; b) the *Environment and Security Initiative* (ENVSEC) by UNEP, UNDP and OSCE in Southeaster Europe, the Caucasus and Central Asia; and c) UNEP's *Division on Early Warning and Assessment* (DEWA) that launched an 'Environment and Conflict Prevention Initiative'.

Environmental conflict and cooperation are still under-theorized, and many case studies on the sub-national level are needed. The research community should identify risk factors of environmental conflict and best practices for environmental cooperation that can support the efforts of international organizations. For Kofi Annan 'soft' threats can be more pressing concerns than traditional dangers for national security.

In this volume 92 scholars and officials from all continents are assembled by an able team of nine co-editors from nine countries, among them three women from New Delhi, Nairobi and Cuernavaca and six men from Germany, Hungary, the Netherlands, Poland, Tunisia and the United States. They analyze the new conceptual and policy linkages that have been added to the initial task of the UN system to maintain 'international peace and security', i.e. development and the environment. Environmental challenges due to climate change, desertification, water scarcity and degradation have increasingly posed new security threats, vulnerabilities and risks that ignore national borders. They can only by mitigated by effective global and regional multilateral cooperation. Avoiding these new types of conflicts triggered by these new security dangers and concerns by environmental cooperation and peacemaking must become a political priority of utmost urgency for the 21st century.

This book deserves many readers in all parts of the world, especially in those countries where university and research libraries may not be able to afford such references books. It is hoped that these scientific and policy-relevant messages can again be made available with the support of private foundations and donors to the young generation in the global South that will experience many of these challenges to their security and survival during this century.

Höxter, June 2007

Klaus Töpfer
Former Under-Secretary General of the United Nations and Executive-Director, United Nations Environment Programme (1997–2006)

The Graveyard of Fallen Monuments

P. H. Liotta

"By understanding many things,
I have accomplished nothing."
– the final words of Hugo Grotius, 1645[1]

Here, in the graveyard of fallen monuments, we always talk of war and peace.
This is where empires – and the forgotten, too – come to when they have to die.
Alexander said that place was Afghanistan, but he was wrong. (Well, at least
he wasn't fully right.) The Miracle of Holland knew it best, it seems:
That rule of law, and the order of things, best distinguish man from beast.
The monuments represent the failures of our lives, collective grief.

Here, in the first circle of the fallen, denial constitutes a simple grief.
The burning Bush, two million skulls in Pol Pot's image, the crestfallen Lenin bust. Peace,
here, never passes understanding. Shantih, shantih ... the beast
within proclaims – but doesn't practice. From El Alamein to Abu Ghraib, we'd rather die
than accept an error. Blindly, we stand ready to carry out all that seems
simple to abide by: What matters most now matters least.

And so, in the second stage, anger starts to bubble up and reason seems to matter least.
We take "it" out on anyone, or anything, to satisfy our starving grief.
The structure of a culture, land, belief, and God . . . all ripping at the seams.
O heartless world that has such creatures in it, where perpetual war and permanent peace
are batted about in broken minds and still-born souls. Feast on this. We die
together or alone. The choice is yours, and ours, and any beast's.

In the third descending spiral, things get tough. We begin to bargain with the beast
that is ourselves. We believe everything we knew was wrong, but now belief least
becomes the path to get things done. Mission accomplished, and we follow on to grief.
World order is so easy: just push off into heartbreak and go on believing till you die.
To prepare for war, don't always talk of peace.
Abide by what others might proclaim is wrong. What seems

most unseemly, when you pass through the Scylla and Charybdis of depression, the seams
of space and time and truth clawing you inside, is this: Recognize the beast
we were, the human we might wish to be. Is there something wrong with peace?
The triumph of the spirit comes when each proclaims victory for the least,
the powerless hung, each, on the tree of a soul. Something good can come from grief.
If not a rule of law, this is something we could learn before we die.

Perhaps there are some truths that never truly die.
Perhaps there are some practices that stitch together all the seams
of differences, and distance, the burden of accepting grief.
Perhaps tonight, the *Geist* of all the errors of our past will rise like some great beast
to bear our grievance toward those who matter most, and listen least.
Perhaps tomorrow, in the story's told, the war within was waged for peace.

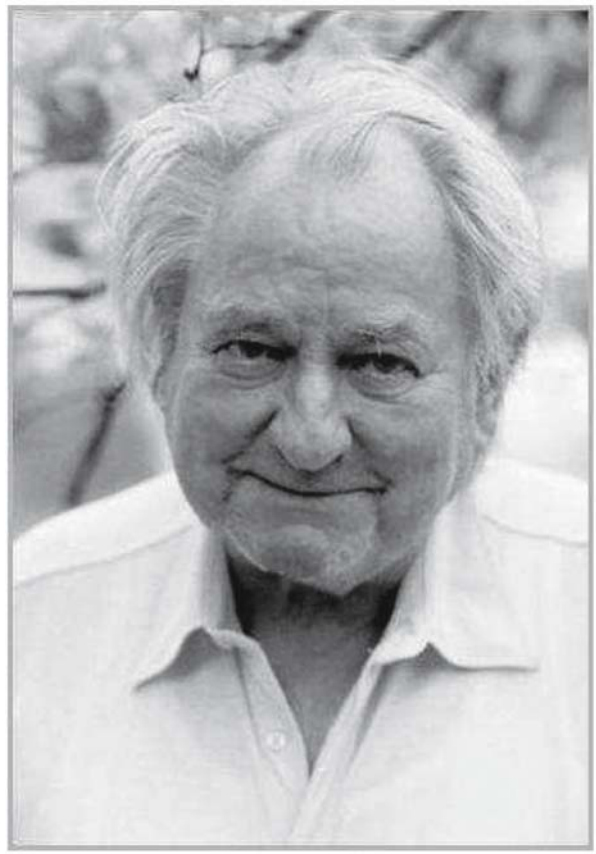
In the graveyard of fallen monuments, we learned least to live before we died. We talked
of peace but always practiced war. Pity the beast; embrace the grief: skilled at everything,
to seem to have done nothing. The world was our beginning. The world must be our end.

for Ambassador Jonathan Dean

---

1 Grotius, theorist and founder of what is today called international law, was committed in his lifetime to conflict resolution, compromise, negotiation. He is often called "The Miracle of Holland."

For Prof. Dr. Georg Zundel (1931–2007)



17 May 1931 in Tübingen (Germany)

† 11. March 2007 in Salzburg (Austria)

His work as a natural scientist and philanthropist
for disarmament and international cooperation,
for peace and reconciliation among peoples and
his support for peace and conflict research
will be remembered.

We the nine editors from nine countries

coming from four continents:

Hans Günter Brauch (Germany),
Navnita Chadha Behera (India),
Béchir Chourou (Tunisia),
Pál Dunay (Hungary),
John Grin (The Netherlands),
Patricia Kameri-Mbote (Kenya),
P. H. Liotta (USA),
Czeslaw Mesjasz (Poland),
Úrsula Oswald Spring (Mexico),

dedicate this volume to

our children or godchildren

– representing all children of the globe –

who will experience

during the 21st century

whether

the messages of these

joint scientific efforts will become reality.

For

Ananya, András, Anna,

Barbara, Chloe, Gaia,

Hanna, Hela, Ian,

Melanie, Micha, Natalia, Nathan,

Omar, Serena Eréndira, Slim, Ulrike

Contents

Acknowledgements

This volume has emerged from a series of ten panels on "Reconceptualizing Security in an Era of Globalization" at the 5th Pan-European Conference on International Relations in The Hague, The Netherlands, 9–11 September 2004, and from two previous workshops at the 45th annual ISA Convention in Montreal, Canada, 17–20 March 2004 and two panels at the 20th IPRA conference in Sopron, Hungary, 5–9 July 2004 were early versions of selected chapters were presented.[1] But most chapters were subsequently commissioned from invited experts from different disciplines and all parts of the world and all submissions were anonymously peer reviewed and subsequently revised by the authors.

Financial contributions for these workshops and for the preparation and production of this book were made by the following donors: the Berghof Foundation for Conflict Research in Berlin, the European Commission and NATO in Brussels, the Netherlands Organisation for Scientific Research (NOW) in The Hague and Springer-Verlag in Heidelberg.

Hans Günter Brauch is grateful to the Berghof Foundation for Conflict Research in Germany, a private scientific foundation, and to the chairman of its Funding Committee, Prof. Dr. Horst Fischer (University Bochum). A foundation grant covered a part of the editorial and production costs of this book. He is especially grateful to the founder of the Berghof Foundation, Prof. Dr. rer. nat. Georg Zundel, a former Professor at the Technical University of Munich. For more than three decades, the Berghof Foundation has funded often unconventional, trans- and multidisciplinary and goal-oriented international research and scientific cooperation.

In his speech, at a meeting of this foundation to honour its sponsor at his 75th birthday on 30 September 2006, Hans Günter Brauch announced this book as a belated intellectual birthday present.[2] However, Prof. Zundel died on 11 March 2007 and thus could not receive this gift anymore. In an obituary the AFES-PRESS board[3] wrote about Prof. Dr. Georg Zundel:

> His impressive personality; his work as a distinguished and concerned natural scientist and as a socially responsible entrepreneur; as a policy-oriented philanthropist interested in peace issues and as a sponsor of independent, innovative and policy-relevant peace research in Germany will be remembered by his admirers, friends and grant recipients.
>
> The work of AFES-PRESS and the publication of the *Hexagon Series on Human and Environmental Security and Peace* was made possible by several grants funded by the Berghof Foundation he established in 1971.
>
> We mourn for a generous human being with extraordinary charisma and are grateful for his persistent support for peace oriented initiatives for international rapprochement and reconciliation, for interdisciplinary cooperation as well as his openness for new and courageous initiatives in applied peace research. We will continue to adhere to his mission and contribute as scientists and concerned citizens to a realization of his scientific and policy goals for a better world adhering to his motto in his memoirs "Much has to be done."

This book is dedicated to the memory of this distinguished natural scientist for his philanthropic work for independent peace research in Germany and Austria.

---

1 The contributions have been documented for the workshop in Montreal at: <http://www.afes-press.de/html/download_isa.html>; for the workshop in Sopron at: <http://www.afes-press.de/html/download_sopron.html> and for the workshop in The Hague at: <http://www.afes-press.de/html/the_ hague_programme.html>.

2 See the text of this speech at: <http://afes-press.de/pdf/Brauch_Zundel_Rede.pdf>.

3 See the text at: <http://afes-press.de/pdf/Zundel_web_dedication.pdf>.

- AFES-PRESS received a financial support under grant SNE-3-CT-1003-503699 from the DG Aerospace and Industry, European Commission to cover the costs of an AFES-PRESS research team consisting of three AFES-PRESS board members from Germany, The Netherlands and Poland, two colleagues from Tunisia and Egypt and four Ph.D. candidates from Germany, France and Italy to participate at three workshops during 2004:
  - at the 45th ISA Convention in Montreal Canada, 17–20 March 2004;
  - at the 20th IPRA Conference in Sopron, Hungary, 5–9 July 2004;
  - at the 5th Pan-European Conference on International Relations, 8–11 September 2004.

  and to start with the review, editorial and production process of the two volumes emerging from these workshops as well as to prepare two workshops in 2005 in Istanbul and Bonn.
- AFES-PRESS appreciates a subsidy from NATO contributing to a realization of the workshop in The Hague enabling the participation of seven colleagues from NATO Mediterranean dialogue countries (Algeria, Egypt, Israel, Jordan, Tunisia, Turkey) and also from Palestine. Hans Günter Brauch would like to thank Dr. Nicola de Santis from the Public Diplomacy Division at the NATO Secretariat for his assistance and support. The NATO grant also contributed to the production costs of this book and of its index.
- Prof. Dr. John Grin would like to thank the Netherlands Organization for Scientific Research (NOW) in The Hague that covered the travel costs of two participants and co-editors from Mexico and India for the third workshop in The Hague.
- The editors of this book would like to thank their institutions for permitting to use a part of their time and their infrastructure for the realization of this project:
- *PD Dr. Hans Günter Brauch* would like to thank AFES-PRESS and Úrsula Oswald Spring for her good cooperation, scientific advice, friendship, encouragement and support, Czeslaw Mesjasz and John Grin for their good advice, friendship and full support during several difficult decisions and all co-editors for their devotion and hard work as reviewers and contributors. Without such a fine global multidisciplinary team this volume would not have been possible.
- *Prof. Dr. Úrsula Oswald Spring* is grateful to the Centre for Regional Multidisciplinary Studies (CRIM) and the National University of Mexico (UNAM), for permitting her to allocate a part of her research time to this project and to allow her three extensive stays in Germany to collaborate with the lead editor. As the first MunichRE chair on Social Vulnerability at UNU-EHS she appreciates the support of UNU-EHS in Bonn and of the MunichRe Foundation. Finally, she wants to thank AFES-PRESS for permitting her to use its research library and office facilities during her stay in Europe in the summers of 2005, 2006 and 2007 and for the intellectually stimulating professional discussions with Hans Günter Brauch.
- *Prof. Dr. Czeslaw Mesjasz* would like to thank Lidia for her patience and support and Hans Guenter Brauch for his compassion, hard work, inspiration and friendship.
- *Prof. Dr. John Grin* wishes to thank his fellow editors, especially Hans Günter Brauch, who pairs incredible energy to patience and understanding. He owes his assistant Amy-Jane Gielen for relieving him of many other duties, thus being able to spend time on this volume, and his family for adding the sort of duties which keep one in healthy balance.
- *Dr. Pàl Dunay* would like to thank his spouse Andrea for her unceasing patience and also his colleagues at the Hungarian Institute of International Affairs.
- *Prof. Navnita Chadha Behera* would like to thank Hans Guenter for his encouragement and hard work, to all co-editors for good cooperation and to Ajay and her daughter Ananya for their unfailing support and patience.

- *Prof. Dr. Patricia Kameri-Mbote* would like to thank her husband John Mbote for his unwavering support, patience and friendship. Hans Guenter for spurring team spirit and getting work done.

Springer-Verlag contributed to the costs of the layout and to the production of the index. Hans Günter Brauch would like to thank Dr. Christian Witschel, the chief editor of Geosciences with Springer-Verlag, for his support of this project and for his patience with an international team and Ms. Christine Adolph, the producer of this book within Springer-Verlag, for her efficient coordination and implementation of this project, as well as the many other unnamed persons with Springer-Verlag for their devotion to this publication.

All editorial decisions were made by the editors in their personal capacity only. The funders had no influence on the themes of this book and on the views expressed by its authors. None of the authors and editors has and will receive any personal remuneration from this collaborative research project. Any income will be used by AFES-PRESS, a non-profit scientific society under German law, in consultation with the co-editors, solely for future projects to further global scientific cooperation including a planned new bookaid project for Third World Libraries.[4]

All editors are grateful to Thomas Bast, who in his quiet and efficient way, acted as the webmaster for the workshops in Montreal, Sopron and The Hague, and produced several versions of the proofs, the whole layout as well as the index.

The editors and the producer would like to thank Ms. Patrizia Kummer, director of D.T.u.L. GmbH in Fellbach near Stuttgart, for permitting the producer to use the infrastructure of her company for this book selflessly. This support has greatly facilitated the work of the producer.

The editors are grateful to Ronald Lappin, the International Programme Director of *Gute Buecher fuer Alle* e.V., in Mosbach (Germany), for his extremely careful language editing. He speaks many languages and thus he could often anticipate what the non-native speakers intended to express, and adapt the language of most non-native speakers to proper British English.

Last but not least, the editors are grateful to the 92 authors, coming from 36 countries and 17 scientific disciplines: from political science (54), philosophy (5), economics (5), military service and studies (5), geography (4), history (3), law (3), physics (2), theology (2), environmental science (2), Chinese, Korean and Japanese studies (2), sociology (1), Latin and Greek (1), engineering (1), electronics (1), bioethics (1) and anthropology (1) for their contributions to this book and for their readiness to reflect the critiques and suggestions of the anonymous reviewers trying to look beyond the boundaries of their respective discipline and expertise.

The editors are grateful to Stavros Dimas (Greece), Commissioner for the Environment in the European Commission, to the former Rector of the University of the United Nations, Prof. Dr. Hans van Ginkel (The Netherlands), and Prof. Dr. Klaus Töpfer (Germany), the former Secretary General of UNEP, for their forewords, and to Ambassador Jonathan Dean (USA), the Hon. Dr. Narcis Serra, the former Vice-president of the Government and

4 See the bookaid project for volume 1 at: <http://www.afes-press-books.de/html/book_aid_ project.htm>.

Secretary of Defence (Spain), and to Dr. Vandana Shiva (India), a recipient of the alternative Nobel Price for their perceptive preface essays.

Mosbach, Cuernavaca, Cracow, Amsterdam, Budapest, New Delhi, Tunis, Nairobi,
Newport in September 2007

Hans Günter Brauch
Úrsula Oswald Spring
Czeslaw Mesjasz
John Grin
Pál Dunay
Navnita Chadha Behera
Béchir Chourou
Patricia Kameri-Mbote
P.H. Liotta

Permissions and Credits

The editors and authors are grateful to the following publishers and authors who granted permission to use partly copy-righted materials:

- The copyright for the aerial photo of Mumbai for the book cover was granted by Mr. Thomas Loster, director of the MunichRe Foundation in Munich.
- The copyright to use the photo of Prof. Dr. Georg Zundel in the dedications was granted by his widow, Ms. Renate Zundel.

In chapter 1, Hans Günter Brauch would like to thank:

- Bjørn Møller (2003) and Úrsula Oswald Spring (2007) for their previous publications that inspired and are reflected in table 1.2.

In chapter 4, Ole Wæver appreciates the permission of the co-editors and the publisher to use parts of a text he wrote for the *Festschrift* for Hakan Wiberg and to develop it further in this chapter:

- Wæver, Ole, 2004: "Peace and Security: two concepts and their relationship", in: Guzzini, Stefano; Jung, Dietrich (Eds.): *Contemporary Security Analysis and Copenhagen Peace Research* (London: Routledge): 53–65.

The new enlarged version is greatly influenced by the unusually penetrating, knowledgeable and inspiring comments from three anonymous reviewers and the series' main editor.

In chapter 6, Indra de Soysa would like to thank the Uppsala University's Department of Peace and Conflict Research and PRIO for permission to use data from the Uppsala-PRIO dataset in figures 6.1., 6.2 and 6.3 as published in:

- Gleditsch, Nils Petter; Wallensteen, Peter; Eriksson, Mikael; Sollenberg, Margareta; Strand, Havard, 2002: "Armed Conflict 1946–2001: A New Dataset", in: *Journal of Peace Research*, 39,5: 615–637.

The map in figure 6.4 is based on:

- ViewConflicts 2.2 developed jointly by the Norwegian University of Science and Technology's Department of Geography and the 'Armed Conflicts' Data Project, a result of cooperation between the Peace Research Institute Oslo (PRIO) and Uppsala University's Department of Peace and Conflict Research

The figures 6.5, 6.6 and 6.7 are based on the WDI CD-Rom of the World Bank that is available as:

- World Bank, 2002: *World Development Indicators*, CD Rom (Washington, DC: World Bank).

All permissions have been granted by the holders of the copyright or are in the public domain.

In chapter 10, Úrsula Oswald Spring acknowledges the permission of EOLSS to develop her own conceptual ideas published in a previous publication further:

- Oswald Spring, Úrsula, 2006a, 2007: "International Security, Peace, Development, and Environment", in: Oswald Spring, Úrsula (Ed.): *Encyclopedia of Life Support System*, vol. 39 (Oxford: Oxford-EOLSS Publisher): available online at: <http://www.eolss.net>.

In chapter 13, Eun-Jeung Lee, is grateful for the permission to reproduce three maps in

- Figure 13.1: Map of the Chou Dynasty. Source: Printed with permission of The Minneapolis Institute of Arts; at: <http://www.artsmia.org/art-of-asia/history/dynastychou.cfm>.
- Figure 13.2: Map of the Sung Empire. Source: Printed with permission of The Minneapolis Institute of Arts; at: <http://www.artsmia.org/art-of-asia/history/north-sung-dynasty-map.cfm>.
- Figure 13.3: Historic map of Korea (Koryô). Source: Printed with permission of Henny Savenije; at: <http://www.hendrick-hamel.henny-savenije.pe.kr/oldtonew.htm>.

In chapter 14, Mituso and Tamayo Okamoto are grateful to the Ittetsu Morishita Art Studio for permission to use in figure 14.1 a photo by Yoshito Matsushige.

In chapter 15, Naresh Dadhich would like to thank for permission to reproduce figure 15.1:

- Figure 15.1: Chanakya: Also known as Kautilya, the Writer of Artha-Shastra, the first known treatise on the government and economy in the 3rd Century B.C. Source: <http://www.kamat.com/kalranga/ancient/3335.htm>. Permission to reprint this image has been granted by Vikas Kamat on 15 September 2007; see at: <www.kamat.com>.

The two photos of Gandhi are in the public domain according to South African and Indian copyright law:

- Figure 15.2: Gandhi dressed as a satyagraphi (non-violent activist) in 1913. Source: at: <http://commons.wikimedia.org/wiki/Image:Gandhi_satyagrahi.jpg>. A South African work that is in the public domain in South Africa according to this rule is in the public domain in the U.S. only if it was in the public domain in South Africa in 1996.
- Figure 15.3: A photo of Gandhi taken in London at the request of Lord Irwin in 1931. Source: at: <http://commons.wikimedia.org/wiki/Image:Gandhi_studio_1931.jpg>. The photographer is unknown and the photo is more than 70 years old. According to the Bern Convention and the law of most countries, this photo is in the public domain.

In chapter 22, Hans Günter Brauch acknowledges that the figures 22.1.-22.3 were developed further based on previous figures by Zürn, by Leibfried/Zürn and by Oswald. He is grateful to these three authors for their inspiration and draft figures in German and English.

- Figure 22.1: Security tasks and threats for the state and society. Source: Developed further based on Zürn (1998: 99).
- Figure 22.2: Changes of the democratic, judicial, and intervention state during the transformation from a national to a post-national constellation, and its relevance for security. Source: Adapted and modified based on Leibfried/Zürn 2005: 39.
- Figure 22.3: Expanded concepts of Security. Sources: Møller (2003); Oswald (2001, 2007).

In chapter 26, Úrsula Oswald Spring, acknowledges the permission of the copyright holders to reproduce the following tables and figures:

- Table 26.1: Oil reserves, production and consumption in the world (data for 2004). Source: Z Magazine; at: <http://www.scaruffi.com/politics/oil.html>. The permission has been granted by Michael Albert of Z Magazine.
- Table 26.2: Social Gap in Mexico. Source: INEGI (2004) and Bank of Mexico (2004). This is in the public domain in Mexico.

- Table 26.3: Bank Savings in Mexico. Source: Bank of Mexico (2004). This is in the public domain in Mexico.
- Figure 26.1: Well-being by Regions (Growth of regional GDP from 1820 to 1998). Source: OECD 2005; at: <www.oecd.org/dataoecd/34/6/34711139.pdf>. Reproduction of OECD materials is granted free of charge for a maximum of 2 tables or graphs.
- Figure 26.2: Most important problems in LA. What do you consider to be the country's most important problem? Percentage of respondents in 2004. Source: Latinobarómetro (2004). This is globally in the public domain.
- Figure 26.3: Evolution of Poverty in Latin America (million of persons). Source: CEPAL (2004). This is globally in the public domain.
- Figure 26.4: Undernourished Population in LA and the Caribbean: 1998–2000. Source: CEPAL (2004), estimation by CEPAL based on FAO data. This is globally in the public domain.
- Figure 26.5: Poverty and support of women. Poverty at the household level with men and women working (in per cent). Source: CEPAL (2004), Unity or Women and Development. This is globally in the public domain.
- Figure 26.6: Total work, paid and unpaid labour by gender and urban-rural differences. Source: CEPAL (2004), Unity or Women and Development. This is globally in the public domain.
- Figure 26.7: Leading global risk factors and contributions to the burden of disease (per cent of disability-adjusted life years lost). Source: United System Standing Committee on Nutrition/ The Lancet (2006). The permission has been granted.
- Figure 26.8: Confidence in Institutions in Latin America (in per cent). Source: Latinobarómetro (2005). This is globally in the public domain.
- Figure 26.9: Satisfaction with the government and democracy. Question: How satisfied are you with the way democracy works in your country? (per cent responding 'not very satisfied' and 'not at all satisfied'). Source: Latinobarómetro (2005). This is globally in the public domain.
- Figure 26.10: Mexican Migrants to the U.S. from 1990 to 2003 (in 1000 persons). Source: U.S. Census Bureau (2005) drafted by Fernando Lozano at CRIM/UNAM. The permission has been granted by the colleague at CRIM/UNAM.

In Chapter 32, Arlene B. Tickner and Ann C. Mason acknowledge the permission of the copyright holder to reproduce:

- Figure 32.1: Transparency International Corruption Perceptions Index 2005. May 2005. Source: <http://ww1.transparency.org/cpi/2005/cpi2005_infocus.html#worldmap>. Prof. Dr J. Graf Lambsdorff of the University of Passau produced the CPI table. See: <www.transparency.org/surveys/#cpi> or: <www.icgg.org>. The permission was granted by Email on 30 May 2006 by Marie Wolkers, Senior Research Coordinator, Transparency International - International Secretariat, Berlin.

In chapter 33, Jacek Kugler is grateful to the Strategic Decisions Group (2002) that inspired:

- Figure 33.1: Prediction Politics. Source: Adapted from Strategic Decisions Group (2002).

In chapter 38, Ulrich Albrecht and Hans Günter Brauch are grateful to Ole Waever for permission to reproduce the following two tables:

- Table 38.2: Elements of the Three European Schools in Security Theory. Source: Wæver 2004: 13.
- Table 38.3: Reconceptualizing of Security in the US, Europe, and the Rest of the World. Source: Adapted from and inspired by Wæver 2004: 16,

In chapter 40, Hans Günter Brauch appreciates the permission of Ben Wisner and the co-authors of the "Policy Memorandum on Climate Change and Human Security" of 15 April 2007 for permission to use material from this collaborative study to which he contributed:

- Table 40.1: "Matrix of Possible Climate Change and Security Interactions over Time", in: Wisner, Ben; Fordham, Maureen; Kelman, Ilan; Johnston, Barbara Rose; Simon, David; Lavell, Allan; Brauch, Hans Günter; Oswald Spring, Ursula; Wilches-Chaux, Gustavo; Moench, Marcus; Weiner, Daniel, 2007: P*olicy Memorandum by Scientists regarding the UN Security Council's first discussion on Climate Change: Climate Change and Human Security*, 15 April 2007; at: <http://www.afes-press.de/pdf/ClimateChange_and_HumanSe-curity.pdf>.
- For the full text and the affiliations of all eleven co-authors, see at: <http://www.afes-press.de/pdf/ClimateChange_and_HumanSecurity.pdf>.

In chapter 44, Ole Wæver appreciates the permission of Lynne Rienner Publishers to base this chapter on a much abbreviated version of a chapter in: Wæver/Buzan/de Wilde 2008. For meticulous work on the references the author is grateful to Simon Sylvest Wæver. The novel parts of the present chapter compared to the one in Waever/Buzan/de Wilde 2008 are mostly due to the proficient prodding by the lead editor and an anonymous referee.

In chapter 45, Jaap de Wilde is grateful to Lynne Rienner Publishers for permission to use figure 45.1 that is based on Buzan/Wæver/de Wilde (1998) and on Wæver/Buzan/de Wilde (2008).

In chapter 60, Mustafa Aydin – Neslihan Kaptanoglu acknowledge the permission of the copyright holders to use the following three maps:

- Figure 60.1: Borders of the former Soviet Union of 1989 and of the Russian Federation and its Near Abroad. Source: University of Texas, Perry-Castañeda Library Map Collection; at: <http://www.lib.utexas.edu/maps/commonwealth/soviet_union_admin_1989.jpg>. This map is in the public domain.
- Figure 60.2: Geography of the Broader Middle East and North Africa (BMENA) Region. Source: Wikipedia: "Middle East"; at: <http://en.wikipedia.org/wiki/Middle_East>. This map is in the public domain.
- Figure 60.3: European Neighbourhood Policy. Source: Marchetti (2006: 21). Permission was granted on 17 September 2007 by Andreas Marchetti, Center for European Integration Studies (ZEI), Bonn.

In chapter 61, Bechir Chourou would like to thank the following copyright holders for their permission to use the following tables and maps:

- Table 61.1: Direct and indirect threats to human security. Source: Bajpai (2000: 40).
- Table 61.2: Selected social and economic indicators for the Arab world. Source: UNDP (2005) is in the public domain.
- Table 61.3: Comparative Human Development Indicators. Source: UNDP (2005) is in the public domain.
- Table 61.4: Top World Oil Net Exporters, 2005* *(OPEC members in italics)*. Source: U.S. Energy Information Administration: in: *Annual Energy Review 2006* is in the public domain; at: <http://www.eia.doe.gov/emeu/aer/pdf/pages/sec11_20.pdf>.

- Table 61.5: Top World Oil Producers, 2005 *(OPEC members in italics)*. Source: U.S. Energy Information Administration: in: *Annual Energy Review 2006* is in the public domain; at: <http://www.eia.doe.gov/emeu/aer/pdf/pages/sec11_20.pdf>.
- Figure 61.1: Crude Oil Reserves (1 January 2005). Source: U.S. Energy Information Administration: in: *Annual Energy Review 2006* is in the public domain; based on *Oil and Gas Journal*, p. 324; at: <http://www.eia.doe.gov/emeu/aer/pdf/pages/sec11_8.pdf>.
- Figure 61.2: Natural Gas Reserves (1 January 2005). Source: U.S. Energy Information Administration: in: *Annual Energy Review 2006* is in the public domain; based on *Oil and Gas Journal*, at: <http:// www.eia.doe.gov/emeu/aer/pdf/pages/sec11_8.pdf>.
- Figure 61.3: Oil Production and Consumption. National and regional figures refer to consumption. Source: *BP Statistical Review of World Energy June 2006*; at: <http://www.bp.com/statisticalreview>. Permission to use the material was granted by BP.
- Figure 61.4: Major oil consumers. Source: *BP Statistical Review of World Energy June 2006*; at: <http://www.bp.com/statisticalreview>. Permission to use the material was granted by BP.
- Figure 61.5: U.S. Oil Imports by Source. Source: *BP Statistical Review of World Energy June 2006*; at: <http://www.bp.com/statisticalreview>. Permission to use the material was granted by BP.
- Figure 61.6: The Middle East 1914. Source: © Philippe Rekacewicz, *Le Monde Diplomatique*, August 1992; at: <http://mondediplo.com/maps/IMG/arton2057.jpg>. Permission has been obtained from the copyright holder
- Figure 61.7: Sykes-Picot Agreement of 1916. Source: Passia, Palestinian Maps; at: <http://www.passia.org/palestine_facts/MAPS/1916-sykes-picot-agreement.html>. Permission has been obtained.
- Figure 61.8: Middle East in 1939. Source: © Philippe Rekacewicz, *Le Monde Diplomatique*, August 1992; at : <http://mondediplo.com/maps/IMG/arton2058.jpg>. Permission has been obtained from copyright holder.
- Figure 61.9: Middle East and North Africa in 1995. Source: University of Texas at Austin, Perry-Castañeda Library Map Collection. This map is in the public domain; at: <http://www.lib.utexas.edu/maps/middle_east_and_asia/n_africa_mid_east_pol_95.jpg>.

In chapter 62, U. Joy Ogwu is grateful for the permission by the Sahel and West Africa Club of OECD to reproduce the following two maps of ECOWAS countries:

- Figure 62.1: Map on the regional institutions in West Africa, produced by the Sahel and West Africa Club (2006). Source: Sahel and West Africa Club (2006); at: <http://www.oecd.org/dataoecd/6/55/38506469.pdf>. Reproduction of OECD materials is granted free of charge for a maximum of 2 tables or graphs.
- Figure 62.2: Population density in West Africa in 2005. Source: Sahel and West Africa Club (2006); at: <http://www.oecd.org/dataoecd/7/32/38506458.pdf>. Reproduction of OECD materials is granted free of charge for a maximum of 2 tables or graphs.

In chapter 63, Martin R. Rupiya and Alfred G. Nhema are grateful to the copyright holders for their permission to include the following maps:

- Figure 63.1: A working definition of the Horn of Africa for this chapter. Source: <http://www.igad.org/>. Responsible is: IGAD Secretariat, Avenue Georges Clemenceau P.O. Box 2653 Djibouti, Republic of Djibouti. The map is not copyright protected.

- Figure 63.2: Eritrea and Ethiopia. Source: International Boundaries Research Unit, Durham University <www.dur.ac.uk/ibru>. Permission was granted on 22 March 2007 by Martin Pratt, Director of Research, International Boundaries Research Unit, Department of Geography, Durham University, Durham DH1 3LE, United Kingdom.

In chapter 65, Navnita Chadha Behera appreciates the permission of the United Nations Cartographic Section to reproduce as

- Figure 65.1: Map of South Asia. Source**:** The United Nations Cartographic Section, South Asia. 2007: <www.un.org/Depts/Cartographic/map/profile/seasia.pdf>. The permission has been granted by the UN Cartographic Service by Email on 17 September by Mr. Vladimir Bessarabov.

In chapter 66, Eun-Jeung Lee is grateful to The University of Texas at Austin and to SIPRI in Stockholm for using the following material in:

- Figure 66.1: Map of East Asia. Source: Perry-Castañeda LibraryMap Collection, The University of Texas at Austin, at: <http://www.lib.utexas.edu/maps/asia.html>. The map is in the public domain and does not require a copyright permission.
- Table 66.2: Military Expenditure of East Asian Countries (1989–2004) in constant US$ equivalents for 2004. Source: SIPRI 1990–2005; at: <http://first.sipri.org/non_first/result_milex.php?send>. The data are published with permission of © SIPRI.
- Table 66.3: Military Expenditure of East Asian Countries (1989–2004) as percentage of GDP. Source: SIPRI 1990–2005; at: <http://first.sipri.org/non _first/result_milex.php?send>. The data are published with permission of © SIPRI.

In chapter 67, Alan Hunter and Liu Cheng are grateful for the permission to use copyrighted material:

- Figure 67.1: Map of China. Source: <http://www.lib.utexas.edu/maps/middle_east_and_ asia/china_pol01.jpg>; © University of Texas, Library; this map is in the public domain; for copyright details see at: <http://www.lib.utexas.edu/maps >.
- Figure 67.2: China's oil use growth since 1980 and projection until 2020. Source: Sinton/Stern/Aden/Levin 2005: 5. Reprinted with permission by the copyright holder. Additional sources are listed in the original.
- Table 67.6: Summarized Table of Natural Disasters in the People's Republic of China from 1906 to 2006. Source: EM-DAT: The OFDA/CRED International Disaster Database, <www.em-dat.net> - Université Catholique de Louvain - Brussels – Belgium; created on 9 May 2006. Permission was granted on 11 May 2007 by Prof. Guha-Sapir, director of CRED. Permission was granted by Nathaniel Aden on 14 August 2006.

In chapter 68, Kevin P. Clements and Wendy L. Foley are grateful for permission for:

- Figure 68.1: Map of the Pacific Region. Source: © Marney Brosnan, University of Canterbury, Department of Geography, reproduced with the permission of the copyright holder.

In chapter 69, Francisco Rojas Aravena, has used two maps that are in the public domain:

- Figure 69.1: Map of Central America and the Caribbean. Source: Permission granted by University of Texas Library, Austin; this map is in public domain and not copyrighted; <http://www.lib.utexas.edu/maps/americas/central_america_ref02.jpg>.
- Figure 69.2: Map of South America. Source: Permission granted by University of Texas Library, Austin; this map is in public domain and not copyrighted; download at: <http://www.lib.utexas.edu/maps/americas/south_america_ref04.jpg>.

