



PROMOTING LEADERSHIP IN THOUGHT  
THAT LEADS TO ACTION

*THE WEALTH OF NATIONS REVISITED*

# CADMUS

**A papers series of the South-East European Division  
of the World Academy of Art and Science (SEED-WAAS)**

**Volume I, Issue 4**

**April 2012**

**ISSN 2038-5242**

*Editorial: Human Capital*

*SEED-IDEAS*

Great Transformations

The Great Divorce: Finance and Economy

Evolution from Violence to Law to Social Justice

Immediate Solution for the Greek Financial Crisis

Economic Crisis & the Science of Economics

*ARTICLES*

Original Thinking

– *Ashok Natarajan*

Inclusive Growth: Why is it important for developing Asia?

– *Jesus Felipe*

From Limits to Growth to Limitless Growth

– *Garry Jacobs & Ivo Šlaus*

Getting Risks Right

– *Patrick M. Liedtke*

Flaws in the Concept of Nuclear Deterrence

– *John Scales Avery*

Simulated ICJ Judgment

– *Winston P. Nagan*

Social Evolution, Global Governance & World Parliament

– *Andreas Bummel*

From European Union to World Union

– *John McClintock*

New Paradigm for Global Rule of Law

– *Winston P. Nagan & Garry Jacobs*

Law in Transition Biblioessay

– *Michael Marien*

Research Integrity

– *Pieter J. D. Drenth*

Entropy & Economics

– *John Scales Avery*

Gender Perspectives on Climate Change & Human  
Security in India

– *Jyoti Parikh, Dinoj Kumar Upadhyay & Tanu Singh*

*NEWS*

Report on Activities of WAAS and Club of Rome

## EDITORIAL BOARD

---

**Chairman:** Ivo Šlaus, President of World Academy of Art & Science; President, South East European Division, World Academy of Art & Science, Zagreb, Croatia; Member of the Club of Rome.

**Editor-in-Chief:** Orio Giarini, Director, The Risk Institute (Geneva and Trieste, Publisher), Member of the Board of Trustees of World Academy of Art & Science; Member of the Club of Rome.

**Managing Editor:** Garry Jacobs, Chairman of the Board of Trustees, World Academy of Art & Science; Vice-President, The Mother's Service Society, Pondicherry, India.

**Members:**

**Walter Truett Anderson**, Former President, World Academy of Art & Science; Fellow of the Meridian International Institute (USA) and Western Behavioral Sciences Institute.

**Ian Johnson**, Secretary General, Club of Rome; former Vice President, The World Bank; Fellow of World Academy of Art & Science.

**Michael Marien**, Fellow of World Academy of Art & Science; Director, Global Foresight Books.

**Winston Nagan**, Member of the Board of Trustees of World Academy of Art & Science; Professor of Law & Director, Institute for Human Rights, Peace and Development, University of Florida.

**Francesco Stipo**, President of the US Chapter, Club of Rome.

### *The CADMUS Journal*

*The acronym of the South-East European Division of The World Academy of Art and Science – SEED – prompted us to initiate a journal devoted to seed ideas - to leadership in thought that leads to action. Cadmus (or Kadmos in Greek and Phoenician mythology) was a son of King Agenor and Queen Telephassa of Tyre, and brother of Cilix, Phoenix and Europa. Cadmus is credited with introducing the original alphabet – the Phoenician alphabet, with “the invention” of agriculture, and with founding the city of Thebes. His marriage with Harmonia represents the symbolic coupling of Eastern learning and Western love of beauty. The youngest son of Cadmus and Harmonia is Illyrius. The city of Zagreb, which is the formal seat of SEED, was once a part of Illyria, a region including what is today referred to as the Western Balkans and even more. Cadmus will be a journal for fresh thinking and new perspectives that integrate knowledge from all fields of science, art and humanities to address real-life issues, inform policy and decision-making, and enhance our collective response to the challenges and opportunities facing the world today.*

**Copyright:**

The Risk Institute - Istituto del Rischio

Via della Torretta, 10 - 34121 Trieste - Italy / 53 route de Malagnou - 1208 Geneva - Switzerland

Editorial Office: 5, Pudukuvai Sivam Street, Venkata Nagar - Pondicherry 605011 - India

*Published under Open Access policy guidelines.*

See the last page for Editorial Policy.

**Websites:**

[www.cadmusjournal.org](http://www.cadmusjournal.org) - [www.worldacademy.org](http://www.worldacademy.org) - [www.newwelfare.org](http://www.newwelfare.org)

**E-mail:**

[editor@cadmusjournal.org](mailto:editor@cadmusjournal.org)

**Printed by:**

Akaram, Plot No.1, Nirmala Nagar, Thanjavur, India



PROMOTING LEADERSHIP IN THOUGHT  
THAT LEADS TO ACTION

*THE WEALTH OF NATIONS REVISITED*

# **CADMUS**

**A papers series of the South-East European Division  
of the World Academy of Art and Science (SEED-WAAS)**

**Volume I, Issue 4**

**April 2012**

*Published by*  
THE RISK INSTITUTE  
GENEVA - PONDICHERRY - TRIESTE - ZAGREB

## CADMUS VISION

*The world is in need of guiding ideas, a vision, to more effectively direct our intellectual, moral and scientific capabilities for world peace, global security, human dignity and social justice. Today we face myriad challenges. Unprecedented material and technological achievements co-exist with unconscionable and in some cases increasing poverty, inequality and injustice. Advances in science have unleashed remarkable powers, yet these very powers as presently wielded threaten to undermine the very future of our planet. Rapidly rising expectations have increased frustrations and tensions that threaten the fabric of global society. Prosperity itself has become a source of instability and destruction when wantonly pursued without organizational safeguards for our collective well-being. No longer able to afford the luxury of competition and strife based primarily on national, ethnic or religious interests and prejudices, we need urgently to acquire the knowledge and fashion the institutions required for free, fair and effective global governance.*

*In recent centuries the world has been propelled by the battle cry of revolutionary ideas — freedom, equality, fraternity, universal education, workers of the world unite. Past revolutions have always brought vast upheaval and destruction in their wake, tumultuous and violent change that has torn societies asunder and precipitated devastating wars. Today the world needs evolutionary ideas that can spur our collective progress without the wake of destructive violence that threatens to undermine the huge but fragile political, social, financial and ecological infrastructures on which we depend and strive to build a better world.*

*Until recently, history has recorded the acts of creative individual thinkers and dynamic leaders who altered the path of human progress and left a lasting mark on society. Over the past half century, the role of pioneering individuals is increasingly being replaced by that of new and progressive organizations, including the international organizations of the UN system and NGOs such as the Club of Rome, Pugwash and the International Physicians for the Prevention of Nuclear War. These organizations stand out because they are inspired by high values and committed to the achievement of practical, but far-reaching goals. This was, no doubt, the intention of the founders of the World Academy of Art & Science when it established this institution in 1960 as a transnational association to explore the major concerns of humanity in a non-governmental context.*

*The founders of WAAS were motivated by a deep emotional commitment and sense of responsibility to work for the betterment of all humankind. Their overriding conviction was on the need for a united global effort to control the forces of science and technology and govern the peaceful evolution of human society. Inhibiting conditions limited their ability to translate these powerful motives into action, but they still retain their original power for realization. Today circumstances are more conducive, the international environment is more developed. No single organization can by itself harness the motive force needed to change the world, but a group of like-minded organizations founded with such powerful intentions can become a magnet and focal point to project creative ideas that possess the inherent dynamism for self-fulfillment.*

*The Editorial Board*

*CADMUS*  
*A Paper Series of the South-East European Division*  
*of the World Academy of Art and Science (SEED-WAAS)*  
*Volume I, Issue 4, April 2012*

**CONTENTS**

<i>Editorial: Human Capital</i>	4
<b>SEED-IDEAS</b>	
Great Transformations	8
The Great Divorce: Finance and Economy	12
Evolution from Violence to Law to Social Justice	15
Immediate Solution for the Greek Financial Crisis	18
Economic Crisis & the Science of Economics	20
<b>ARTICLES</b>	
Original Thinking	23
<i>-Ashok Natarajan</i>	
Inclusive Growth: Why is it important for developing Asia?	36
<i>-Jesus Felipe</i>	
From Limits to Growth to Limitless Growth	59
<i>-Garry Jacobs &amp; Ivo Šlaus</i>	
Getting Risks Right	77
<i>-Patrick M. Liedtke</i>	
Flaws in the concept of Nuclear Deterrence	87
<i>-John Scales Avery</i>	
Simulated ICJ Judgment	93
<i>-Winston P. Nagan</i>	
Social Evolution, Global Governance & World Parliament	116
<i>-Andreas Bummel</i>	
From European Union to World Union	121
<i>-John McClintock</i>	
New Paradigm for Global Rule of Law	130
<i>-Winston P. Nagan &amp; Garry Jacobs</i>	
Law in Transition Biblioessay	147
<i>-Michael Marien</i>	
Research Integrity	158
<i>-Pieter J. D. Drenth</i>	
Entropy & Economics	166
<i>-John Scales Avery</i>	
Gender Perspectives on Climate Change & Human Security in India	180
<i>-Jyoti Parikh, Dinoj Kumar Upadhyay &amp; Tanu Singh</i>	
<b>NEWS</b>	
Report on Activities of WAAS and Club of Rome	187

## Editorial: Human Capital

*Society is a teeming ocean of human energies and capacities, unorganized but latent with unlimited productive potential. The organization of social energies and capacities converts social potential into Social Capital. Each member of society is a microcosm of human potential – an unorganized reservoir of energies, aspirations, and capacities. The organization of the energies and capacities of each member of society converts human potential into Human Capital. The formed Individual is the summit of social evolution where Human Capital and Social Capital intersect and become infinitely productive. The Individual is a product of the past evolution of society who internalizes its accumulated knowledge and capacities, attunes himself to the emerging aspirations and potentials of society, and applies his energies at critical points for personal accomplishment and collective progress. Thus, we find repeatedly in history that one individual can change the world.*

*The potential human energies of society are immeasurable. Society enhances the productivity of its energy by a progressive process of differentiation. It begins by a division of tasks through specialization of function. This makes it possible to raise the level of skill in each functional area and facilitates transmission of specialized skills from one generation to the next. Further, society differentiates those functions into different segments of social activity – defense, governance, transport, communication, agriculture, crafts, commerce, education, healthcare, entertainment, religion, etc. – thereby facilitating the development of specialized expertise, systems and organization within each segment augmented by systems linking each sector with all the others. Thus, the differentiation of function into production, distribution, marketing and finance has generated the ever-expanding commercial energies of the global marketplace. Multiplicity is energy multiplied.*

*This segmentation of social function is complemented by the development of the differentiated structures of family, community and tribe and the geographic differentiation of rural and urban activities, giving rise to cities as the focal point for the development of civilization and later to city-states and nation-states as intermediate levels of organization linking individual human beings with the whole of humanity. As every structure and function of an infant's body grows proportionately and in concert with the rest to maintain the integrity of the whole while enhancing its capacities, the segments and aspects of society expand in unison to progressively augment social power and capacity.*

*Simultaneous with this process of differentiation is a process of increasing organization and integration. Organization converts energy into power. The social energies are thus directed into specialized activities for production, trade, governance and so forth. The proliferation of specialized social organizations such as money, markets, banking, factories and educational institutions convert the energies into productive and commercial power, enormously multiplying efficiency while expanding the reach and range of capabilities. The further development of specialized practices, procedures, systems, laws – Hindu numerals, double-entry bookkeeping, mass production, patents and copyrights, scientific associations and journals, myriad academic disciplines, technical and professional colleges – further augments the productive power of social energy exponentially.*

*At each stage and level, different segments and activities spawn other activities, systems and organizations to enhance coordination and integration. The power becomes more sophisticated, cultured and refined as the expanding diversity continues. Thus, raw human energy gradually evolves from labor intensive agriculture and local crafts to culminate in the inconceivable political, economic, educational, social and cultural power of the global Internet. Thus, in less than a decade Wikipedia has become a global encyclopedia with 21 million articles in 283 languages, a hundred thousand contributors, and 400 million active users. Thus, a Stanford University professor, Sebastian Thrun, recently resigned his job teaching artificial intelligence to 200 university students in order to establish a free, internet-based course in which more than 500,000 students have enrolled globally.<sup>1</sup> Each activity and segment generates a different form of social power; each interchangeable with all the others, as money, social status and political power are universally interchanged.*

*This process of differentiation and integration enormously augments the knowledge, skill, technology, organizational efficiency and productive power of the social collective. Each progressive stage multiplies the force. Socially, this process generates established behavior, customs, procedures, laws, and ways of life that govern how human beings interact to accomplish shared goals. Law compels the primitive energies of our animal ancestry to function within socially permissible boundaries and forms, replacing physical violence and force by social and political authority. The incalculable immensity of the latent social energies reveals in times of popular uprisings such as the Arab Spring.*

*Culturally, this process gives rise to a set of universally shared values which are accepted and internalized by members of the society as invisible guidelines governing their interaction with other members. Values express social character. At a more subtle level it gives rise to collective self-confidence and can-do attitude. Ultimately, it inspires the adventurous spirit of originality and creativity which are the highest expressions of human potential. Collectively, all these elements constitute the warp and weft of the social fabric known as Social Capital.*

*Social Capital represents the capacities of the members of the society to relate, exchange, cooperate and coordinate with one another for the benefit of all. Constraints on the sharing of social resources, such as the centralization of political power in monarchy or authoritarian state, the restriction of social privilege to an aristocracy or other elite, the concentration of wealth among a small minority, the monopolization of knowledge by church or corporation, are artificial constraints on the full development and exploitation of social capital.*

*The power and productivity of society ultimately depend on the development of each of its individual members and its capacity to harmonize and integrate their aspirations and actions with the aspirations, goals and values of society as a whole. As Society is the macrocosm, the Individual is the microcosm. As society is an unlimited reservoir of productive potential, each individual member has infinite potential with unlimited power to think, create, discover,*

---

*“As society is an unlimited reservoir of productive potential, each individual member is an infinite with unlimited power to think, create, discover, invent, and initiate actions that enhance the power and direct the destiny of the collective. Thus, one individual can change the world.”*

---

*invent, and initiate actions that enhance the power and direct the destiny of the collective. Thus, one individual can change the world.*

*As democracy universalizes and exponentially multiplies the political and social power of a nation and as education universalizes and infinitely multiplies the power of knowledge in society, human capital universalizes and multiplies the power of social capital. As former World Academy President Harold Lasswell explained, law and human rights evolve in response to ever rising value demands by the people. All of these are expressions of the rapid development of human capital in recent decades. Human aspiration seeking out social opportunity converts social capital into social accomplishment: political, economic, social and spiritual.*

*As Social Capital reflects the development and organization of the energies and capacities of the collective, Human Capital reflects the development and organization of the energies and capacities of each member of society. The ultimate capacity of the individual human being for original thinking, creative imagination, knowledge and skill acquisition is unlimited in potential, even though it is limited in actuality at any point in time. Indeed, as Harlan Cleveland often observed, unlike material resources, the more human capital is utilized and shared, the more it grows and develops.*

*Human energy is the fuel for all human accomplishment, both individual and social. Energy depends on aspiration. The more intense the aspiration, the greater the urge for accomplishment, the greater the energy and potential result. Harlan's perception of the "revolution of rising expectations" that followed World War II was an auspicious harbinger of the phenomenal achievements of the last half century. Rising aspirations release energy and mobilize capacities for expression. But the capacity of society to direct and organize those energies for productive purposes is a crucial determinant of their result. Thus, Jasjit Singh perceived the rising gap between expectations and social opportunities as a source of tension, social unrest and violence. Human aspirations are awakened today as never before, as the insistent clamor for democratic freedom, social equality, education, employment, healthcare and all forms of human security indicates.*

*The differentiation of the collective is reproduced in the differentiated development of its members. Each acquires a specialized set of capacities in accordance with his own aspirations and circumstances. As energies of society are progressively organized in terms of activities, functions, systems, rules, laws, institutions, segments and cultural values, so the energies of each member are progressively organized in successive stages and degrees in terms of forms of conduct, social behavior, character, personality and individuality. The individual is the most complex and marvelous product of natural and social evolution with unlimited capacity for further development – physically, socially, emotionally, mentally and spiritually. At each stage the intensity and productivity of energy multiply and so too the power for accomplishment. Social Capital is infinite in its potential for creative expansion. Human Capital is infinite in the layers, qualities and complexity of its potential.*

*The ultimate power of social and human capital reveals when they are harmonized and integrated with one another – when the society is fully committed to the development of its individual members and those members are in turn committed to the progressive evolution of the entire humanity. The capacity of individuals to acquire and express their human potential depends on the supportive atmosphere of political and social freedom and the supportive social institutions dedicated to the full development and expression of human potential. As*



*society evolves, it places increasing emphasis on the free and full development of its members as the means for its own development. Political, social and economic human rights and human security are preconditions for the flowering of human potential. When commercial banking systems in developing countries served only the interests of business and the wealthy, Muhammed Yunus understood the importance of tailoring social systems to the needs of people and linking them through effective strategies. He devised Grameen Bank as a new social system to extend credit to the poorest section of women. He also devised a strategy of group guarantee attuned to the social values of the village and built a financial system with a better repayment rate than the commercial banks. Thus the potentials of human and social capital were effectively linked through a micro-credit system.*

*So too, the evolution of society depends crucially on the initiative of its most conscious, development elements – the formed individuals who have best assimilated the amassed endowments of the collective and whose aspirations encompass not only their own personal benefit but also the greatest possible benefit for society as a whole – two aims which are not only compatible but inextricably dependent on one another: Society advances by enhancing the security and expanding the opportunities for its members. Those members advance by more fully discovering and developing the latent potentials of the society. Thus, Martin Luther launched the Reformation with his 95 theses, Mahatma Gandhi shook the mighty British Empire by calling on his fellow Indians to make salt without paying tax, a middle aged black woman named Rosa Parks launched the American Civil Rights Movement by refusing to move to the back of the bus, and Gorbachev ended the Cold War. In 2011 a retired Indian soldier rocked India's entire political establishment by raising hundreds of thousands of citizens to demand stricter laws to eradicate corruption.*

*Human and social capital are the source of social power for unlimited accomplishment. All problems of humanity arise from constraints on the full development of these most precious and perishable of resources. All solutions arise from a progressively freer and fuller development of their potential. There is no problem humanity cannot solve if it foregoes outmoded behaviors that are directly detrimental to our individual and collective future. The madness of 70,000 nuclear warheads must terminate in the complete and immediate eradication of nuclear weapons. The economic devastation wrought by unbridled speculative greed has to be outlawed and banished the way slavery was abolished in the past. The unconscionable cost of widespread unemployment must be eliminated by recognizing employment as a fundamental human right. The hypocrisy and ineffectiveness of the institutions of global governance have to be rectified by democratizing the UN. Then and only then we will be fully free and empowered to fully develop the potential of human capital in each and every human being. These obstructive anachronisms, atavisms from our more primitive past can and must be given up, abandoned wholesale, now!*

*A fuller understanding of the significance of human and social capital and a reorientation of social theory and public policy on that basis will revolutionize humanity's understanding of itself and unleash its potential for higher accomplishment.*

#### **Editors**

Ivo Šlaus, Chairman

Garry Jacobs, Managing Editor

Orio Giarini, Editor-in-Chief

#### **Notes**

1. Felix Salmon, "Udacity and the future of online universities," *Reuters* 23<sup>rd</sup> January 2012 <http://blogs.reuters.com/felix-salmon/2012/01/23/udacity-and-the-future-of-online-universities/?print=1>

## SEED-IDEAS

### Great Transformations

Great landmarks of history are few and far between. Normally they are recognized by scholars only long after the fact. Those in the thick of the fray may often be consciously inspired by the significance of their actions, but rarely does history come to share that perception. The rise of individualism in ancient Greece, its revival during the Italian Renaissance and the radical transformation of society following American, French and Industrial Revolutions retain a claim to lasting significance. Could it be that we are now on the cusp of another?

If so, the most evident signs are signs of crisis – a near perfect storm of social turbulence shaking the pillars of modern society and undermining confidence in cherished assumptions. The resurgence of Asia has challenged five centuries of Western political and economic supremacy and its more subtle claims of cultural superiority. The decline of autocracy in its many forms – first in Eastern Europe and Latin America, now in the Middle East, and inevitably in China – marks the beginning of the end of domination of the individual by the self-appointed authority of the State. The sudden and explosive growth of the Internet as the first global social system has empowered the individual as never before in history and laid the foundation for emergence of shared human consciousness and world culture that transcend nationality, race, religion, language and culture, ending humanity’s long experiment with isolationism, self-assertive national sovereignty and cultural egoism. The end of the Cold War a half century after the second of two devastating world wars undoubtedly marks the end of imperialism as it has been known throughout history, yet the residual legacy and on-going proliferation of nuclear weapons have so far leveled the equation between the weak and the powerful that even a small state or splinter group can rob mighty military powers of their security or hold the whole world at ransom.

These social, cultural and political transformations are now being capped by a multidimensional economic revolution with several notable characteristics. The globalization of financial markets has created a wild and ruthless frontier of speculation that whimsically topples national governments and devastates real economies mindless of its impact on human welfare and social stability. This has subjected the world economy to more than 250 financial and banking crises over the last 3 decades. The divorce between finance and economy has liberated the power of money to multiply itself without the necessity of producing either useful commodities or gainful employment opportunities, spurring an eighteen-fold multiplication of global financial assets in three decades and rivaling the power of monarchs and maharajahs to disengage their lavish

---

*“The world has developed the technological and organizational capabilities to totally eradicate poverty and usher in prosperity; yet it operates by a dogma and reward system that make human labor increasingly obsolete.”*

---

lifestyles from the welfare of the people. Thus, Louis XIV built Versailles, unaware that he was condemning his own descendant and namesake to the guillotine. The globalization of production, markets and ownership has undermined the power of national governments and irrevocably blurred notions of national interest, as the incestuous relationship between a still communist China and capitalist America and the current crisis in Europe so aptly illustrates.

The world has developed the technological and organizational capabilities to totally eradicate poverty and usher in prosperity; yet it operates by a dogma and reward system that make human labor increasingly obsolete, rendering billions of people, including a whole generation of youth, underemployed and superfluous. Plutocracy has replaced monarchy as the prevailing system of government engendered by the widening disparities between the rich and poor, which exceed those in 18<sup>th</sup> century feudal Europe. At a time when the globalization of information and communication has stirred the aspirations and raised the expectations of human beings everywhere for a share in the good life, these growing disparities coupled with the blatant injustice of the present system feed a surging revolt of the excluded everywhere, sufficient to topple long entrenched governments by ballot or battle, while spurring social protest, crime, armed insurgency and terrorism. Growth rates surge in developing countries which strive aggressively to catch up by emulating strategies that already tax the carrying capacity of the earth. Yet, those they emulate find their economies stagnant, their youth unemployed and real living standards in decline. Meanwhile, billions of people remain in persistent poverty.