Chapter 70 by P.H. Liotta and James F. Miskel relies on earlier discussions by Liotta (2002, 2005) in different contributions to Security Dialogue. The permission to use this material has been granted by SAGE and by the editor of this Journal.

In chapter 72, Heinz-Dieter Jopp and Roland Kaestner acknowledge the permission of the copyright holders to use the following maps:

- Figure 72.2: Current Population Density. Source: CIESIN, Columbia University Permission was obtained by the copyright holder who recommended the following for citing the GPWv3 and GRUMP data products:
  - *Gridded Population of the World*, version 3 (GPWv3): Center for International Earth Science Information Network (CIESIN), Columbia University; and Centro Internacional de Agricultura Tropical (CIAT). 2005. Gridded Population of the World Version 3 (GPWv3). Palisades, NY: Socioeconomic Data and Applications Center (SEDAC), Columbia University. Available at <http://sedac.ciesin.columbia.edu/g pw>. (date of download).
  - *Population Grids*: Center for International Earth Science Information Network (CIESIN), Columbia University; and Centro Internacional de Agricultura Tropical (CIAT). 2005. Gridded Population of the World Version 3 (GPWv3): Population Grids. Palisades, NY: Socioeconomic Data and Applications Center (SEDAC), Columbia University. Available at <http://sedac.ciesin.columbia.edu/gpw> (date of download).
  - *Population Density Grids*: Center for International Earth Science Information Network (CIESIN), Columbia University; and Centro Internacional de Agricultura Tropical (CIAT). 2005. Gridded Population of the World Version 3 (GPWv3): Population Density Grids. Palisades, NY: Socioeconomic Data and Applications Center (SEDAC), Columbia University. Available at: <http://sedac.ciesin. columbia.edu/gpw>. (date of download).
- Figure 72.4: Geographic Distribution of the Warming Process. Source: IPCC 207: 253, IPCC Synthesis Report, Habiba Gitay, Slide 4. Written permission of the copyright holder to reprint this map has been received.
- Figure 72.5: Potential Drought Zones 2040–2070. Source: Hadley Centre. Written permission from the copyright holder was obtained.
- Figure 72.6: Major Agriculturally Utilized Areas. Source: Millennium Ecosystem Assessment. Written permission of the copyright holder was obtained.
- Figure 72.7: Population Density 2004, Urban Centres, Tropical Cyclones, and Regions with First-time Occurrence of Tropical Cyclones. Source: WBGU – German Advisory Council on Global Change (2008), *World in Transition – Climate Change as a Security Risk*, Earthscan, London (forthcoming). Written permission of the copyright holder to publish this figure was obtained.
- Figure 72.8: Natural Disasters since 1900. Source: EM-DAT: The OFDA/CRED International Disaster Database - <www.em-dat.net> - Université Catholique de Louvain - Brussels – Belgium, 2007; WBGU – German Advisory Council on Global Change (2008), *World in Transition – Climate Change as a Security Risk*, Earthscan, London (forthcoming). Written permission of copyright holder was obtained from Mr. Benno Pilardeaux.
- Figure 72.9: Geographic Distribution of Drought, Water Shortages, and Tropical Cyclones. Source: Millennium Ecosystem Assessment. Written permission of copyright holder was obtained.

In chapter 74, G.A. Mc Bean is grateful for permission to use statistical material in

- Table 74.1: Trigger events of natural disasters based on EM-Dat and MunichRe analyses. Sources: EM-DAT: *The OFDA/CRED International Disaster Database* (Louvain: Université Catholique de Louvain); MunichRe 2006: 2; at: <www.munichre.com>. These data are in the public domain and all sources have been provided.

Prefaces

Rethinking Security in the New Century – Return to the Grotean Pattern

Jonathan Dean

Responding to 1989: Towards Cooperative Security

The main business of human society is to safeguard the life of its members. This rich and fascinating volume surveys the many ways of protecting humankind against the threats to human life in today's world – armed conflict in all its forms, inhumane treatment, disease, natural catastrophe, the consequences of man-made environmental degradation, and scarcity of food, water and health care. The emphasis of the book is on the years since the end of the Cold War in 1989-90, and on the challenges to security, old and new, with a special focus on environmental and human security, which have arisen in that period.

As we will describe further, a pattern of transatlantic cooperation among governments and civil society groups to cope with security challenges began to emerge in Europe after the Napoleonic Wars. With important exceptions, this pattern continued in the nineteenth and twentieth centuries and into the post-cold war period. This trend confirmed Grotius' analysis of the human condition – the global nature of human society, its solidarity in agreeing on rules and new forms of cooperation to meet challenges to human life, and its emphasis on the importance of individuals and groups as well as of states, which – despite devolution of their powers to supra- and sub-national entities – remain the main units of the international system.

The events of the years since 1989-90 have in general shown a worldwide trend of cooperation in dealing with man- and nature-made crises. They have largely repudiated the Hobbesian use-of-force approach. At the same time, they have provided renewed evidence that the world is not ready for a central governmental authority. Although efforts to control war showed some improvement in this period, attempts to deal with human-caused environmental degradation made little progress in blocking a process which in time may make this planet uninhabitable for human population. Rapid increase of that population is one cause of the problem.

New Security Challenges: Unilateral American Responses

The major events of the years since 1989-90 included a worldwide cooperative effort in the 1991 Gulf War to repulse the Iraqi invasion of Kuwait. The widespread terrorist attacks on Western and other targets from the early 1990's to the present have failed to bring the popular uprisings in the Muslim states in support of the fundamentalist cause hoped for by terrorist leaders. However, they did elicit worldwide anti-terrorist cooperation of police, intelligence, and finance control, and the beginnings of cooperative efforts to deal with some of the underlying causes of terrorism. Fears of terrorist use of WMD remain widespread, although in fact the main terrorist weapon has remained conventional high explosives.

The U.S. military action in Afghanistan following the 9/11 attacks on New York and Washington, although deliberately unilateral and refusing many offers of help, was quite widely supported in world opinion. However, the U.S.-UK military action against Iraq in March 2003 broke radically with the pattern of cooperative engagement of previous U.S. administrations. It showed the costly effects of a go-it-alone policy, including inability to use the international institutions – UN weapons inspection and the Security Council – which might have neutralized the

Iraqi regime. The consequence was U.S. inability to elicit more than token military, political, and economic cooperation in dealing with Iraq, capped by unwillingness of the Bush administration to devote the military and economic resources needed to cope with the task in Iraq. This outcome clearly showed the limits of U.S. 'super-power' and the unambiguous need for a cooperative approach.

Grotius on Preventive Attack

It is interesting to recall that wide international disapproval of the Bush administration's doctrine of preventive attack had been foreshadowed by Hugo Grotius (1625), when he said "to maintain that the bare probability of some remote or future annoyance from a neighbouring state affords a just grounds of hostile aggression, is a doctrine repugnant to every principle of equity." (*On the Law of War and Peace*, Book II, Chapter I, para. XVII).[1] Pointing to the crucial difficulty of obtaining accurate intelligence about an adversary's intentions, Grotius points out that action in self-defence is not justified "unless we are certain, not only regarding the power of our neighbour, but also regarding his intention." (Book II, Chapter 22, para. IV).

Natural Disasters of 2004/2005 and Cooperative Security Responses

Natural catastrophes in the form of the December 2004 Tsunami in the Indian Ocean, equally devastating hurricanes in the Gulf of Mexico in late summer 2005, and a huge earthquake in Kashmir and Northern Pakistan in October of 2005 brought cooperative efforts to temper the disasters. There was during 2005 worthwhile cooperation between the U.S. government, WHO, the EU, and Asian governments in preparing defences against the avian flu. After long delays in each case, the United States joined Japan, South Korea, Russia and China in negotiating to curb the nuclear capabilities of North Korea, and with the UK, France and Germany in seeking to prevent development of nuclear weapons by Iran.

But the devastation of New Orleans and the Gulf Coast revealed the existence of an underprivileged underclass, while in November 2005, youth riots in Muslim suburbs of French cities suddenly exploded out of years of low social regard and extremely limited job and career opportunities and could portend serious confrontations ahead.

Two Hundred Years of Cooperative Security

I have mentioned the emergence of cooperative efforts to control war in the Napoleonic period. Two hundred years ago, as the Napoleonic wars were bringing casualties of millions and huge political disruption, a new phenomenon emerged in the history of war. It consisted of two components. The first was establishment of multinational public peace societies proposing a wide range of institutions for avoiding or controlling war, like compulsory arbitration by a neutral international umpire and agreed limitation of arms.

Often in history there has been intense public opposition to specific wars, for example, the opposition in Russia to continuing World War I which led to the Bolshevik Revolution, and the opposition to the Vietnam War in the United States and elsewhere. But what happened in the early nineteenth century after acceptance of war over millennia as desirable or at least as a given component of human history, was the emergence of organizations which categorically opposed war as such. The names and dates of the new organizations in the U.S. and UK were significant: *The Massachusetts Peace Society* (1814), the *New York Peace Society* (1815), the *London Peace Society* (1816), and the *American Peace Society* (1828). These associations agitated for peace and against war through public meetings, pamphlets and tracts, and by lobbying with governments. From the outset, and throughout the nineteenth century, these associations collaborated with organizations in the United States on the one hand and organizations in Great Britain, France, Belgium and Germany on the other, forming a transatlantic community of peace interests. The Western European peace associations were from the outset sceptical of the efforts to achieve categorical rejection of war energetically pursued by the Americans, preferring to promote specific measures to avoid or limit war.

1 See: Grotius (1625, 1975, 1990) for free download at: http://www.geocities.com/Athens/Thebes/8098/; on Grotius: Bull/ Kingsbury/Roberts (1992); Edwards (1981), Onuma (2001), Tuck (2001, 2005).

Cooperative Security since the Vienna Final Act of 1815

The second component was the radical innovations of ongoing cooperation among the victors in war, in this case the victors over Napoleon, to maintain the peace. A large part of the credit for this change was due to far-sighted British policy. Prime Minister William Pitt the Younger began to plan the post-war peacekeeping structure in the 1790's. British cash was used to pay off the other main victors over Napoleon – the governments of Austria, Prussia, and Russia – to keep them engaged in the peace process. The four governments formed the Quadripartite Alliance and negotiated the 1815 Vienna Final Act setting forth the terms of the European peace settlement. The British urged that representatives of the four victorious powers meet periodically to discuss and decide on issues arising from the implementation of the Vienna Final Act and to ensure the peace of Europe. To keep a friendly eye on France and to engage French resources in the post-war settlement, France was later admitted to the Quadripartite Alliance, much as defeated Federal Germany was admitted to the NATO alliance over a century later. Continuing Pitt's far-sighted cooperative approach to security, British Foreign Secretary Canning extended to the Western hemisphere a prohibition against territorial acquisition by European states. Cooperation between the British Navy and a much weaker U.S. Navy created a transatlantic zone of peace.[2]

Over the years, European and American peace associations and governments collaborated in a series of agreements limiting war, like the 1856 Paris Declaration Respecting Maritime Law, the first Geneva Convention (1864) and the agreements at the first and second Hague Peace Conferences. The Concert of Europe lasted only until 1822 in its full form, but for many years peacetime coordination by ambassadors and senior officials continued and reached many agreements. The important innovation of ongoing peacetime coordination of international security by the victors in war was replicated and expanded by the victors in World War I and World War II in the form of the League of Nations and of the United Nations.

As we have seen, by the middle of the nineteenth century, Western – i.e. American, British and Western European – governments and public associations were nagged in close dialogue, exchange of ideas, and in intermittent collaboration on preventing and controlling war and were establishing institutions and treaties to this end. In fact, a rudimentary global security system was emerging through this transatlantic collaboration.

This collaboration continued throughout the nineteenth century. And, in fact, despite, or because of, the failure of World War I and of World War II, it continued through the twentieth century.

This is not the place to attempt to describe the reasons why, after thousands of years of warfare throughout human history, a revolutionary change in public and also governmental attitudes toward war began to emerge in the early nineteenth century, but at least some of the underlying causes for this radical change seem evident. They include: (1) technological weapon innovation and the mounting carnage, destruction, and cost of war; (2) modern communications and media, which rapidly brought news of military events to publics as well as government officials; (3) social factors, including rising levels of income and education after the Industrial Revolution – this broadened the intellectual horizons of governmental officials and encouraged participation of publics in issues of war and peace; (4) changing, shared values of government officials and publics. These included the emergence of the Grotean idea of a known planet occupied by members of a single species. Finally, (5) the growth of democratic governments and institutions enhanced the influence of the electorate on security and other issues, and the openness of governments to public opinion. Growing understanding and cooperation in the especially difficult area of controlling war and armed conflict was accompanied by the growth of a habit of international cooperation in coping with natural disasters.

Shift from Cooperative to Unilateral Security Policy?

The trend toward global cooperation in a wide variety of areas was continued after the end of the Cold War by skilful diplomacy in the administration of George H.W. Bush, with the unification of Germany and the dissolution of the Soviet Union and the first Gulf War. But the trend toward increasing international cooperation was then sharply broken by the second Bush administration, intoxicated by its situation as the sole superpower, and determined to wield its power without the limitations imposed by allies.

To find the reasons for this sharp break in U.S. policy, we have to go back to the foundation of the

2 See e.g.: Holsti 1991; Kissinger 1994; Osiander 1994.

United States in revolution against established power, its population by political refugees of all kinds, and to the growth of the concept that the United States were especially favoured by divine providence in its institutions and values. At the outset of the twentieth century, a large (25 per cent) component of the American electorate was characterized by attitudes of suspicion and superiority to the outside world and a desire to be isolated from it. But for over 75 years, from World War I to the end of the Cold War, public manifestation of the isolationist position in the U.S. was considered unpatriotic and suppressed through public disapproval. During this period, the reality of the outside world and of American military power became evident to all, including the isolationists. The end of the Cold War removed the pressure of public disapproval and abruptly released the pent-up forces of American isolationism in the transmuted form of heavily armed, highly nationalistic unilateralism, which captured control of the Congress in 1994 and of the presidency in 2000.

Returning to the Cooperative Tradition of Security Policy

Policy errors, military reverses, denial of cooperation by foreign governments, and the growing disaffection of the American electorate have tempered some of the hubristic excesses of the administration of George W. Bush. The chances are good that after one or two congressional election cycles and a presidential election, the United States will rejoin its own cooperative tradition of the past century and that the trend toward a cooperative world security system will be resumed, with greater U.S.-European collaboration at the UN, in controlling armed violence, and in coping with the environment.

Peace, Development, Ecology and Security
IPRA 40 Years alter Groningen

Úrsula Oswald Spring

Four Objectives: Peace, Development, Ecology and Security

> *We the peoples of the United Nations determined to save succeeding generations from the scourge of war, ... and to reaffirm faith in fundamental human rights, in the dignity and worth of the human person, in the equal rights of men and women and of nations large and small, and to establish conditions under which justice and respect for the obligations arising from treaties and other sources of international law can be obtained, and to promote social progress and better standards of life in larger freedom.*

The preamble of the Charter of the United Nations, signed on 26 June 1945 in San Francisco, foresaw the conceptual tension between "*we the peoples*" as the reference object of the political debate and scientific discourse on 'human security' and the 'states' or 'nations' as the key actors and objects of activities related to 'national' and 'international security'. 'National' vs. 'human security' has been in the centre of the political debate and scientific discourse on 'reconceptualization of security' that has emerged since the various turns in world history in the late 20th century: the end of the Cold War (1989), the implosion of the Soviet Union (1991) that ended the prevailing bipolar structure of global politics where nuclear deterrence, doctrines of mutual assured destruction (MAD) and an intensive arms race determined by fear, uncertainty as well as technological imperatives, and driven by a security dilemma absorbed more than 1,000 billion US dollars annually for a huge militarized global economy with 'baroque' (Kaldor 1982) features.

In Latin America the major turning points have been the end of the military dictatorships, the third wave of democratization in the 1980's, and the 'lost decade' due to the long-lasting economic crises; in East Asia the end of the Maoist period in China and the financial crisis of the 1990's, and in Africa the peaceful transformation of South Africa as well as the progressing failure of the state, and the increase of internal violence dominated by warlords and their criminal allies.

This duality is also reflected in the purposes and principles of the United Nations Charter where Art. 1 stated: "to maintain international peace and security", "to develop friendly relations among nations", "to achieve international cooperation in solving international problems of an economic, social, cultural, or humanitarian character, and in promoting and encouraging respect for human rights and fundamental freedoms for all without distinction as to race, sex, language, or religion". To achieve "international peace and security" have been the guiding principles of the United Nations since 1945, while the "international problems" of development and environment have been added later into the UN agenda with the process of decolonization and national independence, and the concern for environmental challenges since the Stockholm Conference on the Environment in 1972.

This preface essay briefly sketches the contextual changes and the lost utopias of the 20th century, the increasing global development gap leading to new development and security linkages before turning to the fragile democracies in Latin America, with poverty and intensifying social cleavages. The preface then turns to peace research, to the first forty years of the International Peace Research Association (IPRA) and the impact of peace researchers on the peace process in Latin America.

Contextual Changes and Lost Utopias in the 20th Century

During the 20th century, the Mexican Revolution (1910), followed by the October Revolution in Russia (1917), created a socialist utopia with the goal to redistribute political and economic power to peasants and workers. The *Russian Revolution* led by Lenin and later Stalin, divided the world into capitalism and communism. During the Stalinist regime in the Soviet Union, internal repression and purges crushed any criticism. In Europe, the competition for imperial dominance between the German and the Austro-Hungarian Empire, the United Kingdom and France led to the First World War (1914–1918), which changed the global geopolitical order, the political context in Europe and in the colonies. The gradual emergence of two new world powers: the United States and the Soviet Union with competing political, economic and social systems, could not avoid World War II. The alliance between Britain, France and United States on one side, and the Soviet Union on the other, defeated Nazi Germany in 1945. However, the trauma of two devastating wars with 20 million deaths after the First and 50 million deaths after the Second World War left deep wounds.

In order to consolidate world peace, 51 nations founded the United Nations Organization (UNO) with a Security Council which is tasked to respond to threats of peace and to foster peaceful cooperation among and to prevent the emergence of conflicts. But at the summit of Yalta in February 1945, a new division of Europe in two spheres of influence was created that evolved into a bipolar global order with an intensive arms race. The competition between both ideological blocks stimulated the growth of science and technology, especially in the military and aerospace sector. In 1957, the Soviet Union launched 'Sputnik' as an initial step for the conquest of outer space. During the war and post-war period the knowledge in medicine, pharmacy, vaccines against polio, smallpox and measles, and antibiotics grew rapidly.

In 1989, the euphoria after the fall of the Berlin wall and the hope for a less conflictive world was quickly drowned in old and new-armed confrontations. Instead of using the financial resources as a peace dividend for resolving poverty and its consequences, new conflicts and international terrorism gave birth to a new arms build-up primarily by the sole remaining superpower, comprising weapons of mass destruction (WMD).

Today seven countries are recognized nuclear weapons states (US, Russia, UK, France, China, India, Pakistan), one country is assumed to have nuclear weapons (Israel) and a few other countries have been claimed by the US as 'rogue states' trying to acquire such weapons (Iran, North Korea) while no weapons of mass destruction were found in Iraq in 2003, and Libya has given up its ambitions to acquire such weapons.

The conflictive situations in South East and East Asia with the Korean (1950–1953) and the Vietnam War (1963–1975), in the Middle East between Israel and its Arab neighbours as well as between Iraq, Iran and Kuwait (1980–1988, 1990–1991), in Africa and in many countries of Asia (Riegel 2001) have led to a systematic reflection on peace, conflict resolution and non-violence that has lead during the Cold War to the emergence of a value-oriented and critical scientific research programme focusing on peace and conflict research with the goal to overcome this global conflict structure with peaceful change.

Development and Security: The Development Gap

After five decades of development strategies and multiple programmes the North-South gap in terms of GDP has grown, as has the income gap between rich and poor within countries (CEPAL 2004). This gap is especially critical for those countries with high levels of poverty, malnourishment, subsistence crops, raw material exports, and insufficient educational facilities and infrastructure, leading often to failing state institutions in the so-called 'Fourth World' (Nuscheler 1995; Arnsprenger 1999). Old colonial structures have undermined independence through inherited borders dividing people, neo-colonialism and warlords, linked to the personal interest of elites and "belly politics" (Bayart 1993), thus transforming parts of Sub-Sahara Africa into 'failed states' (Tetzlaff 2003). Most industrialized countries have remained indifferent to this human drama that has become even more urgent due to the HIV/AIDS pandemic that has killed millions of people and worsened social and political conditions in many countries (Ngoma/Le Roux in this volume; Poku 2008), thus mortgaging the future socio-economic development of these countries (Horkheimer/Adorno 1947).

In this complex socio-economic and environmental context, new threats for collective and personal security have emerged. They have been further aggra-

vated by global climate change, increase of disasters, chaotic urbanization, unemployment, terrorist acts, organized crime, illegal migration, structural discrimination of women, and violence in families that often led to survival strategies of young people. The coexistence of these phenomena offers scientists and peace researchers a renewed opportunity to rethink the importance of development processes with the goal to improve environmental and human security.

Undoubtedly the development paradigm has become more complex (Küng/Senghaas 2004), but also more similar between developing countries and the poor. It has been homogenized by the process of globalization and characterized by instant world communications (Castells 2002; Habermas 2001a), financial flows (Mesjasz 2003), and increasing trade interdependence (Solis/Diaz/Ángeles 2002), controlled by multinational enterprises (Kaplan 2003; Saxe-Fernandez 2004). Free market ideology, private competition, deregulation and increasing privatization processes and mergers of enterprise (WB, IMF, G-7), linked to a shrinking state intervention, are the new 'growth motors' championed by multinational enterprises and the multilateral organizations of Bretton Woods (World Bank, International Monetary Found), as well as the World Trade Organization.

This economic model of late capitalism (Habermas 1995; Saxe Fernández 2003; Oswald Spring 2004) has concentrated income and wealth but also augmented unemployment, increasingly excluding young and old people from the labour market, and relying on temporary female workers with lower standards. This model has been politically and military supported by a superpower and its allies and the economic elites in developing countries. Military superiority and an increasing homogenized culture based on consumerism and mass media manipulation (Castells 2002) have created four main conflict foci: a) poverty, marginalization and exclusion; b) militarism and physical violence; c) gender, indigenous and minority discrimination; and d) environmental destruction with natural resource depletion.

Fragile Democracies, Poverty, and Income Gap in Latin America

In the 1960's and 1970's, dependency theories emerged from Latin America that have been developed further into a centre-periphery approach by Senghaas (1972) and to a 'structural imperialism' by Galtung (1975). Asia contributed its experiences with non-violence and 'ahimsa' that led first to independence of India and later to peace education. The non-violent movement for racial liberation in the US, inspired by Martin Luther King, provided another input. In the rainbow nation of South Africa, the peaceful transition from Apartheid and repression to democracy was crucial for future peace efforts in Latin America (e.g. in El Salvador, Nicaragua and Guatemala) and in Asia (India, Pakistan and other internal conflicts) during the 1990's. The reconciliation processes between victimizers and victims created models of multidimensional integration and 'Truth Commissions' promoting democratization processes.

Nevertheless, the results of five decades of development are disappointing, with at least two lost decades in Latin America. The increasing concern with poverty, urbanization, and climate change has led the *United Nations Development Programme* (UNDP 1994) to shift the traditional narrow security focus linked to nation states to a new concept, directly related to people, it termed as 'human security' to complement its goal of 'human development'. For UNDP human security focuses on life and dignity instead of military threats, and includes "protection from the threat of disease, hunger, unemployment, crime, social conflict, political repression and environmental hazards" (UNDP 1994: 23).

The Canadian and Norwegian governments have promoted 'human security' as part of a new foreign policy and *Weltanschauung* with a focus on 'freedom from fear' in order "to provide security so individuals can pursue their lives in peace" (Krause 2004). According to the Canadian Foreign Ministry "Lasting security cannot be achieved until people are protected from violent threats to their rights, safety or lives". The threats are posed by interstate and intrastate conflicts, crimes, domestic violence, terrorism, small arms, inhumane weapons and antipersonnel landmines, which requires a strict application of the rule of law with transparent national, regional and local judicial courts and mechanisms, the fulfilment of human rights law and education, including good governance, democracy, respecting minorities and conflict prevention (Dedring in this volume).

The Japanese approach has focused on 'freedom from want' and it "comprehensively covers all menaces that threaten human survival, daily life, and dignity ... and strengthens efforts to confront these threats", such as diseases, poverty, financial crises, hunger, unemployment, crime, social conflict, political repression, land degradation, deforestation, environmental hazards, population growth, migration, ter-

rorism, drug production and trafficking. At the initiative of Japan a *Commission on Human Security* (CHS) was established in 2001 promoting public understanding, engagement, and support for human security; developing the concept as an operational tool for policy formulation and implementation, and proposing concrete programmes to address critical threats. *Human Security Now* (CHS 2003) supports the Millennium Development Goals within a people-centred security framework, by offering 2.8 billion persons a prospect for a life with dignity that suffer from poverty, bad health, illiteracy, and violence (Shinoda 2008).

With regard to Latin America the economic crises and the persistence of poverty – closely related to the neoliberal model adopted by most governments and their elites – has widened the internal income gap, destroyed the middle class, and reduced the job prospects for most young people. The euphoria with overcoming the military regimes and electing democratic governments collapsed with the increasing crises. In the early 21st century most people seem to prefer an authoritarian government and economic stability over a democratic system of rule (see chapter 26 by Oswald in this volume).

Latin America has the most unequal income distribution in the world, with a concentration of wealth in small elites. Between 1990 and 2002, only five countries improved their economic situation; seven lost and six maintained it (CEPAL 2004). A tendency prevails to concentrate wealth in the upper class, making the middle class and the poor highly vulnerable. Urban and rural women have coped with these crises with their own survival strategies (Oswald 1991). Furthermore, a large number of peasants abandoned their rural livelihood, migrated to urban slums or left illegally for the US.

IPRA 40 Years After Groningen and the Peace Process in Latin America

In 1959, the *Peace Research Institute* in Oslo (PRIO) was founded, and different peace initiatives from the Scandinavian countries have emerged. Their link to women's emancipation movements and the declaration of human rights prepared the soil for a more systematic and international reflection on peace.

In 1962, the *Women's International League for Peace and Freedom* (WILPF) established a Consultative Commission on peace research. The International Peace Research Newsletter (IPR-N) appeared the following year, and a preliminary meeting was held in Switzerland. In 1964 the *International Peace Research Association* (IPRA) was founded in London and in 1964, Bert Röling (1970) organized its first international meeting in Groningen (The Netherlands).[1] Elise Boulding (1992, 2000) and Kenneth Boulding (USA) were among the intellectual pioneers of peace research and of IPRA in the US.

In the 1960's, new peace research institutes were founded in Northern Europe and in the early 1970's in Central Europe. In Sweden in 1966, the Stockholm International Peace Research Institute (SIPRI) was launched by Gunnar and Alva Myrdal. In 1967 in Copenhagen (Denmark) a small private peace research institute emerged that was later replaced by the Copenhagen Peace Research Institute (COPRI) that became in 2003 part of the Danish Institute of International Studies (DIIS), and in 1970 in Finland the Tampere Peace Research Institute (TAPRI) was set up with the support of the Finnish Parliament. Peace and conflict research institutes and programmes were later set up at several other Scandinavian universities, e.g. in Uppsala, Göteborg, Tromsø. Somewhat later, in Germany several peace research institutions were founded.[2]

Since the 1970's, peace research institutes, programmes, units and societies were established in many universities in Europe (e.g. the Swiss Peace Foundation), in North America (), in Mesoamerica (),

1 See: IPRA's history at: http://soc.kuleuven.be/pol/ipra/about/history.html>: Founded in 1964, IPRA developed from a conference organized by the 'Quaker International Conferences and Seminars' in Clarens, Switzerland, 16–20 August 1963. The participants decided to hold international Conferences on Research on International Peace and Security (COROIPAS). Under the leadership of John Burton, the Continuing Committee met in London, 1–3 December 1964. At that time, they took steps to broaden the original concept of holding research conferences. The decision was made to form a professional association with the principal aim of increasing the quantity of research focused on world peace and ensuring its scientific quality. An Executive Committee including Bert V A. Roling, Secretary General (The Netherlands), John Burton (United Kingdom), Ljubivoje Acimovic (Yugoslavia), Jerzy Sawicki (Poland), and Johan Galtung (Norway) was appointed (Galtung 1998). This group was also designated as Nominating Committee for a 15-person Advisory Council to be elected at the first general conference of IPRA, to represent various regions, disciplines, and research interests in developing the work of the Association. See also Kodama (2004) at: <http://soc.kuleuven.be/pol/ipra/downloads/notebook_attachments/IPRApath.pdf>.

in Africa (), and in Asia (Kodama 2004). Later the *International Peace Research Association* (IPRA) was assisted by regional peace research societies, such as the *European Peace Research Association* (EUPRA) and the North American *Consortium on Peace Research, Education and Development* (COPRED) that in 2001 merged with the *Peace Studies Association* (PSA) to become The *Peace and Justice Studies Association* (PJSA), the *Latin American Council on Peace Research* (CLAIP), the *Asia-Pacific Peace Research Association* (APPRA) as well as the *African Peace Research Association* (AFPREA). In 1974, IPRA organized its first International Peace Research Association (IPRA): congress in Varanasi (India), in 1977 in Oaxtepec (Mexico), in 1988 in Rio de Janeiro (Brazil), and in 1998 in Durban (South Africa), thus gradually overcoming its original basis in OECD and in Socialist countries, learning from the South on issues like nonviolence, conflict resolution, and conciliation processes with Truth Commissions. During the 1970's, peace educators joined peace researchers in IPRA and in the 1980's, peace movements generated a third pillar of the organization.

After 42 years, the balance of IPRA has been positive. Several study groups have changed their initial research subject adapting to the different threats to peace, and other groups have started studying new themes. As an example, the *Food Study Group* changed after 10 years to the *Human Right to Food Group* and finally, split into two commissions: one studying international human rights, especially collaborating with the rights of children and women; and the other group started including environmental rights and the new threats of global warming, water scarcity, and environmental pollution in war and after war regions. This last commission changed four years ago and is presently known as the *Ecology and Peace Commission.*

In 2006 at its 21st conference in Calgary, IPRA's work was taking place in 19 standing Commissions: Art and Peace ; Conflict Resolution and Peace-Building; Eastern Europe ; Ecology and Peace; Forced Migration; Gender and Peace; Global Political Economy; Indigenous Peoples' Rights; Internal Conflicts; International Human Rights; Nonviolence (Kelly/Paige/Gilliart 1992; Glenn 2002); Peace Culture and Communications; Peace Education; Peace History; Peace Movements; Peace Theories; Reconciliation; Religion and Peace; and the Security and Disarmament Commission.

The interrelation of peace education with practical peace learning courses brought peace researchers together with peace movements and gave new dynamism into the organization. Changes in the General Secretariat and Presidency of IPRA from Europe (1964–1979, 1995–2000, 2005–) to Japan (1979–1983, 2000–2005), the US (1983–1987, 1989–1994), to Latin America (1987–1989, 1998–2000) and the Pacific (1994–1998) is a sign that international networks exists and are active in the field of conciliation and theory development. If sometimes tense relations have existed between members, study commissions exist; this itself is a dynamic expression of the complexity of peace research and a challenge for applying theoretical knowledge into practice. However, the critical financial situation of IPRA has made it difficult to designate a Secretary-General from a Southern country, since host universities have to cooperate with the running administrative costs and offer some staff to organize and promote international conferences. This fact is especially important in order to maintain the equilibrium between regions as well as gender balance. During its 42-year history only one Secretary-General and one President of IPRA were women (table 1); however, five of six vice-presidents (1994–2000) were women from Hungary, Germany, Lebanon, Chile and Togo.

In 1977, IPRA held its first international conference in Oaxtepec (Mexico) at a time when this country had accepted refugees from almost all Latin American countries that were expelled by repressive military dictatorships. In 1977, with more than 120 Latin American scholars present, the *Latin American Council of Peace Research* (CLAIP) was created. Its activities were linked to the democratization processes occurring in Latin American nations, and international denunciations of torture, human right infractions, massacres and disappearances of social and political leaders were made internationally (CLAIP, 1979; Mols 2004). Gradually, during the 1980's and

2 In Germany, at the initiative of Federal President Gustav Heinemann a German Society for Peace and Conflict Research (DGFK) was set up in 1970, in 1971 the Peace Research Institute in Frankfurt (HSFK or PRIF), and the Institute for Peace Research and Security Policy at the University of Hamburg (ISFH) were founded. Later peace research units and programmes were developed at several German universities, e.g. in Tübingen (1970), Münster, Marburg, and Duisburg and as independent non-profit scientific institutions, e.g. AFES-PRESS in 1987; Brauch/Bräunling/Hermle/Mallmann 1969; Brauch 1979; Rittberger/Zürn 1990; Wasmuht 1999. In 2001 an independent German Society for Peace Research (DGFF) was set up in Osnabrück.

Table 1: IPRA Conferences, Secretary Generals and Presidents. **Source:** IPRA Website

IPRA General Conferences		IPRA Secretary Generals/Presidents	
1.	Groningen, the Netherlands (1965)	1964 – 1971	Bert V. A. Roling (the Netherlands)
2.	Tallberg, Sweden (1967)	1971 – 1975	Asbjorn Eide (Norway)
3.	Karlovy Vary, Czechoslovakia (1969)	1975 – 1979	Raimo Väyrynen (Finland)
4.	Bled, Yugoslavia (1971)	1979 – 1983	Yoshikazu Sakamoto (Japan)
5.	Varanasi, India (1974)	1983 – 1987	Chadwick Alger (USA)
6.	Turku, Finland (1975)	1987 – 1989	Clovis Brigagâo (Brazil)
7.	Oaxtepec, Mexico (1977)	1989 – 1991	Elise Boulding (USA)
8.	Konigstein, FRG (1979)	1991 – 1994	Paul Smoker (USA)
9.	Orillia, Canada (1981)	1995 – 1997	Karlheinz Koppe (Germany)
10.	Gyr, Hungary (1983)	1997 – 2000	Bjørn Møller (Denmark)
11.	Sussex, England (1986)	2000 – 2005	Katsuya Kodama (Japan)
12.	Rio de Janeiro, Brazil (1988)	2005 –	Luc Reychler (Belgium)
13.	Groningen, the Netherlands (1990)	**Presidents**	
14.	Kyoto, Japan (1992)	The first IPRA President was Kevin Clements (New Zealand, 1994 – 1998).	
15.	Valletta, Malta (1994)	His successor was Úrsula Oswald Spring (Mexico, 1998 – 2000).	
16.	Brisbane, Australia (1996)		
17.	Durban, South Africa (1998)		
18.	Tampere, Finland (2000)		
19.	Suwon, Korea (2002)		
20.	Sopron, Hungary (2004)		
21.	Calgary, Canada (2006)		

1990's, many researchers returned to their countries with democratically elected governments, bringing peace messages with them.

But structural, physical and cultural violence still remained, linked now with organized crime, drug trafficking, gangs, post-war traumas, extreme poverty, chaotic urbanization, and often-illegal international migration. CLAIP members and Latin American (LA) universities are studying these processes of violence, and become directly involved in peace-building processes in South and Central America. The complex situation brought up national and sub-regional peace associations at *FLACSO* (Secretary-General Francisco Rojas) with affiliates in Chile, Argentina, Brazil, Costa Rica, Cuba, El Salvador, Guatemala, Mexico and the Dominican Republic; the *Pontífica Universidad Católica* of Peru (Felipe Mac Gregor); the *University of Brasilia* (Nielsen Paolo de Pires) and the *Holistic University in Brazil* (Peter Weil); the *University of Peace in Costa Rica*; *Respuesta para la Paz* in Argentina (Sara Horowitz and Diana de la Rúa); and the *Institute of International Relations and Peace Research* (IRIPAZ, Luis Alberto Padilla) in Guatemala. They are researching peace, conflicts and conflict resolution; regional conflict resolution (Haiti, Peru-Ecuador, Bolivia); public policy of conflict prevention and peace; education and peace formation; mediation and negotiation; international relations, development and horizontal cooperation in LA; ongoing changes and threats in Latin America; sustainable development, ecology and disasters; technology of information; globalization, transnationalization and corruption; social exclusion; integration of LA and LA Parliament; defence, small and light armaments and humanitarian aid. Peace efforts in LA were systematized (CLAIP 1979); globalization and peace research reviewed (Oswald 2000); peace was linked to security and democratization processes in LA (Oswald 2002) and non-violent conflict resolution between indigenous and minorities explored (Oswald 2004 and 2004a).

The positive experience of CLAIP, given its links with universities and social movements in the subcontinent, induced the establishment of the *Asian Pacific Peace Research Association*, and the highly conflictive situation in Africa stimulated also the creation of an *African Peace Research Association*. In 1998, the international congress was held in Durban, South Africa, in order to learn from the peaceful transition processes, led by Nelson Mandela. His leadership in Africa involved multiple peace efforts and reconciliation processes between historically divided ethnic groups and struggling clans.

The complexity of socio-economic, environmental, and political conflicts brought IPRA through its

regional associations a larger field of research. New challenges to peace education (Reardon 1996; Reardon/Norland 1994), a growing field to analyze and participate in worldwide peace activism; alternative bottom-up models of governance and women struggling for dignified life conditions obliged IPRA to widen its research perspectives. IPRA showed governments and international organizations that human beings want to live in peace and use processes of non-violent conflict resolution. Conflicts are motors of change and development, but when reoriented to personal ambitions and geopolitical interests mismanaged conflict and change dynamics (Gluckman 1965) can destroy the entire world. Physical and structural violence is inherent in the highly competitive free-market system and its present laws of globalization, where specifically women were affected by the loss of human security.

In summary, the socialist utopia was destroyed by a repressive and bureaucratic communist regime. Which utopia is left to develop ethic principles, communitarian responsibility and environmentally sustainable development processes, in order to induce 'post-modern democracy of consensus', with equity, cultural diversity, real citizen representation, life quality and human, gender and environmental security (HUGE; Oswald 2001)?

The history of wars, domination, and destruction brought poverty and death. Will the emerging civilization guarantee diverse, just, equitable, and sustainable coexistence caring for the vulnerable? This is the challenge for peace researchers, educators and actors, and IPRA together with CLAIP has to reinvigorate its effort to find concrete answers to these new challenges.

Globalization from Below: Ecofeminist Alternatives to Corporate Globalization

Vandana Shiva

Introduction

Corporate globalization is a transfer of knowledge and natural resources, like seeds and water held, conserved, and used collectively by women for their communities, to global corporations. This transfer of wealth goes hand in hand with the transformation of nature, society, and women's status. Biodiversity and water are transformed from commons to commodities. Women, the creators of value, the providers of basic needs are turned into a dispensable sex. As women's rights to seed and water, their rights arising from providing food and water are eroded, women are devalued in society. When the sacred Ganga becomes a commodity, women, the water providers become dispensable. When agriculture is chemicalized and corporatized, women's work in agriculture is destroyed. As women are displaced from work, they not only loose their right to work, they also loose their right to live.

The practice of female feticide started in Punjab in the late 1970's as a consequence of the convergence of the commodification of agriculture, and with it the commodification of culture, women's displacement from productive roles in agriculture, and the rise of new technologies. In the last two decades female feticide has denied more than 10 million women their right to be born. Every year about 500,000 unborn girls are aborted.[1] India's population grew 21 per cent between 1991 and 2001 to 1.03 billion people. While the population grew, girls were disappearing. The change in sex ratio combined with population growth reveals there are 36 million fewer females in the population than would be expected. This is half the world's 60 million 'missing' women – those women who were not allowed to be born because of sex-selective abortion. And female feticide is most prevalent in rich, high growth areas like Punjab, Haryana, Delhi, and Gujarat. These are the areas where the culture of the market is the defining source of value. And in this marketplace women have no value but just a market price. In a market calculus it is cheaper to abort a female fetus than pay a dowry for a daughter.

The spread of dowry – used largely for purchasing consumer goods such as cars, televisions, and refrigerators – is contemporaneous and contiguous with the spread of the culture of consumerism. But women are not just victims of corporate globalization. They are also its strongest resistors and creators of alternatives.

Women's Rights to Knowledge and Biodiversity

Globalization and technological change is changing women's rights at two levels. Firstly, it is eroding women's rights to knowledge and creativity, to natural wealth like biodiversity and water. Women in India are the seed keepers and water keepers. They are also the keepers of traditional knowledge. The emergence of new forms of property as 'intellectual property' is allowing the piracy of centuries of traditional knowledge by global corporations. This in effect is a transfer of knowledge from women to corporations, and is an undermining of women's knowledge and creative rights. That is why I have spent the last decade fighting illegitimate forms of 'intellectual property' based on biopiracy as illustrated below in the three cases of *neem*, *basmati*, and wheat.

1 See: "10 million girls missing in India", in: *Asian Age*, 9 January 2006; "Female Feticide in India crossed 1 crore in 20 years", in: *Indian Express*, 9 January 2006.

On 8 March 2005, International Women's Day, we won a major victory in a biopiracy case after a 10-year legal battle in the European Patent Office. The United States Department of Agriculture and W.R. Grace jointly claimed to have 'invented' the use of the *neem tree* (*Azadirichta indica*) for controlling pests and diseases in agriculture. On the basis of this claim they were granted patent number 436257 by the European Patent Office.

Neem, or *azad darakht* to use its Persian name, which translates as free tree, has been used as a natural pesticide and medicine in India for over 2,000 years. As a response to the 1984 disaster at the Union Carbide's pesticide plant in Bhopal, I started a campaign with the slogan: "no more Bhopals, plant a *neem*." A decade later we found that because W.R. Grace was claiming to have invented the use of *neem*, the free tree was no longer going to be freely accessible to us. We launched a challenge to the *neem* biopiracy and more than 100,000 people joined the campaign. Another decade later, the European Patent Office revoked the patent.

Our success in defeating the claims of the US government and US corporations to traditional knowledge and biodiversity came because we combined research with action, and we mobilized and built movements at the local level. Three women working in global solidarity – Magda Aelvoet, former president of the Greens in the European Parliament; Linda Bullard, the president of the International Federation of Organic Agriculture Movements (IFOAM); and myself – saw the case through for over a decade without losing hope. Our lawyer, Dr. Dolder, a professor of intellectual property at Basel University, gave his best without expecting typical patent lawyer fees.

The *neem* victory throws light on one of the most pernicious aspects of the current rules of globalization – the WTO's *Trade Related Aspects of Intellectual Property Rights* (TRIPS) agreement. TRIPS allows global corporations to patent anything and everything – life forms, seeds, plants, medicines, and traditional knowledge. Patents are supposed to satisfy three criteria: novelty, non-obviousness, and utility. 'Novelty' requires that the invention not be part of 'prior art' or existing knowledge; 'non-obviousness' requires that someone familiar in the art would not take the same step. Most patents based on the appropriation of indigenous knowledge violate these criteria, because they range from direct piracy to minor tinkering involving steps obvious to anyone trained in the techniques and disciplines involved. Since a patent is an exclusive right granted for an invention, patents on life and traditional knowledge are twice as harmful and add insult to injury. Such patents are not based on inventions; they serve as instruments for preventing the poor from satisfying their own needs and using their own biodiversity and their own knowledge.

Patents on seeds not only allow monopolies on genetically engineered seed, they allow patenting of traditional varieties and properties used by farmers over millennia. This biopiracy is illustrated in the cases of rice and wheat.

Basmati Biopiracy

The Indian subcontinent is the biggest producer and exporter of superfine aromatic rice: *basmati*. India grows 650,000 tons of basmati annually. Basmati covers 10 to 15 per cent of the land area under rice cultivation in India. Basmati and non-basmati rice are exported to more than 80 countries across the world. Basmati exports were 488,700 tons and amounted to US $ 280 million. Non-basmati rice exports in 1996–1997 were 1.9 million tons and amounted to US $ 450 million. The main importers of Indian basmati are the Middle East (65 per cent), Europe (20 per cent) and the US (10 to 15 per cent). Fetching US $ 850 a ton in the European Union (EU) compared with US $ 700 a ton for Pakistani basmati and US $ 500 a ton for Thai fragrant rice. Indian basmati is the most expensive rice being imported by the EU. Basmati has been grown for centuries on the subcontinent, as is evident from ancient texts, folklore, and poetry. One of the earliest references to basmati is made in the famous epic of *Heer Ranjha*, written by the poet Varis Shah in 1766. This naturally perfumed variety of rice has been treasured and possessively guarded by nobles, and eagerly coveted by foreigners. It has evolved over centuries of observation, experimentation, and selection by farmers who have developed numerous varieties of the rice to meet various ecological conditions, cooking needs, and tastes. There are 27 documented varieties of basmati grown in India. The superior qualities of basmati must predominantly be attributed to the contributions of the subcontinent's farmers.

On 2 September 1997, Texas-based RiceTec was granted patent number 5663484 on basmati rice lines and grains. The patent of this 'invention' is exceptionally broad and includes 20 claims within it. The patent covered the genetic lines of basmati and includes genes from the varieties developed by farmers. It thus automatically covered farmers' varieties and allowed

RiceTec to collect royalties from farmers growing varieties developed by them and their forefathers.

RiceTec's strain, trading under brand names such as Kasmati, Texmati, and Jasmati, possess the same qualities – long grain, distinct aroma, high-yield, and semi-dwarf – as our traditional Indian varieties. RiceTec is essentially derived from basmati; it cannot be claimed as 'novel' and therefore should not be patentable. Through a four-year-long campaign, we overturned most of RiceTec's patent claims to basmati.

Wheat Biopiracy

Monsanto's biopiracy of Indian wheat forms an integral part of the life of most Indians. It has been the principal crop in several regions of India for thousands of years. India is the second-largest producer of wheat (73.5 million tons) after China. Twenty-five million hectares of wheat are cultivated in India. In addition to being the staple food of most Indians, wheat is closely associated with religious ceremonies and festivals. Each traditional variety has its own religious or cultural significance. The different varieties of wheat, the use of different wheat preparations in rituals, and the medicinal and therapeutic properties of wheat have all been documented in ancient Indian texts and scriptures.

Monsanto's patent registered with the European Patent Office claims to have 'invented' wheat plants derived from a traditional Indian variety and products made from the soft milling traits that the traditional Indian wheat provides. Monsanto's patent claims its plants were derived from varieties of traditional Indian wheat called Nap Hal. There is no traditional Indian wheat called Nap Hal. In Hindi the word would mean 'that which gives no fruit' and could be a name for Monsanto's terminator seeds. 'Nap Hal' is evidently a distortion of 'Nepal', since the wheat varieties were collected from near the Nepal border.

In February 2004, the Research Foundation and Greenpeace filed a legal challenge against Monsanto's biopiracy. By September 2004, Monsanto's patent had been revoked. These victories do not mean our work is over. Corporations continue to patent life forms and pirate traditional knowledge. They also continue to impose unjust and immoral seed and patent laws on countries. Parallel to the struggle to defend women's rights to biodiversity and knowledge is the struggle to defend the women's right to water.

Women's Right to Water

Women in a small hamlet in Kerala succeeded in shutting down a *Coca-Cola* plant. "When you drink Coke, you drink the blood of people," said Mylamma, the woman who started the movement against Coca-Cola in Plachimada. The Coca-Cola plant in Plachimada was commissioned in March 2000 to produce 1,224,000 bottles of Coca-Cola products a day and issued a conditional license to install a motor-driven water pump by the *panchayat*. However, the company started to illegally extract millions of litres of clean water. According to the local people, Coca-Cola was extracting 1.5 million litres per day. The water level started to fall, dropping from 150 to 500 feet below the earth's surface. Tribals and farmers complained that water storage and supply were being adversely affected by indiscriminate installation of bore wells for tapping groundwater, resulting in serious consequences for crop cultivation. The wells were also threatening traditional drinking-water sources, ponds and water tanks, waterways and canals. When the company failed to comply with the panchayat request for details, a show cause notice was served and the license was cancelled. Coca-Cola unsuccessfully tried to bribe the panchayat president A. Krishnan, with 300 million rupees.

Not only did Coca-Cola steal the water of the local community, it also polluted what it didn't take. The company deposited waste material outside the plant which, during the rainy season, spread into paddy fields, canals, and wells, causing serious health hazards. As a result of this dumping, 260 bore wells provided by public authorities for drinking water and agriculture facilities have become dry. Coca-Cola was also pumping wastewater into dry bore wells within the company premises. In 2003, the district medical officer informed the people of Plachimada that their water was unfit for drinking. The women, who already knew their water was toxic, had to walk miles to get water. Coca-Cola had created water scarcity in a water-abundant region.

The women of Plachimada were not going to allow this hydropiracy. In 2002 they started a *dharna* (sit-in) at the gates of Coca-Cola. To celebrate one year of their agitation, I joined them on Earth Day 2003. On 21 September 2003, a huge rally delivered an ultimatum to Coca-Cola. And in January 2004, a World Water Conference brought global activists like Jose Bové and Maude Barlow to Plachimada to support the local activists. A movement started by local

adivasi women had unleashed a national and global wave of people's energy in their support.

The local panchayat used its constitutional rights to serve notice to Coca-Cola. The Perumatty panchayat also filed public interest litigation in the Kerala High Court against Coca- Cola. The court supported the women's demands and, in an order given on 16 December 2003, Justice Balakrishnana Nair ordered Coca-Cola to stop pirating Plachimada's water. Justice Nair's decision stated:

> The public trust doctrine primarily rests on the principle that certain resources like air, sea, waters, and the forests have such a great importance to the people as a whole that it would be wholly unjustified to make them a subject of private ownership. The said resources being a gift of nature, they should be made freely available to everyone irrespective of their status in life. The doctrine enjoins upon the government to protect the resources for the enjoyment of the general public rather than to permit their use for private ownership or commercial purpose. Our legal system – based on English common law – includes the public trust doctrine as part of its jurisprudence. The State is the trustee of all natural resources, which are by nature meant for public use and enjoyment. Public at large is the beneficiary of the seashore, running waters, airs, forests, and ecologically fragile lands. The State as a trustee is under a legal duty to protect the natural resources. These resources meant for public use cannot be converted into private ownership.

On 17 February 2004, the Kerala chief minister, under pressure from the growing movement and a drought-aggravated water crisis, ordered the closure of the Coca-Cola plant. The victory of the movement in Plachimada was the result of creating broad alliances and using multiple strategies. The local movement of women in Plachimada triggered recognition of people's community rights to water in law, while also triggering movements against the 87 other Coca-Cola and Pepsi plants where water is being depleted and polluted.

Plachimada Declaration

> Water is the basis of life; it is the gift of nature; it belongs to all living beings on earth.
>
> Water is not private property. It is a common resource for the sustenance of all.
>
> Water is the fundamental human right. It has to be conserved, protected, and managed. It is our fundamental obligation to prevent water scarcity and pollution and to preserve it for generations.
>
> Water is not a commodity. We should resist all criminal attempts to marketize, privatize, and corporatize water. Only through these means can we ensure the fundamental and inalienable right to water for people all over the world.
>
> The water policy should be formulated on the basis of this outlook.
>
> The right to conserve, use, and manage water is fully vested with the local community. This is the very basis of water democracy. Any attempt to reduce or deny this right is a crime.
>
> The production and marketing of the poisonous products of the Coca-Cola and Pepsi-Cola corporations lead to total destruction and pollution and also endangers the very existence of local communities.
>
> The resistance that has come up in Plachimada, Puduchery, and in various parts of the world is the symbol of our valiant struggle against the devilish corporate gangs who pirate our water.
>
> We, who are in the battlefield in full solidarity with the adivasis who have put up resistance against the tortures of the horrid commercial forces in Plachimada, exhort the people all over the world to boycott the products of Coca-Cola and Pepsi-Cola.

Plachimada created new energy for local resistance everywhere. In May 2004, groups from across India fighting against water mining met in Delhi to coordinate their actions as the *Coca Cola Pepsi Quit India Campaign*.

Commodification of Our Rivers

Delhi, India's capital has been sustained for centuries by the river Yamuna. The 16th century poet Sant Vallabhacharya wrote the *Yamunastakam* in praise of the Yamuna.

> *I bow joyfully to Yamuna, the source of all spiritual abilities.*
>
> *You are richly endowed with innumerable sands glistening from contact with lotus-feet of Krishna.*
>
> *Your water is delightfully scented with fragrant flowers from the fresh flowers from the fresh forests that flourish on your banks.*
>
> *You bear the beauty of Krishna, Cupid's father, who is worshipped by both the gods and demons.*
>
> *You rush down from Kalinda Mountain, your waters bright with white foam.*
>
> *Anxious for love you gush onward, rising and falling through the boulders.*

Your excited, undulating motions create melodious songs, and it appears that you are mounted on a swaying palanquin of love.

Glory be to Yamuna, daughter of the sun, who increases love for Krishna.

You have descended to purify the earth.

Parrots, peacocks, swans, and other birds serve you with their various sons, as if they were your dear friends.

Your waves appear as braceleted arms, and your banks as beautiful hips decorated with sands that look like pearl-studded ornaments.

I bow to you, fourth beloved of Krishna.

You are adorned with countless qualities, and are praised by Siva, Brahma, and other gods.

Two decades of industrialization have turned the Yamuna into a toxic sewer. Instead of stopping the pollution, the World Bank, using the scarcity created by the pollution, pushed the Delhi government to privatize Delhi's water supply and get water from the Tehri Dam on the Ganges, hundreds of miles away. A privatized plant that could have been built for 1 billion rupees has cost the public 7 billion rupees.

The privatization of Delhi's water supply is cantered around the Sonia Vihar water treatment plant. The plant, which was inaugurated on 21 June 2002, is designed at a cost of 1.8 billion rupees for a capacity of 635 million litres a day on a 10-year build-operate-transfer (BOT) basis. The contract between Delhi Jal Board and the French company *Ondeo Degremont* (a subsidiary of the *Suez Lyonnaise des Eaux* Water Division – the water giant of the world), is supposed to provide safe drinking water for the city.

The water for the Suez-Degremont plant in Delhi will come from the Tehri Dam through the Upper Ganga Canal to Muradnagar in Western Uttar Pradesh and then through a giant pipeline to Delhi. The Upper Ganga Canal, which starts at Haridwar and carries the holy water of the Ganga to Kanpur via Muradnagar, is the main source of irrigation for this region.

Suez is not bringing in private foreign investment. It is appropriating public investment. Public-private partnerships are, in effect, private appropriation of public investment. But the financial costs are not the highest costs. The real costs are social and ecological. The Ganga is also being transformed from a river of life to a river of death by the ecological consequences of damming and diversion. The Tehri Dam, located in the outer Himalaya, in the Tehri-Garhwal district of Uttaranchal, is planned to be the fifth highest dam in the world. If completed, it will be 260.5 metres high and create a lake spread over an area of 45 square kilometres of land in the Bhagirathi and Bhilangana valleys. The dam will submerge 4,200 hectares of the most fertile flat land in those valleys without benefiting the region in any way.

Additionally, the area is earthquake prone and the huge Tehri Dam is located in a seismic fault zone. Between 1816 and 1991, there have been 17 earthquakes in the Garhwal region, with recent ones occurring in Uttarkashi in 1991 and Chamoli in 1998. The International Commission on Large Dams has declared the dam site "extremely hazardous."

If the dam collapses from an earthquake – or from any other fault, such as a landslide – the devastation will be unimaginable. The huge reservoir will be emptied in 22 minutes. Within an hour Rishikesh will be under 260 metres of water. Within the next 23 minutes Haridwar will be submerged under 232 metres of water. Bijnor, Meerut, Hapur, and Bulandshahar will be under water within 12 hours. The dam is potentially dangerous for large parts of North-western India, and large areas in the Gangetic Plain could be devastated.

Delhi's ever growing water demands have already led to major diversions of water from other regions. Delhi already gets 455 million litres from the Ganga. With the Sonia Vihar plant's demand for 635 million litres, 1,090 million litres per day are diverted from the Ganga. Further diversions of three billion cubic metres per second from the Ganga are built into the Sharda and Yamuna river link. Delhi is also demanding 180 million litres per day to be diverted from Punjab's Dhakra Dam. Water will also be diverted to Delhi from the Renuka Dam on the Giri River (1,250 million cubic litres per day) and Keshau Dam on the Tons River (610 million cubic litres per day). These diversions will have huge ecological and social costs. On 13 June 2005, five farmers were shot while protesting the diversion of water from Bisalpur dam for Jaipur city through an Asian Development Bank project. The mega diversion for water waste by the rich in Delhi could trigger major 'water conflicts'.

Building water democracy means building alliances. When advertisement for the inauguration of Suez's Sonia Vihar plant appeared on 2 June 2002, I started to contact citizens groups in Delhi and people's movements along the Ganges. Each group helped frame the struggle against privatization and everyone's issue became a key to resistance. The 100,000 people displaced by Tehri Dam were linked to the millions of Indians who hold the Ganges as sa-

cred, who, in turn, were connected to farmers whose land and water would be appropriated. Millions signed petitions saying, "Our Mother Ganga is not for sale." We organized a Jal Swaraj Yatra (a water democracy journey) from 15 to 22 March, World Water Day. We did Ganga Yatras to rejuvenate the living culture of the sacred Ganges. A million people were reached; 150,000 signed a hundred-metre 'river' of cloth to protest privatization.

The government of Uttaranchal (where the Tehri Dam is located) and the government of Uttar Pradesh (from where the water was to be diverted) refused to supply water to the Suez plant in Delhi. We do not need privatization or river diversions to address Delhi's water problems. We have shown how with equitable distribution and a combination of conservation, recycling, and reduction in use, Delhi's water needs can be met locally. We need democracy and conservation. The seeds for the water democracy movement in Delhi have been sown. We now have to nurture them to reclaim water as a commons and a public good. When Paul Wolfowitz visited India as the President of World Bank, women were there to tell him and the World Bank to keep their hands off our water.

As we defend our seed and knowledge, our food and water, we are shaping another world – a world centred on women and nature, a world sustaining the life of all beings.

Towards a Human Security Perspective for the Mediterranean

Narcís Serra

The Mediterranean presents many challenges in terms of security, as it is a focus for many of the political, economic, and social tensions that can also be found on a global scale. Thus in 1995, the leaders of European and Mediterranean countries decided to launch the Barcelona Process with the aim of working together to build an area of peace, shared prosperity, and human exchange. Today, these objectives are still unresolved issues. European and Mediterranean actors will have to continue in their efforts to reach this goal, at the same time as updating these objectives and making use of any new instruments that become available. In terms of security, for example, the Mediterranean cannot be excluded from the growing interest in the concept of human security.

The 'human security' concept was first used in the 1994 UNDP report on human development. Since then there has been a growing consensus that in a world in which both the concept of threat and the nature of armed conflict have undergone significant transformation, it is the individual citizen who should be made the main object of protection. Particularly since the end of the Cold War, challenges in the area of international security have gone from focusing on purely military-based protection of the interests of the state and its territory to a concept based on the need to guarantee people's security through what is commonly expressed as 'freedom from fear' and 'freedom from want'. The doctrine of human security, therefore, has widened the traditional debate in this field, a debate that has been dominated since the Second World War (and particularly during the Cold War) by the doctrine of national security. It was in the mid-20th century that international security assumed a distinctly political and military nature, since attacks from other countries had become the main threat to state sovereignty and the international order. Now, in contrast, the greatest threats come from failed states that have become mired in 'new wars' in which the civilian population ends up as the main victim of any armed conflict. It is these threats, together with those of international terrorism, human rights abuses, extreme poverty, and infectious diseases that now represent the main challenges to the well-being of individual citizens.

The *European Security Strategy* (ESS), adopted by the European Council in December 2003, is one of the best examples of the transformation of security challenges that the European Union has had to face at the dawn of the 21st century. In the words of the Council document, "Europe faces new threats which are more diverse, less visible and less predictable." These threats include terrorism, the proliferation of weapons of mass destruction, regional conflicts, the breakdown of the state, and organized crime. At the same time, none of these threats is of a solely military nature, nor can they be countered by using only military instruments. In this respect, the Strategy entitled *A Secure Europe in a Better World* advises facing up to these threats in the knowledge that "the first line of defence will often be abroad", at the same time as calling for the creation of security in neighbouring countries and for the reinforcement of effective multilateralism as the framework of the international order.

In September 2004, a group of academics, diplomats, and experts headed by Mary Kaldor, a professor from the London School of Economics, presented a report to Javier Solana, the EU High Representative for the Common Foreign and Security Policy, which was entitled *A Human Security Doctrine for Europe*. In this report, the *Study Group on Europe's Security Capabilities* proposes that human security should be consolidated as the narrative strategy of the Union's foreign policy, thus granting it with the necessary ca-

pabilities. In this way, emphasis is placed upon the void that exists between the real needs in the area of security and the capabilities currently available (which basically consist of armed forces designed to fight against foreign armies and to safeguard state borders). By adopting a human security doctrine, the European Union will be contributing to the creation of a more secure global order, in the full knowledge that "Europeans cannot be secure while others in the world live in severe insecurity," as the report states.

In order to implement the *European Security Strategy* in the direction proposed, the document "A Human Security Doctrine for Europe" establishes five key principles with which all human security operations should comply. The first of these states the primacy of human rights, thus echoing the proposals of the International Commission on Intervention and State Sovereignty report *The Responsibility to Protect*, published in December 2001. The second principle is the establishment of a clear political authority. The third espouses multilateralism, or giving priority to the international legal order. The bottom-up approach that is to say, taking action while bearing in mind the needs of the local population, is the fourth principle for human security operations. Finally, the last principle refers to the need to adopt a regional focus when dealing with crisis.

The report also proposes the creation of a "Human Security Response Force" made up of 15,000 men and women, of whom one third would be civilians, in addition to establishing a new legal framework which would decide when intervention should take place, as well as coordinating operations on the ground.

Shortly after the publication of this document, the European Parliament's Committee on Foreign Affairs published a report on the European Security Strategy, presented by the MEP Helmut Kuhne. The report acknowledges the importance of the civil-military missions proposed by the *Study Group on Europe's Security Capabilities* within the framework of the ESDP, as well as the introduction of a civilian component into the Human Security Response Force, called the "Human Security Volunteer Service". In the light of the content of the Kuhne report, many points of contact exist between the *European Security Strategy* and the document *A Human Security Doctrine for Europe*, especially in terms of the ability of the human security doctrine to implement the European Security Strategy.

At this point, it remains to be seen whether, in the Mediterranean region, the 2003 Strategy succeeds in incorporating an approach that complies with the principles of human security. As this document acknowledges, the Mediterranean is a key region in terms of the Union's external relations. Europe's commitment to its neighbouring regions (Eastern Europe and the Mediterranean countries) is one of the Union's strategic components in its attempts to guarantee its security and that of its neighbouring countries. In the words of the Strategy, "the European Union's interests require a continued engagement with Mediterranean partners, through more effective economic, security and cultural cooperation in the framework of the Barcelona Process."

Nevertheless, in spite of the Mediterranean's importance for European security, and also despite the existence of a political and security dimension in the framework of the Barcelona Process, advances made in recent years have been few. By way of illustration, conflicts such as the Arab-Israeli, the situation in the Western Sahara, and the division of Cyprus are all still unresolved. Unfortunately, it cannot be claimed that the Mediterranean is a more secure place for its states and citizens in 2007 than it was in 1995.

In fact, in recent years, even greater emphasis has been placed on the need to advance through cooperation with respect to security in the Mediterranean, and by incorporating the approach of human security. In the Near East, in spite of the positive signals produced following Israel's unilateral withdrawal from Gaza, the Israeli position hardened in 2006, culminating in the war with Lebanon that summer. Three members of the Barcelona Process (Israel, the Palestinian Authority and Lebanon) were plunged into a military escalation which clearly showed that the possibility of achieving one of the objectives laid down in the Barcelona Declaration, to create an area of peace in the Mediterranean, was long way off. The situation also highlighted the fact that in the event of a military escalation as the one in the Near East, it was not only the security of the state that was endangered, but also and particularly that of its citizens. The conflict in Lebanon, by which we refer both to the Israeli attack in July 2006 and the later struggle between the Lebanese army and the terrorist networks in the Naher el Bared Palestinian refugee camp, demonstrates that it is always the civilian population that suffers most from such a climate of insecurity. At the same time, the situation of insecurity in the region has meant that progress with discussions promoted by the Barcelona Process on the subject of security has been hampered. This is why it has become vitally important to break this vicious circle. But that can only be achieved

through large doses of political determination and leadership and, within this context, discussions on points directly linked to human security (such as the protection of civilians and mine clearance) might represent a good opportunity to recommence the dialogue on security.

In the Maghreb region, threats to the security of citizens and states are increasingly related to the proliferation of terrorist networks. The 2007 attacks in Morocco and Algeria raised fears of a fresh outbreak of violence in the western Mediterranean basin, and recalled the nightmare situation experienced by Algeria in the first half of the 1990's; but what is even worse, they showed how the terrorist methods used in Iraq and Afghanistan were being increasingly imported into the region. These events highlighted the need to increase cooperation in the area of security between the north and south of the Mediterranean, as well as between the southern countries themselves. Having said that, it should be borne in mind that the objective of such cooperation is not only to maintain the stability of the state, but also to safeguard the lives of citizens. As a consequence (and in accordance with agreements made at the 2005 Euro-Mediterranean Summit in Barcelona), such cooperation should never be carried out at the expense of respect for human rights or the fundamental freedoms of European and Mediterranean citizens.

In view of this context, the EU and its Mediterranean partners will have to redouble their efforts in order to move forward towards a shared security agenda that incorporates the protection of citizens as one of its main priorities. This should be undertaken in a transversal manner, within the framework of the Barcelona Process, the European Neighbourhood Policy, and the bilateral relations that exist between EU member states and their Mediterranean partners.

To this end, there are three points that should be given particular consideration, both at a political and an academic level. The first is the problem of coherence and consistency. For a number of years the Barcelona Process has coexisted alongside the European Neighbourhood Policy, and yet neither the European nor the Mediterranean partners have managed to arrive at a clear conclusion on the subject of 'who does what' or, more to the point, 'who is better prepared to do what'. Thus some serious thought should be given as to which of these frameworks (not to mention the criteria used to decide on the division of labour) will produce the best results in terms of promoting a human security agenda in the Mediterranean. Furthermore, care should be taken to avoid a situation in which contradictions exist between the two agendas in the area of security, or any unnecessary overlap of responsibilities. Finally, it should be stressed that the main challenge in terms of coordinating the agendas of the Barcelona Process and the European Neighbourhood Policy is for the EU to adopt a common foreign policy. At this point in time, close attention should be paid to developments in the current constitutional crisis, to see whether the solution of the simplified Treaty (which is expected to be debated by the European Council in June 2007) will lead to the creation of the post of Foreign Affairs Minister, thereby providing Europe with a necessary (albeit still insufficient) instrument for establishing a true common foreign and security policy.

The second idea derives from observing one of the aforementioned conflicts: Lebanon. The Lebanese crisis in the summer of 2006 highlighted, once again, Europe's shortcomings in terms of coordination and shared vision. The EU has begun to compensate for this deficiency with its determined involvement in the pacification and progress in the region through the deployment of troops by countries such as France, Italy, and Spain, as part of the new UN mission. Nevertheless, time will demonstrate (and in fact, it is already doing so) that an exclusively military approach has little chance of achieving the desired results. Missions of a civilian nature and those military missions in which civilians play a greater role might help to guarantee not only state security in Lebanon, but also more effective protection of its citizens' rights.

The third point for consideration is linked to a subject that is awakening increasing interest in works on European integration: strengthened cooperation. Following the successive enlargements of the EU, and the growing plurality of the states of which it is comprised, it has become clear that the only way to move forward is through strengthened cooperation initiatives. This means that a group of states could opt to embark on such a cooperation project without all the states having to join them, though they would leave the door open for any other country to sign up to the initiative. This may prove to be the most effective strategy for moving ahead towards a Mediterranean human security agenda, given that neither all the EU states nor all their Euro-Mediterranean partners will be as keen (or as reluctant) to agree on policies in this field. Strengthened cooperation can bring about gradual but constant advances in aspects that have been neglected until now (such as the security sector reform), or in issues that have not been sufficiently ex-

plored (such as protection of civilians and mine clearance). The establishment of pilot schemes that would enable us to go into the dialogue on security in greater depth could represent a decisive show of determination to create a human security doctrine for the Mediterranean.

Finally, and by way of conclusion, it must be stressed that the *European Security Strategy* adopted in December 2003 does not impose human security, but rather it accepts or enables it. The doctrine of human security facilitates an implementation that is best suited to the Strategy's principles and, in this sense, the Mediterranean represents the greatest challenge for the ESDP. This is the main region that demands action from the EU, action that could facilitate the definition and application of Europe's role in foreign policy. Furthermore, the Mediterranean is the field in which the principles of human security promise to be most effective, especially given the fact that a large proportion of the security challenges in this region involve the protection of the human rights of its population.

Part I Introduction: Theoretical Contexts for Security Reconceptualizations since 1990

1 Introduction: Globalization and Environmental Challenges: Reconceptualizing Security in the 21st Century

Hans Günter Brauch

1.1 Introductory Remark

This book focuses on the *reconceptualization of security in the 21st century* that has gradually evolved since the end of the East-West conflict (1989–1991) and that has been significantly influenced by processes of globalization and global environmental change.

This global turn has resulted in the end of the Cold War (1946–1989), which some historians have interpreted as a 'long peace' (Gaddis 1987, 1997) with a highly armed bipolar international order, the collapse of the Soviet Union (1991) and of a competitive global ideology, system of rule and military superpower. These events brought about a fundamental and peaceful change in international order that made the reunification of Germany (1990) and of Europe with the Eastern enlargement of the EU (2004, 2007) possible.

This turn has been portrayed either as a 'victory' of US superiority (Schweitzer 1994) or as an outcome of a 'political learning' (Grunberg/Risse-Kappen 1992) based on a new thinking ('*Perestroika*') of Gorbachev that contributed to the first major peaceful global change in modern history. This 'global turn' (1989–1991) has been the fourth major change since the French Revolution that was instrumental for the emergence of a new international order. Three previous turning points in modern history were the result of revolutions (1789, 1911–1918) and of wars (1796–1815, 1914–1918, 1931–1949) resulting in a systemic transformation.

This fourth peaceful turn triggered a peaceful (Czechoslovakia) and violent disintegration of multiethnic states (USSR, Yugoslavia); it contributed to the emergence of 'failing' states (e.g. Somalia, Afghanistan) and to 'new wars' (Kaldor/Vashee 1997; Kaldor 1999; Münkler 2002, 2005). Besides the events in Europe during 1989, events in other parts of the world had no similar impact on the new global (dis)order during the 1990's, e.g. the death of Mao Zedong (1976) and the economic reforms of Deng Xiaoping in China (1978–1990); the end of the dictatorships and the third wave of democratization in Latin America; and the many new wars in Africa due to weak, failing or failed states where warlords took over control in parts of West (Liberia) and Eastern Africa (Somalia), as well as in Asia (Afghanistan).