Given the remarkable progress of humanity over the past two centuries, the persistence of poverty might not be so alarming, were it not for the persistent poverty of new ideas and fresh thinking on how to eliminate the recurring crises, rectify the blatant injustices and replace unsustainable patterns with a new paradigm capable of addressing the deep flaws in the current paradigm. Meanwhile, economists take shelter in an outmoded theoretical framework that is increasingly removed from the real world. Indeed, neoliberal ideologues of market capitalism bask in unrivalled supremacy with not even a contender in sight. Didn't the collapse of communism in Eastern Europe prove once and for all that there is simply no alternative to the wisdom of the marketplace? Isn't it self-evident that economy like biology is governed by natural laws acting with mathematical precision to arrive at the best possible result? If that result happens to reward the strongest and most competitively fit and wipe out the weak, it is simply a law of nature that must be respected. Anything else smacks of hubris and risks disturbing the whole edifice of civilization. Communism is dead. Socialism is in retreat. Money rules. It's every man for himself. Environmental alarmism is spurred by the jealousy of those who cannot make it or the pessimism of those who lack faith in the unflinching power of science and technology to conquer every problem and overcome every limitation.

This ideology would seem a lot more humorous were it not so close to the pragmatic truth of the philosophy that governs the world today. Yet unperceived by the ideologues, the collapse of communism removed the final barrier to the assault on capitalism. Even while the threat of communism silently transformed capitalism into market socialism during the 20<sup>th</sup> century, its gross inadequacies remained capitalism's best defense. For so long as the threat of state socialism loomed large, there was no possibility of fresh creative thinking about other alternatives. The dissolution of USSR and the economic conversion of China eliminated that opposition. With the triumphal arrogance characteristic of the victors, neoliberals interpreted

---

*“There can be no equality without freedom and no real freedom without equality of opportunity, access to employment and basic human security. The opposition between human freedom and social justice is a false conception. Indeed, the world abandoned this opposition in practice long ago, while clinging to it in theory.”*

---

the collapse of the Soviet system as a writ for universal supremacy, little realizing they had just lost their best friend. Today we are no longer blinded by ideologies. We see all too plainly the gross inadequacies, injustice and unsustainability of prevailing dogma. The myths are exposed, the superstitions rent. A slight reduction in unemployment rates here or rise in growth rates there can never alter the ultimate judgment on the present system.

Nor is there any longer traction in the mindless dichotomy between freedom and equality so long foisted as a defense of social injustice. It is now apparent that there can be no equality without freedom and no real freedom without equality of opportunity, access to employment and basic human security. The opposition between human freedom and social justice is a false conception. Indeed, the world abandoned this opposition in practice long ago, while clinging to it in theory. We know today that in the absence of regulation, the market system would be consumed by its own inherent principle and self-destruct. Everywhere that markets work, they work because they are supervised, regulated and subject to strict norms. Unbridled speculation, monopolistic concentration of power, insider trading, incestuous relations between lenders and borrowers, business and banking have been at the root of every economic crisis in modern times. The very excesses that have led to an enormous concentration of wealth have been the cause of crises that destroyed so much wealth and disrupted so many lives. Freedom of the market and social regulation are complements, not contradictions.

“Freedom of the market and social regulation are complements, not contradictions.”

But the intellectual impoverishment extends far beyond the superficial debate regarding the isms. The real problem lies in our very conception of social science and its two century long quest to achieve legitimacy by imitating the natural sciences. The search for natural laws of society is rooted in a fallacious analogy. While the laws governing physical phenomenon may be determined by nature, the laws governing human existence are strictly man-made. The behavior of matter and energy systems may be determined by physical values and deterministic equations, but the behavior of people and social systems is determined by human values and human choice. We cannot alter the laws of gravity, electromagnetism and relativity, but we can and do alter the laws governing the distribution of political, economic and social power. We may have little say over the right equations governing the conversion of free energy into work, but we have full authority to alter the equations that govern the freedom and rights of human beings.

---

*“Economics today is a relic of the mechanistic utilitarian rationalistic period of the Enlightenment before modern conceptions of human rights and social justice gained prevalence.”*

---

Even while the debate continues, the demands of reality have compelled society to act contrary to its own outmoded beliefs. That is why in the name of markets, the public sector already contributes 30 to 50 percent of national income in most countries, including the USA. And while neoliberals shout about fiscal deficits, almost invariably when they come to power those very deficits soar to record levels, as they did in the USA during the 1980s under Reagan and again in the 2000s under Bush. Enough of facile dogma!

Economics today is a relic of the mechanistic utilitarian rationalistic period of the Enlightenment before modern conceptions of human rights and social justice gained prevalence. It is still founded upon the long discredited notion that all economic activity constitutes a net contribution to the wealth and welfare of society. From a Cartesian vantage point, it regards economy as a thing separate and independent from the rest of society, to be evaluated regardless of its impact on the wider society of which it is a part. It assigns value according to the monetary cost of extracting raw materials, unmindful if those materials are non-renewable yet essential for the welfare of future generations. It allocates benefits based on a system of accounts that assigns inordinate value to the owners and managers of private capital, overlooking or severely discounting the essential cumulative contribution of the entire society, living and dead to every current achievement.

*“Like all good scientists, let us not rest content with rehashing old theories or reconfirming old beliefs, as if humanity were to be forever ruled by truisms valid for 18th century agrarian Europe.”*

Regardless of past failures, let us engage in intelligent discussion. Let us strive once again to establish a real science of society. For without it, we will continue to be the blind leading or led by the blind. Let us go back to fundamental questions regarding the sources of wealth and welfare, as Adam Smith attempted two centuries ago, and look for new and more adequate answers relevant to a world that has been radically transformed. And like all good scientists, let us not rest content with rehashing old theories or reconfirming old beliefs, as if humanity were to be forever ruled by truisms valid for 18<sup>th</sup> century agrarian Europe.

**Orio Giarini, Garry Jacobs and Ivo Šlaus**

## The Great Divorce: Finance and Economy

Social networking did not begin with the Internet. It is as old as human history. For what we now call social networking is really the evolution of human relationships which constitute the backbone of civilization. The emergence of the Internet is the third giant leap forward in a saga that began with the development of symbolic spoken language, the first great instrument that enabled human beings to evolve beyond their animal ancestry. Second came the invention of money as a symbol of value. Language connects people and facilitates the exchange of information, emotions and ideas. Money connects activities and events, facilitating the exchange of goods, services, property and anything else of social value. The progress of humanity over the past two millennia would have been inconceivable without this remarkable invention. But like all human inventions, money has a downside which arises from the inevitable tendency of we human beings to bind ourselves to the wheel of our own triumphant machinery and be conquered by our apparatus.

Today, we are witnessing the consequences of that great invention wreaking havoc on the very fabric and stability of civilization, of humanity passively surrendered and blindly subordinated to its own creation. That which was intended to serve humanity now dictates. That which was intended to promote prosperity now undermines it. That which was intended to liberate human beings from the bondage of physical dependence, now robs people of the fundamental freedom to pursue a sustainable livelihood. At the root of the current crisis are not subprime mortgages, credit rating agencies, financial institutions or central banks. It is the Great Divorce between finance and economy, which is a subset of the widening precipice between economy and human welfare, between money value and the value of human beings. So great a divorce could well give birth to a great depression.

The question boils down to what is the purpose of financial markets? Why did we create them? Why do we have them? Why do we need them? Financial markets were founded a few centuries ago to support the growth of joint stock European trading companies, whose capital requirements for development of new markets far exceeded the personal wealth of their proprietors. Instead of borrowing for interest, these proprietors invited other investors to risk their capital and share in the rewards of successful entrepreneurship. Thus was born the forerunner of the modern, widely-held, publically-traded, professionally-managed corporation. As commerce and industry developed and prosperity grew, more and more ordinary people had an opportunity to invest their savings to share in the ownership and profits of huge productive enterprises. The financial market became capitalism's answer to communism. Instead of everyone being equally poor by distributing limited wealth equally, all had an opportunity to become equally rich by sharing in the gains of industrialization and real economic growth.

This system helped channel household savings to finance the remarkable economic progress of the last century. But it did not stop there. Capital accumulation for industrialization gradually broke away from its origins and principal purpose to become an end in itself – money chasing money, money producing money, but not producing real goods, wealth, employment and human welfare.

---

*“Money is not the root of all evil that it has been blamed for. But the cancerous growth of unregulated speculative financial activity may be a good candidate.”*

---

This conquest of reason and human values has taken place right under our noses and been heralded every step of the way in the march of human progress. Today, ninety percent of the transactions on the world’s financial markets are conducted by computer programs, known in the trade as black box algorithms, capable of performing thousands of transactions in a millisecond. This invention is so marvelous that two Nobel prizes in economics have been awarded to its creators. Mistaken as the latest technology for creating real wealth, these mysterious equations have produced havoc and instability of global proportions instead, and are responsible for the wholesale destruction of trillions of dollars and millions of jobs.

But the disease is not rooted in technology. It is rooted in the current organization of business which generously rewards investment bankers billions of dollars in incentives for collaborating with the incentivized executives of the world’s largest corporations to sacrifice real growth and employment generation on the altar of short term profit. A recent study found that transnational corporations form a giant bow-tie structure in which a large portion of control flows to a small tightly-knit core of financial institutions.<sup>1</sup>

Money is not the root of all evil that it has been blamed for. But the cancerous growth of unregulated speculative financial activity may be a good candidate. Today we live in a world where the right of hedge fund managers to leverage public funds to earn windfall profits by destabilizing markets and national economies takes precedence over the right of individual citizens to stable and secure access to opportunities for gainful employment. Under the rubric of free markets, national governments rush to bail out huge financial institutions and their wealthy investors, while leaving billions of people to helplessly struggle for their daily bread.

Ironically, today we live in a world in which unparalleled wealth and productive capacity co-exist alongside unconscionable and totally unnecessary poverty and deprivation. Since 1980, the world’s financial assets have multiplied 20-fold, from \$12 trillion to \$212 trillion, while real incomes have risen just 2.7-fold. About \$4 trillion circles the globe every day in search of lucrative short term speculative returns, producing very little of tangible value to human beings. Less than one percent of this money is used for actual purchase of goods and commercial services. At the same time, hundreds of millions of people are unemployed and several billion are grossly under-employed.

This massive divergence of financial resources explains the paradox of surplus capacity and extreme poverty. For the first time in history, the world possesses more than sufficient technology, financial capital and human capital to eradicate poverty from the globe. Yet, humanity continues to suffer from a plethora of unmet human needs

*“The dilemma we face is not the result of intractable Newtonian laws of the natural economy or Marxian fatalistic determinism. It is the product of erroneous choices we have made in the process of defining our values, laws, policies and power structures.”*

for food, housing, education, medical care, transportation and other essential components of human welfare. Our problem is not a shortage of capacity but a system that has short-circuited. It is not the failing of human beings that is responsible but the failure of economic theory, policy and practice.

Is the current system inevitable? The dilemma we face is not the result of intractable Newtonian laws of the natural economy or Marxian fatalistic determinism. It is the product of erroneous choices we have made in the process of defining our values, laws, policies and power structures. Prominent among those choices is the failure to properly measure the costs of financial instability and assign those costs to the transactions that generate them. The recent financial crisis has cost the global economy trillions of dollars, yet the price has been paid by the general public rather than by the would-be beneficiaries of speculation. This is not the only example of economic values that do not reflect reality. The incentives for capital investment that replace labor with technology fail to take into account the enormous social cost of unemployment and underemployment, including the resultant social cost of crime, drug abuse, social unrest, and violence associated with rising levels of disengaged and disenchanting youth. Similarly, the pricing of scarce natural resources does not reflect their real replacement value, a cost surreptitiously passed on to future generations.

To understand that the current system is not inevitable, one need only imagine what would be the impact of introducing a Tobin tax on speculative investments sufficiently large to redirect a portion of this huge investible surplus, say \$50 trillion, into productive investments that meet human needs and create employment, rather than chasing elusive forms of phantom wealth that will never feed real people, construct real factories or create real jobs. The Tobin tax has been hailed as a means to recover the huge costs of the financial crisis or pay for environmental remediation, but the real justification for such a tax is the need to redirect the world's financial resources to productive investments that produce real products, services and jobs. This is only one of many practicable policy options available – e.g. eradicating tax havens – to transform the world economy from a Wild West land grab into a system that promotes the security, welfare and well-being of all humanity.

**Orio Giarini, Garry Jacobs & Ivo Šlaus**

## Notes

1. Stephania Vitali, James B. Glattfelder and Stefano Battiston, "The network of global corporate control," *PLoS ONE* 6, no.10 (2011) <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0025995>

---

*“Everything found in nature — land and the world’s resources — belongs to humankind.”*

-- Graeme Maxton, *The End of Progress: How Modern Economics Has Failed Us* (New York: Wiley, 2011).

---

*“Economics, no matter how econometric it pretends to be, resembles meteorology more than mathematics. [It is] a cloudy science of swirling vapors, signifying nothing.”*

-- Edward Abbey, *One Life at a Time, Please* (New York: Henry Holt, 1988).

---



## Evolution from Violence to Law to Social Justice

Law is a complex phenomenon. The principles and practice of law are a composite of multiple forces – the force of past precedent, established custom and accepted tradition; the force of present political, economic and social power; and the force of emerging aspirations and ideas striving for acceptance. At any point in time, law consists of a more or less precarious balance between the past and the future. The elite of society who achieved in earlier generations naturally accord greater legitimacy to past precedent. Currently prevailing social achievers, like the hedge fund traders of today, affirm the legal basis for their wanton freedom of action. Together with civil rights advocates, youth in Cairo and Occupy Wall Street protestors, idealists and aspiring masses press for the translation of high constitutional principles into pragmatic

social realities. Thus, in formulating its decision on the legality of nuclear weapons, the International Court of Justice struggled to balance the reality of existing power equations (the five permanent members of the UN Security Council with veto power are all nuclear weapon states), current international law (the NPT specifically includes a long-ignored pledge of the nuclear weapons states to eliminate their arsenals), and the undeniable right of the rest of humanity to freedom from the use or threat of use of such heinous weapons of mass destruction. The ICJ's judgment is not a reflection of justice, but of the prevailing balance of strength between these social and political forces at a given point in time.

Law is evolving. The tension between these forces drives social evolution. Their relative strength determines its pace. But the direction of that evolution is not easy to discern. The complexity of its composition and the varying and alternating strength of retrogressive and progressive tendencies tend to veil the movement. Law is one dimension of a wider, integrated social reality. The intimate relationship between the evolution of law and the evolution of other aspects of society – the movement toward democratic governance, rising levels of prosperity, higher and wider educational attainments, technological and organizational advances – further complicates the issue.

The inevitable direction of that evolution is also obscured by the fact that social development is largely a subconscious process. It expresses irresistible human aspirations and social tendencies but works itself out through a long process of trial and error, advance and retreat, conflict and resolution. Often the strongest reactionary forces serve a crucial role in the evolutionary advance. The US Civil War, fought to affirm states' rights and preserve slavery, succeeded only in affirming the inalienable rights of the individual from unjust state law. In exhausting the policy of state control through the art of tyranny, the USSR demonstrated to the world the essential role of individual freedom and human rights for stability, economic welfare and well-being, compelling China to radically change course to avoid a similar fate. For sixty years, an undemocratically governed UN has espoused the cause of democracy, inevitably preparing for the day when international governance will be

---

*“Social development is largely a subconscious process. It expresses irresistible human aspirations and social tendencies but works itself out through a long process of trial and error, advance and retreat, conflict and resolution.”*

---

*“Physical violence, social authority and economic power are gradually and progressively giving place to principles of justice based on universal human values.”*

democratized. Today, free-market capitalism based on efficient market theory eminently serves the cause of socialism, while vehemently denying it.

In spite of the complexity of the movement, when viewed from a historical perspective, the general direction of the evolutionary movement can be discerned. Physical violence, social authority and economic power are gradually and progressively giving place to principles of justice based on universal human values. Yet, because the movement is complex and largely subconscious, its velocity is hampered by doubts and retrograde measures. Therefore, close examination and validation of the direction – making that direction more clearly conscious and evident – may be of immense practical

value. It can speed the awakening of emerging social tendencies and dampen the insistence of those that seek to perpetuate the past and retard the future. A full examination of this issue would require a massive research effort, for it involves a historical examination of advances in many different fields of society and their interactions with the evolution of law. Such a project would justify a major research program undertaken by a dozen or more universities under the auspices of an international group of multidisciplinary composition, such as the World Academy of Art & Science. Once validated, momentous consequences would follow. For its conclusions would have relevance not only to jurisprudence and legislation, but to politics, economics, education and other fields as well. As an illustration of the approach, here we can only sketch in broad strokes some important lines of inquiry.

The original ‘law’ of humanity was the law of the jungle, survival of the fittest, might is right. The survival and stability of the collective were the sole governing principles of social order. The strong imposed their will on the weak, the leaders with the greatest following imposed their will over the group, reinforced by force of arms or popular support. ‘Law’ consisted of the rules laid down by the leadership to govern the community and the foremost of those rules were concerned with securing the collective from external threats and enforcing the authority of the leadership over those living within the community. Hereditary rule became prevalent as a means to ease the transition from one leader to the next, avoiding frequent challenges to legitimacy and wars of succession. Aristocratic lineage defined by bloodline institutionalized the succession of power and proved a stabilizing basis for continuity of leadership and social stability.

Law evolved as an instrument of politics to replace violence with agreed upon rules of social order. Physical authority based on force of arms was progressively replaced by social authority based on the written word and backed by the implicit threat of force. The dueling grounds were replaced by the court room, civil war by parliamentary wrangling between opposing political parties, physical enforcement of financial agreements by contracts and negotiations. Money too played a central role in the transition from violence to social order. Blood money replaced murder as a means for resolving differences. A century ago in France, fining men for physically abusing their wives proved a successful means of curbing violence. The economic incentive of lucrative trade replaced the lure of piracy, conquest and destructive

physical plunder. Through it all, physical force gradually gave way to social convention, legislation and jurisprudence as the principal means for dispute resolution.

While its origin might be force, the transition from violence to law always involves an implicit acceptance and internalization of authority by the collective. Unless the populace accepts the legitimacy of its rulers and the laws they pronounce, the rulers will be compelled to resort to force to maintain the status quo. Thus, monarchs, self-declared emperors like Napoleon, military rulers like Saddam Hussein and Gaddafi, and even worse tyrants have achieved that acceptance by those they govern. Rule by the word always implies a modicum of acceptance by the collective and reflects the conscience of the collective. If the people of democratic nations elect a Hitler, Mussolini, Reagan, Berlusconi or Ahmadinejad, it's because the collective conscience does endorse the principles they stand for. Of course, the relationship is more complex. Today, we find the judiciary in India playing an active role to awaken the social conscience and a public anti-corruption movement sprouting in response to the leadership of the Supreme Court.

Long after law evolved to regulate actions within the community, relationships between communities were still governed largely by mutual threats or incidents of violence. However widespread its incidence, war had its disadvantages as an instrument for foreign policy. For centuries, Europe sought to mitigate the threat of

*Law is the codified  
public conscience.*

war by intermarriages between the ruling families of great powers. From very early times, communities found that replacing physical violence with mutually beneficial trade could also minimize threats and generate greater security. Commerce progressively replaced conquest as the principal means for enhancing national wealth. Bilateral and multilateral treaties between states gradually evolved into a nascent body of international law in the 20<sup>th</sup> century, culminating in the founding of the UN, the ICJ and numerous other political organizations of nation-states empowered to codify the public conscience of the world community. As a result, two enormously destructive world wars were followed by 45 years of Cold War in which threats and accusations were mutually exchanged across the conference table and political lobbying for support progressively replaced the physical marshaling of armies. The principle of law replacing violence has gone so far that in the words of a Dutch NATO expert, in the European theater, the site of incessant warfare over five centuries, “war has become unthinkable”.

Each advance in society has a corresponding impact on the evolution of law. Greater democratic freedom necessitates establishment of rising levels of education which generates citizens, legislators, judges and lawyers more capable of formulating, administering, comprehending and abiding by complex rules of conduct. Rising levels of prosperity necessitate a more stable political and safer environment for expansion of industry, trade and investment. Technological advances necessitate development of law for protection of the public, preservation of privacy, patent and copyrights, etc. The process by which society releases fresh currents of energy and directs them toward the development of new types of organizations poses fundamental legal questions. Through this process, people also evolve psychologically. A more educated citizenry has higher aspirations and greater self-respect. The emerging individual is less deferential to the past and more insistent on his or her rights; less willing to conform to regimentation, more insistent on freedom and more tolerant of diversity.

**Winston Nagan & Garry Jacobs**

## Immediate Solution for the Greek Financial Crisis

The recent agreement to write off a substantial portion of Greek bonds only postpones but does not resolve the essential problem. The key to the Greek crisis lies in economy, not finance. Any financial solution that results in further contraction of the economy will only aggravate budget deficits and debt servicing problems. Economy can restore financial stability, not vice versa. The solution lies not in successive rounds of external funding at concessional interest rates, no matter how crucial that may be in the short term, but in unleashing the productive forces of the Greek economy which has contracted by more than 10% in the last two years, 15.5% in December 2011 compared to December 2010. The most essential requirement for a quick turnaround and a lasting solution is to drastically reduce the unemployment rate which has tripled since 2008 from 7.2% to 20.9%. Youth unemployment is nearing a totally untenable 50%.

*“The tremendously wasteful underutilization of precious human resources and productive capacity is Greece’s most serious problem and also its greatest opportunity.”*

The tremendously wasteful underutilization of precious human resources and productive capacity is Greece’s most serious problem and also its greatest opportunity. This is not merely a Greek crisis. What happens today in Greece has relevance to all of Europe as well as other mature economies. Money that energized economy for two centuries has reversed its role and is acting to strangle the economic vitality of prosperous, productive nations. The immediate need is to reverse the shrinking economy, release energy and revive economic dynamism. Addressing the swelling unemployment problem is a key.

---

*“The stimulative impact of a parallel currency has been documented around the world by thousands of experiments with complementary currencies.”*

---

Research by WAAS Fellows points to a strategy which could reverse the downward spiral in a short time, while avoiding ever increasing amounts of foreign assistance, national bankruptcy, or an increasingly likely withdrawal from the Eurozone. The debt problem is starving the Greek economy of essential liquidity needed to reverse the deflationary contraction. The capacity for a rapid and dramatic turnaround was demonstrated in the mid-1990s, when introduction of a freely-convertible parallel currency stopped hyperinflation and reversed economic decline in a matter of weeks, while safeguarding social welfare payments so essential for social stability.

The stimulative impact of a parallel currency has been documented around the world by thousands of experiments with complementary currencies, some operated by local governments such as the highly successful experiment in Wörgl, Austria, during the Great Depression and others implemented by non-governmental or commercial organizations. There are also countless instances in which communities and some local governments around the world have introduced complementary currencies to successfully spur the local economy. WAAS Fellow Bernard Lietaer has made an original contribution to theoretical understanding of the value of complementary

currencies. In a report to the Club of Rome entitled *Money and Sustainability: the Missing Link* co-authored with Christian Arnsperger, Sally Goerner and Stefan Brunnhuber to be released in May 2012, he attributes the recurring financial crises to the inherent lack of resilience in single currency regimes and advocates complementary currencies as an effective balancing mechanism.