This chapter aims at a mental mapping of the complex interaction between this most recent global structural change and conceptual innovation that have occurred in academia, in international organizations as well as in the declarations and statements of governments since 1990 up to spring 2007. It refers only briefly to the term and concept of security (1.2, see for details chapters 3–9 in this volume), to the contextual context: events, structures, concepts and action (1.3), to the theme of contextual change, conceptual innovation as tools for knowledge creation and action (1.4), to the drivers and centres of conceptual innovation (1.5), to four scientific disciplines: history, philosophy, social sciences, and international law (1.6), to the *Hexagon Series on Human and Environmental Security and Peace* and to the goal of the three related volumes (1.7), to the goals, structure, authors, and audience of this book (1.8) as well as to the expected audience of this book (1.9).

1.2 Object: Term and Concept of Security.

Security is a basic *term* and a key *concept* in the social sciences that is used in intellectual traditions and schools, conceptual frameworks, and approaches. The term 'security' is associated with many different meanings that refer to frameworks and dimensions, apply to individuals, issue areas, societal conventions, and changing historical conditions and circumstances. Thus, security as an individual or societal political value has no independent meaning and is always related

Table 1.1: Vertical Levels and Horizontal Dimensions of Security in North and South

Security dimension ⇒ Level of interaction ⇓ *(referent objects)*	Military	Political	Economic	Environmental	Social
Human ➔			Social, energy, food , health, livelihood threats, challenges and risks may pose a *survival dilemma* in areas with high vulnerability		
Village/Community/Society				⇓⇑	
National	"Security dilemma of competing states" (*National Security Concept*)		"Securing energy, food, health, livelihood etc." (*Human Security Concept*) combining all levels of analysis & interaction		
International/Regional				⇓⇑	
Global/Planetary ➔					

to a context and a specific individual or societal value system and its realization (see chap. 4 by Brauch).

Security is a societal value or symbol (Kaufmann 1970, 1973) that is used in relation to protection, lack of risks, certainty, reliability, trust and confidence, predictability in contrast with danger, risk, disorder and fear. As a social science concept, "*security* is ambiguous and elastic in its meaning" (Art 1993: 821). Arnold Wolfers (1962: 150) pointed to two sides of the security concept: "Security, in an *objective* sense, measures the absence of threats to acquired values, in a *subjective* sense, the absence of fear that such values will be attacked."

For the constructivists, security is *intersubjective* referring to "what actors make of it" (Wendt 1992, 1999). Thus, security depends on a normative core that can not simply be taken for granted. Political constructions of security have real world effects, because they guide action of policymakers, thereby exerting constitutive effects on political order (see chap. 4 by Wæver, 37 by Baylis, 51 by Hintermeier in this vol.). The 'security concept' has gradually widened since the 1980's (Krell 1981; Jahn/Lemaitre/Wæver 1987; Wæver/Lemaitre/Tromer 1989; Buzan/Wæver/de Wilde 1995, 1998; Wæver/Buzan/de Wilde 2008; chap. 38 by Albrecht/Brauch). For Wæver (1997, chap. 4 and 44) security is the result of a speech act ('securitization'), according to which an issue is treated as: "an existential threat to a valued referent object" to allow "urgent and exceptional measures to deal with the threat". Thus, the "securitizing actor" points "to an existential threat" and thereby legitimizes "extraordinary measures".

'Security in an objective sense' refers to specific *security dangers*, i.e. to 'threats, challenges, vulnerabilities and risks' (Brauch 2003, 2005, 2005a) to specific *security dimensions* (political, military, economic, societal, environmental) and *referent objectives* (international, national, human) as well as *sectors* (social, energy, food, water), while 'security in a subjective sense' refers to *security concern*s that are expressed by government officials, media representatives, scientists or 'the people' in a speech act or in written statements (historical sources) by those who securitize 'dangers' as security 'concerns' being existential for the survival of the referent object and that require and legitimize extraordinary measures and means to face and cope with these concerns. Thus, *security concepts* have always been the product of orally articulated or written statements by those who use them as tools to analyse, interpret, and assess past actions or to request or legitimize present or future activities in meeting the specified security threats, challenges, vulnerabilities, and risks.

The Copenhagen School (Buzan/Wæver 1997; Wæver 1997; Buzan/Wæver/de Wilde 1998; Wæver/Buzan/de Wilde 2008), distinguished among five dimensions (*widening*: military, political, economic, societal and environmental), and five referent objects ('whose security') or levels of interaction or analysis (*deepening*: international, regional, national, domestic groups, individual). They did not review the *sectorialization* of security from the perspective of *national* (international, regional) and *human security* (Brauch 2003, 2005, 2005a; table 1.1).

Influenced by different worldviews, rival theories and mindsets, security is a key concept of competing schools of a) *war, strategic* or *security studies* from a realist perspective, and b) *peace and conflict research* from an idealist or pragmatic view (chap. 40 by Albrecht/Brauch). Since 1990, interparadigm debates emerged between traditional, critical, and constructivist approaches. Within the UN and NATO, different concepts coexist, a state-centred political and

Table 1.2: Expanded Concepts of Security (Møller 2001, 2003; Oswald 2001, 2007)

Concepts of security	Reference object (security of whom?)	Value at risk (security of what?)	Source(s) of threat (security from whom/ what?)
National Security [political, military dimension]	The state	Sovereignty, territorial integrity	Other states, guerilla, terrorism (substate actors)
Societal security [dimension]	Nations, societal groups	National unity, identity	(States) Nations, migrants, alien cultures
Human security	Individuals, humankind	Survival, quality of life	State, globalization, GEC, nature, terrorism
Environmental security [dimension]	Ecosystem	Sustainability	Humankind
Gender security	Gender relations, indigenous people, minorities, children, elders	Equality, equity, identity, solidarity, social representations	Patriarchy, totalitarian institutions (governments, religions, elites, culture), intolerance, violence

military concept, and an extended security concept with economic, societal, and environmental dimensions. A widening and deepening of the security concept prevailed in OECD countries, while other countries adhered to a narrow military concept

Not only the scope of '*securitization*' (Wæver 1997, 1997a) has changed, but also the referent object from a 'national' to a 'human-centred' security concept, both within the UN system (UNDP 1994; UNESCO 1997, 1998, 1999, 2001, 2003; UNU 2002; UNU-EHS 2004), and in the academic security community.

In European security discourses, an 'extended' security concept is used by governments and in scientific debates (Buzan/Wæver/de Wilde 1998). Møller (2001, 2003) distinguished a 'national' and three expanded security concepts of 'societal, human, and environmental security'. Oswald (2001, 2007, 2008) introduced a combined 'human, gender and environmental' (HUGE) security concept (table 1.2).

While since the 19th century the key 'actor' has been the state, it has not necessarily been a major 'referent object' of security which is often referred to as 'the people' or 'our people' whose survival is at stake (Brauch chap. 3; Albrecht/Brauch chap. 38). From 1947 to 1989 national and military security issues became a matter of means (armaments), instruments (intelligence) and strategies (deterrence). Wæver (1995: 45) argued that environmental issues may pose threats of violent conflicts and that they may also put the survival of the people at stake (e.g. by forced migration) without a threat of war.

Whether a threat, challenge, vulnerability, and risk (Brauch 2005a, 2006) becomes an 'objective security danger' or a 'subjective security concern' also depends on the political context. While in Europe climate change has become a major security issue, in the US, during the administration of George W. Bush this problem was downgraded. Labelling climate change a security issue implies different degrees of urgency and means for coping with it.

The traditional understanding of security "as the absence of existential threats to the state emerging from another state" (Müller 2002: 369) has been challenged both with regard to the key subject (the state) and carrier of security needs, and its exclusive focus on the "physical – or political – dimension of security of territorial entities" that are behind the suggestions for a horizontal and vertical widening of the security concept.

The meaning of security was also interpreted as a reaction to globalization and to global environmental change. In Europe, several critical approaches to security gradually evolved as the *Aberystwyth* (Booth, Wyn Jones, William), *Paris* (Bigo, Badie) and *Copenhagen* (Wiberg, Wæver, Møller) schools that led to the development of a *New European Security Theory* (NEST, e.g. Bürger/Stritzel 2005) and a 'networked manifesto' (CASE 2006; chap. 38 by Albrecht/Brauch).

1.3 Events – Structures – Concepts – Action

Political and scientific concepts, like security, are used within a complex context (Koselleck 2006). These concepts have a temporal and systematic structure, they embody and reflect the time when they were used and they are thus historical documents in the

persistent change in the history of short events (*histoire des événements*) and long structures (Braudel's (1949, 1969, 1972) *histoire de la longue durée*). Concepts are influenced by manifold perceptions and interpretations of events that only rarely change the basic structures of international politics and of international relations (IR).

The political events of 1989, the rare coincidence of a reform effort from the top and a yearning for freedom and democracy from the bottom, as part of a peaceful upheaval in East Central Europe toppled the Communist governments in all East Central European countries within three months, and thus were instrumental for the collapse of the Soviet Union and the dissolution of the Warsaw Treaty Organization and the Comecon (1991).

The Cold War bipolar order of two rival highly armed political systems with the capability to destroy the globe with its weapons of mass destruction based on nuclear deterrence doctrines became obsolete as well as the traditional security legitimizations with the arms of the other side. This structural change of the international order influenced the security policy agendas and provoked a global political and scientific debate on the reconceptualization of security. This debate has been global, stimulated by many policy actors, scientists and intellectuals. The results of this process are documented in the national security doctrines and strategies (e.g. in the US) and in defence white papers of many countries (e.g. in Germany 1994, 2006). They have also been an object of analysis of the scientific community that gradually emancipated itself from the US conceptual dominance (Wæver 2004; Wæver/Buzan 2006). But these Northern discourses on security have been unaware and ignored the thinking of the philosophical traditions in Asia, Africa, Latin America, and in the Arab world.

While Huntington in his 'clash of civilization' (1993, 1996) succeeded to 'securitize culture' from the vantage point of US national security interests and strategies, the critical responses (Said; Chomsky; Ajami) reflected the cultural and religious diversity of the other five billion people that have been primarily an object of security thinking and policy during and after the Cold War.

This reconceptualization of security has impacts on international agendas and thus on political action on many different levels. UNDP (1994) introduced a 'people-centred' human security concept that was subsequently promoted by the *Human Security Network* (as 'freedom from fear'), and by the *Human Security Commission* (as 'freedom from want'), to which Kofi Annan added as a third pillar: 'freedom to live in dignity' and the *United Nations University* (UNU) as the fourth pillar: 'freedom from hazard impact' (Bogardi/Brauch 2005; Brauch 2005, 2005a).

An effort of the only remaining superpower to regain control over the security discourse in its 'war on terror' by trying to politically adapt scientific evidence on climate change and to constrain scientific freedom has failed. Other efforts by a leading neo-conservative think tank to pay scientists a fee for challenging the fourth IPCC Report (2007) to downgrade and thus to de-securitize these new dangers posed by anthropogenic climate change may also fail.[1]

The increasing perception of global environmental change (GEC) as a 'threat' to the survival of humankind and the domestic backlash in the US against the narrow security concepts and policies of the Neocons has widely established a widened, deepened, and sectorialized security concept that increasingly reflects the existing cultural and religious diversity also in the political debate on security as well as in scientific discourses. In this context, this volume has a dual function: a) to map this global conceptual change; and b) to create a wide scientific and political awareness of the new threats, challenges, vulnerabilities and risks that often differ from the perception of the present political elite in the only remaining superpower.

Thus, conceptualizing security concepts and defining the manifold security interests and preferences, structures the public policy discourse and legitimates the allocation of scarce financial resources to 'face' and 'cope' with major security dangers and concerns that threaten the survival of states, human beings or humankind and thus require 'extraordinary' political action.

1.4 Contextual Change, Conceptual Innovation as Tools for Knowledge Creation and Action

A key analytical question to which all authors were invited to reflect is to which extent the structural change in the global and regional international order

1 See: Ian Sample: "Scientists offered cash to dispute climate study", in: *The Guardian*, 2 February 2007; Elisabeth Rosenthal; Andrew C. Revkin: "Science Panel Calls Global Warming 'Unequivocal'", in: *The New York Times*, 3 February 2007; Juliet Eilperin: "Humans Faulted For Global Warming International Panel Of Scientists Sounds Dire Alarm", in: *Washington Post*, 3 February 2007.

was instrumental, triggered or contributed to this conceptual innovation and diversity in the global security discourse since 1990 or to which extent other events or regional or national structural changes have initiated a conceptual rethinking.

From the perspective of this author, major changes in the international order for the past 500 years have been:

- The *Hispanic World Order*: Expulsion of the Arabs and conquest of the Americas (1492–1618) by Spain and Portugal that resulted in a global order dominated by the Christian 'civilized world' that perceived the South as 'primitive barbarians';
- The *peace of Münster and Osnabrück* (1648) after the religious Thirty Years War (1618–1648), and the emergence of the Westphalian European order based on territorial states and an emerging international law;
- The *Utrecht Settlement* and the century of war and peace in the order of Christian princes (1715–1814).

After the independence of the United States (1776), the French Revolution (1789), and the wars of liberation in Latin America (1809–1824) and the emergence of many new independent states (1817–1839) in Europe four major international orders and major global structural and contextual changes can be distinguished:

- The *Peace Settlement of Vienna* (1815) and the European order of a balance of power based on a Concert of Europe (1815–1914) in an era of imperialism (Africa, Asia) and the post-colonial liberation in Latin America.
- The *Peace of Versailles* (1919) with a collapse of the European world order, a declining imperialism and the emergence of two new power centres in the US and in the USSR with competing political, social, economic, and cultural designs and a new global world order based on the security system of the *League of Nations* (1919–1939).
- The *Political Settlement of Yalta* (February 1945) and the system of the United Nations discussed at the Conferences in Dumbarton Oaks (1944), *Chapultepec* (January/ February 1945), and adopted at *San Francisco* (April/June 1945).

With these turning points during the European dominance of world history, the thinking on security changed. External and internal security became major tasks of the modern dynastic state. With the French Revolution and its intellectual and political consequences the thinking on '*Rechtssicherheit*' (legal predictability guaranteed by a state based on laws) gradually evolved. With the Covenant of the League of Nation '*collective security*' became a key concept in international law and in international relations (IR).

Since 1945, this 'national security' concept has become a major focus of the IR discipline that gradually spread from iAberystwyth (1919) via the US after 1945 to the rest of the world. The Cold War (1946–1989) was both a political, military, and economic struggle and an ideological, social, and cultural competition when the modern 'security concept' emerged as a political and a scientific concept in the social sciences that was intellectually dominated by the American (Katzenstein 1996) and Soviet (Adomeit 1998) strategic culture. With the end of the Cold War, the systemic conflict between both superpowers and nuclear deterrence became obsolete and its prevailing security concepts had to be reconsidered and adjusted to the new political conditions, security dangers, and concerns.

This process of rethinking or 'reconceptualization of security concepts' and 'redefinition of security interests' that was triggered by the global turn of 1989–1991 and slightly modified by the events of 11 September 2001 (Der Derian 2004; Kupchan 2005; Risse 2005; Müller 2005; Guzzini 2005) and the subsequent US-led 'war on terror' has become a truly global process.

The intellectual dominance of the two Cold War superpowers has been replaced by an intellectual pluralism representing the manifold intellectual traditions but also the cultural and religious diversity. In this and the two subsequent volumes authors representing the five billion people outside the North Atlantic are given a scientific 'voice' that is often ignored in the inward oriented national security discourses that may contribute little to an understanding of these newly emerging intellectual debates after the end of the Cold War.

According to Tierney and Maliniak (2005: 58–64): "American scholars are a relatively insular group who primarily assign American authors to their students."[2] In an overview of three rival theories of realism, liberalism and idealism (constructivism), Snyder (2004: 53–62) listed among the founders of realism (Morgenthau, Waltz) and idealism (Wendt, Ruggie) only Americans but of liberalism two Europeans (Smith, Kant). Among the thinkers in all three schools of realism (Mearsheimer, Walt), liberalism (Doyle, Keohane, Ikenberry) and idealism (Barnett and the only two women: Sikkink, Finnemore) again only Americans

qualified. This may reflect the prevailing image of the 'us' and 'they'. But in a second survey Malinak, Oakes, Peterson and Tierney (2007: 62–68) concluded that:

> 89 per cent of scholars believe that the war [in Iraq] will ultimately decrease US security. 87 per cent consider the conflict unjust, and 85 per cent are pessimistic about the chances of achieving a stable democracy in Iraq in the next 10–15 years. ... 96 per cent view the United States as less respected today than in the past (Malinak/Oakes/Peterson/Tierney 2007: 63).

A large majority of US IR scholars opposed unilateral US military intervention and called for a UN endorsement. Seventy per cent describe themselves as liberals and only 13 per cent as conservative. Their three most pressing foreign-policy issues during the next 10 years reflect the official policy agenda: international terrorism (50 per cent), proliferation of weapons of mass destruction (45 per cent), the rise of China (40 per cent). Only a minority consider global warming (29 per cent), global poverty (19 per cent) and resource scarcity (14 percent) as the most pressing issues.r

These snapshots refer to a certain parochialism within the IR discipline which made the perception of the global process of reconceptualization of security, and of new centres of conceptual innovation on security more difficult. But the thinking of the writers outside the North Atlantic and their different concerns matter in the 21st century when the centres of economic, political, and military power may shift to other parts of the world (see part IX in this book).

1.5 Drivers and Centres of Conceptual Innovation

The drivers of the theoretical discourse on security and the intellectual centres of conceptual innovation have moved away from both Russia (after 1989) but gradually also from the United States. During the 1980's, the conceptual thinking on 'alternative security' or 'defensive defence' in Europe was looking for political and military alternatives to the mainstream deterrence doctrines and nuclear policies (Weizsäcker 1972; Afheldt 1976; SAS 1984, 1989; Brauch/Kennedy 1990, 1992, 1993; Møller 1991, 1992, 1995). It was a major intellectual force behind the independent 'peace movement' that called for both disarmament and human rights in both camps (e.g. END, 1980–1989).

In 2007, the discourses on security are no longer a primarily American social science (Crawford/Jarvis 2001; Hoffmann 2001; Nossal 2001; Zürn 2003). The critiques of peace researchers and alternative security experts in Europe during the 1970's and 1980's, but also new national perspectives during the 1990's, e.g. in France (Lacoste, Bigo, Badie), in the UK (Buzan, Booth, Smith, Rogers), Canada (Porter 2001), Germany (Albrecht, Czempiel, Senghaas, Rittberger) challenged American conceptualizations of national security. Since the 1990's in Southern Europe a re-emergence of geopolitics (France, Italy, Spain) could be observed (Brauch, chap. 22). In other parts of the world a critical or new geopolitics school emerged (O'Tuahthail, Dalby) but also a spatialization of global challenges (ecological geopolitics or political geo-ecology). In Germany there has been a focus on progressing debordering, or deterritorialization of political processes (Wolf, Zürn) primarily in the EU while new barriers were directed against immigration from the South in both the US (toward Mexico) and in Europe (in the Mediterranean).

Groom and Mandaville (2001: 151) noted an "increasingly influential European set of influences that have historically, and more recently, informed the disciplinary concerns and character of IR" that have been stimulated by the writings of Foucault, Bourdieu, Luhmann, Habermas, Beck and from peace research by Galtung, Burton, Bouthoul, Albrecht, Czempiel, Rittberger, Senghaas, Väyrynen. Since the 1980's, the conceptual visions of African (Nkruma, Nyerere and Kaunda) and Arab leaders (Nasser), as well as the Southern concepts of self-reliance and Latin American theories of 'dependencia' of the 1960's and 1970's (Furtado 1965; Marini 1973; Dos Santos 1978) had only a minor impact on Western thinking in international relations and on security.

Since 1990 the new centres of conceptual innovation are no longer the US Department of Defense or the US academic centres in security studies in the Ivy League programmes. The effort by US neo-conservatives to reduce the global security agenda to weapons

2 They claimed: "The subject may be international relations, but the readings are overwhelmingly American. Almost half of the scholars surveyed report that 10 per cent or less of the material in their introductory courses is written by non-Americans, with a full 10 per cent of professors responding that they do not assign any authors from outside the United States. Only 5 per cent of instructors give non-Americans equal billing on their syllabuses" (Tierney/Malinak 2005: 63). While one third in the US IR field are women, among the 25 most influential scholars are only men, among them many are considered leading security experts.

of mass destruction and to the 'war on terror' has also failed, and many scholars share the scepticism.

However, most journals on security studies (e.g. *International Security*) are produced in the US and the North American market has remained the biggest book market for the security related literature. Since 1990 new journals on IR and security problems have evolved elsewhere, and since 1992 the triennial pan-European Conferences on International Relations (ECPR) in Heidelberg (1992), Paris (1995), Vienna (1998), Canterbury (2001), The Hague (2004) and Turino (2007) have supplemented the Annual International Studies Association conferences in North America where the intellectual debates on both security, peace, environment, and development are taking place. In August 2005 ECPR and ISA with partners in other parts of the world organized the first world conference on international relations in Istanbul.

In the political realm, the US as the only remaining superpower – irrespective of its 48 per cent contribution to global arms expenditures (SIPRI 2006) – has lost its predominance to set and control the international security agenda and US scholars no longer set the theoretical, conceptual, and empirical agenda of the scientific security discourse. In Europe and elsewhere new centres of intellectual and conceptual innovation have emerged in the security realm:

- In Europe, *Aberystwyth*, *Paris*, and *Copenhagen* have been associated with three new critical 'schools' on security theory (Wæver 2004).
- The *Copenhagen School* combined peace research with the Grotian tradition of the English School, integrating inputs from Scandinavian, British, German, and French discourses (Buzan/Wæver/de Wilde 1997; Wæver/Buzan/de Wilde 2008).
- The *human security concept* was promoted by Mahub ul Haq (Pakistan) with the UNDP report of 1994 and then developed further with Japanese support by the *Human Security Commission* (2003) and promoted both by UNESCO and UNU globally.
- Civil society organizations in South Asia developed the concept of *livelihood security*.
- International organizations introduced the sectoral concepts of *energy* (IEA, OECD), *food* (FAO, WFP), *water* (UNEP) *and health* (WHO) *security* (see Hexagon vol. IV).
- In the US and Canada, and in Switzerland and Norway the concept of *environmental security* as security concerns emerged during the 1980's and 1990's.
- Since 1990 the epistemic community of the *Intergovernmental Panel on Climate Change* (IPCC) provoked a global scientific and policy debate on climate change.
- The *Earth System Science Partnership* (ESSP) and its four programmes: IHDP (*International Human Dimensions Programme*), IGBP (*International Geosphere-Biosphere Programme*), WCRP (*World Climate Research Programme*) and *Diversitas* and its project GECHS (*Global Environmental Change and Human Security*) resulted in global scientific networks that address new security dangers and concerns.

Trends in the *reconceptulization of security* that will be mapped in the Hexagon Series are:

- *widening*, *deepening*, and *sectorialization* of security concepts;
- shift of referent object from the state to human beings or humankind (*human security*);
- perception of *new security dangers* (threats, challenges, vulnerabilities, and risks) and *securitization* of new security concerns due to an articulation by national and international organizations, scientific epistemic communities, and an attentive public with a progressing decentralization and diversity of information control through the internet;
- search for new non-military strategies to face and cope with these newly perceived security dangers and concerns and new environmental dangers, hazards, and disasters that pose no classical security dilemma (Herz 1950, 1959, 1962) for states but a 'survival dilemma' (Brauch 2004, chap. 40) for people.

These new drivers and centres of conceptual innovation have fundamentally challenged the narrow state-focused security concept of the traditionalists and realists in the Cold War.

1.6 History, Social Sciences, Philosophy, International Law

Events, structures, and concepts stand for three different historical approaches of:

- a *history of events* (of states and government elites) in diplomacy, conflicts, and wars focusing on the activities of states during wars;

- a *history of structures* (history of 'longue durée' and of conjunctural cycles) in the accounts on social, societal, and economic history;
- a history of ideas ('*Ideengeschichte*') and concepts ('*Begriffsgeschichte*').

1.6.1 Contextual Change and Conceptual History

The history of concepts was instrumental for a major German editorial project on key historical concepts (Brunner/Conze/Koselleck 1972–1997). Koselleck (1979, 1989, 1994, 1996, 2000, 2002, 2006) addressed the complex interlinkages between the temporal features of events, structures, and concepts in human (societal) history but also the dualism between experience and concepts (chap. 3 by Brauch). '

Conze (1984: 831–862) reviewed the evolution of the meaning of the German concepts security ('Sicherheit') and protection ('Schutz') that evolved – based on Roman and Medieval sources – since the 17th century with the dynastic state and was closely linked to the modern state. Since 1648 internal security was distinguished from external security which became a key concept of foreign and military policy and of international law. During the 17th and 18th centuries internal security was stressed by Hobbes and Pufendorf as the main task of the sovereign for the people.

In the American constitution, safety is linked to liberty. During the French Revolution the declaration of citizens' rights declared security as one of its four basic human rights. For Wilhelm von Humboldt the state became a major actor to guarantee internal and external security while Fichte stressed the concept of mutuality where the state as the granter of security and the citizen interact. Influenced by Kant, Humboldt, and Fichte the concept of the '*Rechtsstaat*' (legally constituted state) and *'Rechtssicherheit'* (legal predictability of the state) became key features of the thinking on security in the early 19th century (Conze 1984).

The concept of 'social security' gradually evolved in the 19th and 20th centuries, especially during F.D. Roosevelt's New Deal as a key goal to advance the security of the citizens: "the security of the home, the security of the livelihood, and the security of the social insurance." This was addressed in the *Atlantic Charter* of 1941 as "securing, for all, improved labour standards, economic advancement and social security." In 1948 social security became a key human right in Art. 22 of the General Declaration of Human Rights.

The 'national' security concept in the US resulted in the emergence of the American security system (Czempiel 1966), or of a national security state (Yergin 1977). It was used to legitimate a major shift in the mindset from the isolationism of the 1930's to the internationalism in the post-war years, i.e. from a fundamental criticism of military armaments to a legitimization of an unprecedented military and arms build-up and militarization of the mindset of post-war foreign policy elites.

The changes in the thinking on security and their embodiment in security concepts are also a semantic reflection of the fundamental changes as they have been perceived in different parts of the world and conceptually articulated in alternative or new and totally different security concepts. Competing securitization efforts of terrorism or climate change are behind the transatlantic and global security policy debate and the global scientific conceptual discourse.

1.6.2 Conceptual Mapping in the Social Sciences

In the social sciences, the security concept has been widely used in *political science* (chap. 37 by Baylis in this vol.), and *economics* (chap. 36 by Mursheed and 43 Mesjasz) that focus on different actors: on the political realm (governments, parliaments, public, media, citizens); on society (societal groups) and on the business community (firms, customers, economic and fiscal policies). In political science, the security concept has been used in its threefold context: *policy* (field of security policy), *politics* (process on security, military, and arms issues), and *polity* (legal norms, laws, and institutions on the national and international level). The US National Security Act of 1947 (Czempiel 1966, Brauch 1977) and its adjustments has created the legal and institutional framework for the evolution of the 'national security state', sometimes also referred to as a military-industrial complex (Eisenhower 1972). This evolution has been encapsulated in the US debate on the concepts of 'national' and since 2001 also 'homeland' security.

1.6.3 Analysis of Concepts and their Linkages in Philosophy

The evolution and systematic analysis of concepts has been a major task of political philosophy and of the history of ideas. In German several philosophical publications documented the contemporary philosophy and its concepts in its interrelationship to their hi-

storical structure and the sciences.[3] From a philosophical perspective after the end of the Cold War, Makropoulos (1995: 745–750) analysed the evolution of the German concept 'Sicherheit' from its Latin and Greek origins and its evolution and transformation during the medieval period, after the reformation as a concept in theology, philosophy, politics and law, with a special focus on Hobbes, Locke, Wolff, Rousseau, and Kant. In the 20th century he reviewed the prevention and compensation of genuinely social and technical insecurity as well as new social risks. While this article briefly noted the concept of 'social security' the key concept of 'national security' or the more recent concepts of 'human security' were not mentioned.

1.6.4 Security Concepts in National Public and International Law

Since the 18th century the security concept was widely used in the context of constitutional or public law for the legal system providing '*Rechtssicherheit*' for the citizens in their engagement with the state. The concepts of 'international peace and security' have been repeatedly used in the Covenant and in the UN Charter where Art. 1,1 outlines its key purpose:

> to maintain international peace and *security*, and to that end: to take effective collective measures for the prevention and removal of threats to the peace ... 2. to develop friendly relations among nations ... 3. to achieve international cooperation ... [and] 4. to be a centre for harmonizing the actions of nations in the attainment of these common ends.

Wolfrum (1994: 51) points to the subjective and objective elements of 'international security', the pursuit of which "implies a transformation of international relations so that every state is assured that peace will not be broken, or at least that any breach of the peace will be limited in its impact." In addition he referred to the "defining characteristic of the concept of collective security [as] the protection of the members of the system against a possible attack on the part of any other member of the same system," and he noted that "the distinction drawn between the concepts of collective security and collective self-defence has been blurred to some extent in practice, and it also has lost relevance with respect to the United Nations" because due to the universal nature of the UN system "any distinction based upon external or internal acts of aggression [have been rendered] meaningless."

1.6.5 Debate on Security Concepts within the United Nations

In a report of the Secretary-General on *Concepts of Security* (UN 1986)[4] that was prepared by government experts from Algeria, Venezuela, Sweden (chair), China, GDR, Romania, Uganda, USSR, Argentina, Yugoslavia, Malaysia, India and Australia security was defined as:

> a condition in which States consider that there is no danger of military attack, political pressure or economic coercion, so that they are able to pursue freely their own development and progress. International security is thus the result and the sum of the security of each and every State member of the international community; accordingly, international security cannot be reached without full international cooperation. However, security is a relative rather than an absolute term. National and international security need to be viewed as matters of degree (UN 1986: 2).

Secretary-General Pérez de Cuéllar noted that "concepts of security are the different bases on which States and the international community as a whole rely for their security" and he observed that "the

3 See e.g. the historical dictionary of philosophy (*Historisches Wörterbuch der Philosophie*) published first in 1899 by Rudolf Eisler, and its fourth edition (1927–1930). A different approach was pursued in the new *Historisches Wörterbuch der Philosophie*, launched and edited by Joachim Ritter and written by a team of more than 1,500 scholars that has been published in twelve volumes between 1971 and 2004. It includes four types of contributions: a) terminological articles, b) key concepts with minor changes in history, c) combined concepts in their systematic context (e.g. in logic), and d) historical method for more detailed articles that track the continuity and change of concepts from Classical Greek to contemporary philosophical treatments.

4 The GA in Res. 37/99 of 13 December 1983 called for "a comprehensive study of concepts of security, in particular security policies which emphasize cooperative efforts and mutual understanding between states, with a view of developing proposals for policies aimed at preventing the arms race, building confidence in relations between states, enhancing the possibility of reaching agreements on arms limitation and disarmament and promoting political and economic security (UN DOC A/40/533)." This resulted in several reports published by the Secretary-General on the "Relationship between Disarmament and International Security" (Disarmament Study Series No. 8, 1982); on "Concepts of Security" (Disarmament Study Series No. 14, 1986) and on "Study on Defensive Security Concepts and Policies" (Disarmament Study Series No. 26, 1993).

group recognized the different security concepts [that] have evolved in response to the need for national security and as a result of changing political, military, economic and other circumstances." He summarized the group's common understanding on six elements of a security concept:

a) All nations have the right to security.
b) The use of military force for purposes other then self-defence is no legitimate instrument of national policy.
c) Security should be understood in comprehensive terms, recognizing the growing interdependence of political, military, economic, social, geographical and technological factors.
d) Security is the concern of all nations and in the light of the threat of proliferating challenges to global security all nations have the right and duty to participate in the search for constructive solutions.
e) The world's diversities with respect to ethnic origins, language, culture, history, customs, ideologies, political institutions, socio-economic systems and levels of development should not be allowed to constitute obstacles to international cooperation for peace and security.
f) Disarmament and arms limitation...is an important approach to international peace and security and it has thus become the most urgent task facing the entire international community (UN 1986: v-vi).

Since 1990, Secretaries-General Boutros Ghali (1992, 1995) and Annan (2005) have conceptualized 'security' and 'human security' that according to Annan's report *In Longer Freedom* is based on 'freedom from want', 'freedom from fear' and 'freedom to live in dignity'.

For the post Cold War (1990–2006) years, Michael Bothe (chap. 35) reviewed the changes in the use of the concept of security in UNSC decisions on activities that have been considered as threats to 'international peace and security' or as 'breaches of peace'. Jürgen Dedring (chap. 46) reviewed the introduction of the 'human security' concept in the deliberations of the Security Council as a result of the activities of Canada on the protection of civilians in armed conflicts while Fuentes (2002; 2008) analysed the activities of the Human Security Network in the promotion of a common human security agenda within and outside of the UN system.

In the scientific disciplines reviewed in this volume, key changes could be noticed in the meaning of the concept of security as well as in the five dimensions of a wider security concept. This process of reconceptualizing security since 1990 could also be observed in statements of international organizations (UN, OSCE, EU, OECD, NATO) and in the interfaces between security and development. Much evidence could be found for the working hypothesis that the global turn has resulted in a reconceptualization of security.

1.6.6 Reconceptualization of Regional Security

New security concepts have been adopted with the *Declaration of the Organization of American States* in October 2003 in Mexico (chap. 69 by Rojas), with the *European Security Strategy* of 2003 (chap. 51 by Hintermeier) by the European Union, by the United Nations in 2005 (chap. 47 by Einsiedel/Nitschke), as well as by NATO (chap. 55 by Dunay; chap. 56 by Bin) but also new collective security tasks have been taken up by the UN Security Council.

However, this retrospective analysis is not sufficient. With the ongoing globalization process, new transnational non-state actors (from transnational corporations, to terrorist and crime networks) have directly affected objective security dangers and subjective concerns. It is not only 'international terrorism' that has become a major new security danger and thus the major object of securitization in many US national security policy statements and in numerous UN and other resolutions by IGOs, threats to 'human security' in other parts of the world are also posed by the impact of global climate change via an increase in the number and intensity of natural hazards and disasters (storms, cyclones, hurricanes but also drought) that are caused by anthropogenic activities that are partly responsible for the misery of those affected most by extreme weather events (e.g. by cyclones in Bangladesh or by drought in the Sahel zone). These events have contributed to internal displacement and migration and have thus reached the North as new 'soft' security problems (Brauch 2002; Oswald 2007).

All these developments caused by global environmental change have contributed to the emergence of a new phase in earth history, the "anthropocene" (Crutzen 2002; Crutzen/Stoermer 2000; Clark/Crutzen/Schellnhuber; Oswald/Brauch/Dalby 2008) that poses new security dangers and concerns, and for many people in the South and for some of the most vulnerable and affected also a 'survival dilemma' (Brauch 2004, and chap. 42).

Thus, besides the global turn of 1990, several regional and national structural changes, the impacts of globalization, and with global environmental change a new set of dangers and concerns for the security and survival of humankind are evolving. The perception of or the securitization of these new security dangers as threats for international, regional, national, and human security have all contributed to a reconceptualization of security.