The introduction of a dual currency regime – a fully convertible national currency (drachma) in parallel with the Euro – will stimulate domestic production, employment and demand, while simultaneously enhancing the government’s capacity to service its foreign Euro-denominated debt. Full convertibility of drachmas to euros at a floating exchange rate will ensure ready acceptance of the drachma domestically, while enabling Greece to remain in the Eurozone for all external transactions and improve the competitiveness of its exports, a critical requirement for a turnaround. Under present conditions of vastly underutilized capacity, the Greek Government could loan or spend drachmas to make idle national assets fully productive without generating inflation by restoring public services, stimulating public works, spurring entrepreneurship, implementing a jobs program to generate full employment, and investing in education and training to enhance human capital.

---

*“Greek thought still leads the world today. Here is a thought that can lead to action. Greece’s successful recovery can lead to European recovery and the world’s. Let Greek thought become a leader of action too.”*

---

A growing Greek economy can support and service its debt obligations; a shrinking one can only become more dependent and insolvent. The dual currency will allow a natural and essential adjustment of prices between Greece and other countries of the Eurozone without compelling the government to undertake the politically disastrous task of cutting salaries or jobs. Raising domestic production will reduce social welfare expenses and increase government revenues. Drachma bonds can be issued to mop up domestic savings for productive purposes. Public investment will promote growth. A small differential tax on drachma-euro exchange and savings accounts can incentivize savings in local currency. A tax on speculative investments can redirect resources to the real economy. Acceptance of the drachma for some forms of services and taxes would ensure immediate demand for the new currency facilitating the transition. The Government might also combine a mixture of euro and drachma currencies in equal or unequal proportions in its welfare and salary payments, thereby immediately reducing its euro expenditures and eliminating its euro deficit. Most important of all, this strategy would shift initiative from the international community to the government and people of Greece and restore in a matter of days their lost sense of independence, which is so essential for responsible action and human development.

Greek thought still leads the world today. Here is a thought that can lead to action. Greece’s successful recovery can lead to European recovery and the world’s. Let Greek thought become a leader of action too.

**Garry Jacobs & Ivo Šlaus**

## Economic Crisis and the Science of Economics

The American subprime mortgage crisis, the international financial crisis that followed and the European financial crisis presently centered on Greece are all expressions of a deeper and wider crisis that has been preparing to surface for decades. This crisis encompasses not only government fiscal deficits, exchange rates and financial markets but spreads out in concentric circles of rising unemployment, growing economic inequality and environmental devastation which now threaten to undermine the very fabric of the world economy. The sources of that crisis are no more difficult to identify than the sources of the American and French Revolution. Their origin can be traced from the mechanization of production during the industrial revolution

to the computerization of financial markets in recent decades, but the heart of the crisis is neither machines nor intelligent systems. The real crisis is a crisis of thought, a poverty of ideas, a world view justified by specious formulas disguised as scientific theory, based on the fallacious conception that the infinite complexity of social life can be measured and mapped mathematically and the misguided faith in the benevolent wisdom of the unregulated market place, a fallacy which would have made Adam Smith cry laughing. The real problem is nothing more than ideological ignorance and narrowly selfish self-interest run amuck. The world does not suffer from poverty or shortages. Like the European church at the time of Copernicus, it suffers from insistence on dead conventional feudal conceptions and beliefs that are out of tune with our times.

Economics does not and cannot exist in a vacuum. It is an integral part of a wider reality which is society as a whole. Focusing on growth of the part without reference to its impact on the whole is a formula for social disease. Current economic theory focuses on secondary causes based on extraneous measures. Managing economy based on budget deficits, interest rates and inflation is like managing human health by monitoring miles walked or gallons of liquid consumed, which may on occasion be distantly correlated with physical fitness and nutrition. A real science of economics has to be founded squarely on human welfare, individual and collective, not money and markets. Economics is the science of wealth creation based on production and exchange between human beings. Real wealth cannot be measured in monetary terms, but solely in terms of its impact on all members of society. Statistical averages may be appropriate for tracking subatomic particles, not for measuring the welfare of human beings. Every single person counts disproportionately.

Money is a means, a remarkable instrument designed to facilitate mutually beneficial exchange. Its value depends entirely on how far it aids in the production and distribution of sufficient goods and services to meet the needs of all. The twenty-fold rise of global financial assets over the past three decades demonstrates the remarkable productive capabilities of modern society, but the extreme and growing inequality of its distribution proves that it is a cancerous growth rather than healthy prosperity – an accumulation and concentration of wealth diverted from its real purpose of promoting human welfare into destructive speculation that impoverishes the many for the benefit of a small elite.

---

*“Focusing on growth of the part without reference to its impact on the whole is a formula for social disease.”*

---

The true source of money and the true basis for wealth creation is the society, not industry or financial markets. Money is a symbol for social trust and a vehicle for social power which is the capacity of the society to accomplish its goals. Today, that power is being concentrated and grossly misused for political control and domination by a small minority instead of greater welfare of all. Today, the world has the organizational and technological capacity to create sufficient money and to generate sufficient goods and services to meet the needs of every human being. The present stunted and distorted system cannot be corrected. It has to be discarded and replaced by a system based on right human values. It is not merely a question of leveling the playing field. It is a question of changing the basic objectives and rules of the game.

The very foundations of the current system of valuation and distribution of economic benefits are based on false measures and accounts. The system fails to recognize that all resources and all wealth creation are based on the cumulative knowledge, expertise and experience of humanity as a whole and belong to humanity as a whole. The most dynamic entrepreneur adds but a tiny increment to the cumulative achievements of his predecessors, yet claims a disproportionate share of the result as his own personal property. Did the investment bankers discover the materials and invent the processes by which their computers generate billions in speculative returns? The Nobel prizes awarded for developing computer trading algorithms should be revoked in recognition that these programs have nothing to do with real economics and wealth creation. Did the venture capitalists create the product, the market, the educational, transport or communication systems which make their latest investments so lucrative? Who pays for replacement of the non-renewable petroleum resources mined by a landowner based on organic material which has been brewing under complex biological and geological processes for millions of years only to be exhausted for the benefit of the present title deed holder? By what right do those who came before him and those who come afterwards get nothing, not to mention the rest of his countrymen or the rest of humanity?

During the Industrial Revolution, production in the field was supplanted by production in the factory. Today, the market has replaced the factory as the principal field for wealth generation. Exchange between people creates wealth. Production and exchange that omit human beings from the workforce or from consumption is like a digital symphony performing to an audience of machines. However great its beauty, it has no human value whatsoever.

Today, the world possesses the capacity to generate sufficient food, clothing, housing, education, health care services and every other essential aspect of life for every man, woman and child on earth. No one has a right to claim what is theirs is theirs alone because no one has acquired or can acquire wealth without the active contribution and countless past achievements of thousands or millions of other living or dead human beings. Industry and merit can be rewarded, rewarded handsomely, but not by a plutocracy of the 1% which rivals in inequality with the 2-3% of English aristocrats who at the time of Adam Smith garnered nearly all the power, wealth, privilege and opportunity under the rubric of democracy based on hereditary rights.

*“The remarkable progress of the past century has been made possible by the growing realization that wealth increases by serving the needs of the greatest number.”*

All are responsible for wealth creation and all have a claim to its fruits. The remarkable progress of the past century has been made possible by the growing realization that wealth increases by serving the needs of the greatest number. That was true until financial markets became so divorced from the real economy that money could make money without any benefit to society, indeed by diverting wealth from its rightful application to legalized gambling and insider trading.

---

*“Economic activity that does not generate jobs is irrelevant to human life. Economic activity that destroys jobs in the name of efficiency is irreverent to human life.”*

---

One need only compare speculative investment with insurance which occupies the other end of the financial spectrum, to see how far it has drifted from its true social purpose. The principle of insurance is to provide economic security to all by spreading the risks and the costs among the greatest number. By so doing, it generates real human welfare 50 to 100 times greater than the total value of insurance premiums, making it by far the largest source of wealth creation. In contrast, speculative investment generates profit for one at the expense of one or 100 others and in doing so draws capital away from investment in real production and job creation. Money chasing money may raise the value of global financial markets ten or a hundred fold, but what purpose can it serve if in doing so it does not generate employment and incomes for the entire human race? Economic activity that does not generate jobs is irrelevant to human life. Economic activity that destroys jobs in the name of efficiency is irreverent to human life.

“It is time to tax capital gains and speculative investment to redirect money for productive purposes.”

Today, speculation lays claims to the sanctimonious virtues of capitalism, but it has nothing to do with the original purpose for which Adam Smith extolled savings and capital investment two centuries ago. His objective was the accumulation of sufficient capital to produce sufficient goods for all members of society, not to multiply money simply for its own sake. It is no wonder that trickle down theories based on tax cuts for the rich fail so dismally to generate the anticipated benefits to society. That only works when capitalists invest capital in building factories and creating jobs. It is time to tax capital gains and speculative investment to redirect money for productive purposes.

**Orio Giarini, Garry Jacobs & Ivo Šlaus**



## Original Thinking

**Ashok Natarajan**, Fellow, World Academy of Art & Science;  
Secretary, The Mother's Service Society, India

### Abstract

*History that comes to us as a chronology of events is really a collective existence that is evolving through several stages to develop Individuality in all members of the society. The human community, nation states, linguistic groups, local castes and classes, and families are the intermediate stages in development of the Individual. The social process moves through phases of survival, growth, development and evolution. In the process it organizes the consciousness of its members at successive levels from social external manners, formed behavior, value-based character and personality to culminate in the development of Individuality. Through this process, society evolves from physicality to mentality. The power of accomplishment in society and its members develops progressively through stages of skill, capacity, talent, and ability. Original thinking is made possible by the prior development of thinking that organizes facts into information. The immediate result of the last world war was a shift in reliance from physical force and action to mental conception and mental activity on a global scale. At such times no problem need defy solution, if only humanity recognizes the occasion for thinking and Original Thinking. The apparently insoluble problems we confront are an opportunity to formulate a comprehensive theory of social evolution. The immediate possibility is to devise complete solutions to all existing problems, if only we use the right method of thought development.*

Although thinking is a general attribute of humanity, only a chosen few exhibit the capacity for original thinking. Many of these thinkers have lived their entire lives unnoticed by the people around them. Even when personal notice and appreciation eluded them, their ideas have had a profound and lasting impact on the rest of the world.

Valéry Giscard d'Estaing, former President of France, once complained about the paucity of original thinkers in the world. In the foreword to a book by Harlan Cleveland, former World Bank President Robert McNamara recommended the author to the French President as an original thinker whose writings were worth reading. Cleveland had served as the chief of the USAID program in Taiwan after the 2nd World War. During his tenure there, he noticed the power of people's rising aspirations and expectations speeding up the recovery and development of Taiwanese society. This prompted him to coin the phrase, "Revolution of Rising Expectations" to describe the phenomenon he observed of mental aspirations quickening the pace of physical development. What he perceived was the process of social evolution whereby a physical man transforms into a mental man through the mechanism of

*“Advancement in Organisation is accomplished by the growth of consciousness in the collective.”*

mental aspiration. This transformation has the power to cure all the ills that are currently afflicting society.

Long before the advent of the World Wide Web, Cleveland noticed a unique phenomenon which he termed “uncentralised organisation”. It is a form of organization where power is neither centralized nor widely distributed, but spread pervasively to give the impression that ‘nobody is in charge’. Visa International, which coordinates the largest proportion of international credit card transactions by connecting thousands of banks and hundreds of thousands of merchants across the world, is an example of an uncentralised organization that demonstrates the unrivalled power

of this conception. The concept of Organisation has not received so far the full attention it deserves. In fact, the power of organization itself is not fully appreciated. Organisation can achieve on an infinite scale compared to unorganized functioning. There is as much difference between organized and unorganized functioning as there is between air travel and walking. Advances in air travel have been achieved by scientific technology. Advancement in Organisation is accomplished by the growth of consciousness in the collective. The remarkable power of Organisation is only dimly understood. That is why its capital role in the success of India’s Green Revolution has never been fully recognized. Global food scarcity can be totally eliminated if the power of Organisation is fully applied to global food distribution. The Brandt Commission was alerted to the power of Organisation 30 years ago and showed some interest in applying its power to solve food shortages, but the idea was too radical for that time and did not get the full attention it deserved.

The first half of the 20<sup>th</sup> century saw many idealistic predictions about the future life awaiting humanity. None of these, however, survived the touch of reality. The second half of the 20<sup>th</sup> century has been called the Information Age, due to the increasing flood of information it generated. Information is the basis upon which thinking develops. Yet, in spite of this flood of information, not much original thinking has resulted. Many global problems such as poverty, unemployment, terrorism, economic depression and environmental degradation persist to this day and still defy solution. Even after two decades after the end of the Cold War, elimination of nuclear weapons is nowhere in sight. Problems are usually known to be a very good fertile breeding ground for fresh and original ideas, yet none have emerged capable of abolishing this pernicious threat.

---

*“Problems refusing to go away should compel us to rationally look at the same issues from a wider perspective.”*

---

Problems refusing to go away should compel us to rationally look at the same issues from a wider perspective. If economic crises continue to repeat, it should motivate economists to reexamine the fundamental axioms of economics upon which the subject rests. Persistence of problems does not mean that they are insoluble. It only means that the theoretical premises upon which the foundations of economics have been built are not sound and sufficient.

When the practical man is confronted with problems, he looks for practical solutions, while the thinker looks for ideas to solve them. But when the Original thinker is confronted

with problems, he takes that as an opportunity to know himself in the wider measure. The Original thinker seeks not just ideas but original ideas which are called in Philosophy *Real-Ideas*. Cadmus Journal refers to them as *Seed-Ideas*. Ideas, sooner or later, lead to action. Because conceivable by mind in some way, they declare it can be done. Pregnant ideas have the dynamism to lead to action. Real-Ideas are capable of self-effectuation, as knowledge and will are integrated in them. When Club of Rome published *The Limits to Growth* in 1972, it awakened the awareness of the world to the need for change in thinking and in action, and the world now is a better place for that.

Mental understanding, which can generate clarity, is not the only type of understanding that we have. Apart from it there is also emotional comprehension. When the emotions understand, they inspire the person to act. At the next deeper level, our very body possesses an understanding of its own. When that understanding is reached, the body acts at once. That is why uneducated people respond better to a demonstration than to an explanation. When they see with their senses that something is achievable, they cannot wait to act to achieve it. Hence, when the body understands, it does not wait to act. Intellectual explanations carry clarity. *Clarity of thought is a contribution to accomplishment.* If one with that clarity chooses, he can commission actions to achieve it. Seed-Ideas lend themselves to action, as they release emotional energy which compels action in time. Real-Ideas inspire the physical consciousness, which moves into action at once.

“  
*Clarity of thought  
is a contribution to  
accomplishment.*  
”

In Jules Verne's novel, *Around the World in Eighty Days*, the train in which the hero travels is stopped by a warning signal a little before a weak bridge. The passengers, guard, driver, and engineer all get down and explore the alternatives. The only idea suggested to them by the watchman on the spot is to cross the river on foot, reach the other side and board another train. That meant walking five miles up the river to cross it at a ford. The engineer comes up with an original idea. He says that if the train moves across the bridge at a very high speed, it might be possible to cross the bridge without the wheels actually touching the rails, thereby safely reaching the other side. Although the idea appears quite radical to the hero's French attendant, the American passengers, driver and guard all enthusiastically agree to the attempt. So the train backs up for some distance, gathers a speed of 100 miles per hour, and seems to almost fly across the bridge. As soon as it reaches the other side, the bridge comes down with a deafening sound. Perhaps this was the spirit of innovation that tamed the new continent and made America the most prosperous nation on earth. The combination of idea and determination generates the power of Real-Idea in action.

During World War II, India grew restive with clamor for independence. Jinnah, leader of the Muslim League, voiced his demand for a separate Muslim nation called Pakistan. President Roosevelt began pressing Churchill to disband the British Colonies in return for American support during the war. Churchill could not implement that idea. To oblige the American pressure, he sent Sir Stafford Cripps, a friend of India, to India with a mission. Gandhi flatly refused the British offer, though he announced no boycott. The mission failed. Later the Indian army showed signs of patriotic intransigence. By that time, Churchill had been replaced with

*“Americans expanded the horizons of human enquiry and affirmed the conviction, ‘If there is a problem, there must be a solution.’ It is a perception of Infinity in practical life.”*

Atlee. The very next day Atlee sent A. V. Alexander to India as the head of the Cabinet Mission, but the talks dragged on and no solution was arrived at for the vexing problem of Pakistan. In an atmosphere of rising violence, Atlee then looked around in desperation for the right man for the job. He found the man in Lord Mountbatten, Supreme Allied Commander of Southeast Asia during the war, who took charge as the last Viceroy of India in March 1947 with the proclaimed intention of declaring India’s independence by June 1948. Once he arrived in Delhi, he found the situation far more explosive than it had been described and realized it would be impossible to postpone independence for another 14 months. He set to work immediately and by the end

of June, he was able to announce that freedom would be granted by August 15, 1947. He succeeded in completing the task a year in advance. Reading the fascinating narrative in *Freedom at Midnight* by Larry Collins and Dominique Lapierre, one gets the impression that a Real-Idea was fulfilling itself almost instantaneously. Whether it is a Real-Idea that fetches instant results or a Seed-idea that produces results over some years, surely humanity can rid itself of all its problems with the power of such ideas.

It is desirable to find a solution, at least in thought, to the problems of the world. Arriving at the right solutions needs the support of correct information pertaining to that problem. Surely in this age of information there is no dearth of information and data. Any amount of information can be gathered through the Internet. Computers are only mechanical devices but have shown an amazing capacity for seeing connections between what appear to be unconnected matters. Walmart used computers to note the connection between sales of baby diapers and beer, which occurred when young fathers were sent by their wives to the store to purchase diapers. Rightly used, computers can expose the relationship between the recurring financial crises, the growth of speculative investment, rising levels of unemployment and income inequality. Such an approach may even give rise to original thinking in economics.

Newton and Socrates fully qualify as Original Thinkers. Original ideas have the power to completely free humanity from long-standing problems. Epidemic diseases like plague and cholera were once commonplace even in Europe.

Now the world has almost forgotten them. Increasing population, once regarded as a curse, is now viewed from a fresh perspective as the power of human capital. While India was for long oppressed by the ancient idea of karma and Europe resigned to fixed limits on what can be accomplished, Americans expanded the horizons of human enquiry and affirmed the conviction, ‘If there is a problem, there must be a solution.’ *It is a perception of Infinity in practical life.*

“...even now the entire world is governed by some 15 or 20 original ideas.”

Since the dawn of civilization, humanity has been fascinated by the power of Ideas and ruled by them, Original Ideas, whose origin remains unknown. When the Englishman arrived in South India in the 17th century, apart from his trading and colonizing activities he also

took some interest in the cultural and literary aspects of the Indian civilization. He came upon the Tirukkural which is an ancient Tamil literary work made up of 1330 short couplets. It was translated into English, acquired international fame and has been translated into nearly 40 languages. Studying the Tirukkural, one can see that it is essentially made up of 13 original and major ideas. Perhaps even now the entire world is governed by some 15 or 20 original ideas. It would be a fascinating task to find out if we can add some more original ideas to the existing list. The flood of information that is available now tempts us to undertake such a task. It may not be a very difficult task to come up with solutions for problems that have been bothering humanity for the last 2000 years, if we freely exercise our minds in an original manner on these problems unconfined by conventional wisdom and established practices.

Thirty years ago, a decade after the triumphant release of *The Limits to Growth*, Orio Giarini submitted to the Club of Rome a report entitled *Dialogue on Wealth and Welfare*. In it he called for a re-examination of Adam Smith's *The Wealth of Nations* in the present day context and challenged essential premises of modern economics, including the law of equilibrium between supply and demand. Smith was a moral philosopher. His studies were world-shaking. When his famous book was originally published, the Viceroy of India read it and was struck by its vision. The book organised thoughts that were not previously even observed with interest. Since then it has remained a fundamental basis for thinking in economics. Smith saw that Trade creates wealth and that division of labour is a creative strategy in a productive process. He did not fail to perceive a single social phenomenon of that period which had an impact on human welfare. This was a period in which what we now term service sector was very rudimentary. Smith considered most services insignificant economically. Now, Service Economy is a greater field of human productivity than industry and the market. The market brings human individuals together and creates a plane of social productivity, even as land in the previous period became a field that produced food grains. It is market that created and sustained Money.

Money is a vibrant social power. An economist in Brussels recently declared that economists do not have the mental capacity to understand Money. Money is not only a thing in itself. It is a great Power. In his second report to the Club of Rome, *The Limits to Certainty*, Orio Giarini focused attention on the increasingly significant role of Service Economy, challenging traditional monetary notions of value, cost and price and stressing the importance of utilization time and utilization value. He has thus revolutionized economic thinking. Economics is no mere academic subject confined to the factory or market, but an infinite field of human welfare and well-being. It is true that the world is usually indifferent to original philosophers. How many could really appreciate the original contributions of Socrates, Aristotle and Newton at the time they conceived their original ideas? Rather it is those who command power and great wealth that readily catch the attention of the public. Original thinkers may be known only to their immediate circle of friends and followers, not to the world at large. When original thinkers such as Giarini present perspectives that can solve acute problems, we cannot afford to neglect their consideration. His thought warrants such serious examination by economists today.

Nuclear weaponry is another field in which the problem persists. Initial progress has been made by decommissioning and dismantling tens of thousands of weapons, but weapons technology continues to proliferate and the threat of accidental or intentional use remains very

---

*“An unambiguous declaration by the World Court that nuclear weapons constitute a crime against humanity can lead rapidly to total and complete global abolition of this pernicious threat to human dignity.”*

---

real. So too, the American Civil War was fought to abolish slavery. The war was won. Slavery was abolished in law, yet *it persisted in practice for another hundred years*. India won freedom, but the Indian administration, her official language, her entire way of life for 60 years remained British. She grows now with dynamism in another direction towards the lifestyle of the USA. That is the idea of Freedom! It raises a question. Whether it is India or America, is it desirable to activate the attitudes you have fought against for so long, fought against with vehemence? The masses may behave that way. Can the elite espouse the same attitude? In that case, can we not hope to abolish weapons? The presiding powers are not final. There is always a higher authority.

Political and social reform movements gather strength gradually. In the initial period, those who lead the movement are only aware of the hurdles and opposition that they face, not the strength gathering imperceptibly in the background. Like the Arab Spring in Egypt, new political movements or parties are sometimes surprised by the wide support they garner. This is because the support was growing subconsciously. Segregation that survived a hundred years after the Civil War was suddenly swept away in half a dozen years after a black woman in Alabama named Rosa Parks refused to move to the back of the bus. Her simple act of protest had the power to launch the Civil Rights Movement because she represented a wide public opinion that was not yet perceived. It was the right time and her move, though unconscious, was a right one. A handful of salt set in motion Indian Freedom when Gandhi launched the Salt Satyagraha in 1930. In an unprecedented vote of total public support, the entire nation rose as one Man. The present movement in India to rid the nation of corruption is an example of a movement that developed very gradually and then suddenly sprung to life with formidable intensity.