1.7 Three Volumes on Reconceptualizing Security

This book is the first of three volumes that address different aspects of an 'intellectual mapping' of the ongoing process of reconceptualizing security. The two related volumes address:

- *Facing Global Environmental Change: Environmental, Human, Energy, Food, Health and Water Security Concepts*;
- *Coping with Global Environmental Change, Disasters and Security – Threats, Challenges, Vulnerabilities and Risks.*

These three books in the *Hexagon Series on Human and Environmental Security and Peace* (HESP) aim to achieve these scientific goals: a) a global *North-South scientific debate* on *reconceptualizing security*; b) a *multidisciplinary debate* and learning; and c) a *dialogue between academia and policymakers* in international organizations, national governments and *between academia and* nongovernmental actors in civil society and in social movements on security concepts. These three volumes focus on the conceptual thinking on a wide notion of security in all parts of the world that is used to legitimate the allocation of public and private resources and to justify the use of force both to 'protect' and to 'kill' people in the realization of major values.

The 'hexagon' represents six key factors contributing to global environmental change – three nature-induced or supply factors: soil, water and air (atmosphere and climate), and three human-induced or demand factors: population change (growth and decline), urban systems (industry, habitat, pollution) and rural systems (agriculture, food, nature protection). Throughout the history of the earth and of the homo sapiens these six factors have interacted. The supply factors have created the preconditions for life while human behaviour and economic consumption patterns have contributed to its challenges (increase in extreme weather events) and fatal outcomes for human beings and society. The Hexagon series will cover the complex interactions among these six factors and their extreme and in some cases even fatal outcomes (hazards/disasters, internal displacements and forced migration, crises, and conflicts), as well as crucial social science concepts relevant for their analysis.

Issues in three research fields on environment, security, and peace, especially in the environmental security realm and from a human security perspective, will be addressed with the goal to contribute to a fourth phase of research on environmental security from a normative peace research and/or human security perspective (Brauch 2003; Dalby/Brauch/Oswald 2008). This book series offers a platform for scientific communities dealing with global environmental and climate change, disaster reduction, environmental security, peace and conflict research, as well as for the humanitarian aid and the policy community in governments and international organizations.

1.8 Goals, Structure, Authors and Audience of this Book

The basic research questions this global reference book addresses are threefold:

- Did these manifold structural changes in the political order trigger a rethinking or *reconceptualization* of the key 'security concept' globally, nationally, and locally?
- To which extent were two other global processes instrumental for this new thinking on security: a) the process of economic, political, and cultural *globalization* and b) the evolving perception of the impact of *global environmental change* (GEC) due to climate change, soil erosion, and desertification as well as water scarcity and deterioration?
- Or were the changes in the thinking on security the result of a scientific revolution (Kuhn 1962) resulting in a major paradigm shift?

1.8.1 Theoretical Contexts for Security Reconceptualizations

The first two chapters introduce into the international debate on reconceptualizing security since 1989. *Czeslaw Mesjasz* approaches the reconceptualizing of security from the vantage point of systems theory as attributes of social systems.

1.8.2 Security, Peace, Development and Environment

Hans Günter Brauch (chap. 3) introduces a conceptual quartet consisting of *Security, Peace, Environment and Development* that are addressed by four specialized research programmes of peace research, security, development, and environmental studies. After an analysis of six linkages between these key concepts, four linkage concepts will be discussed: a) the *security dilemma* (for the peace-security linkage); b) the concept of *sustainable development* (for the development-environment linkage); c) *sustainable peace* (peace-development-environment linkage) and the new concept of a d) *survival dilemma* (security-environment-development linkage). Six experts review the debates on efforts to reconceptualize these six dyadic linkages: 1: peace and security (chap. 4 by *Ole Wæver*); 2: peace and development (chap. 5 by *Indra de Soysa*.); 3: peace and environment (chap. 6 by *Úrsula Oswald Spring*); 4: development and security (chap. 7 by *Peter Uvin*); 5: development and environment (chap. 8 by *Casey Brown*); and 6: security and environment (chap. 9 by *Simon Dalby*).

While since the French Revolution (1789) many political concepts (including *peace* and *security*) were reconceptualized, the political concepts of *development* and *environment* have gradually evolved since the 1950's and 1970's on national and international political agendas. The authors of chapters 4 to 9 were invited to consider these questions:

a) Has the peace and security agenda in the UN Charter been adapted to a global contextual change with the disappearance of bipolarity and the emergence of a single superpower? Has the understanding of the classic concepts affecting peace and security: sovereignty, non-use of force (Art. 2,4) and non-intervention (Art. II,7 of UN Charter) changed with the increase of humanitarian interventions and peacekeeping operations?
b) Which impact did the increase in violence in Europe since 1991, the emergence of new asymmetric, ethno-religious, internal conflicts, and the challenge by non-state actors in a rapidly globalizing world have on the theoretical debates on the six dyadic linkages?
c) Which impact did the change in the peace-security dyad have on environment and development concepts? Did environment and development policies benefit from the global turn? Was it instrumental for the increase in 'failing states' (Somalia, Afghanistan)?
d) Have the summits in Rio de Janeiro (UNCED, 1992) and in Johannesburg (UNSSD, 2002), and the formulation of the *Millennium Development Goals* benefited from the turn?
e) Has the attack of 11 September 2001 on the US changed the priorities of security and development policies, nationally, regionally and globally?

Not all authors have responded to these questions, rather they discussed questions they considered the most relevant from their respective scientific and research perspective. They have widened and deepened the concepts from disciplines and have introduced southern perspectives to the security discourse.

1.8.3 Philosophical, Ethical, and Religious Contexts for Reconceptualizing Security

During the Cold War national and international security was a key policy concept for allocating financial resources and legitimating policies on the use of force. During this period the thinking on security of American and Soviet scholars dominated the paradigms and conceptual debates in the West and East, but also in the divided South. With the end of the Cold War this conceptual dichotomy was overcome. In the post Cold War era, prior to and after 11 September 2001, theoreticians have reconceptualized security in different directions.

Samuel P. Huntington's (1996) simplification of a new 'Islamic-Confucian threat' used cultural notions to legitimate military postures to stabilize the Western dominance and US leadership. Huntington provoked many critical replies by scholars from different regions, cultures and religions. Instead of reducing 'culture' to an object for the legitimization of the military power of one country, the authors in part III have been asked to review the thinking on security in their own culture or religion as it has evolved over centuries and has and may still influence implicitly the thinking and action of policymakers in their region.

Introducing part III, *Úrsula Oswald Spring* (Mexico, chap. 10) compares the thinking on peace in the East, West, and South. Eight chapters were written by authors representing different cultures and religions: *Eun-Jeung Lee* (Korea, chap. 13 on: Security in Confucianism and in Korean philosophy and ethics); *Mitsuo* and *Tamayo Okamoto* (Japan, chap. 14 on: Security in Japanese philosophy and ethics); *Naresh Dadhich* (India, chap. 15 on: Thinking on security in Hinduism and in contemporary political philosophy and ethics in India); *Robert Eisen* (USA, chap. 16 on security in

Jewish philosophy and ethics); *Frederik Arends* (Netherlands, chap. 17: security in Western philosophy and ethics); *Hassan Hanafi* (Egypt, chap. 18: security in Arab and Muslim philosophy and ethics); *Jacob Emmanuel Mabe* (Cameroon/Germany, chap. 19: Security in African philosophy, ethics and history of ideas); *Georgina Sánchez* (Mexico, chap. 20: Security in Mesoamerican philosophy, ethics and history of ideas); *Domício Proença Júnior* and *Eugenio Diniz* (Brazil, chap. 21: The Brazilian view on the conceptualization of security: philosophical, ethical and cultural contexts and issues); while *Michael von Brück* (Germany, chap. 11: security in Buddhism and Hinduism), and *Kurt W. Radtke* (Germany/Netherlands, chap. 12: Security in Chinese, Korean and Japanese philosophy and ethics) compare the thinking on security in two eastern religions and the thinking in Chinese, Korean, and Japanese philosophy and ethics. The authors were invited to discuss these questions:

a) Which security concepts have been used in the respective philosophy, ethics, and religion?
b) How have these concepts evolved in different philosophical, ethical, and religious debates?
c) What are the referents of the thinking on security: a) humankind, b) the nation state, c) society, or d) the individual human being?
d) How are these concepts being used today and do these religious and philosophical traditions still influence the thinking of decision-makers on security in the early 21st century?
e) Did the global contextual change of 1990 as well as the events of 11 September 2001 have an impact on the religious, philosophical, and ethical debates related to security?

The goal of this part is to sensitize the readers not to perceive the world only through the narrow conceptual lenses prevailing primarily in the Western or North Atlantic debates on security concepts and policies. Rather, the cultural, philosophical and religious diversity that influence the thinking on and related policies may sensitize policymakers.

1.8.4 Spatial Context and Referents of Security Concepts

During the Cold War the narrow 'national security' concept has prevailed (table 1.2). Since 1990 two parallel debates have taken place among analysts of *globalization* (in OECD countries) focusing on processes of de-territorialization and de-borderization as well as proponents of new 'spatial' approaches to international relations (*geo-strategy, geopolitics, geo-economics*). There was no significant controversy between both schools. Both approaches may contribute to an understanding of the co-existence of pre-modern, modern and post-modern thinking on sovereignty and its relationship to security. The major dividing line between both perspectives, often pursued in the tradition of realism or pragmatism, is the role of 'space' in international affairs (see chap. 22 by Brauch).

In the Westphalian system sovereign states may be defined in terms of a) territory, b) people, and c) government (system of rule). Thus, the territorial category of 'space' has been a constituent of modern international politics. No state exits without a clearly defined territory. 'Spatiality' is the term used to describe the dynamic and interdependent relationship between a society's construction of space on society (Soja 1985). This concept applies not only to the social level, but also to the individual, for it draws attention to the fact that this relationship takes place through individual human actions, and also constrains and enables these actions (Giddens 1984). During the 1960's and 1970's, spatial science was widely used in geography and it attracted practitioners interested in 'spatial order' and in related policies (Schmidt 1995: 798–799). However, the micro level analyses in human geography are of no relevance for international relations where the concept of 'territoriality' is often used as:

> a strategy which uses bounded spaces in the exercise of power and influence. ... Most social scientists ... focus on the efficiency of territoriality as a strategy, in a large variety of circumstances, involving the exercise of power, influence and domination. ... The efficiency of territoriality is exemplified by the large number of 'containers' into which the earth's surface is divided. By far the best example of its benefits to those wishing to exercise power is the state, which is necessarily a territorial body. Within its territory, the state apparatus assumes sovereign power: all residents are required to 'obey the laws of the land' in order for the state to undertake its central roles within society; boundaries are policed to control people and things entering and leaving. Some argue that territoriality is a necessary strategy for the modern state, which could not operate successfully without it (Johnston 1996: 871; Mann 1984).

This very notion of the '*territoriality*' of the state has been challenged by international relations specialists. Herz (1959) argued that the territorial state could easily be penetrated by intercontinental missiles armed with nuclear weapons. In the 1970's, some globalists announced the death of the state as the key actor of international politics, and during the recent debate some analysts of *globalization* proclaimed the end of

the nation state and a progressing deborderization and deterritorialization have become key issues of analysis from the two opposite and competing perspectives of globalization and *geopolitique* but also from critical geopolitics. For the deborderized territories a new form of *raison d'état* may be needed.

The authors of part IV have been invited to address the following questions:

a) Has the debate on security been influenced by the two schools focusing on globalization and geopolitics as well as by pre-modern, modern, and post-modern thinking on space?
b) To which extent have there been changes in the spatial referents of security, with regard to global environmental change, globalization, regionalization, the nation state, as well as sub-national actors, such as societal, ethnic and religious groups, terrorist networks, or transnational criminal groups active in narco-trafficking?

The authors of the twelve chapters address two competing approaches of globalization vs. critical geopolitics or ecological geopolitics vs. political geo-ecology (chap. 22 by *Hans Günter Brauch*); on astructural setting for global environmental politics in a hierarchic international system from a geopolitical view (chap. 23 by *Vilho Harle* and *Sami Moisio*); the role and contributions of the Global Environmental Change and Human Security (GECHS) project within IHDP (Chap. 24 by *Jon Barnett*, *Karen O'Brien* and *Richard Matthew*); globalization and security: the US 'Imperial Presidency': global impacts in Iraq and Mexico (chap. 25 by *John Saxe-Fernández*); and on: Globalization from below: The World Social Forum: A platform for reconceptualizing security? (chap. 26: by *Úrsula Oswald Spring*).

Mustafa Aydin and *Sinem Acikmese* (chap. 27) discuss identity-based security threats in a globalized world with a focus on Islam, while *Björn Hettne* (chap. 28): in world regions as referents reviews concepts of regionalism and regionalization of security. *Bharat Karnad* (chap. 29) addresses the nation state as the key referent with a focus on concepts of national security, while *Varun Sahni* (chap. 30) provides a critical analysis of the role of sub-national actors (society, ethnic, religious groups) as referents. *Gunhild Hoogensen* (chap. 31) focuses on terrorist networks and *Arlene B. Tickner* and *Ann C. Mason* (chap. 32) on criminal narco-traffic groups as non-state actors as referents and finally *Jacek Kugler* (chap. 33) offers his ideas on reconceptualizing of security research by integrating individual level data.

1.8.5 Reconceptualization of Security in Scientific Disciplines

The security concept is used in many scientific disciplines and programmes. In this part *Jean Marc Coicaud* (chap. 34) contemplates on security as a philosophical construct, *Michael Bothe* (chap. 35) offers an empirical review of the changing security concept as reflected in resolutions of the UN Security Council, while *S. Mansoob Murshed* (chap. 36) discusses the changing use of security in economics, *John Baylis* (chap. 37) reviews the changing use of the security concept in international relations, and *Ulrich Albrecht* and *Hans Günter Brauch* (chap. 38) reconstruct the changes in the security concept in security studies and peace research. The authors were invited to discuss these questions:

a) Did a reconceptualization of security occur in these scientific disciplines and programmes?
b) Did the global turn of 1990 and the events of 11 September 2001 have an influence or major impact on a reconceptualization of security or have other developments (e.g. globalization or demography) or events been more instrumental?
c) Which other factors were instrumental for a reconceptualization, e.g. of risk, risk society and modernity, that directly influence the scientific debate on security?

1.8.6 Reconceptualizing Dimensions of Security since 1990

Laura Shepherd and *Jutta Weldes* (chap. 39) introduce into the sixth part by discussing security as the state (of) being free from danger, and *Hans Günter Brauch* (chap. 40) contrasts the state-centred 'security dilemma' (Herz 1959) with a people-centred 'survival dilemma'. Barry Buzan, Ole Wæver and Jaap de Wilde (1998) distinguished among five sectors or dimensions of security of which they analyse in this book the military (*Buzan*, chap. 41), societal (*Wæver*, chap. 44), and environmental (*de Wilde*, chap. 45) security dimensions while the political one is discussed by *Thomaz Guedes da Costa* (chap. 42) and economic one by *Czesaw Mesjasz* (chap. 43). They were invited to reflect on these questions:

a) To which extent have new theoretical paradigms, approaches, and concepts in different parts of the world influenced the reconceptualization of security dimensions?

b) To which extent have different worldviews, cognitive lenses, and mindsets framed the securitization of the five key sectors or dimensions of security?
c) To which extent has the conceptualization of the five sectors or dimensions of security been influenced by the global turn of 1989 and by the events of 11 September 2001?
d) Has there been a fundamental difference in the perception of the impact of both events in Europe, in the USA, and in other parts of the world for the five security dimensions?
e) Has the policy relevance of different security dimensions contributed to competing security agendas, and were they instrumental for the clash among conflicting views of security in the UN Security Council since 2002, prior to and after the war in Iraq?

1.8.7 Institutional Security Concepts Revisited for the 21st Century

With the end of the Cold War, the bipolar system that relied primarily on systems of collective self-defence (Art. 51 of UN Charter) has been overcome with the dissolution of the Warsaw Treaty Organization in 1991. In a brief interlude from 1991–1994, the systems of global and regional collective security were on the rise, and even NATO, the only remaining system of collective self-defence, was ready to act under a mandate of the CSCE, or since 1994 of the OSCE. However, with the failure of the UN and OSCE to cope with the conflicts in the post Yugoslav space, since 1994 NATO's relevance grew again, and with its gradual enlargement from 16 to 27 countries, NATO has again become the major security institution for hard security issues while the role of the UN system and of its regional collective security organizations expanded also into the soft 'human' security areas.

Since 1994, when UNDP first introduced the human security concept, this concept has been debated by the UN Security Council (see chap. 46 by *Jürgen Dedring*), in reports by the UN Secretary-General (chap. 47 by *Sebastian Einsiedel*, *Heiko Nitzschke* and *Tarun Chhabra*) and has been used by UNDP as well as by UNESCO and other UN organizations such as UNU (Bogardi/Brauch 2005, 2005a). The reconceptualization of security in the CSCE and OSCE since 1990 is documented by *Monika Wohlfeld* (chap. 49).

Four chapters review the complex reconceptualization of security by and within the European Union, from the perspective of the chair of the EU's Military Committee (Chap. 50 by General *Rolando Mosca Moschini*) who presents its comprehensive security concept, while *Stefan Hintermeier* (chap. 51) focuses on the reconceptualization of the EU's foreign and security policy since 1990 and *Andreas Maurer* and *Roderick Parkes* (chap. 52) deal with the EU's justice and home affairs policy and democracy from the Amsterdam to The Hague Programme and finally *Magnus Ekengren* (chap. 53) focuses on the EU's functional security by moving from intergovernmental to community-based security concepts and policies.

Two chapters focus on the reconceptualization of security in NATO since 1990 (*Pál Dunay*, chap. 55) and on NATO's role in the Mediterranean and the Middle East after the Istanbul Summit (*Alberto Bin*, chap. 56). The security and development nexus is introduced by *Peter Uvin* (chap. 8), the coordination issues within the UN system is addressed by Ole *Jacob Sending* (chap. 48) and the harmonization of the three goals of peace, security, and development for the EU by *Louka T. Katseli* (chap. 54). From the perspective of Germany *Stephan Klingebiel* and *Katja Roehder* (chap. 58) carry the considerations further by discussing the manifold new interfaces between development and security, while *Ortwin Hennig* and *Reinhold Elges* (chap. 57) review the German Action Plan for civilian crisis prevention, conflict resolution, and peace consolidation as a practical experience with the reconceptualization of security and its implementation in a new diplomatic instrument. The authors of part VII were asked to consider these questions:

a) Which concepts of security have been used by the respective international organizations in their charter and basic policy documents? To which extent has the understanding of security changed in the declaratory as well as in the operational policy of this security institution? To which extent was the global turn of 1989 instrumental for a reconceptualization of security by the UN, its independent global and regional organizations and programmes?
b) Has there been a shrinking of the prevailing post Cold War security concept since 11 September 2001, both in declaratory and operational terms? To which extent has there been a widening, a deepening or a sectorialization of security since 1990 in OSCE, EU and NATO, and to which extent has this been reflected in NATO's role in the Mediterranean and in the Middle East? And to which extent did the security institutions adopt the concepts of environmental and human security in their policy declarations and in their operative policy activities?

1.8.8 Reconceptualizing Regional Security for the 21st Century

A major reconceptualization of security has been triggered by the fundamental global contextual change that occurred with the end of the Cold War. The narrow Hobbesian view of security threats posed by the military capabilities and intentions of the other military alliance has been overcome and replaced by a widening, deepening and sectorialization of the regional thinking on security. The security concepts offer a framework for the analysis of hard security threats and manifold political, economic, environmental security challenges, vulnerabilities and risks. The redefinition of security interests by security institutions as influenced by the conceptual lenses that influence the subjective security perception.

Among the authors of part VIII are the foreign minister of Nigeria *Joy Ogwu* who offers a regional political security perspective from and for Western Africa (chap. 62) while *Alfred Nhema* and *Martin Rupiya* (Zimbabwe, chap. 63) provide a grim regional security perspective from and for the Horn, Eastern and Southern Africa, and *Naison Ngoma* and *Len le Roux* (Zambia, South Africa, chap. 64) offer a regional security perspective from and for Southern Africa.

The regional security in Europe in the 21st century is analyzed by *Sven Biscop* (Belgium, chap. 59), while *Mustafa Aydin* and *Neslihan Kaptanolu* (Turkey, chap. 60) discuss three concepts of regionalization of great power security concerns for the intertwining between the new neighborhood, the near abroad, and the greater and wider Middle East while *Bechir Chourou* (Tunisia, chap. 61) contributes a regional security perspective from and for the Arab world. Three regional security perspectives for three sub-regions in Asia are offered by *Navnita Chadha Behera* (India, chap. 65) for South Asia, by *Eu-Jeung Lee* (chap. 66) for China, South and North Korea and Japan and by *Liu Cheng* and *Alan Hunter* (China/UK, chap. 67) for China for the early 21st century. *Kevin P. Clements* and *Wendy L. Foley* (Australia, New Zealand, chap. 68) review the regional security debate in the South Pacific on peace and security with alternative formulations in the post-Cold War era and *Francisco Rojas Aravenna* (Chile, chap. 69) assesses the key regional security issues on the American continent, its challenges, perceptions, and concepts and *P.H. Liotta* (USA) and *James F. Miskel* (USA) offer thoughts for an ethical framework for security. The authors of part VIII were invited to consider these questions:

a) Which impact did scientific and political security discourses and communication processes have on the reconceptualization of regional security?
b) How relevant have security concepts been for the formulation of security interests in international politics and international relations? Which role has the rethinking of security in the new millennium played in regional debates on peace and security in Europe, in the Neighbourhood, Near Abroad, and Greater or Wider Middle East?

1.8.9 Reconceptualizing Security and Alternative Futures

This part will carry the discussion on security concepts into the future from a theoretical perspective on prediction in security theory and policy by *Czesaw Mesjasz* (chap. 71), from the vantage point of two military officers, *Heinz Dieter Jopp* and *Roland Kaestner* (chap. 72), and of an environmental and hazard specialist *Gordon A. McBean* (chap. 74) who discusses the role of prediction with regards to natural hazards and sustainable development. *Heikki Patomäki* (chap. 73) debates from a hypothetical scenario on learning from possible futures for global security.

1.8.10 Summary Conclusions

In this final part *Úrsula Oswald Spring* and *Hans Günter Brauch* (chap. 75) summarize the results of this global mapping of the rethinking on security. Based on the analysis of the trends in global thinking the authors discuss the policy relevance of security concepts for the structuring of the security debate and for policy-making both in national governments and in international organizations.

1.9 Editorial Process

As indicated above (1.7) this book differs from available publications on security by aiming at a fourfold dialogue. Such an ambitious effort may transcend the narrow professional or institutional horizon of some reviewers who often expect that such a project should be developed within the mainstream methodological approaches of international relations.

The editors pursue three goals: a) to contribute to *problem awareness* for the different security concepts in North and South, on hard and soft security issues, on non-military, primarily environmental challenges and environmental security problems; b) to stimulate

and encourage interdisciplinary scientific research and political efforts to resolve, prevent, and avoid that environmental factors may contribute to violent conflicts (both scientific and political *agenda-setting*); and c) to contribute to a better understanding of the complex interactions between natural processes, nature and human-induced regional environmental changes (*learning*).

While power has once been defined by Karl Deutsch (1963, 1966) as not having to learn, during the 20th century the resistance to any *anticipatory* learning by those who control the resources over outcomes has been significant. In history, it often required severe foreign policy and domestic crises (e.g. in the US in the 1970's during the Vietnam War and in the former Soviet Union in the 1980's during the Afghanistan War) to stimulate major re-assessments of existing foreign and security policies and to launch fundamental revisions.

Several scientists (E.U. von Weizsäcker 1989; E.O. Wilson 1998) have described the 21st century as the century of the environment. For the new century, Edward O. Wilson (1998a) has referred to a growing *consilience*, i.e. the interlocking of causal explanations across disciplines, what implies that the interfaces of disciplines become as important as the disciplines. Ted Munn (2002), in his preface to the *Encyclopedia of Global Environmental Change*, argued based on Wilson:

> that this interlocking amongst the natural sciences will in the 21st century also touch 'the borders of the social sciences and humanities'. In the environmental context, environmental scientists in diverse specialties, including human ecology, are more precisely defining the area in which that species arose, and those parts that must be sustained for human survival (Wilson 1998).

Anticipatory learning must acknowledge this need for a growing *consilience* that causal explanations across disciplines may contribute to new understanding and knowledge that will be needed to cope with the challenges of the 'international risk society' (Beck 1992, 1999, 2007).

All authors of this and subsequent volume were specifically invited by the lead editor in consultation with John Grin and Czesaw Mesjasz to contribute to three workshops on reconceptualizing security at the:

- *45th Annual ISA Convention* in Montreal, Quebec, Canada, 17–20 March 2004[5];
- *20th IPRA Conference* in Sopron, Hungary, 5–9 July 2004[6];
- *Fifth Pan-European Conference on International Relations* (ECPR) in The Hague, the Netherlands, 8–11 September 2004.[7]

At these workshops all papers were critiqued by discussants and by the audience. All chapters in this volume have been peer reviewed by at least two anonymous reviewers, and subsequently all chapters in this volume have been revised by the authors.

This book is not addressed *only* to the political science, international relations, strategic studies, peace research, development, and environmental studies community in the OECD world. Its scope is broader and more ambitious. It intends to broaden the scope and to sensitize the reader to the thinking in different disciplines, cultures, and global regions, especially on nature and humankind. The editors have worked hard that these three related books on 'reconceptualizing security' will be of relevance for scholars, educators and students and the more generally academically trained audience in many scientific disciplines, such as: *political science* (international relations, security studies, environmental studies, peace research, conflict and war studies); *sociology* (security conceptualization and risk society); *economics* (globalization and security); *philosophy, theology, comparative religion* and *culture* (security conceptualization); *international law* (security conceptualization), *geosciences* (global environmental change, climate change, desertification, water), *geography* (global environmental change, population, urbanization, food); *military science* (military academies).

The global thinking on security is also of importance for policymakers and their advisers on the national and international level in: a) foreign, defence, development, and environment ministries and their policy-oriented think tanks; b) international organizations: NATO, European institutions, UN, UNESCO, FAO, WHO, UNDP, UNEP, IEA, UNU, et al.; c) for the *Human Security Network*; d) for the environment and security network of the representatives of 27 EU foreign ministries; and in e) nongovernmental organizations in the areas of foreign and defence, development and environment policies; as well as for f) diverse social and indigenous movements. The thinking on security and on the specific security policies of countries, alliances, and international organizations are also a special focus for educators (at all levels) and media specialists.

5 See the presentations at: <http://www.afes-press.de/html/download_isa.html>.

6 See the presentations at: <http://www.afes-press.de/html/download_sopron.html>.

7 See the presentations at: <http://www.afes-press.de/html/the_hague_programme.html>.

2 Security as Attributes of Social Systems

Czeslaw Mesjasz

2.1 Introduction

As in other areas of social sciences, in security studies theory follows the unfolding processes and provides descriptions and interpretations. Causal explanations are rare or superficial. Predictions or normative approaches are even more difficult to find. It may be claimed that in the contemporary discussion on security, analytical properties of that concept too often are either concealed in a broad ideological discourse, or are deriving from common sense reasoning. Attention is paid to the universalization of security, political, doctrinal, and even ideological issues and to critical approaches, with a lack of care for definitions. Too frequently the questions are asked what we think about this or that definition of security. What political doctrine and/or scientific paradigm does it conform to? Less attention is being paid to the most fundamental question: What security is about?

Bearing in mind broader reflections on security, it is necessary to reflect upon more specific facets of security – the identification of threats and risks, the limits of prediction, actions taken to maintain or to restore security, consequences of securitization or desecuritization, validity of policy recommendations.

It is impossible to answer whether the broad idea of security can be refined to fulfil the needs of more rigorous theorizing. But it is possible to study the analytical properties of the broadened definitions of security, i.e. to which extent they can be used for description, explanation of causal relationships, and prediction of phenomena in various social collectivities, not solely in international relations. Since security theory by definition has a normative character, thus expectations are going even further and analytical properties of the concept of security should facilitate normative applications.

Usually security is treated as an attribute of different social entities (collectivities) – states, groups of states, society (defined in different ways), or as in the case of human security, as a property of living conditions of individuals. It is then necessary to discuss security not as a broad and fuzzy normative idea, but as a property of the status of social entities and of their elements (individuals). Security treated as a feature of social systems can be viewed both in terms of 'objective' properties, as well as a construct emerging in the discourse of the external observers and/or participants.

This chapter addresses the following questions: How security treated as a property of social systems and of their elements (individuals) can be described and studied. Whether there exists any set of universal properties, a kind of 'core concept', which can be identified in all circumstances when the term 'security' is applied.

In a kind of mirror approach, in identifying links between security-related issues and complex systems studies, Murray Gell-Mann (2002), a Nobel Prize winner and specialist in complexity studies, saw an obstacle in a too broad definition of security (Alberts/Czerwinski 2002). Systems thinking, systems approach, and complex systems studies can be used in security theory and policy as sources of analogies, metaphors, and mathematical models. Using another approach, four of Wittgenstein's (2002) 'language games' emerge including: (1) the meaning of security, (2) the meaning of system, (3) the meaning of ideas where the concepts of system and security are jointly applied, and (4) the meaning of complexity. [1]

In the first part of the chapter interpretations of the notion security are briefly presented (2.2). In the second part, the core concept of security is developed into a collection of attributes of social systems, of their elements and of their environment (2.3). Security-related attributes of social systems are treated as an introduction to the assessment of possible analytical properties of various kinds of security, from human to military security. Complex systems studies are

1 Applications of the concept of language game in IR theory have been recently analysed by Fierke (2002).

proposed as a foundation for description, explanation of causal relations, prediction, anticipation, normative approach, prescription, retrospection, retrodiction, control and regulation in security-oriented discourse (2.4).

2.2 Interpretations of Security

Security and politics have been important areas of applications of various ideas drawn from systems thinking.[2] The newly emerging military and non-military threats such as low-intensity conflicts, regional conflicts, terrorism, environmental disturbances, etc. cannot be embraced without ideas taken from modern complex systems studies.

2.2.1 Evolution of the Concept of Security

It is impossible to elaborate a comprehensive and unequivocal definition of the security concept. The approaches presented below reflect a twofold evolution of the applications of the term 'security'. In the first group security is associated with international relations and either treated as an 'objective' attribute of a situation of the state or as an outcome of social discourse, as an 'act of speech' – performative utterance, a result of 'securitization' (see chapters by Buzan, Wæver and de Wilde in this volume).

The second group includes a rank of ideas either deriving from the international security discourse, or developed independently: 'internal security' within a country, security in military considerations, security as a public good, and security in an universal sense (of any individual and of any social entity) – societal security, and first and foremost, human security.

Etymological discussions on the origins of the English notion 'security' are twofold and reflect a discrepancy already existing in Latin interpretations of the term *securus* (Brauch 2003, 2005, 2005a) (Liotta 2002). In the first interpretation, the term security derives from Latin *securus* safe, secure, from *se* without + *cura* care - the quality or state of being secure or as a freedom from danger (freedom from fear or anxiety). In the second interpretation, the English word 'security' originates from the Latin word *'securus'* but a different interpretation. *'Se'* means 'without' and *'curus'* meaning 'uneasiness' or 'full of cares or worries'.

The difference of interpretations stems from the absence of an unequivocal interpretation of the term *cura (curas)* – cares and/or worries. The Latin term *cura* can be also interpreted in French as 'soin' or 'souci' (Touchefeu 2005). According to Maldonado (2000): "The prefix se- occurs in the word *securus* 'safe, free from worry', and appears to be formed from the word *curas*, 'cares or worries'. I say 'appears' since the inflectional suffixes (*-as* and *-us*, here) are also changed; whether *se-* attaches to the noun *cura* or whether there was once an adjective *curus* meaning something like "full of cares or worries" and *securus* is the only adjective remaining." [3]. 'Security' originally meant liberation from uneasiness, or a peaceful situation without any risks or threats. The term 'security' has many meanings, including 'to feel safe' and 'to be protected', and is used to describe a situation without risks or worries.

The traditional interpretation of security is deriving from foreign policy and international relations – 'objective' or 'military security'. This sense of security can be extended by the concept of internal security, i.e. absence of threats to the state system and to the everyday life of its citizens caused by political and or military disturbances within the borders of a country. After 11 September 2001 a broadened concept of 'homeland security' embodying both external and internal threats was institutionalized in the US on 25 November 2002, when President George W. Bush signed the Homeland Security Act. The second term 'military security' can to a large extent be associated with both traditional meanings of security – external and internal. In numerous cases all combat-related military activities are given a security context in its traditional sense as national (state) security.

2 The impact of systems concepts can be found in peace and security-related research summarized in Mesjasz (1988): the first models of military conflicts and wars by Frederick Lanchester (1916) and Lewis F. Richardson (1960), universal models of Pitirim Sorokin (1970) and Quincy Wright (1965), national and military security (origins of RAND Corporation), development of game theory-based conflict studies (Rapoport 1960), classical security studies by Morton A. Kaplan (1957) and Karl W. Deutsch (1966), and in contemporary studies on widened security concepts proposed by the 'Copenhagen School' (Buzan/Wæver/de Wilde 1998).

3 This discrepancy is also reflected in some other languages, e.g. in Polish *bezpieczestwo* (without care (in Polish, *bez* – without, *piecza* – care) and in Russian *bezopasnost'* (without threat) (in Russian *bez* – without, *opasnost'* (*o*) – threat). Further studies on etymology of security in other languages could also provide more insights in the studies of deepened and broadened interpretations of security.

In the 1990's, after the collapse of the Soviet empire, a new security approach or paradigm emerged. Widening of the security concept was proposed from a constructivist point of view by the Copenhagen School (Buzan/Wæver/de Wilde 1998; see also chapters in this volume). Security lost its traditional 'objective' character and is perceived as an 'act of speech' or a result of 'securitization'. Security is thus a self-referential practice, because an issue becomes a security issue – not necessarily because a real existential threat exists, but the issue is depicted as a threat.

A discourse that presents something as an existential threat to a referent object does not by itself create securitization. It is solely a securitizing move and the issue is securitized only if and when the audience accepts it as such. Securitization studies aims to gain understanding of who securitizes, on what issues (threats), for whom (referent objects), why, with what results and under what conditions (Buzan/Wæver/de Wilde 1998). 'Desecuritization' can be defined as a process where a 'threat' which under one 'speech act' compels extraordinary measures in another 'speech act' is presented as not requiring such measures (Wæver 1995)[4].

Deepening the agenda of security studies means moving either down to the level of individual or human security or up to the level of international or global security, with regional and societal security as possible intermediate points. Paradoxically, deepening of security was proposed by a realist scholar, Ken Booth (1991), who was even later called a 'fallen realist'.

The widest and deepest security concept is 'human security' (UNDP 1994: 23), which has two basic aspects: safety from chronic threats as hunger, disease, and repression ('freedom from want') and protection from sudden and harmful disruptions in the patterns of daily life ('freedom from fear'). According to Sen (2000: 1), human security focuses on "...survival, daily life and dignity of human beings." Its strong universal normative interpretation has an ethical and political impact, and its universal character makes it disputable in more rigorous applications (Burgess/Owen 2004).

Such universal applications have often led to a misuse or abuse of the security concept in the scientific and political discourse. To preserve and enhance the usefulness of that concept in theory and in practice, an eclectic or 'common-sense' approach is proposed to combine the declared objective value of the neo-realist security concept with the constructivist approach, and its 'widened' and 'deepened' features viewed as an 'act of speech'. Such an approach is needed to refer to security not only as a political and ideological category, but in operational terms, relevant for research and policy-making. Security can be also viewed as a socio-economic category of a public good (Kaul/Conceição/Le Goulven/Mendoza 2003), and a new emerging challenge of security of information society, including security of information systems ('informational security') is also addressed.