The world is ripe for a similar dramatic breakthrough in the evolution of global governance. It awaits an awakening call for unity to transform the life of humanity from nationalistic competition to truly global cooperation. Old conceptions of national sovereignty are waning. The hypocrisy of national self-interest pursued and national power asserted in the name of international democracy are exposed. The preparedness for unity is gathering strength beneath the surface unconsciously. It expresses most vividly in the universal endorsement of human rights and rapid advances in international law. In this altered environment, an unambiguous declaration by the World Court that nuclear weapons constitute a crime against humanity can lead rapidly to total and complete global abolition of this pernicious threat to human dignity.

We see many progressive developments in society, such as growth of knowledge, growing humanitarian sympathy and collective organized efforts to extend protection for people in need. In the United States a lot of attention is given to the rights of women and children and for the safety and welfare of the disabled. Europe has excelled in universalizing access to health care and support for the aged. The idea of Insurance is a brilliant concept that gave rise to a remarkable social invention. Two centuries after insurance was born, it became increasingly common for an Englishman to insure his life as soon as he got married as protection for his

wife and children in the event of his premature demise. Those were times in which the public was largely insensitive to the suffering of others, imprisoning debtors, ill-treating the disabled, and compelling orphaned children to forced labor. It was a period when strength was respected, weakness frowned upon. Yet in the very midst of such insensitivity, the new institution of insurance arose to provide protection to the vulnerable. It is a form of institutionalized collective self-giving. Viewed thus, insurance is a civilizing force without comparison. Five percent of global GDP is now generated by the insurance industry. In some countries, it even touches 7%.

*“The unwillingness to fully shed what is destructive or obsolete is at the root of all problems. Sri Aurobindo called it “the taste of Ignorance.””*

Everywhere we look, we find great wisdom mixed with persistent folly. Today we see the phenomenon of internet services offered free of charge. This tendency is a confirmation of the principle that the knowledge gathered by individuals in the society belongs to the society as a whole and therefore the benefits of that knowledge should also go to every member of the society. Indeed, this only reflects the underlying reality that every new achievement is an achievement of the collective based on the cumulative achievements of all humanity in the past. At the same time, we see a direct repudiation of this principle in the mindless adoption of every new technology leading to the growing problem of unemployment. The dynamism of capitalism is based on selfish efficiency and selfish greed. Speculation, its great ‘achievement’, is ruining the economy.

While we observe so many advances in thought, we have also seen the ‘wisdom’ that led to the production of 70,000 nuclear warheads. In retrospect, it is blatantly and almost inconceivably irrational. At a time when global governance is so essential, we find the UN hampered and stifled by the relic of veto power. In 1945, the veto was necessary to keep the balance in the UN, not after the demise of the Cold War. A wrong system destroyed from inside is the height of human wisdom. More than two millennia ago Emperor Ashoka found it right to eschew violence. In 1990 Gorbachev did it in the USSR, opened up apertures of self-destruction from inside the monolithic police state. So too, we see common sense thrown to the winds in the pollution of the environment. It was the Club of Rome that alerted the world in 1972 and slowed the pace of ruin. Everywhere we find this strange combination of progressive idealism and atavistic anachronism. The unwillingness to fully shed what is destructive or obsolete is at the root of all problems. Sri Aurobindo called it “the taste of Ignorance.”

In a normal and rational social climate we would expect knowledge to keep on growing and wisdom to be more and more in evidence. Giarini submitted several reports to the Club of Rome which had the immediate capacity to eliminate financial crises, and carried the long term potential of organizing economics on a wider basis for human security and welfare. His thought has not received the attention it deserves. Complementary currency was successfully introduced in Wörgl, Austria during the Great Depression with dramatic results. It eliminated 25% unemployment and revived economic growth in a few months. *Its underlying principle is a creative social dynamism.* Not only was the experiment stopped, but, in spite of more than 2000 other successful experiments around the world, its basis has not been fully recognized till now.

We also find another strange expression of remarkable progress existing side by side with persistent ignorance. In one Indian village, land value rose sky high to reach \$30,000 per acre. A farmer who had just sold his land came to the post office to enquire about making a cash deposit. The post master asked him what rate he had sold it for. Bang came the reply, "\$500 per acre". How do we understand this phenomenon? In another Indian village a reporter heard that five people in the same house were blind. At the house he learnt that they had not even heard about the possibility of cataract operation. In that part of the state, there was an eye hospital conducting free operations. The founder of the hospital had been awarded the Magsaysay Award for completing a million operations, yet the blind family was not even aware of the possibility of cure.

Such incidents exhibit the continued prevalence of appalling ignorance and sense of helplessness in the midst of abundant knowledge and unprecedented social power. Thousands of instances can be found in every country all over the world, not just in India. American researchers in the 1980s were surprised to discover through surveys that more than half of the respondents believed that the U.S.A fought against the Soviet Union in the 2nd World War. Noted British historian Paul Johnson was surprised to discover that British Air Force officers in the 1990s had never heard of the Blitz, Germany's strategic bombing of London in 1940! Those who want to expedite nuclear disarmament and end financial crisis in the world cannot afford the luxury of such an attitude. Solutions are not wanting, but openness to new ideas is. When the FAO gave a grim warning about impending food crisis in India in the 1960s, the then central agricultural minister resolved to make the country self-sufficient in food production within five years and India achieved it by launching the Green Revolution. When people bravely and resolutely confront a danger, they see that the danger retreats as quickly as it came. When England chose to resist the invading Nazi invasion to the last man, it was Germany that was forced to abandon the attack within a matter of months, compelling Hitler to turn his attention eastward. Hitler had badly underestimated the determination of the English to fight vigorously to preserve their freedom. Churchill made a similar error when he expected Soviet Russia to collapse in a few weeks under the German onslaught. It was Lord Mountbatten who insisted that the Russians would prevail because they were fighting for their freedom.

*“Few have the wisdom to speak only what they know for sure.”*

Foolish behavior can be expected among the truly ignorant. There is an old story about ten men who crossed a river and then stopped to ensure they had all crossed safely. Each man counted the group and found only nine members were present, forgetting to include himself in the count. We naturally expect better sense from educated informed experts, but few have the wisdom to speak only what they know for sure. Martin Luther called Copernicus a fool and an upstart astrologer for positing his theory of the heliocentric universe. Thomas Watson of IBM saw no future for computers. Keynes was a problem-solving genius, but focused attention on secondary causes rather than fundamental principles, an error that prolonged the 1929 crisis and distracts attention from underlying economic premises even today. Yet Russell did not hesitate to venture outside his field of accomplishment as a philosopher to strongly recommend Keynes to all governments.

When those who are responsible for solving the world's problems are not able to do so, it is better to consult history as to how similar problems were solved earlier, and how grievous



errors were committed which complicated situations. When we do so, we find a wide range of creative attitudes have spurred progress and eradicated problems in the past:

1. Pioneers in every field chose to do what no one had previously dared to attempt.
2. Great poets and thinkers fearlessly expressed their own inspirations unmindful of rewards or social recognition.
3. Dynamic individuals applied their minds to create new activities based on new conceptions and new types of organisation.
4. Society created symbolic instruments such as money, which summarise the whole of human experience in one field.
5. People established new types of settlements and communities, real and virtual.
6. Courageous venturers went beyond the fold of existing society physically, vitally, mentally, spiritually to create anew.
7. Creative individuals rose to higher levels of thought to fashion new ideals, values, and avenues of knowledge.
8. Keen observers studied natural phenomena to understand them and, if possible, master them.
9. Leaders gave up valuable possessions such as Power in favour of higher human endeavour.
10. Educators organised their experience to be passed on to future generations to abridge the time and effort required for learning.
11. Radical idealists resorted to violent Revolution to destroy the existing society.
12. Intelligentsia replaced aristocracy as a more informed and progressive system of government.
13. Social innovators founded new types of institutions such as Grameen Bank.
14. Explorers crossed the seas in quest of land or trade.
15. Free thinkers abandoned age-old beliefs, such as conventional religious dogma about the age of the world or position of the earth in the universe.
16. Seers directly discovered God to found new religions.

Though original thinkers and creative innovators have played such a useful role in social development and evolution, society has not been kind to them and more often has been alarmed by their activities than gladdened by them. History also illustrates the usual reception given by conventional society to progressive ideas and initiatives.

1. Pioneers have been mercilessly persecuted.
2. Though Shakespeare is hailed as a genius nowadays, in his own days he was largely ignored by his own countrymen until a Frenchman, Victor Hugo, proclaimed him a genius some 200 years later.
3. Many progressive new activities were ferociously opposed, as Andrew Jackson, the US President, vigorously opposed and closed America's first central bank.
4. Paper currency, the greatest creation, was regarded with deep suspicion and was refused the status of legal tender.

5. Education was heckled as a luxury for the elite. Even reading was frowned upon by the church during the early Middle Ages.
6. Children knowing more than their parents were regarded as an affront.
7. The rise of achievers in society was opposed tooth and nail.
8. When London was emerging as a great metropolis, it was still looked down upon by the country gentry.
9. The French aristocracy allowed itself to be guillotined in the Revolution rather than willingly change.
10. For centuries the founding of new institutions was opposed.
11. Innovations such as the steam engine were ignored for centuries and then vigorously opposed.
12. The telescope was called the devil's instrument.
13. Men killed their father or brother for the throne.
14. Crossing the sea once attracted excommunication. Trade was scoffed at.
15. Religion, even when it was blindly superstitious and dogmatically reactionary, was cherished.
16. Venerated saints were unpopular in their hometowns while they lived, and faced various forms of social ostracism.
17. Education was regarded as something unnecessary by land-owning aristocrats and even members of royalty.

---

*“One immediate option is to move the World Court to re-examine their 1996 judgment and declare the use or possession of nuclear weapons as a criminal offence. If the world court was indecisive in the past, it need not be so now.”*

---

The question before us now is whether it is wise and permissible for the current generation to exhibit the same negative and opposing tendencies to new ideas and values, as our forefathers have done in the past. The institution of slavery lived in spirit for a hundred years after the Civil War and law had abolished it. Society in America waited that long to overcome it. Now the same thing is happening with nuclear weapons. Though these weapons have no known use but pose a real and present threat to the security of countless millions, we are unable to act. If governments are not acting then it is only proper that the public at large should act in this matter without waiting anymore.

A global referendum calling for abolition of nuclear weapons can lead to the complete elimination of this threat now. Are there not other powers in the international community for us to evoke? One immediate option is to move the World Court to re-examine their 1996 judgment and declare the use or possession of nuclear weapons as a criminal offence. Compliance with Law in the shape of acts, contracts, especially international treaties, is

*“Speculation is greed, selfish greed which should have been outlawed a hundred years ago.”*

steadily growing. Treaties banning the use of chemical weapons are honored. Even corrupt politicians are known to obey court orders. The ICJ must be approached. If the world court was indecisive in the past, it need not be so now. The world has a right to expect and demand judicial activism from that august body. We see that religious mantras when repeated over and over do bring about some positive effects. In a similar way, if the ICJ unconditionally affirms the illegality of these weapons, it can compel compliance from governments that have until now been obstinate.