2.2.2 The Core Security Concept

Adding to the survey of reconceptualizations of security (see Brauch 2003, 2005 and chapters 1 and 4 in this volume) it is worthwhile to rethink what security is about. The following questions can be a point of departure for further considerations:

1. What are the characteristics of a social collectivity (or system) which can be depicted as secure?
2. How can those characteristics be specified in a more detailed form, not only with a broad but superficial and sometimes contradictory meaning?

If the term 'security' is assigned to a wide variety of social categories, then the question is whether there is a common denominator, a core concept, in all applications of that term. If this is true, what are the causes that the same term is assigned to different states of social systems and their elements? What interpretations can be assigned to the metaphor of security? Even an introductory linguistic inquiry allows concluding that security is not a dead metaphor, but a dormant and perhaps even an extended metaphor.[5]

If security is not a dead metaphor, then three transformations of its metaphorical sense can be presented. *First*, new characteristics were added to the initial meaning of security in international relations ('state' and 'internal' security), and they are selected in various processes of securitization as a kind of

4 These concepts are supplemented with complacency or 'non-securitization' of apparent threats (Buzan/Wæver/de Wilde 1998: 57).

5 In a 'dead metaphor' a transferred image is not present, e.g. money, because it was first minted at the temple of Juno Moneta. In a 'dormant metaphor' the initial idea has been lost, e.g. the strategy originally derived from Greek 'strategos', general or leader. An 'extended metaphor' sets up a principal subject with several subsidiary subjects or comparisons, e.g. our house is a castle, a fortress and a nest. For discussions on metaphors in social sciences see: Ortony (1979); Lakoff/Johnson (1980), Mirowski (1989, 1994); Morgan (1996).

'menu for choice' with some constraints, such as threats as disturbances requiring unusual activities.

The *second* rationale for its widespread applications is that the collection of characteristics to describe a positive perception of a state of any social entity and/or individual as security embodies so many characteristics that it is becoming too universal, if not trivial, pointing to security as all the good in the world. It may be even stated that such a definition of security and of human security in particular, is becoming a substitute for other ethical and religious norms referring to the quality of life.

The *third* assertion is used here as a point of departure. Despite extended and deepened contemporary interpretations of security, a limited collection of common attributes of that notion related to social systems and their elements can be defined in systemic terms. Those systemic attributes of security are associated with existence of social systems and their elements, e.g. individuals. Accordingly, the core concept of security is a kind of an invariant element of all situations when the term security is spelled out. In terms of a semantic analysis this invariant is the link between all meanings of security treated as dormant and extended metaphors. Thus the core element of security can be treated as a foundation of securitization treated as an 'act of speech' or a performative utterance.

Presence or absence of security of any social system or an individual, i.e. of circumstances threatening their existence and compelling to undertake extraordinary activities, can be translated into a collection of simple systemic characteristics. This collection can be called the 'core concept' of security since all its elements can be identified in any attempt to define security both objectively and stemming from various securitization discourses.

The expectation for the continued existence of any social system is the key element of the assessment of its security. Of course, for living systems and some social systems, the predicted termination of its existence is also a part of its set of norms. If survival or the predicted decay is the aims of existence, a kind of desired state, then any disturbance negatively affecting that process requires countermeasures. Thus a normative notion disturbance (disruption) – actual or potential, could be associated with such terms as danger, threat, challenge, vulnerability, and risk (Brauch 2005a), whose meaning also requires further elucidation. To guarantee clarity of considerations several ideas from systems thinking such as stability, instability, discontinuity, complexity, and several others are not applicable at this level of general considerations. But a closer look at their meaning may identify numerous simplifications and contradictions (Mesjasz 1999).

'Disturbance' refers to any object and can be caused by internal and external factors, or by a mixture of both. The disturbance should be identified by any observer-participant (internal, external), and if securitized – regarded as threatening an actual status (existence?) of the system (individual), should lead to appropriate actions.

The control theory is used irrespective of its deficiencies due to constructivist limitations. Social systems are treated as constructs made by observers or participants initially in their cognitive processes and later in the social discourse. The term social systems is used interchangeably with collectivities since in a constructivist approach the systems are created by observers or participants from any social collectivities, e.g. a system constructed solely for the purpose of the study. This approach does not allow responding unequivocally what social systems are but permits to circumvent the search for a universal definition of those systems.[6]

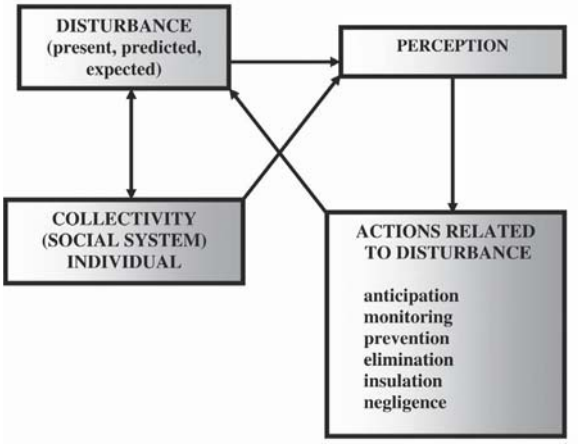
Similarly, in order to limit the too general character of the core concept of security, a neutral concept of an impulse influencing a system is replaced with a negatively valued notion of disturbance. Thus, the core concept of security is a kind of framework for all normative discussions on existence and survival of any social collectivities and individuals. Although it is designed for ordering the discourse on relatively well-defined, 'technical' aspects of security, it can also be helpful to introduce an additional rigour in the discussions on security based on broadly defined terms, like identity, or 'freedom from fear'. To discuss such ideas it is necessary to understand the sense of the word 'game'. The 'core scheme' of security can be extended in various directions by a combination of these attributes

1. *Reference object*: state, region, alliance, society, various social groups, nations, minorities, ethnic groups, individuals, global system;
2. *Areas where existential disturbances (threats) are emerging (sectors)*: political, military, economic, ecological, societal, informational.

6 An epistemological and ontological background for this application of the systems approach can be found in Midgley (2003).

3. *Methods of prediction* (*identification*) *of disruptions*: from search for 'objective' threats to subjectively perceived threats, also resulting from social discourse ('securitization').
4. *Methods of planning and performing extraordinary actions* (*anticipation*) aimed at monitoring, preventing or eliminating existential threats (figure 2.1).:

Figure 2.1: The Core Concept of Security



Additional attention must be paid to changing interpretations of the scheme in 'widening' and 'deepening' the meaning of security. In classical, state-oriented interpretations of security, the disturbance (threat) could be resulting from purposive actions by a clearly defined 'threatener' undermining actual or potential existence of a threatened object (system). In the widened and deepened interpretations of security, the disturbances are not so easily identified. If security is understood as the absence of unusual disturbances requiring extraordinary measures, then the questions are arising what is unusual (threatening) disturbance, how it can be identified (predicted), and what does extraordinary mean?

In systemic terms an idea of securitization is equivalent to the identification of external and internal changes perceived as actually or potentially disturbing a given state (equilibrium?), and in an ultimate resort terminating the existence of a social system and of its elements (individuals). Here it can only cursorily be mentioned that prediction of disturbances in the process of securitization also requires more precise considerations. Securitization allows defining the extraordinary character of actions which are to be undertaken in response to the disturbances.

In the process of universalization of the sense of security two doubts are arising. If too broadly defined categories are applied to depict some processes (events) as disturbing for social systems, e.g. threats to identity, or 'freedom from want, freedom from fear', then their sense of exceptionality is lost. By the same token, the actions undertaken in consequence of such broadly defined disturbances can lose their extraordinary character, or on the contrary, actions taken as normal can gain an exceptional sense.

This phenomenon is reflected in the discourse on societal, economic and human security. The categories used for defining security constitute a certain continuum – from more or less specifically defined categories in the classical security discourse, through less precise terms used in political, economic, societal to vaguely depicted characteristics of human security.

The core security concept remains relevant for the continuum of interpretations of security. In the process of securitization it is always the difference between a desired state and the actual state which is securitized in the discourse. The less precisely the desired state is described, the more the disturbances concern not the actual state but predictions and/or norms and even basic values of securitizing actors. One of the arguments used against securitization of environmental threats is that they are linked to long-term predictions for which no valuable proofs can be given at present. Similarly, the disturbances equivalent to differences between desired and actual states are gaining a more abstract character, e.g. 'freedom from fear', preservation of identity, etc. As a result, securitization is becoming even more dependent on the social discourse, or in other words, more 'constructivist' and exposed to distortions.

Consequences of universalization on human security require further studies.[7] Nevertheless, it can be concluded that the core concept of security can be treated as a relevant foundation for any kind of security, from state-oriented ones to the most universal human security.

2.2.3 Systemic Interpretation of Security

The core concept of security (figure 2.1) is a point of departure for developing a broader framework idea of security which can be used for studying the links between security treated as attributes of social systems and various concepts defined as systems thinking, systems approach or complex systems studies (figure 2.2). This scheme cannot capture all aspects of secu-

7 Insights of the meaning of human security were presented in: *Security Dialogue*, 35, 3 (September 2004).

rity but offers a foundation for more rigorous considerations on security and its attributes, and for the discourse on all concepts associated with security. A collection of these concepts is given below.

1. *Reference object*:

- social entity (subsystem) and individual as an element of a system;
- dimensions of security (survival, identity, coherence, or perhaps a broadly defined identity).

2. *Disturbance* (threat, risk, danger):

- semantic distinctions between threat, danger and risk;
- relations between meaning of those terms;
- securitization of social phenomena: threats, dangers and risks.

3. *Vulnerabilities*:

- vulnerability as a systemic property;
- relations between vulnerabilities and threats, risks and dangers.

4. *Prediction (identification) of threat (risk, danger)*:

- classical approach: risk and uncertainty;
- threat, risk and uncertainty, and methods and limits of their prediction;
- known threat (risk, danger): known consequences and unknown consequences;
- unknown (hidden) threat, unknown features and consequences.

5. *Actions*:

- prevention, pre-emption, securitization, desecuritization;
- negligence;
- elimination.

6. *Structural aspects of security of social systems*:

- links between military, political, economic, environmental, and societal domains of security (relations between domains);
- links between security of elements and security of collectivities (security of individuals and of collectivities).

7. *Attributes of a 'secure' reference object (system of reference objects)*:

- minimization of uncertainty, continuity, survival, increased capabilities of prediction;
- stability as synonymous to desired status with predictable future states.

8. *Inter-system relational aspects of security*:

- typology of systems - units (states, other social entities - ethnic groups, etc.);
- security dilemma, relations with other social systems, relations with natural environment.

The attributes of security as a property of social systems will be developed in further research.[8] It will provide a 'framework' for a discussion of applications of various ideas of systems thinking in security theory and policy research:

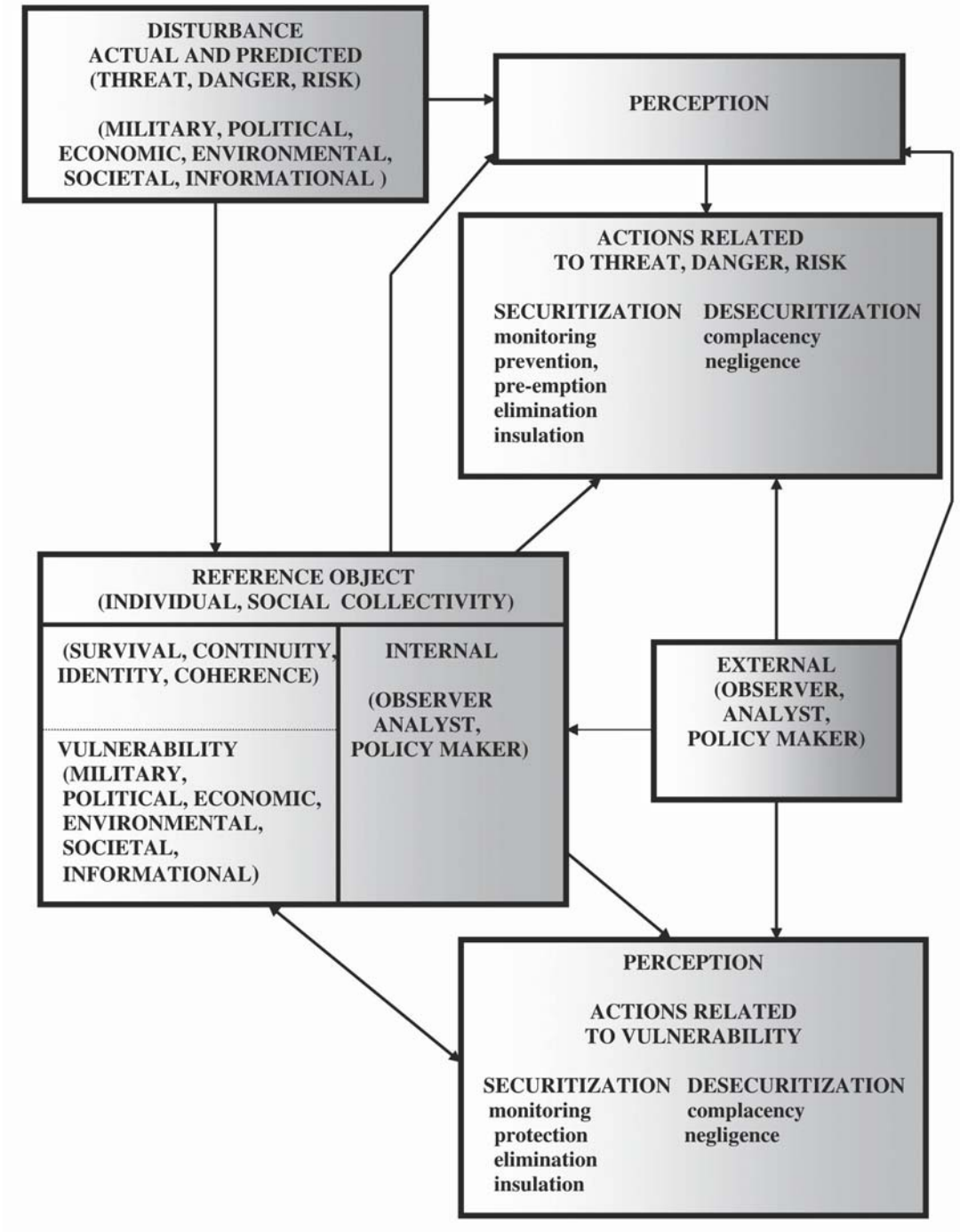
- the concept of stability in IR and links with various ideas of security (peace);
- bipolarity vs. multipolarity;
- power cycle theory;
- systems thinking and hegemonic stability;
- turbulence and chaos in globalizing world politics;
- evolutionary systems, world politics and security;
- systems thinking, governance (global governance) and security;
- democratic peace and systems thinking;
- thermodynamics, peace and war;
- new mathematical ideas and security: catastrophe theory and fuzzy systems;
- applications of computer simulation models in security-oriented research;
- complexity theories and concepts of security;
- social learning, complex systems and security;
- systems thinking and military security (theory, combat and non-war military operations);
- vulnerability of social systems;
- systems approach and identification of threats of terrorism;
- applications of systems approach in preventing terrorism.

2.3 Complex Systems and Security

Systems thinking exerted a strong impact upon security theory and policy in a direct and in an indirect way. Due to misinterpretations and abuses, it seems necessary to present a brief overview of basic ideas of systems thinking which can be found in security-related discourse in theory and policy making. Sys-

8 The attributes of the systemic idea of security will be developed in several texts published in a forthcoming volume of the Hexagon series, including the author's monograph with working title: *Stability, Turbulence or Chaos? Systems Thinking, and Theory and Policy of Security*, forthcoming.

Figure 2.2: Systemic Framework of Security.



tems thinking and complexity studies literature can be divided into several streams, beginning from the advanced writings for specialists, usually loaded with mathematical reasoning and ending with simplified, popular works.

2.3.1 Defining Systems and Complexity

There are various interpretations of cybernetics and systems thinking, but according to Ludwig von Bertalanffy (1968) the former can be regarded as part of the latter. To avoid unnecessary typological considerations, it is also assumed that complex systems studies are regarded

as a part of systems thinking (Mesjasz 1988; Midgley 2003). Even more difficult are definitions of 'studies of complexity' and 'complex systems studies'. The author does not use the terms 'complexity theory', or 'complexity science' although an idea of the "emerging sciences of complexity" was proposed (Waldrop 1992). These challenges were referred to by Horgan (1995) in: "From Complexity to Perplexity". There is no commonly accepted definition of complexity that seems neither needed nor achievable.[9]

Complex systems exhibit non-linear behaviour that is frequently referred to as positive feedback where internal or external changes to a system produce amplifying effects. Non-linear systems can generate a specific temporal behaviour which is called chaos. Chaotic behaviour can be observed in time series as data points that appear random, and devoid of any pattern but show a deeper, underlying effect. During unstable periods, such as chaos, non-linear systems are susceptible to shocks (sometimes very small). This phenomenon, called 'sensitivity to initial conditions' and popularized as the Edward Lorenz's 'butterfly effect', exemplifies the cases, where a small change may generate a disproportionate change (Gleick 1997).

Among the most recent ideas of complex research are scale-free networks discovered by Albert-László Barabási (2003). After finding that various networks, including social and biological ones, had heavy-tailed degree distributions, Barabási and collaborators coined the term 'scale-free network' to describe the class of networks that exhibit a power-law degree distribution, which they presumed to describe all real world networks of interest.

Complexity can be also characterized by a multitude of other ideas such as artificial life, fractals, bifurcations, co-evolution, spontaneous self-organization, self-organized criticality, chaos, edge of chaos, instability, irreducibility, adaptability, and far-from-equilibrium-states. These concepts are associated predominantly with the research by scholars at the Santa Fe Institute, and with the works of Ilya Prigogine on thermodynamics (dissipative structures, far-from-equilibrium systems), and of Herman Haken (2004) on synergetics.

These ideas can be called 'hard' complexity research in analogy to 'hard' systems thinking.[10] The 'soft' complexity research, or 'soft' systems thinking, includes ideas of complexity elaborated in other areas of cybernetics and systems thinking, social sciences, and in psychology. Initially, they were developed independently but after the growing impact of CAS and chaos, their authors began to treat the 'hard' complexity concepts as a source of new ideas.

Subjectivity is the first aspect of complexity in the 'soft' approach. Following this reasoning, from the perspective of the second-order cybernetics, or in a broader approach, constructivism (Glazersfeld 1995; Biggiero 2001), complexity is not an intrinsic property of an object but rather depends on the observer.

To identify a meaning of complexity based on some properties of the relationships between observers (human or cognitive systems) and observed systems (all systems) Biggiero (2001: 3) treats predictability of behaviour of an entity as the fundamental criterion for distinguishing various kinds of complexity. He proposes three classes of complexity: (a) deterministically or stochastically unpredictable objects; (b) predictable objects with infinite computational capacity; and (c) predictable objects with a transcomputational capacity. From this typology, he defined 'observed irreducible complexity' (OIC) as those states of unpredictability, which allow to classify an object in one of these three classes. This definition distinguishes complexity semantically in the new sense.

Biggiero's typologies lead to two conclusions for studying social systems. *First*, self-reference characterizes the first class, which relates to many forms of undecidability and interactions among observing systems (Foerster 1982). This property favours the subjective interpretations of complexity. *Second*, human systems are characterized by the presence of all sources and types of complexity. Thus, human systems are the "complexities of complexities" (Biggiero 2001: 4–6).

9 First attempts to study complex entities go back to Weaver (1948: disorganized and organized complexity), Simon (1962: Architecture of Complexity) and Ashby (1963: Law of Requisite Variety). In explaining complexity Seth Lloyd (1989) identified 31 definitions. Later, according to Horgan (1997: 303) this number increased to 45. Numerous definitions of complexity have been offered (Waldrop 1992; Gell-Mann 1995; Kauffman 1993, 1995; Holland 1995; Bak 1996; Bar-Yam 1997; Rosser 1999; Biggiero 2001). The impossibility to decomposit this entity and its incomeprehensibility are facets of complexity. According to Gell-Mann (1995) complexity is a function of the interactions between elements in a system. Nicolis and Prigogine (1989) prefer measures of complexity based on system 'behaviour' rather than system interactions. Behaviour is also a basis of analysis and description of Complex Adaptive Systems (CAS; Holland 1995).

10 The term soft complexity science is used, among others, by Richardson and Cilliers (2001).

In the social sciences, and particularly in sociology, special attention is given to the concepts of complexity of social systems proposed by Niklas Luhmann. As one of a few authors, he attempted to provide a comprehensive definition of a social system based solely on communication and on the concept of *autopoiesis* (self-creation) of biological systems. According to Luhmann, a complex system is one where there are more possibilities than can be actualized. *Complexity of operations* means that the number of possible relations becomes too large with respect to the capacity of elements to establish relations. It means that complexity enforces selection. The other concept of complexity is defined as a problem of *observation*. If a system has to select its relations itself, it is difficult to foresee what relations it will select, for even if a particular selection is known, it is not possible to deduce which selections would be made (Luhmann 1990: 81). The idea of complexity of Luhmann is also used in defining risk in social systems. The large number of elements in a given system means that not all elements can relate to all other elements. Complexity means the need for selectivity, and the need for selectivity means contingency, and contingency means risk (Luhmann 1993).

Complexity of social system developed by Luhmann is strongly linked to self-reference since reduction of complexity is also a property of the system's own self-observation, because no system can possess total self-insight. This phenomenon is representative for epistemology of modern social sciences, where observation and self-observation, reflexivity and self-reflexivity, and subsequently, self-reference are playing a growing role. According to this interpretation, social systems are becoming self-observing, self-reflexive entities trying to solve arising problems through the processes of adaptation (learning).

An interesting definition of complexity was proposed by biologist Robert Rosen, who also elaborated the concept of anticipatory system, i.e. a system containing a predictive model of itself and/or its environment, which allows it to change the state at an instant in accord with the model's predictions pertaining to a latter instant (Rosen 1985: 341). According to Rosen (1998: 392) a system is simple if all its models are simulable. A system that is not simple, and that accordingly must have a non-simulable model, is complex. Rosen's anticipatory systems have been supplemented by the ideas of incursion (inclusive or implicit recursion) and hyperincursion (incursion with multiple solutions) developed by Daniel Dubois (1998).[11]

2.3.2 Complex Systems and Security: Mathematical Models, Analogies and Metaphors

There is a specific factor allowing the distinguishing of traditionally defined systems thinking from complexity research, at least until the mid-1980s. While systems thinking sought for holistic ideas and universal patterns in all kinds of systems, complexity research defined its goals in a more specific manner. A common theoretical framework, the vision of underlying unity illuminating nature and humankind is viewed as an epistemological foundation of complexity studies (Waldrop 1992: 12–13).

This claim for unity results from an assumption, that there are simple sets of mathematical rules that when followed by a computer give rise to extremely complicated, or rather complex, patterns. Thus it can be concluded that simple rules underlie many extremely complicated phenomena in the world. With the help of powerful computers, scientists can root those rules out. Subsequently, at least some rules of complex systems could be unveiled. Although such an approach was criticized, as based on a seductive syllogism (Horgan 1995; Richardson/Cilliers 2001), it appears that it still exists explicitly or implicitly in numerous works in the hard complexity research. Another important epistemological contribution of complexity, and of nonlinearity in particular, is if not impossibility, then at least very limited capability of prediction and control which are viewed as the most important characteristic of complex systems.

Ideas originated in systems thinking and complexity studies are used in security-oriented research as models, analogies, and metaphors. According to this distinction, the term ëmodelí is used only for mathematical structures. Mathematical models in complexity studies can be applied in three areas: computing-based experimental mathematics, high precision measurement made across various disciplines and confirming ëuniversalityí of complexity properties and

11 Using Luhmann's concept of complexity, Qvortrup has introduced the concept of hypercomplexity. He linked Simon's 'bounded rationality' as a limitation to choice (selection) with the complexity resulting from impossibility to make that selection. Hypercomplexity is complexity inscribed in complexity, e.g. second-order complexity. It is the result of one observer's description of another observer's descriptions of complexity, or it is the result of a complex observer's description of its own complexity (Qvortrup 2003: 7).

rigorous mathematical studies embodying new analytical models, theorems and results.

Models, analogies and metaphors deriving from systems thinking and complexity studies are gaining a special significance in the social sciences. They are treated as 'scientific' and obtain supplementary political influence resulting from 'sound' normative (precisely prescriptive), legitimacy in any debate on security theory and policy.

Models, analogies, and metaphors are instruments of theories in social sciences and are applied for description, explanatory of causal relations, prediction, anticipation, normative approach, prescription, retrospection, retrodiction, control and regulation.

Bell, Raiffa, and Tversky (1988) have proposed to discern between the normative approach resulting from mathematical models, predominantly game models, and the prescriptive approach reflecting recommendations resulting from decision analysis, including also qualitative aspects. Following the distinction from traditional cybernetics, control and regulation approach can also be proposed. In management this approach is expressed in a way that the dominant analogy or metaphor influences control of a system, i.e. they differ for mechanistic, evolutionary or learning system (Senge 1990; Palmer/Dunford 1996).[12]

Complexity associated with non-linear dynamics adds some new elements to our knowledge of social dynamics. We not only become aware that social systems are uncontrollable, but even desirability of such control is already doubted. Self-organization is regarded as the desired pattern of dynamics in economics and politics. This was already reflected in Hayek's (1967) interest in complexity of social systems as an argument against a centrally planned economy. Another lesson of non-linear dynamics and complex systems is that social changes are produced by both deterministic historical factors and chance events that may push social phenomena to new patterns of behaviour. Thanks to a better understanding of the confluence of chance and determinism in social systems we may better learn what kind of actions we have to undertake, or even perhaps, what kind of norms we have to apply.

Analogies and metaphors of rather loosely interpreted nonlinearity, chaos, complexity, self-organization, etc. in many instances have become the backbone of the post-modernist (post-structuralist) science. Reaffirmation of limited predictability has become an epistemological foundation of the discourse-based science. Numerous examples can be quoted but as an illustration it is worthwhile to recall the work by Dobuzinskis (1992) or synthesis of Braudel and Priogogine made by Wallerstein (2000: 160–169).

These epistemological links between complexity research and social sciences are predominantly associated with 'hard' complexity. The input to this area exerted by the 'soft' complexity research is equally significant. Reflexive complexity of society has become one of the foundations of post-modern social theory.

Unfortunately, various abuses and misuses may occur, when analogies and metaphors drawn from 'hard' complexity research, and to a lesser extent from 'soft' complexity research, are treated too carelessly even by eminent social theoreticians of post-modernism/post structuralism. Several examples of such abuses are mirrored in the so-called 'Sokal Hoax' and other examples widely described by the originator of that hoax (Sokal/Bricmont 1998). Its warning message conveyed is of a special importance since broadening and deepening the concept of security contributed to the development of critical security research frequently referring to as post-modernism, and sometimes to complex systems research (Albert/Hilkermeier 2003).

Summarizing the discussion on the links between complexity research and security theory and policy, the following premises must be taken into account in further considerations. *First*, 'grand theories' of security and of the complexity of social systems are lacking. *Second*, social systems are mental constructs of the observers (participants) as interpretations of behaviour of their components and entities. If studies concentrate on 'tangible', observable attributes of social systems, then 'hard' complexity methods, mainly mathematical models, including simulations, can be applied. Otherwise, the discussion must include self-reflexive ideas taken from 'soft' complexity studies.

2.3.3 Complex Systems in Security Theory and Policy: Can Expectations be fulfilled?

An overview of security-related expectations to complex systems studies should open with a sociological survey where this question will be answered: Who and

12 Limitations of the prediction of behaviour, design and control of complex systems impose also other approaches to complex systems. Axelrod and Cohen (1999: xvi) proposed to "harness" complexity of social systems: "to convey a perspective that is not explanatory but active – seeking to improve but without being able fully to control."

what is expecting from whom? What can be delivered by those to whom the expectations are addressed?

Expectations towards complex systems research are often articulated by specialists in International Relations, in security studies, and peace and conflict research. All those disciplines are eclectic, thus complexity studies naturally enrich the epistemology of those sciences. Complex systems are applied by representatives of mainstream security studies, who treat it as a kind of extension of rational choice-based considerations (Axelrod/Cohen 1999), and by critical approaches in security research, and in International Relations (Albert/Hilkermeier 2003).

Policy makers are the second group who, rather indirectly, through academic research and/or advisors express hopes to ameliorate their understanding of the world with the use of complex systems ideas. Some expectations of the military community resemble those of policy makers, especially at the strategic level. Numerous expectations of the military are derived from their will to adapt complexity methods at all levels to situations where military units can be used, not only in military conflicts but also in post-conflict situations and in various emergency situations. It is also necessary to mention the media and the societies, or the general public, who are also awaiting new insights from complexity research.

Who is the addressee of those expectations and questions? First and foremost, it is a very incoherent community of academics, advisors, and other professionals. The second group are professional military analysts who are involved in developing new methods of accomplishing functions of military systems at all levels of their hierarchy.

In the relations between complexity research, and security theory and policy, three phenomena can be observed. *First*, applications of 'fancy' analogies and metaphors in the jargon of security writers, frequently without deeper understanding of the terms. *Second*, simplifying uses of complex systems by specialists familiar with the complex systems methods but not too familiar with the existing body of knowledge in the social sciences. *Third*, a majority of policy makers using such terms as stability, turbulence, chaos, etc. are not aware that the origins of their ideas are rooted in mathematical theory of automatic control, which, in turn, can be viewed as a part of cybernetics and/or systems theory (Bellman 1953; Ashby 1963).

Due to a very wide scope of meaning of security, and to a multitude of complexities, it is obviously impossible to enumerate all expectations towards the complex systems research. The fundamental expectation is simple. Although increasing complexity is viewed as a law of nature and society, after the end of the Cold War the process of 'complexification' of the world system has accelerated substantially. Social systems of the turn of the centuries are more complex and are labelled as chaotic society, or "risk society" (Beck 1992, 1999). Reflected in all prognoses, uncertainty, speed of change and complexity of political and economic affairs, as well as environmental challenges contribute to the incomprehensibility of the world at all levels of its internal hierarchy (Glenn/Gordon 2006).

Since its very beginning, the complexity research was perceived as a source of a certain promise, a source of a new language and at the same time contributed to such perception, that there were some patterns in complexity, which could be disclosed by the mathematical models taken from a new field of science. This intellectual and emotional incomprehensibility and an appeal for new approaches are well-reflected by the metaphor of *The Ingenuity Gap* proposed by Homer-Dixon (2002).

Assuming that security is always associated with an unusual disturbance undermining the existence (functioning) of an individual or system it may be assumed that in all security-oriented theories and policies, three basic human desires are expressed:

1. Reduction of uncertainty by enhancing predictive capabilities and strengthening the potential of anticipatory activities.
2. Identification of patterns of functioning of the social systems and their components, allowing the enhancement of protection against the disturbances, ex ante and ex post.
3. Elaboration of norms and methods allowing an improved functioning of social systems and of their components.

This triad reflects the essence of any normative social discipline, yet for studies of security it has a special meaning due to the fundamental sense of security. Complex systems ideas can be applied in all areas of security theory and policy in descriptive, explanatory, predictive, normative, prescriptive, retrodictive, retrospective, control and regulatory approaches.

In traditional state-centred security studies based upon 'simplicity', expectations if not hopes for enhanced capabilities of prediction were the main goal of applications of 'scientific' methods, including the ideas borrowed from early systems thinking: stability, polarity and hegemonic stability. More sophisticated descriptions and analyses based on systems thinking,

e.g. the bipolarity vs. multipolarity dispute of the 1960's and 1970's, were to a large extent refined by applications of traditional systems thinking. Concepts drawn from the 'older' systems thinking had and still have multiple applications in security-related considerations, e.g. the discourse on international stability (Mesjasz 1988).

The basic ideas of complex systems research applicable in security studies in all areas and at all levels of social hierarchy are represented by the following characteristics: self-organization and emerging properties, adaptation and co-evolution, the power of small events, sensitivity to initial conditions, nonlinearity, reflexivity and self-reflexivity, edge of chaos, What are the peculiar advantages and disadvantages of applications of complex systems research in contemporary security-oriented discourse, and in policy making?

2.3.3.1 Description and Explanation

Due to the fact that description and explanation of causal relationships are difficult to separate, both approaches are discussed together. Analogies and metaphors that are drawn from complex systems research have significantly enriched the security discourse. It is now commonly accepted that only in few cases mechanistic explanations of functioning of social systems can be applied. Terms as complexity, self-organization, the edge of chaos and the like have influenced the security discourse. In most of these considerations it is not clearly stated what is truly chaotic (what attributes of social systems?) but undoubtedly such metaphors are a heuristically valuable instrument. As stated above, the notions taken from complex systems studies have substantially enriched the hermeneutics of the security discourse based on non-mechanistic interpretations of social systems.

In this point it is almost impossible to distinguish between the impact of 'hard' and 'soft' complexity. The latter referring to reflexivity opens up the possibility to study cognitive aspects of social systems and the processes of communication as the basic instrument of applications of learning systems in security studies.

Communication offers an interesting link between complex systems research and contemporary security policy. Politicians, scholars, the general public and journalists seek for utterances reflecting their perceptions of uncertainty and incomprehensibility. The term 'chaos' is a good example as a well-known metaphor reflecting some properties of nonlinearity. The scholarly community has offered works with titles responding to that demand: "Hidden Order" (Holland 1995), "The Origins of Order" (Kauffman 1993), "End of Certainty" (Prigogine 1997), "Is Future Given?" (Prigogine 2003), and many similar ones. The need for understanding by lay readers and the demand for marketable titles are obvious, but recognized scholars presenting such concepts have participated in this specific social discourse. It remains an open question to which extent such new terms allow for the naming of new social phenomena.

As an example the metaphor 'order out of chaos' can be cited. The meaning of chaos, the Greek term , is associated with disorder, as well as chasm and void. This word has a strong emotional appeal and almost immediately was applied in security discourse. 'Order out of chaoses may have two meanings; the first refers to the emergence of order while the second can be interpreted as disclosure of a hidden order concealed by irregular behaviour.

Complex systems research has provided a new understanding of explanation. It especially concerns the possibility of explanation/prediction of the phenomena at the macro-level from the behaviour of the elements at the micro-level. A good example of this strategy is the Sugarscape project where the question "can you explain it?" is asked along with the question as "can you grow it?" (Epstein/Axtell 1996: 177).

It is also worthwhile to pay attention to the relation between the notion 'complexity' and the notion of 'the order parameter' introduced by Landau and the 'slaving principle' formulated by Haken (2004) in his 'synergetics'. When a complex system is close to an unstable point, the behaviour of this system can by described and understood in terms of order parameters (the most unstable variables of the system). Since the number of order parameters is much smaller than the number components of the system, an enormous compression of information takes place. Therefore we can describe the behaviour of a self-organizing complex system only with a few equations. This may support some expectations for security studies that perhaps some of those parameters can be identified in social systems in studies of risks, threats, and vulnerabilities.

2.3.3.2 Prediction

Enhanced capabilities of prediction, or even early warning, are undoubtedly the most important desire of security policy, and subsequently of the majority of strands of security-related studies. Therefore the term stability borrowed from control theory has become a buzzword of security theory and policy. Stability in its original sense can be treated as equivalent to increa-

sed predictability. First of all it is necessary to recall that predictability is dependent on an observer while determinism is not. In its most radical form prediction implies connections of necessity, not of probability, between non-perfectly well-defined states, of the system separated by finite time intervals. It means that in order to predict the future of the system we must know its present state. But present knowledge is never perfect and there are always the measurement errors in any determination of the present state (Saperstein 2002: 38).

It should also be mentioned that the divide linear is predictable and non-linear is not predictable, is a simplification. For instance, Newton's equations for the two-body Kepler problem (the Sun and one planet) are non-linear and yet explicitly solvable. It means that nonlinearity does not always lead to chaos. At the same time the fundamental equation of quantum mechanics, the Schrödinger's equation, is absolutely linear (Sokal/Bricmont 1998: 144–145). Saperstein (2002) using a relatively simple model of a bipolar arms race shows how including disturbance in such a model may help in predicting occurrence of unpredictability in a (model) situation which was to some extent predictable beforehand. It means that in such a situation non linear models provide a specific additional knowledge about the limits of predictability.

The complex adaptive systems (CAS), the basic idea of complexity theory have numerous applications in modelling the behaviour of social systems. Since the results of CAS simulations are to a large extent not replicable then more advanced methods can be used to improve their usefulness in prediction. It can be achieved directly by improving data gathering, relevance of parameters, better understanding of the links between micro- and macro-levels, although it is always of limited validity. The CAS models are also helpful as an instrument supporting heuristic processes. Not all paths of developments can be predicted by qualitative human reasoning. Therefore new patterns of phenomena achieved thanks to complex systems can add new solutions difficult to develop, or unachievable otherwise. CAS has another advantage in prediction. They can simulate learning processes both at the level of elements as well as at the level of entire systems.

The discourse on the predictive capability of complexity ideas and their limitations is predominantly built upon mathematical models. However, it is not the only advantage of complex systems research. The language of analogies and metaphors used for explaining the mathematical models and deriving from those models can also be seen as a significant tool allowing for the enhancement of cognitive and heuristic capabilities of academics and political actors. The complexity thinking with more attention paid not to general solutions but for local equilibria undoubtedly strengthens the predictive capabilities of policy makers by enriching their mental models with new, less plausible counterintuitive options, which could have been otherwise omitted in the decision-making process. This phenomenon has been very popular in management, where training management in (complex) systems thinking is an important instrument of increasing efficiency (Senge 1990).

2.3.3.3 Normative and Prescriptive Approach

Security studies and associated domains have a strong normative bias. Norms in security can be analysed at several levels. They may result from ideology, interests, epistemological determinants, and purely individual motivations and rules. Norms in security studies concern: (1) prediction of threats (what is the threat, risk, danger?); (2) prevention and pre-emption of emergence of threats: (3) rules of behaviour when threats are affecting the system (individual); and finally (4), what to do to minimize the consequences of the materialized threats.

Similarly, as for all approaches, normative consequences of applications of complexity models in security-related theory can be found in two areas: a) in general security considerations and b) in military aspects of security.

In general security theory and policy complexity studies were the final impulse for abandoning the search for universal and stable patterns. It was a natural consequence of the limited predictability resulting from nonlinearity. The central norm is at present not how to protect against the impact of a broadly defined environment but how to adapt to it dynamically in a most efficient way. The norms of behaviour are identified with the rules of social learning.

In military applications complex models contributed to the changing approach to combat which is perceived in non-linear terms, not as a clash of hard balls, but rather as an interaction of swarms. In consequence the centralized visions of command are replaced with decentralization and command is viewed as one of the stimulants of self-organization (Moffat 2003).

2.3.3.4 Retrospection and Retrodiction

Retrospection or *post hoc* explanation as the basic instrument of methodology of historical studies is not a frequent approach in security discourse. Only when the need for better understanding of the current status is needed explanations of examples from the past are used in helping to understand better the present phenomena. Although from the epistemological point of view retrospection and retrodiction are different, in preliminary methodological considerations the differences are not so important. Similarly to retrospection, retrodiction, or the 'what if' approach, is not too widely approved in security theory. It is always treated as too speculative for scientific considerations.

An opposite tendency can be observed in military thought. Retrospection and retrodiction are indispensable in case studies and/or war gaming, and complexity-based models have become one of the most efficient instruments of studying achievements and errors of command in historical battles (Ilachinski 1996a; Czerwinski 2003), or within the framework of the Project Albert run by the Marine Corps Warfighting Laboratory (see at: <www.projectalbert.org>).

2.3.3.5 Control and Regulation

Although in classical cybernetics control and regulation are separated, in this survey they are discussed together. Similarly to prediction, any expectations that results of complexity research might help in significant improving control of social systems proved unjustifiable. The strive for rigid, centralized control has been replaced by approaches aiming at improvements of learning processes. Hierarchies are replaced by networks and this is common both in non-military security considerations as well as in military theory and practice. A shift from hierarchical to distributed command and control. In general security theory, it is mirrored both in more sceptical views of traditional security – awareness of limits of capabilities, even of the superpowers. Widening and deepening of security, and especially the impact of post-modernism on security theory (security resulting of 'securitization'), can also be viewed as a sign of resignation from expectations for far-reaching control at all levels of societal hierarchy.

2.4 Complex Systems and Security Theory and Practice

2.4.1 General Concepts

Variety and scope of the meaning of security along with the multitude of complexity-related models and methods help elaborate a preliminary survey of the links between both areas. The links are illustrated with works, which are to some extent representative for the given class. This survey should be seen as a foundation of a more comprehensive and detailed typology.

Applications of complex systems in security are found both in non-military security theory and policy, and in military thought on security. In a very extensive approach, all military theory could be viewed as security-oriented. By the same token, it is sometimes difficult to discern between military and non-military applications of systems models. However, in the proposed surveys, this traditional divide has been maintained. Since the applications of systems thinking predates the origins of developed complex systems studies, only the works where complexity is explicitly referred to are quoted.

2.4.2 Direct Links between International Security and Complex Systems

Most representative for this area are the following works, where complexity-based metaphors are applied for a thorough description and analysis of processes in international relations with a strong emphasis put on security at various levels (Rosenau 1990, 1997; Snyder/Jervis 1993; Jervis 1997; Wilson 1999). Similar efforts to apply complex systems ideas in security theory and policy were also made by the US military research community. A rank of works in which both civilian security issues as well as military applications of security are described began to appear in the 1990's and are published continuously (Alberts/Czerwinski 2002).

2.4.2.1 Indirect Links between International Security and Complex Systems

Several examples exist of indirect links between security and complex systems. Due to size and scope of the chapter only one case is referred to. Although systems thinking was always an indispensable element of Wallerstein's work, in his recent studies an interesting example can be found when he discusses the specific

features of the forthcoming phase of the Kondratieff cycle and the prospect of the world with the concepts of chaos, bifurcation, and emerging ideologies (Wallerstein 2000: 435–471).

2.4.2.2 Complex Systems Modelling and Widened Idea of Security

This part of the survey requires further specification. In this area, the applications of Complex Adaptive Systems are frequently drawing upon the pioneering work by Epstein and Axtell (1996) and concentrate upon a large variety of issues associated with internal security (homeland security), with stress put on terrorism and civil violence.

Another area of the use of complexity models is the study of the threats emerging in an 'information society'. Two fields of applications of complexity models can be quoted. The first, including the security of information processing, storing and gathering, and the second, including the applications of advanced information technology concepts and systems in security-related theory and practice. In the second area, in addition to specific models, broader conceptual approaches should be specified. New threats and the vulnerability of the information society are associated with various forms of asymmetric warfare. One of its facets depicted in the second part of this chapter is the use of the internet-based networks, an idea that has been drawn from complexity theory and IT theory on terrorism and organized crime.

One of the widest reaching proposals for using complex systems was proposed for the intelligence services by Andrus (2005). He suggests that due to the development of new information, distributing internet-based tools which are functionally similar to CAS such like the Wiki and the Blog can be an inspiration for similar self-organized, complex tools for the intelligence community. It is worthwhile to mention that perhaps due to the difficulties with defining human security the applications of complex models in the studies of that specific kind of security seem to be difficult to identify.

2.4.3 Complex Systems in Military Applications

2.4.3.1 Military Security: Theories of Warfare, Conflict, Combat, Command, and Control

Systems thinking in various forms, beginning from systems analysis and ending with complex systems research, had numerous military applications in the period after World War II. First and foremost it is necessary to recall the RAND Corporation which already in the 1940's and 1950's was the pioneer centre of systems analysis. Applications of complex systems research in various areas still remain an important area of interest for the RAND Corporation (RAND Workshop 2000).

Several widely popularized examples showing the consequences of nonlinearity in various mathematical models of conflicts and arms races models were presented by Saperstein (1984, 1991, 2002). Another example of applications of non-linear systems was presented by Beyerchen (1992) who identified nonlinearity in the theories of war developed by Clausewitz. In this work and in similar ones, a simple, coordinated classical war is viewed as a counterpart of a war treated as a non-linear phenomenon.

Several surveys of possible applications of complexity in warfare theory were prepared by military specialists, such as Ilachinski (1996, 1996a), Czerwinski (2003), and Moffat (2003). Two organizations are of special importance for research on complexity and the military. The first is the US Department of Defense Control and Command Research Program publishing the *Information Age Transformation Series*. The second is the Center for Naval Analyses Corporation (CNA) (see at: <www.cna.org>), whose research is represented by two projects: ISAAC (Irreducible Semi-Autonomous Adaptive Combat) and EINSTein. ISAAC is a simple multi-agent-based 'toy model' of land combat that was developed to illustrate how certain aspects of land combat can be viewed as emergent phenomena resulting from the collective, nonlinear, decentralized interactions among notional combatants. EINSTein (Enhanced ISAAC Neural Simulation Tool) has been designed as an advanced continuation and extension of ISAAC.

From many ideas described in the writings on complexity and military security the most representative seems to be the comparison of 'traditional' land warfare with the modern, 'non-linear' land warfare. The essential difference between the two can be expressed with the metaphor: "combat collision of Newtonian billiard balls vs. combat as self-organized ecology of living fluids" (Czerwinski 2003: 68).

A comprehensive approach to the combat theory was presented by Moffat (2003) that provided a comprehensive overview of actual and potential uses of Complex Adaptive Systems in combat command planning and control. Some of the models presented in

this book, e.g. knowledge flow and knowledge representation, are directly linked with the more or less precisely defined 'Information Age'. The essence of that approach, representative for all uses of complexity in military applications, is depicted in table 2.1.

Table 2.1: Relation between Complexity and Information Age Warfare. **Source**: Moffat (2003: 49).

Complexity Concept	Information Age Force
Nonlinear interaction	Combat forces composed of a large number of nonlinearly interacting parts.
Decentralized control	There is no master 'oracle' dictating the actions of each and every combatant.
Self-organization	Local action which often appears 'chaotic' induces long-range order.
Non-equilibrium order	Military conflicts, by their nature, proceed far from equilibrium. Correlation of local effects is key.
Adaptation	Combat forces must continuously adapt and co-evolve in a changing environment.
Collectivist dynamics	There is a continual feedback between the behaviour of combatants and the command structure.

All military applications of complex systems have been summarized by Ilachinski (1996a) in a concept of eight tiers of applicability of complex systems theory to warfare:

1. General metaphors for complexity in warfare;
2. Policy and general guidelines for strategy;
3. 'Conventional' warfare models and approaches;
4. Description of the Complexity of Combat;
5. Combat technology enhancement;
6. Combat AIDS;
7. Synthetic combat environment;
8. Original conceptualizations of combat.

2.4.3.2 Asymmetric Warfare

In the modern world new kinds of conflicts are becoming more frequent. One part is dominating but due to different reasons, the weaker part can potentially inflict heavy harm on its stronger counterpart. This new category of threats is called asymmetric warfare (Kaldor 1999). It is predominantly used in the United States as an unmatchable superpower of the present but can be also extended to other circumstances.

One of the concepts of asymmetric warfare directly associated with complexity models is netwar that refers to an emerging model of conflicts and crime at the societal level, involving measures short of traditional war, where the protagonists use network forms of organization and related doctrines, strategies, and technologies attuned to the information age. They are composed of dispersed groups communicating via the internet and other advanced means of communications. They differ from traditional guerrilla organizations which although dispersed, had centralized hierarchical organizations, doctrines, and strategies (Lesser/Hoffman/Arquilla/Ronfeldt/Zanini/Jenkins 1999).

Terrorism can be studied from five conceptual perspectives: (1) terrorism as/and crime; (2) terrorism as/and politics; (3) terrorism as/and warfare; (4) terrorism as/and communication; and (5) terrorism as/and religious fundamentalism. In addition, the sources of terrorism constitute a hierarchy – from global issues to religious fanaticism. Terrorism treated as a method of warfare is an exemplary example of asymmetric warfare, or of the netwars. Although each perspective has its specificity, in this survey of applications of complexity methods they are not separated.

Paradoxically contemporary terrorism is to some extent possible thanks to the technological development – exploiting vulnerabilities of the 'complex information society', and using modern techniques of communication. So just naturally various networks models have become the fundamental instrument of anti-terrorism activities. Prediction, the basic challenge of security theory and policy, in anti-terrorist activities must be supported by identification of hiding people, concealed organizations (networks), and strategies.

For Russell Ackoff the systems approach is vital for combating terrorism at all levels of societal hierarchy (Knowledge Wharton 2002; Mesjasz 2002). Coming out from such a general assumption many specific applications of complex systems in prediction, anticipation, prevention, elimination and damage minimizing of terrorism have been proposed. The importance of complexity studies in anti-terrorism campaign is reflected in the fact that the *Terreo*, a digital art commentary on the Homeland Security Advisory System based upon principal ideas of complexity and, e.g. strange loops, directly links complex systems and terrorism (see at: <http://www.terreo.com/about/default.shtml>).

Terrorism is based upon networks and that is why the networks models have become a fundamental instrument of anti-terrorist research. The simplest model is built upon Social Network Analysis (SNA) - a mathematical method for 'connecting the dots'. SNA allows us to map and measure complex, and sometimes covert, human groups and organizations. Since terrorist networks are more complex, therefore the scale-free networks seem to be a relevant instrument for analysis of terrorism and for developing counter-terrorism measures (Barabási 2003; Fellman/Wright 2004). They are particularly useful in helping to understand the logic of operations of terrorist networks. Similarly, in more general terms, complex adaptive systems also can be applied for anti-terrorist activities. Many ideas on the topic have been already presented both by civilian authors (Ahmed/Elgazzar/Hegazi 2006) and, what is obvious, by the US military research institutions (Horne/Johnson 2003) or the Project Albert of the US Marine Corps. Attempts were made to include modelling of cognitive mechanisms in the models. An example of the sophistication of complexity-related models that were applied in studies of terrorism is the adaptation of the percolation models to study clandestine social phenomena including terrorism (Galam 2003).

2.4.3.3 Non-war Military Operations

Due to the changing role of the armed forces, e.g. asymmetric warfare, peacekeeping, peace enforcing, policy duties and humanitarian assistance, applications of complex systems in military thought have also been expanded to all activities called *Military Operations Other Than War* (MOOTW). Decision-making processes are becoming decentralized and more is left for the initiative of the individuals. This phenomenon is leading to increased complexity. Therefore it is natural that all these activities have become a subject of modelling with the use of complexity models, and especially with Complex Adaptive Systems (Goodman 2000).

2.4.4 Complex Systems in Other Non-Military Applications

As mentioned in the earlier part of this chapter, applications of ideas from complex systems research can be extended to all areas of security discourse – economic, societal, environmental, and human security. It must be underlined that in all of them the core concept of security maintains its validity.

Two areas of security require special attention. The first one is environmental security. Relations between systems and its environment and/or holistic views of nature and society as well as the challenges of sustainability of social and natural systems have naturally made complex systems ideas a part of discourse on environmental security (see for example the chapter by Casey Brown in this volume) or the strong impact of systems rethinking upon the approach developed by Homer-Dixon, as to quote from a few of many writings. Due to a large number of issues and vast literature this area of research has to be left for separate considerations.

Another new domain of applications of complex systems concepts is related to human security. Although analytical aspects of the concept of human security are still being discussed, due to the universal properties it can be expected that in more rigorous approaches complex systems ideas will find their relevant role. This chapter can be thus treated as an encouragement and introduction to further studies of human security based upon complex systems epistemology.

2.5 Conclusions

Considerations presented in the chapter allow us to formulate two fundamental conclusions. Firstly, complex systems studies have become an indispensable part of the epistemology of security theory, and eventually, a useful instrument of security policy at the cognitive (language) level. It concerns both the impact on action and the impact on the processes of social communication, although it would be rather difficult to measure that impact. The uses of complexity-related mathematical models and analogies and metaphors have broadened the epistemological foundations of security research.

Secondly, systems thinking can help in better understanding security discourse by concentrating upon the universal characteristics of security reflected in the core concept of security.

Obviously it does not mean that the systems approach directly responded to the expectations of security studies in prediction, explanation of causal effects, prediction, prescription, normative approach, retrospection, retrodiction and in enhancing (always limited), capabilities to influence the social phenomena. It only means that in all of the approaches it may be used in a manner more relevant to social reality.

The applications of the systems ideas in the security discourse have several weaknesses of which two are most important. *First*, too high expectations from security theory and policy, and *second*, mutual misuses and abuses. Security specialists, journalists and politicians too frequently treat the systems and/or complexity-related utterances as an element of the new, modern and to some extent 'magic' language. By the same token, scholars familiar with mathematical complex systems models reduce social phenomena to very simple patterns, irrelevant to reality. Reference to nonlinearity, self-organization and chaos allows deepening the understanding of all social phenomena. But they are of a special significance in security-oriented research where they provide some response to the need for prediction and normative, policy oriented studies.

The significance of complex systems models is especially visible in deepening the knowledge of prediction and of its limitations in the social sciences. The traditional security studies, represented by realism and neo-realism, were built upon (neo)-positivism and rational choice theory, which included expectations towards increased predictive capabilities achievable in security studies. The constructivist approach denies the role of prediction in security discourse – how to predict categories constructed in the discourse. Therefore, the ideas drawn from complex systems research may have a special twofold function in security theory. On the one hand they teach rational choice advocates about the limits of prediction, but at the same time they enrich the discourse of constructivists with the terms which in an implicit form assume a certain degree of prediction.

The discussion in the chapter shows that more attention must be paid to efficiency, if not legitimacy of applications of complex systems in security theory and policy. Thanks to the ideas associated with the variously defined systems approach, including complexity research, the epistemology of security studies has been enriched with instruments helpful for description and explanation. New social phenomena in the information society have received the names facilitating their understanding and the processes of social communication about them. Some causal relations could have been also better described with the conceptual apparatus of complex systems research, e.g. consequences of nonlinearity. At the same time, the language, if not the 'jargon', of complexity, by permeating the language of security policy has a strong impact on policy measures. The examples of such terms as stability, turbulence, nonlinearity, self-organization, chaos, edge of chaos, etc. used in the language and in practice of policy making strengthen the argument favouring the use of complexity ideas for explaining and shaping security.

Although complex systems research provided the final argument of the impossibility of any far reaching predictions in security research, at the same time it showed the methods of enriching predictive capabilities either with the use of mathematical models, or with applications of heuristically stimulating analogies and metaphors.

Studies of applications of complex systems in security-related studies allow also for formulating directions of further research. The most important ones are as follows:

- comprehensive studies of the links between security-related research and systems thinking in the 20th and 21st centuries,
- development of advanced methods of modelling enabling the study of more complex behaviour of individual elements of Complex Adaptive Systems (complex behaviour along with simulation of cognitive processes of actors),
- development of applications of complex learning systems in security-oriented research,
- use of complex systems methodology as a new instrument of studying widened and deepened security concepts, including environmental security and human security.

Part II The Conceptual Quartet: Security, Peace, Development and Environment and its Dyadic Linkages

3 Conceptual Quartet: Security and its Linkages with Peace, Development, and Environment

Hans Günter Brauch

3.1 Introduction[1]

As a political term and as a scientific concept 'security' has been closely related to 'peace', the combined goals in the UN Charter. The other two concepts 'development' and 'environment' have been added to the national and international agenda in the 1950's and since the 1970's. In colloquial language, and in national and international politics, as well as in the scientific analysis of international relations these four concepts form a conceptual quartet and with each of these basic concepts a specialized research programme is associated: of security studies, peace, development, and environmental research. While these concepts have been widely used in the social sciences (sociology, psychology, economics, political science, international relations) systematic conceptual analyses of these four terms have been rare in international relations and in the four policy-oriented research programmes (Wæver 2006).

In the scientific literature 'objective' and 'subjective' (Wolfers 1962; Art 1993) as well as 'intersubjective' (Wendt 1992; chap. 51 by Hintermeier) concepts of security have been distinguished. From a constructivist approach 'securitization' has been referred to as a 'speech act' (Wæver 1995, 1997) by which an individual, or representatives of the state (government, parliament, courts), of political parties, interest groups, non-governmental organizations, of civil society, social movements, and the media attribute to a specific danger or concern 'utmost importance' (chap. 1 by Brauch, 2 by Mesjasz, and 4 by Wæver) that require extraordinary efforts for coping with and overcoming a specific threat, challenge, vulnerability, and risk (Brauch 2007a). Speech acts consist of terms and concepts with multiple meanings and in most cases they can be analysed in historical written documents as well as oral expressions in the recorded media. In politics these four basic concepts have been used to describe and explain the positions and activities of social groups and parties to express basic values and goals, and to legitimize past actions and future oriented programmes in the name of security, peace, development, and the environment.

This chapter develops a conceptual framework (3.2) by analysing the meaning and evolution of these basic terms (3.3) and scientific concepts as well as their six dyadic linkages (3.4) and the four pillars of a *widened*, *deepened,* and *sectorialized* security concept (3.5.) as a conceptual contribution for a fourth phase of research on human and environmental security and peace (HESP) where gender issues are also considered (3.6).

3.2 Methods: Conceptual History and Context

The analysis of colloquial terms and concepts requires a combined methodological approach of etymology (3.2.1), concept formation (3.2.2), conceptual history (3.2.3), and a systematic conceptual mapping (3.2.4).

3.2.1 Etymology of Terms

Etymology, derived from the Greek 'étymos', refers to the 'original meaning of a word' that has become a major research field of comparative linguistics analysing the origins, basic meaning, historical evolution of words, and its relationship with similar words (synonyms) in different languages. Etymology has a long tradition in Greek philosophy and drama that was carried over to the Middle Ages by Isidore of Seville (*Etymologiae*).

1 The author is grateful for comments and suggestions to Úrsula Oswald Spring (Mexico) and Czesaw Mesjasz (Poland) and their references to the use of these concepts in pre-Hispanic, Spanish, and Slavonic languages.

The scientifically based etymology which started in the 19th century uses methods and findings of historical and comparative linguistics. According to the *Encyclopaedia Britannica* (15. ed., 1998, vol. 4: 587) the principles in contemporary etymology are, i.a. "The earliest form of a word, or word element, must be ascertained, as well as parallel and related forms," and "any shift in meaning that has occurred in the historical transmission of the word must also be explained." *Internal etymology* refers to the relationship of a word family to related words, while *external etymology* includes the words in related languages (Brockhaus Enzyklopädie, 21st ed., vol. 8, 2006: 473). The etymological roots of the four concepts are discussed in 3.3.[2]

3.2.2 Concept Formation

There is a basic difference between 'words' or 'terms' and scientific 'concepts'. In linguistics, a 'word' is the basic element of any language with a distinct meaning. A 'term' (from Latin 'terminus'), in logic, is the subject or predicate of a categorical proposition or statement. The word 'concept' according to the *Encyclopaedia Britannica* (15. ed., 1998, vol. 31: 514) is used in the analytic school of philosophy as "logical, not mental entities." Concept formation refers to "the process of sorting specific experiences into general rules or classes" where in a first phase "a person identifies important characteristics and in a second identifies how the characteristics are logically linked."

The German word 'Begriff' combines the meaning of the English words 'concept', 'term', and 'idea'. It is defined in the *Brockhaus Enzyklopädie* (21st ed., vol. 3, 2006: 491) as "an idea of objects, attributes and relations that have been obtained by an abstraction of unchangeable characteristics" and thus acts as a basic element of thinking and cognition. A 'Begriff' describes an object not in its totality but focuses on its characteristics with regard to its content (intention) and scope (extension). Thus, a concept requires a mental effort that separates the essential from the irrelevant features. Since Descartes pure (a priori) concepts and those based on empirical experience have been distinguished. For Kant the interaction between concept and contemplation produces cognition and knowledge. He also distinguished between empirical concepts and categories based on reason. The modern logic of concepts analyses primarily the extentional relations between concepts. Concept formation refers to a psychological process where the essence and function of an object or situation are covered. Charles E. Osgood distinguished between perceptive, integrative, and representative concepts that involve three cognitive processes of: 1. discrimination, 2. abstraction and 3. generalization. Concept history was first used by Hegel for a historical and critical research of the development of philosophical and scientific concepts.

3.2.3 Conceptual History

The history of concepts or conceptual history as inspired by Lucien Febvre and Marc Bloch of the French school of the *Annales* ('les choses et mots') was instrumental for a major German editorial project on key historical concepts (Brunner/Conze/Koselleck 1972–1997) that was masterminded by Koselleck (1979, 2002, 2006) who addressed the complex interlinkages between the temporal features of events, structures, and concepts in human (societal) history but also the dualism between experience and concepts.

Schultz (1979: 43–74) pointed to four possibilities linking concepts and factual context: a) both the context and the concept remain unchanged; b) the context changes but the concepts remain unchanged; c) the meaning of concepts changes while the context remains unchanged; and d) the factual contexts ('Sachverhalte') and the meaning of concepts totally disintegrate. This volume deals with a fifth possibility where a contextual change triggers a conceptual innovation. In some cases, the social and economic context had fundamentally changed while the concepts (e.g. of Marxism) remained unchanged, but with the collapse of the regimes the Soviet Marxist-Leninist ideology collapsed as well in 1990. This dualism differed with regard to the state, its factual evolution and conceptual development from the 17th to the 20th century.

A major focus of Koselleck's (2006: 86–98) work of the editorial project on historical concepts dealt with the temporal structures of conceptual change. In the introduction to his last book *Begriffsgeschichten* (histories of concepts) Koselleck (2006: 529–540) argued that it is essential for conceptual history to de-

2 The authors in this volume have been encouraged to trace the etymological development of the term security. Arends has traced the meaning of the word and concept in Greek, Latin and in English, Mesjasz pointed to the specific meanings in Polish and Russian, Okamoto, Radtke, and Lee review the meanings in Japanese, Chinese, and Korean while von Brück discusses the meaning in Buddhism and Hinduism, Eisen in Hebrew and in the Old Testament, and Hanafi in the Qur'n.

velop hypotheses with the goal to show their internal semantic structure, to develop hierarchies of conceptual fields to point to the power of some concepts to structure the context. At the same time on the semantic level concepts reflect experiences and expectations in different scientific disciplines. Thus, the language (or 'speech act') becomes an important tool to document conceptual changes as they are perceived, articulated, and documented at a certain moment or over a period of time. The semantic documentation of experiences is scientifically linked to contexts.

A methodological challenge is to understand the specific semantic contribution in order to understand the nonverbal phenomena (facts) as well as the challenge of the nonverbal predispositions that require a semantic or conceptual response. Conceptual history, Koselleck argued, "opens a way to empirically check these differentiations". He pointed to the contextual nature of concepts that gain in precision from their relationship to neighbouring and opposite concepts. Furthermore, he argued that conceptual history looks for key and corner points that illustrate an innovative strength that can only be observed from a longer-term perspective.

Influenced by Koselleck, Wæver (2006) drafted a conceptual history of security for international relations relying primarily on the Western intellectual tradition from its Greek and Roman origins up to the present in which he also documented the different reconceptualizations with a special focus on launching the 'national security' concept in the 1940's that was later taken up by Russia, Japan, Brazil (as a doctrine), and other countries. The chapters in part III broaden the focus to non-Western cultures, religions, and intellectual traditions.

Both the temporal evolution and systematic analysis of concepts has been a major task of philosophy, and especially of political philosophy and of the history of ideas that links one subfield of political science with broader philosophical endeavours and trends. In German there have been several philosophical efforts to document the contemporary philosophy and its concepts in its interrelationship to their historical structure and the sciences.[3]

3.2.4 Conceptual Mapping: Contextual and Theoretical

This book aims at a 'conceptual mapping' of the use of the concept of security in different countries, political systems, cultures and religions and scientific disciplines, in national political processes, within civil society and social movements, but also as a guiding and legitimating instrument within international organizations. Any conceptual mapping has to reflect the specific context in time and space that influence the meaning and the use of concepts.

In the social sciences, especially in the debate in security studies, the meaning of the concept of security is theory-driven. For this reason all authors in this volume have been asked to define the concept of security as they use it in their respective chapter. The 'conceptual mapping' of security in relation to peace, development, and environment is a task of political science that requires the knowledge of other disciplines (linguistics, history, philosophy) with a specific focus on the theoretical approaches prevailing in the social and political sciences.

3.3 Four Key Concepts of International Relations: Peace, Security, Development, and Environment

Below the four key concepts of the conceptual quartet: peace, security, development, and environment will be reviewed, relying on the knowledge gained from etymology, conceptual history, and conceptual mapping to which these volumes will contribute: In a next step the six dyadic linkages between these concepts will be examined on the background of the contextual change(s) in world history and theoretical innovations (constructivism, risk society, etc.).

3.3.1 Concepts of Peace

The word 'peace' (3.3.1.1) is a key *term* (3.3.1.2) and a crucial religious (chap. 10 by Oswald) and scientific concept in philosophy, theology, history, international law, and in international relations as well as in peace research (3.3.1.3), and it has been a declared goal of

3 See e.g. the historical dictionary of philosophy (*Historisches Wörterbuch der Philosophie*) published first in 1899 by Rudolf Eisler, and its fourth edition (1927–1930). A different approach was pursued in the new *Historisches Wörterbuch der Philosophie*, edited by Joachim Ritter that was published in 12 volumes (1971–2004). It includes a) terminological articles, b) key concepts with minor changes in history, c) combined concepts in their systematic context (e.g. in logic), and d) historical method for more detailed articles that track the continuity and change of concepts from the classic Greek to contemporary philosophy.

national policy-making, of international diplomacy, and of the activity of many international institutions (3.3.1.4). Since 1990 the yearning for 'peace' has been replaced by an intensive discourse on a widened and deepened concept of 'security' (3.3.1.5).

3.3.1.1 Etymology of the Words 'Pax', 'Peace' and 'Frieden'

The English term peace originates from the Latin 'pax' and the French 'paix' (Italian: pace; Spanish and Portuguese: 'paz'). In common English use the term 'peace' is associated with:

> 1. no war, a) a situation in which there is no war between countries or in a country ..., b) a period of time where there is no war: a lasting peace; 2. agreement, an agreement that ends a war; 3. no noise, a peaceful situation with no unpleasant noise; 4. calmness, a feeling of calmness and lack of worry and problems; 5. a situation in which there is no quarrelling between people who live or work together ...; 6. disturb the peace, ... to behave in a noisy and violent way (Langenscheidt-Longman 1995: 1041).

The *Compact Oxford English Dictionary* describes 'peace' as "1. freedom from disturbance, tranquillity, 2. freedom from or ending of war, 3. an action such as a handshake, signifying unity, performed during the Eucharist" (Soanes, OUP 2002: 830). The *Shorter Oxford English Dictionary* (5th Ed., 2002, Vol. 2: 2128) offered additional meanings.[4] The *New Collins Concise English Dictionary* (McLeod 1985: 831) defines 'peace' as: "1. the state existing during the absence of war ..., 2. a treaty marking the end of war, 3. a state of harmony between people or groups, 4. law and order within a state ..., 5. absence of mental anxiety, 6. a state of stillness, silence, or serenity". These dictionaries combine a state of no war with a positive state of harmony. There are also slight differences between British and American dictionaries. For *Webster's* (1979: 1317) 'peace' means: "1. freedom from war or civil strife; 2. a treaty or agreement to end war; 3. freedom from public disturbance or disorder, public security, law and order; 4. freedom from disagreement or quarrels, harmony, concord; 5. an undisturbed state of mind; absence of mental conflict, serenity; 6. calm, quiet tranquillity.[5]

The German term 'Frieden' refers to a 'condition of quietness, harmony, resolution of warlike conflicts' and also a 'protected territory' (Pfeifer, [8]2005: 375–376). The modern word 'Frieden' derives from the old German 'fridu' meaning protection and security, and is closely related to the Dutch term 'vrede' and the Swedish: 'frid'. In the Germanic and old German law 'Friede' referred to a state where a legal order prevailed as the basis for life in a community or in the whole country (of the land, of the king, in the castle or on the marketplace). In Middle High German, 'Frieden' was also used to refer to an armistice.

In Russian 'mir' refers to both 'peace' and the 'world'. In the pre-Hispanic culture 'peace' implies an equilibrium between nature and humans; gods and humans, as well as among human beings. Peace may also be linked to the Oriental concepts of harmony or equilibrium. In traditional societies the equilibrium has been very important (chap. 10 by Oswald).

While both the Latin *pax* and the German *Frieden* are rather narrow concepts, "the Greek *eirene*, the Hebrew *shalom*, and the Arab *salam* seem to approach 'peace with justice' including an absence of direct and structural violence". Galtung (1993: 688) pointed out that the Hindi *ahimsa* "no harm" adds the ecological dimension that was missing in the Occident but this was used by Gandhi as the basis for his

4 It refers to six major meanings: 1. Freedom from, or cessation of war, or hostilities, or a state of a nation or community in which it is not at war with another, ... a state or relation of concord and amity with a specified person, esp. a monarch or lord; recognition of the person's authority and acceptance of his or her protection. A ratification or treaty of peace between two nations or communities previously at war. 2. Freedom from civil disorder, public order and security, esp. as maintained by law. 3. Freedom from disturbance or perturbation, esp. as a condition of an individual; quiet, tranquillity. 4. Freedom from quarrels or dissension between individuals; a state of friendliness. An author or maintainer of concord. 5. Freedom from mental, spiritual, or emotional disturbance, calm; and 6. Absence of noise, movement, or activity, stillness.

5 For *Webster's Third New International Dictionary* (2002: 1660), peace refers to: 1. a. freedom from civil clamor and confusion; a state of public quiet; b. a state of security or order within a community provided for by law, custom, or public opinion; 2. a mental or spiritual condition marked by freedom from disquieting or oppressive thoughts or emotions: serenity of spirit; 3. a tranquil state of freedom from outside disturbance and harassment; 4. harmony in human and personal relations: mutual concord and esteem; 5. a. (1) a state of mutual concord between governments: absence of hostilities or war, (2) the period of such freedom from war; b. a pact or agreement to end hostilities or to come together in amity between those who have been at war or in a state of enmity or dissension: a formal reconciliation between contending parties; 6. absence of activity and noise: deep stillness: quietness; 7. one that makes, gives or maintains tranquillity.

non-violent struggle (chap. 10 by Oswald and 15 by Dadhich). This is a preliminary and very selective overview of a few primarily occidental once culturally dominant languages and it does not intend to cover the global diversity in languages. Different values, goals, and other concepts (law, security, justice, harmony with nature) are associated with 'peace', also in other languages and cultures not covered here.

3.3.1.2 Conceptual History of Peace

Many different scientific concepts of peace have been used in different time periods, disciplines, and within disciplines during the same time. As peace requires a minimum of order and consensus, peace is closely associated with law that presupposes freedom. Peace is no state of nature but must be created by human beings, and thus it often relies on legal agreements that are in most cases backed by power. In many cultures the internal peace corresponds closely with the defence of the territory against outside infringements.[6]

While the *Encyclopaedia Britannica* lacked any entry and thus definition of the concept of peace, and covered peace only as "disturbing the peace" and "justice of the peace", the German encyclopaedia Brockhaus (16th ed., 1954, vol. 4: 292–293) defined peace as a "condition of undisturbed order or balanced harmony that will be confused by quarrel and destroyed by battle." And it reviewed the concept in theology, law, and international law. The *Brockhaus Encyclopaedia* (19th ed., 1988, vol. 7: 660–663) defined peace as a "condition of a treaty-based and secured living together both within social unity and among groups, societies or organizations," as the opposite to war that will not last without a minimum order and consensus.[7] After the end of the Cold War, the *Brockhaus Encyclopaedia* (21st ed., 2006, vol. 9: 774–779) defined peace as a concept that may be applied to "harmonious relations ... among peoples, groups, organizations, interest groups and states." Peace was considered as a stable process pattern of an international system that guarantees that inter-state conflicts are being resolved without the use of organized force that requires democratization.[8]

In Greek philosophy, for Plato war and conflicts were to be avoided within the polis. Aristotle combined peace ('*eirene*') with politics and emphasized that all political goals may only be realized under conditions of peace, and war is only accepted as a means for the defence of the polis. Greek sophism distinguished among three levels of peace, a) within the polis, b) within Hellas, and c) with other peoples and barbarians. During the Roman period, 'pax' was closely tied to law and contracts, and with the emergence of the Roman Empire; the imperial *Pax Romana* relied on the contractual subjugation under the emperor in exchange for protection against external intruders.

Augustine developed a comprehensive Christian concept of peace that distinguished between the peace on earth (*pax humana*) and the peace of God (*pax divina*). Thomas Aquinas stressed the close connection of peace with justice (*iustitia*), but also with the love for other human beings (*caritas*). For him peace is a political good and the goals of the state, and a precondition for a good life. Others studied the links between internal and external peace. During the 14th and 15th centuries, several convents called for a peace among Christians (*pax Christiana*) but this also referred to a peace according to the Christian rules for others.

The Westphalian Peace of 1648 requested that all parties adhere to the '*pax Christina universalis perpetua*'. After the Peace of Utrecht (1713), Abbé de Saint-Pierre called for a federation of princes to secure a '*paix perpétuelle*' in the tradition of peace proposals from Thomas More's *Utopia* (1516) to William Penn's *Essay towards the present and future peace in Europe* (1693), and by utilitarian (Bentham) and socialist authors (Fourier, Saint-Simon).

In the tradition that emerged from the movement for a peace of the land (*Landfrieden*) the ruler was considered as the '*defensor pacis*' who was unconstrained by religious powers. The defence of the territorial peace was linked to the monopoly of force by

6 This section is based on: "Frieden", in: *Brockhaus Enzyklopädie* (vol. 7, 1988: 660–663; Schwerdtfeger (2001) has reviewed the many efforts within the peace research community to define peace, he examined peace as a reflexive concept, he discussed the evolution of the peace concept in history and he assessed peace in comparison with opposite concepts of violence, power, aggression, war, security, enmity, and conflict.

7 This lead article reviewed the evolution of the concept in theology and the history of Western religions, in Greek, Roman, medieval and modern political philosophy, and state practice.

8 This second lead article published 18 years later discusses the concepts of peace in Greek and Roman thinking, the Pax Christiana, the legalization of peace, from peace utopia to peace movements, peace as a project of modern times and peace by democratization and international cooperation and by conflict prevention and non-violent conflict resolution.

the sovereign rulers. Besides the 'peace within the state' that was achieved through its monopoly of the means of force and its use, the 'peace between and among states' has become a major concern of modern international law since the 16th (de Vitoria, Suárez) and 17th century (Grotius, Pufendorf). Its authors considered war still as a legitimate means for the realization of interests among states (*ius ad bellum*) but at the same time they called for constraints during war, such as a continuation of diplomacy and of the activity of neutral organizations (*ius in bello*). In his treatise for an *eternal peace* (1795) Kant went a step further and proposed a ban on war itself and developed a legal framework for a permanent peace based on six preliminary and three definite articles that called for a democratic system of rule, an international organization (league of nations), and the respect for human rights.

While Kant's philosophical conceptualization of peace influenced many philosophers and writers during the Napoleonic period, during the age of nationalism in the 19th and early 20th centuries, Treitschke, Nietzsche, Sorel, and many other writers contributed to a glorification of war (*bellicists*) while simultaneously radical *pacifists* and the peace movement of the late 19th century requested a condemnation of war. In modern theories of hegemonic stability *Pax Americana* refers to a peace according to the rules proposed (and in some case even *imposed*) by the USA. Earlier *Pax Britannica* applied similar goals within the colonial British Empire.

During the 20th century after World War I, the liberal Kantian tradition, represented by Woodrow Wilson at the Versailles Peace Conference, was instrumental for the creation of the League of Nation, while after World War II, Hobbesian lessons were drawn from the collapse of the League of Nations. The new United Nations were added teeth, and during the Cold War a bipolar power system based on strong military alliances prevailed. But with the peaceful implosion of the Soviet Union and the end of the Cold War (1989–1991), war as a social institution was not defeated but it has returned in the form of resource, ethnic, and religious conflicts, primarily within states but also as pre-emptive wars not legitimized by the United Nations Security Council and against the expressed preferences of many state members (attack on/liberation of Iraq in 2003). During the 1990's proposals for a new international order of peace and security in the Kantian and Grotian traditions, especially for Europe and the Mediterranean region, were gradually replaced – after the failed peacekeeping missions in the Balkans in the framework of the global (UN) and regional (OSCE) systems of collective security – by power-driven concepts of preventive wars (White House 2002, 2006).

3.3.1.3 Peace as a Scientific Concept

Peace has been defined as a basic value (Zsifkovits 1973) and as a goal of political action, as a situation of non-war, or as an utopia of a more just world. Schwerdtfeger (2001: 28–29) distinguished four alternatives to define peace: 1. a nominal definition; 2. as a result of a contemplative hermeneutic process; 3. a review of the historic evolution of the concept; 4, a determination by an analysis of opposite concepts.

In his effort to define peace, Galtung (1967, 1969, 1975, 1988) distinguished between a condition of 'negative' (absence of physical or personal violence – or a state of non-war) and positive peace (absence of structural violence, repression, and injustice). Picht (1971) defined peace as protection against internal and external violence, as protection against want, as protection of freedom as three dimensions of political action, and thus comes close to what has been defined in the 1990's as 'human security'. Senghaas (1997) pointed to the following five conditions of peace among nations. 1. positive interdependence; 2. symmetry of interdependence; 3. homology; 4. entropy; that require 5. common softly regulating institutions. In his 'civilisatory hexagon' Senghaas (1994, 1995) referred to six related aspects: 1. an efficient monopoly over the use of force; 2. effective control by an independent legal system; 3. interdependence of social groups; 4. democratic participation; 5. social justice, and 6. a political culture of constructive and peaceful conflict transformation. Among the many attempts to define peace, no consensus on a generally accepted minimal definition emerged. Defining peace as the result of a reflective process requires an understanding of its components and conditions (Schwerdtfeger 2001: 44–48).

Conceptual histories of peace have tried to reconstruct the evolution of this concept in philosophy, theology, history, and law in relationship to political and state practice (Biser 1972: 1114–1115).[9] Schwerdtfeger (2001: 49–77) interpreted the evolution of the peace concept in the Greek, Jewish and Christian traditions, the Roman concept of pax and its use in the Middle Ages, during the Reformation, Enlightenment and in modern times, in liberalism, socialism and bellicism with their historically contextualized and changing meanings.

3.3.1.4 Peace: A Basic Value and Goal of Peace Research

While there were pioneers of peace research in the interwar period, such as Lewis Fry Richardson (1960a) and Quincy Wright (1942, 1965), who focused on arms races and on the causes of wars, peace research as a value-oriented academic programme – primarily in the social sciences and in international relations – emerged during the Cold War in the US and in Northern Europe as an intellectual challenge to the prevailing Hobbesian perspectives in international relations and in the newly emerging programmes of war, strategic and security studies (preface essay by Oswald).

Johan Galtung (1993: 688), one of the founders of peace research, has defined peace narrowly

> as the absence of warfare, i.e. organized violence, between groups defined by country, nation (culture, ethnicity), race, class or ideology. International or external peace is the absence of external wars: inter-country, inter-state, or international. ... Social or internal peace is the absence of internal wars: ethnic, racial, class, or ideological groups challenging the central government, or such groups challenging each other.

Galtung (1968; 1993: 688–689) has distinguished between direct, *personal* or institutionalized violence and *structural* violence taking the form of "economic exploitation and/or political repression in intra-country and inter-country class relations." In his mini-theory of peace, Galtung (2007)[10] argued that "peace is not a property of one party alone, but a property of the relation between parties." He distinguished among negative (disharmonious), indifferent and positive (harmonious) relations that often coincide in the real world manifesting themselves as *negative* (absence of violence, cease-fire, indifferent relations) or *positive peace* (harmony).

Huber and Reuter (1990: 22f.) argued that a basic condition for peace is the survival of humankind, and that "talking about peace does not make sense any longer, if life on the planet is destroyed." Discord exists in those processes that threaten life on earth, e.g. by an exploitation and destruction of nature, that lead to mass hunger and to an endangerment of life by military means. "Devastation of nature, hunger and war are those processes that are incompatible with the preconditions of peace, the survival of humankind."

Czempiel (2002: 83), a co-founder of peace research in Germany, noted that "peace research does not have a clarified peace concept." According to Czempiel (2002: 84) the elimination of war was in the forefront of all peace concepts since prehistoric times, and more recently conceptual efforts to prevent and avoid violent conflicts have become one major research concern. In his understanding, peace exists in an international system where the allocation and creation of values in the issue areas of security, welfare, and rule are institutionalized and can be realized without the use of organized military force. This refers to three causes of war that must be replaced by 'negative peace' at a) the level of the international system and its structure, b) in the system of rule, especially between the political system and its societal environment, and c) in the interactions between the political systems and the societal environments in the international system.

One shortcoming of the anarchic international system has been the realist's security dilemma, while liberals believe that international organizations and regimes can foster international cooperation. For decades, and prior to the US debate on the 'democratic peace' of the 1990's, Czempiel has pointed to the democratic nature of systems of rule as a second precondition for peace as has also been stressed in

9 Janssen ([4]1998, vol. 2: 543–591) provided a detailed analysis of the concept '*Friede*' from its Germanic roots to medieval moral theology, the positive peace concept of the late medieval period with the '*pax civilis*' as a condition of order and security guaranteed by the state to an international peace as an unstable treaty-based condition, eternal peace as a proposition during the enlightenment and in the period of economic utilitarian rationalism, the doctrine of '*bellum iustum*', and the division of state and peace in the peace concept of the French Revolution, he contrasted the tendencies towards bellicism with Kant's thinking on peace and the development of the peace concept during the 19th century.

10 See at: <http://www.transnational.org/Resources_Treasures/2007/Galtung_MiniTheory.html>: "From this ... follow three types of peace studies: *negative peace studies*: how to reduce, eliminate negative relations; *positive peace studies*: how to build ever more harmonious relations; *violence-war-arms studies*: the intent and capability to inflict harm. ... One approach to negative peace studies opens for *peace and conflict studies*, seeing violence-war as the smoke signals from the underlying fire of a conflict. And that leads to a major approach to negative peace: remove the conflict, by solving it or, more modestly, by transforming it so that the parties can handle it in a non-violent way, with empathy for each other, and with creativity. ... That leads us to the two key tasks in search of, as a minimum, negative peace: *mediation* to resolve the incompatibility, and *conciliation*, healing the traumas, removing them from the relation between the parties, and closure.

Kant's first definitive article. Interaction as a third cause of violence may be overcome by institutionalized forms of cooperation by an increase of mutual information, confidence building measures, arms control and verification efforts, as well as by new forms of learning and training of the foreign policy elites. According to Czempiel, peace as an institutionalized patterned process of no-war has to comply with six preconditions:

a) the anarchy of the international system must be changed by cooperation of the states in system-wide international organizations;
b) the dominance of power must become more equal due to a higher distributive justice of societal opportunities for development;
c) the systems of rule must be democratized to permit that the demands of society will be better reflected in the decisions of a society;
d) interest groups must become more transparent and their access to the decision-making process must be better controlled;
e) the opportunities to steer complex interactions with a regional and global scope must be improved by new forms of governance in which the societies should participate;
f) the strategic competence of the actors must be improved, their education must be modernized and become more professional.

To contribute to the realization of these goals, peace research should advance them in the public conscience and prevailing opinions. Brock (2002: 104f.) reviewed that peace should be more than the absence of war in the framework of five dimensions: a) of time (eternal peace), b) space (peace on earth), c) society (domestic intra-societal peace), and d) procedure (peace as peaceful dispute on peace), and e) a heuristic dimension to move from the study of the causes of war to the conditions of peace. However, both authors left nature and the human-nature interactions as a cause of conflict outside of their scope of analysis.

Ho-Won Jeong (1999: 6–7) has defined the field of peace research as a: "methodologically pluralist community with emancipatory interest in transformative possibilities for the improvement of human well-being as well as the prevention of violence." He argues that peace research, in contrast to strategic studies, "take a critical view of traditional international relations theories" that interpret the world in the "power politics framework of realist and neorealist paradigms", and he notes that "peace research was influenced by the idealist tradition of functional cooperation", as well as by the "non-violent traditions of Tolstoy and Gandhi."

The new agenda of peace research focuses on both *negative* peace "as absence of wars and other types of physical violence" and on *positive* peace, he defines as "social progress" but also as "the elimination of poverty and injustice" and he added that "the symbiotic relationship between positive and negative peace would not be understood without having a broad notion of human security." Ho-Won Jeong (1999: 8) argues that the:

> Concept of security binds together individuals, states and the international system so closely that the conditions of peace can be treated in an integrative manner. It includes non-military sources of threats such as environmental degradation, migration and poverty. The concept of security for the global community is needed to articulate the concerns with global ecology. The visualization of collective existence on the planet can be made possible by understanding a new set of spatial, metaphysical and doctrinal constructs. Since the underlying premise of ecology is holism and mutual dependence of parts, ecological security defies the traditional boundaries of modern territoriality.

He considered among the integrating themes of future peace research "a critical examination of state centric paradigms in the areas of alternative military security, the environment, and human rights." Among the policy-relevant issues remain efforts to prevent and control violence as "the emancipatory goal of peace research" and as its "normative core".

Chadwick F. Alger (1999: 13–42) provided a map of 24 peace tools that can be derived from efforts of peacebuilding during the 19th century (2 tools) and the 20th century (22 tools) which he associated both with the negative (11) and the positive (13) peace concept and which he grouped into six drawers: I: diplomacy, balance of power); of the League's Covenant (II), including collective security, peaceful settlement, disarmament and arms control; of the UN Charter (III) of 1945 (functionalism, self-determination, human rights); with UN practice between 1950–1989 (IV) on the negative side: peacekeeping and on the side of positive peace: 5 tools of economic development, economic equity, communication equity, ecological balance and governance for commons; with the UN practice since 1990 (V) with the new tools of humanitarian intervention and preventive diplomacy; and finally with NGOs and people movements (VI) with whom he associated for negative peace three tools: track II diplomacy, conversion and defensive defence, and on the positive side five: nonviolence, citizen defence, self reliance, feminist per-

spectives and peace education, of which only one deals with nature and the environment (ecological balance) that has gradually become a dimension of peace since 1972, viewed from two perspectives:

> One perspective achieved widespread visibility during the UNCED Conference when disputes erupted about (1) who is responsible for global pollution, (2) which ecological problems should receive priority and (3) who should pay 'to clean up the mess'. ... a second perspective on the peace-ecological balance is that by disrupting normal relationships between specific human beings and their environment, pollution directly produce peacelessness for these people. In some cases, as with the destruction of the habitats of people in rain forests with bulldozers and explosives, it is as quick and devastating as war.

In a final step, Alger (1999: 40–42) filed the 24 peace tools into nine categories based on their essential characteristics and instruments: "(1) words, (2) limited military power, (3) deterrent military power, (4) reducing weapons, (5) alternatives to weapons, (6) protecting rights of individuals and groups, (7) collaboration in solving common economic and social problems, (8) equitable sharing of economic, communications and ecological systems, and (9) involvement of the population at large through peace education and organized participation."

Alger grouped the peace tool "ecological balance" in category VIII (international communications, equity, ecological balance, governance for commons) and associated them with three instruments: to overcome one-way international communication, to overcome destruction of the habitat, and to share equity in use for the commons that "seek to attain equitable international economic, communications and ecological systems" which requires "collaborative problem solving in governance for the global commons (oceans, space, Antarctica) and equitable sharing in the use of the commons."

However, in neither of these two recent representative American and German reviews of the state of the art on the peace concept and on the peace research agenda, problems of global environmental change and their extreme or fatal outcomes were perceived as issues of peace research. This is also reflected in the conceptualization of peace in the United Nations Charter.

3.3.1.5 Peace: Goal of Policy, Diplomacy, and International Institutions

In the United Nations' Charter of 1945, the 'concept of peace' has been mentioned among the purposes of the UN in Art. 1,1: "to maintain international peace and security", and "to take effective collective measures for the prevention and the removal of the threats to the peace, and for the suppression of acts of aggression or other breaches of the peace", as well as peaceful conflict settlements. Wolfrum (1994: 50) pointed to both narrow and wide interpretations of peace in the Charter:

> If 'peace' is narrowly defined as the mere absence of a threat or use of force against the territorial integrity or political independence of any states (Art. 2(4)) ('negative peace'), the term 'security' will contain parts of what is usually referred to as the notion of 'positive peace'. This latter notion is generally understood as encompassing the activity which is necessary for maintaining the conditions of peace. The preamble and Art. 1(1), (2), and (3) indicate that peace is more than the absence of war. These provisions refer to an evolutionary development in the state of international relations which is meant to lead to the diminution of those issues likely to cause war.

In Art. 1(2) and 1(3) the UN Charter uses a wider and positive peace concept when it calls for developing "friendly relations among nations" and for achieving "international cooperation in solving international problems of an economic, social, cultural, or humanitarian character."

In 1945, the protection of the environment was not yet recognized as a specific goal for the UN. In chapter IX on international economic and social cooperation, Art. 55 (a), (b) and (c), without specifically mentioning environmental issues but its reference to "development", and "related problems" on which the UN based its activities in the area of environmental protection in its GA Res. 2994 (XXVII) of 15 December 1972 which endorsed the *Action Plan for the Human Environment* that had been adopted at the Stockholm Conference (1972). In res. 2997 (XXVII), on the same day the GA established the Governing Council of UNEP with the task to promote international cooperation in the environment area. In subsequent years, the GA adopted resolutions on a wide range of environmental and global change issues:

> on cooperation in environmental protection, on the interdependence of resources, on environmental protection, population, and development, on the preparation of environmental prospects for the Year 2000 and beyond, and on the clean-up of war debris, and desertification (Wolfrum 1994a: 775).

A wider concept of peace was the basis for the "Proclamation of the International Year of Peace" in GA Res. 40/3 of 3 October 1985 that stated that the promotion of international peace and security required

continuing and positive action by peoples and states on these goals:

> The prevention of war; the removal of various threats to peace (including the nuclear threat); respect for the principle of the non-use of force; the resolution of conflicts and the peaceful settlement of disputes; the development of confidence-building measures; agreement on disarmament; the maintenance of outer space for peaceful purposes; respect for the economic development of states; the promotion and exercise of human rights and freedoms; decolonization in accordance with the principle of self-determination; the elimination of racial discrimination and apartheid; the enhancement of the quality of life; the satisfaction of human needs; and the protection of the environment (Wolfrum 1994: 51).

In chapter VI on the Pacific Settlement of Disputes, Art. 33 uses a 'negative' concept of peace that is "ensured through prohibitions of intervention and the use of force" (Tomuschat 1994: 508). In Chapter VII of the UN Charter dealing with "Action with Respect to Threats to the Peace, Breaches of the Peace, and Acts of Aggression", in Art. 39, a 'negative' concept of peace prevails, referring to "the absence of the organized use of force between states." But in a SC meeting of the Heads of States and Government on 31 January 1992 they "recognized that the absence of war and military conflicts amongst states does not in itself ensure international peace and security" (Frowein 1994: 608). But according to Art. 2(7), Art. 39 does not include the use of force in internal situations, and in this understanding a civil war is "not in itself a breach of international peace" but it can lead to a threat of international peace. Thus, most cases of the low level of violence that may result from the fatal outcomes of global environmental change are outside of the focus of Chapter VI and VII of the UN Charter. However, since 1990 a significant change could be observed in state practice as documented in tUN SC resolutions (see chap. 35 by Bothe in this vol.)

In the framework of Chapter IX on "International Economic and Social Cooperation", Art. 55 (3) refers to the "universal respect for, and observance of, human rights and fundamental freedoms." It has been suggested, to include "the right of self-determination, to peace, development, and to a sound environment" (Partsch 1994: 779) as "human rights of the third generation" (Vasak 1984: 837).

In the UN Charter of June 1945, a narrow or a 'negative' concept of peace has been in the centre with a few direct references to 'positive' aspects to be achieved by 'friendly relations among nations', and by 'international cooperation'. No reference is included in the Charter that refers to 'peace with nature', nor can extreme outcomes emerging from global environmental change be conceptualized as 'threats to the peace'.

However, since 1972 environmental protection has become an increasing task for UN activities (Meier 2002: 125–129) and a significant body of international environmental law has evolved that deals with many aspects of global environmental change (Beyerlin 2002: 119–125).

Art. 24 of the UN Charter mentions as the responsibility of the UNSC "the maintenance of international peace and security", two goals that have been closely linked both in the preamble, among the purposes and principles (Art, 1), the functions of the GA and the SC, and in the framework of the pacific settlement of disputes (chap. VII), and with threats to the peace, breaches of the peace, and acts of aggression (chap. VIII), and the regional arrangements (chap. VIII). Thus, the related concept of 'security' is crucial for understanding the UN Charter and its peace concept (chap. 35 by Bothe).

3.3.2 Concepts of Security

The word and concept of 'security' is closely related to peace, and has also become a value and goal of activity by nation states and supra and sub-state actors that require 'extraordinary measures', and has thus also been used to legitimize major public spending. The word has many different roots and meanings in different cultures. In the Western tradition the Roman and Christian thinking had a lasting impact on contemporary security concepts (4.3.2.1).

The political and scientific concept of security has changed with the modifications in international orders. With the Covenant (1919) the concept of 'collective security' was introduced, after World War II the concept of 'national security' was launched to legitimize the global US role and after 1990 the security concept widened and new concepts such as 'human', 'environmental', and many sectoral security concepts were added to the policy agenda (3.3.2.2).

3.3.2.1 Etymology of the Words 'Securitas', 'Security', and 'Sicherheit'

The term 'security' is associated in recent British[11] (2002) and American[12] (2002) dictionaries with many different meanings that refer to frameworks and dimensions, apply to individuals, issue areas, societal conventions, and changing historical conditions and circumstances. Thus, security as an individual or societal political value has no independent meaning and is

always related to a context and a specific individual or societal value system and its realization.

In the Western tradition, as a term 'security' (lat.: *securus* and *se cura*; it. *sicurezza*, fr.: *sécurité*, sp.: *seguridad*, p.: *segurança*, g: *Sicherheit*) was coined by Cicero and Lucretius as '*securitas*' referring initially to a philosophical and psychological status of mind, and it was used since the 1st century as a key political concept in the context of 'Pax Romana'. As Arends argues (in chap. 17 of this vol.) there has been a second intellectual origin, starting with Thomas Hobbes, where

> 'security' became associated with the genesis of the authoritarian 'super state' – Hobbes' '*Leviathan*' – committed to the prevention of civil war. Surprisingly, in this phase an ancient Greek concept was revived functioning during Athenian imperialism of the fifth century B.C.; especially Thucydides, Hobbes' favourite classical historian, influenced its modern 'Hobbesian' meaning. The contemporary concept of 'security' therefore proves to be a 'chimeric' combination of a) the ancient Athenians' intention to prevent the destruction of their empire, b) the religious connotations of Roman 'securitas', and c) the Hobbesian intention to prevent civil war.

The German words '*sicher*' (secure) and '*Sicherheit*' (security) evolved from Latin and meant in Old High German (*sihhurheit*, 9th century) being protected, protection of dangers, but also carelessness, certainty, firmness, to be trained, and in Middle High German (*sicherheit*) also decisiveness, being unconcerned, without worry, vow (Pfeifer ^{8}2005: 1287).[13]

3.3.2.2 Conceptual History of 'Securitas', 'Security', and 'Sicherheit'

Conze (1984: 831–862) has reviewed and analysed the evolution and change of the meaning of the German concepts security ('Sicherheit') and protection ('Schutz') that evolved, based on Roman and Medieval sources since the 17th century with the dynastic state. Conze argued that the origin and development of the security concept has been closely linked to an intensification of the modern state. As a political concept of the medieval period, 'securitas' was closely linked to *Pax Romana* and *Pax Christiana* (e.g. to the making and maintenance of peace) while it later also applied to persons and goods as the object of protection.

Since the mid 17th century internal security was distinguished from external security, and during the mid 17th century external security has become a key concept of foreign and military policy and of international law. During the 17th and 18th centuries internal security was stressed by Hobbes and Pufendorf as the main task of the sovereignty towards its people. In the American constitution, safety is linked to liberty, thus violating liberty of a government directly affects its safety.

During the French Revolution the declaration of citizens' rights has declared security as one of its four basic human rights (*la sureté et la résistance a l'op-*

11 See e.g.: for a previous review: Brauch (2003: 52–53); and for the most recent use in British English: *Shorter Oxford English Dictionary*, ^{5}2002, vol. II: 2734: I 1: "The condition of being protected from or not exposed to danger, safety; spec. the condition of being protected from espionage, attack, or theft. Also, the condition of being kept in safe custody; the provision or exercise of measures to ensure such safety. Also a government, department or other organization responsible for ensuring security. 2 Freedom from care, anxiety, or apprehension, a feeling of safety or freedom from danger. Formerly also, overconfidence, carelessness. 3 Freedom from doubt, confidence assurance. Now chiefly spec. well-founded confidence, certainty. 4. The quality of being securely fixed or attached, stability. II 5 property etc. deposited or pledged by or on behalf of a person as a guarantee of the fulfilment of an obligation and liable of forfeit in the event of default. 6 A thing which protects or makes safe a thing to a person; a protection, a guard, a defence. 7 A person who stands surety for another. 8 Grounds for regarding something as secure, safe, or certain; an assurance, guarantee. 9 A document held by a creditor of his or her right to payment ... 10 A means of securing or fixing something in position." The same dictionary defines "securitize" as a term used in commerce: "Convert (an asset, esp. a loan) into securities, usu. for the purpose of raising cash and selling them to other investors.

12 See: *Webster's Third New International Dictionary*, 2002: 2053–2054 does not yet mention the verb: "securetize"). Security is defined as: "1: the quality or state of being secure: a: freedom from danger: safety (from famine, against aggression), b archaic: carefree of cocky overconfidence; c. freedom from fear, anxiety, or care; d: freedom from uncertainty or doubt, confidence, assurance; e: basis for confidence; f: firmness: dependability, firmness; 2 a, something given, deposited or pledged to make certain the fulfilment of an obligation ...; b: one who becomes surety for another ...; 3: a written obligation, evidence or ownership or co-editorship ...; 4: something that secures: defense, protection, guard ... a: measures taken to ensure against surprise attack; b: measures taken to guard against espionage, observation, sabotage and surprise; c: protection against economic vicissitudes; d: penal custody ...; 5: the resistance of a cryptogram."

13 For different interpretations of se curus in the French literature and for the etymology of the Polish and Russian concepts of security see chap. 2 by Mesjasz.

pression). For Wilhelm von Humboldt the state became a major actor to guarantee internal and external security while Fichte stressed the concept of mutuality where the state as the granter of security and the citizen interact. Influenced by Kant, Humboldt, and Fichte the concept of the '*Rechtsstaat*' (legally composed state) and '*Rechtssicherheit*' (legal predictability of the state) became key features of the thinking on security in the early 19th century (Conze 1984).

On the background of the new social questions the concept of 'social security' gradually evolved in the 19th and 20th centuries, and became a *terminus technicus* during F.D. Roosevelt's New Deal when he addressed on 8 June 1934 as a key goal of his administration to advance the security of the citizens: "the security of the home, the security of the livelihood, and the security of the social insurance." This goal was also contained in the *Atlantic Charter* of 1941 as "securing, for all, improved labour standards, economic advancement and social security." In 1948 social security became a key human right in Art. 22 of the General Declaration on Human Rights.

Conze (1984) ignored another key element of the emerging post war security concept in the US that resulted between 1945 and 1949 in the emergence of the "American security system" (Czempiel 1966), or of a national security state (Yergin 1977). This concept of national security became an important political concept for the legitimization of the competing public funding priorities for 'national security' and 'social security'.

While the Democratic Presidents (Roosevelt, Truman, Kennedy, Johnson) pleaded for a big state to deal with both security challenges, the US Republicans in the 1940's first opposed the big state and its two security agendas, and Eisenhower warned in his farewell address of the unlimited power of the military-industrial complex. During the end of the Cold War and in the post-Cold War period, US Republican presidents called for maintaining a big security apparatus with a strong industrial and economic basis, and a powerful intelligence and police force.

The 'national security' concept emerged as a key concept in the US during World War II and became a key post war concept during the evolution of the American security system (Czempiel 1966). In the US, this concept was used to legitimize the major shift in the mind-set between the interwar and post-war years from a fundamental criticism of military armaments during the 1930's to a legitimization of an unprecedented military and arms build-up and militarization of the prevailing mind-set of the foreign policy elites.

3.3.2.3 Efforts for a Systematic Conceptual Mapping of Security

Thus, the changes in the thinking on security and their embodiment in security concepts are also a semantic reflection of the fundamental changes as they have been perceived in different parts of the world and conceptually articulated in alternative or new and totally different security concepts. The success or failure in the credibility of securitization efforts (of terrorism or climate change) as two opposite contemporary security dangers and concerns has been behind the transatlantic security debate and the global scientific conceptual discourse. The meaning of the security concept has significantly changed since it was first widely used after 1945.[14]

While the *Encyclopaedia Britannica* lacks an entry on the 'security' concept and on 'security policy'. the German *Brockhaus Encyclopaedia*[15] (1993) reviewed security as a key term from its Roman origins, pointing to its many meanings due to the different contexts and dimensions, as a societal value or symbol (Kaufmann 1970, 1973) that is used in relation to protection, lack of risks, certainty, reliability, trust and confidence, predictability in contrast with danger, risk, disorder, and fear. It summarized its historical dimensions, its different meanings during the medieval period and its modern meaning with the evolution of the modern territorial state since the 17th century and of the nation state since the 19th century, and the evolution of the concept of social security. It discussed social and anthropological aspects of the changes in the perception and use of the security concept in the sociological debates on new values and on risks (Beck

14 "Security", in: *The New Encyclopædia Britannica,* vol. 10 (Chicago: Encyclopædia Britannica, 1998): 595 refers only to *securities*, such as stocks.

15 In three editions of the German 'Brockhaus' encyclopaedia the concept gradually evolved. In its 16th edition (Wiesbaden: Brockhaus, 1956, vol. 10: 688) security was defined as "a need, especially of the civilized society, to be precise, security of the individual as well as of societal groups, peoples, states (personal, economic, social, political security". In its 19th edition (Mannheim: Brockhaus, 1993, vol. 20: 227–229) security was introduced as a key term (*Schlüsselbegriff*) while in its 21st edition (Leipzig-Mannheim: Brockhaus, 2006, vol. 25: 177–179) it was downgraded to a regular term and only slightly modified, while "security policy" (vol. 25: 182–185) had now become a key term focusing on the basic patterns of security policy, especially in Germany during and after the Cold War and to the new challenges since 11 September 2001.

1986, 1992, 1999, 2007). The 21st edition of the *Brockhaus Encyclopaedia* (2006) made only minor revisions, adding a paragraph on security of IT systems.

From a philosophical perspective Makropoulos (1995: 745–750) analysed the concept 'Sicherheit' from its Latin and Greek origins, its evolution during the medieval period and since the reformation as a concept in theology, philosophy, politics and law, with a special focus on Hobbes, Locke, Wolff, Rousseau, Kant and in the 20th century on its dual focus on prevention and compensation of genuinely social and technical insecurity as well as new social risks. It noted 'social security' but the concepts of 'national' or 'human security' were not mentioned.

3.3.2.4 Security as a Concept in the Social Sciences

In *The Oxford Companion to Politics of the World* (Krieger 1993; Art 1993: 821) claimed that security as a social science concept "is ambiguous and elastic in its meaning". Referring to Wolfer's (1962: 150) definition: "Security, in an objective sense, measures the absence of threats to acquired values, in a subjective sense, the absence of fear that such values will be attacked," for Art (1993: 820–22) its subjective aspect implies: "to feel free from threats, anxiety or danger. Security is therefore a state of the mind in which an individual ... feels safe from harm by others." While objective factors in the security perception are necessary they are not sufficient. Subjective factors to a large extent have influenced security perceptions in many countries. Due to the anarchic nature of international relations, "a concern for survival breeds a preoccupation for security." For a state to feel secure requires "either that it can dissuade others from attacking it or that it can successfully defend itself if attacked." Thus, security demands sufficient military power but also many "non-military elements ... to generate effective military power." Art noted a widening of security that involves "protection of the environment from irreversible degradation by combating among other things, acid rain, desertification, forest destruction, ozone pollution, and global warming," while the second implied a revival of the UN and better prospects for collective security. "Environmental security has impelled states to find cooperative rather than competitive solutions" (Art 1993: 821).

The German *Lexikon der Politik* (Rausch 1998: 582–583) defined security as the absence or avoidance of insecurity. The security concept is limited to the state, and is discussed at length in its relationship to *internal security* (extremism, crime, terrorism) and *external national security* as well as *social security.* 'Security policy' is discussed in relation to the arms control agenda of the early 1990's.[16] The discourse on reconceptualization of security since 1990 remained unnoted in most dictionaries and in the encyclopaedias in the social sciences.

During the interwar period (1919–1939) in the social sciences' references to defence, national survival, national interests and sovereignty (Meinicke 1924) or power (Carr 1939) prevailed, when the security concept was hardly used. Since the Covenant (1919) 'collective security' had become an established term (Claude 1962, 1984: 247). The 'national security' concept emerged during World War II in the United States "to explain America's relationship to the rest of the world" (Yergin 1977: 193). It was widely used by the first US Defence Minister Forrestal to legitimize a strong military establishment and this is reflected in the National Security Act (1947) that created its legal and institutional basis (Czempiel 1966; Brauch 1977; Yergin 1978). It was criticized by Wolfers (1952, 1962) and Herz (1959: 236f.)

The 'security concept' has gradually widened since the 1980's, as have the objects and means of security policy in the framework of three security systems in the UN Charter, and within the UN framework several sector-specific security concepts have emerged. For Krell (1981) the security concept has been "one of the most complex concepts, comparable to values and symbols" that has been used "as one of the most important terms of everyday political speech, and one of the most significant values in political culture" (chap. 38 by Albrecht/Brauch).

For the constructivists, security is *intersubjective* (Wendt 1992). It depends on a normative core that can not simply be taken for granted. Its political constructions have real world effects by guiding action of policy-makers and exerting constitutive effects on political order (chap. 51 by Hintermeier, chap. 37 by Baylis). For Wæver (1997 and chap. 4, 44) security is the result of a 'speech act' ('securitization'), according to which an issue is treated as: "an existential threat to a valued referent object" to allow "a call for urgent and exceptional measures to deal with the threat". Thus, the 'securitizing actor' points "to an existential threat" and thereby legitimizes "extraordinary measures". For Wæver:

> the central idea of the theory is, that it is not up to analysts to try to settle the 'what is security?' but is may be

16 The *Political Dictionary* by Schmidt (1995. 864; 2004: 638) is limited to an abbreviated definition by Wolfers.