Over the past three decades, about 250 financial and banking crises have occurred around the world, moving with predictable regularity from one country to another. At the same time the world's financial assets have grown from \$12 trillion in 1980 to \$216 trillion, while income inequality has soared to the highest last seen centuries ago when less than three percent of the elite in Europe controlled all the wealth and power and occupied all positions of authority in government, church, military and universities. Obviously, there must be a relationship between the two phenomena. How do economists understand it and propose to deal with it? When the market crashed in 1929, the US economy was in the midst of its greatest boom. Every time a crisis or recession rears its head, it comes at a time when the stock market and the economy have been rising rapidly. In each case we find soaring levels of financial speculation preceding a sudden collapse. The irresistible lure of greater wealth during boom times brings a greater urge to risk, thereby fueling the speculative boom and setting the stage for a crash. Every country regulates activities it knows are detrimental to public health, human welfare and national security, but not speculation. Speculation is greed, selfish greed which should have been outlawed a hundred years ago. The political influence of financial powers backed by the naivety of the public permit it to endure. What prevents the world from banning speculation? The source of financial crises is not unknown or insoluble, if only the public demands immediate effective action. How is this attitude any different than that of the population that allowed millions to die because it refused to be vaccinated against the plague?

A youngster or a madman enters a classroom or meeting room and shoots a number of people. This is done in the name of freedom to bear arms! At a time when a pistol or musket could fire just one or two bullets with very limited accuracy, before it had to be reloaded by hand, surely America's founding fathers did not intend that every citizen has the right to possess an automatic weapon capable of firing hundreds of bullets in seconds with absolute precision – equivalent in power to that of a small army in those days. If the American people are ever fully educated about the dangers of hand guns and then consulted in a real public referendum, they will demand abolition of the right to bear arms which now threatens the security of every American. Simple common sense is more desirable than dying of the plague, getting shot in the classroom or being crushed by a financial crisis.

It is a privilege to be born as a human being, rather than as a member of a lower species. Knowledge is the most priceless possession of human beings, not power, not money, not convenience and comforts. Knowledge is the source of all the others. To value money or comforts more than knowledge is not the height of human wisdom. The Greek treasures were lost, but preserved by the Arabs. Europe went to a great length to recover them from

the Arabs. Now the whole of Europe, the whole world, is ruled by Greek thought. That is the right spirit of humanity. Copernicus' thought was suppressed for 70 years after the theological implications of his discovery were recognized. In those times it is understandable, not now. Can the world afford to wait even a year to consider new thoughts, original thoughts, a New Theory of Creation after they have been pronounced? It does not speak well for the poetic sensibilities of the world to have ignored an epic poem of unparalleled beauty and wisdom for more than a half-century.

Mahatma Gandhi was nominated for the Nobel Peace Prize five times yet never received it. In 2006, the Secretary of the Norwegian Nobel Committee acknowledged this as "the greatest omission in our 106 year history." It does not speak highly of the objectivity and rationality of its evaluation process. Knowledge seeks greater knowledge. Prejudice is to be condemned wherever it is found, especially in the field of knowledge. The word 'scientific' is not always used in its original sense. It has become a misnomer indiscriminately applied in the context of measurements and scales. Measurement is part of a scientific approach, but does not grant the status of science to any field. Even in serious academic gatherings, fresh and creative ideas are not welcome on their own merit. Rather they are judged based on the social standing of the speaker who is presenting them. Ideas must be evaluated on their own merit, not according to the status of the source.

*In the 18th and 19th centuries, Europe was the world.* Europe became the dominant power in the world because she had cultivated the power of Mind and functioned with the help of mental planning. Martin Luther symbolized the spirit of the questioning mind. Greek thought in the classical era was mainly the achievement of a few prominent thinkers. But when Mind awakened in Renaissance Europe it awakened in the common man and hence had a far more widespread impact on society. In Renaissance Europe, life prospered because it was energized and organized by Mind as never before.

“*One rule of Life is never give up in the middle.*”

Life vastly prospered in Europe because it was Mind that guided Life. Till today, the question why Hamlet delayed has not been answered, yet *Hamlet* is still regarded for its greatness. Shakespeare's *Hamlet* depicts the birth of mind in the European individual. The reason Hamlet hesitates to seek revenge against his uncle Claudius, who murdered Hamlet's father, remains an enigma even today. Hamlet was a young dynamic prince itching

to kill his unfaithful mother, which his father forbade. He was ordered to kill Claudius instead. Enraged by his mother's incest, his vital urge was to punish her, not Claudius. His mind tried to compel him to the task unsuccessfully, even writing notes to remind him of his duty. His birth denotes the emergence of incipient Mind, which was indeed out of joint with the vital superstition of those times. He cursed himself that he was born to set it right. The instant his mother dies accidentally of drinking the poison intended for him, Hamlet kills his uncle

---

*“The word ‘scientific’ is not always used in its original sense. It has become a misnomer indiscriminately applied in the context of measurements and scales.”*

---

without hesitation. The strong vital went into action when the vacillating Mind was relieved of its duty. Mind enriched the life of Europe. Science, the basic scientific discoveries, came from Europe.

One rule of Life is never give up in the middle. Europe was unwilling to share power and riches with all. That stopped her progress from reaching its climax and life moved its center of action to the New World where everything was accessible to everybody. There European science transformed itself into scientific technology and brought an abundance of prosperity, comforts and convenience never before seen in the old world. Today, America is accepted as the leader of the world for her economic, political and military power. But that is not the whole truth. She possessed these endowments even before the 2<sup>nd</sup> World War. They did not bring her the recognition then. Two main factors have brought her the current preeminence: the first is the recognition and importance she gives to individuality and

the second factor is the freedom everybody enjoys to progress and advance. But, lately, even America seems to be losing her expansive spirit and is showing signs of a contracting and shrinking culture. She is unwilling to give up nuclear weapons, delays gun control domestically and thrives on overseas arms trade, refuses to ban or even tax financial speculation, neglects the environment, and disregards measures to guaranteed employment and human security. Out of tune with the need of the world at this hour and clinging to retrograde mentality, she may be left behind and forgotten as Greece, Egypt and Rome have been, as leadership moves to those who are more truly willing to lead. India has shown remarkable awareness of the evolutionary needs of our time by legislating guaranteed employment. The world no longer needs Revolutions, but demands Evolution. It is social evolution. Any nation that adamantly holds onto nuclear weapons, refuses gun control and encourages speculation cannot retain her premier position for long.

---

*“India has shown remarkable awareness of the evolutionary needs of our time by legislating guaranteed employment.”*

---

*“Problems such as we know are not real problems. They are of our own making and will disappear if we acquire the right attitude to new ideas and take the right initiatives.”*

Like the adults in Hans Christian Andersen’s fairy tale, economists continue to admire the emperor’s clothes. Mistaking money for economics, market for society, they refuse to examine a great thinker’s great insights about future prosperity. Very soon, the world will march ahead, weapons will be eradicated, full employment will be recognized as a fundamental human right, equality will be established, world currency will be instituted, the UN will abolish the veto, undemocratic nations and undemocratic global practices will become a thing of the past. Problems such as we know are not real problems. They are of our own making and will disappear if we acquire the right attitude to new ideas and take the right initiatives.

*Author Contact Information*

*Email : ashokmirra@gmail.com*

## **Inclusive growth: Why is it important for developing Asia?**

**Jesus Felipe\***

Asian Development Bank and Research Associate with: Centre of Full Employment and Equity (CofFEE), University of Newcastle (Australia); Center for Full Employment and Price Stability (CFEPS), University of Missouri-Kansas City; and Levy Economics Institute of Bard College, New York.

### **Abstract**

*Although Asian countries attain relatively high growth rates of GDP, many citizens do not seem to benefit from it. To remedy this problem, multilateral development institutions have developed the concept of inclusive growth, defined as growth that allows all members of a society to participate in and contribute to the growth process on an equal basis, regardless of their individual circumstances. The most direct way to achieve inclusive growth in Asia is to bring the objective of full employment of the labor force (i.e., zero involuntary unemployment) to the top of the policy agenda. Specific policies to achieve it are: (i) Redress the neglect of agriculture; (ii) Undertake public investment in basic infrastructure; (iii) Use of industrial policy to accelerate industrialization and structural transformation in general; (iv) Direct fiscal and monetary policies to the achievement of full employment; and (v) Devise Job Guarantee Programs (JGP) to ensure full employment with price stability.*

### **1. Introduction**

Since 2007, institutions such as the Asian Development Bank and the World Bank have added the objective of attaining *inclusive growth* to their policy discourse on poverty reduction.<sup>1</sup> By doing this, they acknowledge the widespread sentiment that growth is not benefitting everyone equally. There is a perception that although countries attain relatively high growth rates, many people do not seem to benefit from it. This is certainly not a new concern. About a decade ago, these same institutions were discussing whether growth was *pro-poor* or not, that is, whether growth benefited equally all segments of the income per capita spectrum, or whether it benefited more the higher income groups.<sup>2,3</sup> These sentiments are also shared today by Asia's policy makers in their policy statements and development plans. They talk about concepts such as "harmonious society" (PRC) or "sufficient economy" (Thailand), and echo the need to address this discontent.

In a similar vein, and reflecting upon the post-crisis global economy, Rodrik argues that there is a "steady divide between what the elites and the common people feel, as well as a

---

\* The views in this paper are the author's own. Large sections of this paper draw from his book *Inclusive Growth, Full Employment, and Structural Change. Implications and Policies for Developing Asia* (2010. Anthem Press: London).

reluctance on the part of the elites and economists to accept that there is a core of legitimate grievance that is not simply a matter of ignorance and narrow self-interest.” And: “This [perceptions about multinationals and international banks] would not be a big issue if everybody in the domestic economy were as equally mobile as the multinationals. As a result, there is a very big divide in most modern societies between groups that perceive themselves as globally mobile and therefore view their opportunities and remuneration as set by what is happening in the world (i.e., capitalists and highly-skilled professionals), and the vast majority of most people, who are not globally mobile and whose livelihoods are determined by what happens in the domestic economy. The tension is due to the fact that democratically-led governments have to pay attention to the skilled professionals and capitalists, yet also have to listen to the mass majority of the electorate who are not as mobile”.\*<sup>4</sup>

*“Growth is inclusive when it allows all members of a society to participate in, and contribute to the growth process on an equal basis regardless of their individual circumstances.”*

And Spence paints a clear picture of growing inequality in the US, arguing that it is driven in large measure by the demise of manufacturing and moderately skilled service sectors.<sup>5</sup> This echoes previous concerns about polarization induced by technological change that eliminates jobs in the middle of the wage distribution. This process of specialization in services and high-tech industry widens, for example, the gap between workers holding college degrees and workers holding high-school degrees. Many developing countries are not immune to these developments. Indeed, the relocation of some parts of international supply chains has affected the price of goods, jobs and wages everywhere.

How does the notion of inclusive growth fit into these arguments? In recent work, Ali and Zhuang have defined inclusive growth as “growth with equal opportunities”.<sup>6</sup> And in a related paper, Ali and Son further argue that inclusive growth is “growth that not only creates new economic opportunities, but also one that ensures equal access to the opportunities created for all segments of society. Growth is inclusive when it allows all members of a society to participate in, and contribute to the growth process on an equal basis regardless of their individual circumstances.”<sup>7</sup> This way, the notion of inclusive growth intends to be broader than the idea of pro-poor growth (which focuses exclusively on poverty reduction) by focusing on development processes that lead to the expansion of economic opportunities.

It could be argued that, one way or another, growth benefits the average citizen; that all concerns are simply transitory issues; and, therefore, the adjective “inclusive” is superfluous. The reality, however, is that large segments of society *feel* that their living standards are deteriorating vis-à-vis those of some privileged groups, with the consequence that the gap is widening. Many societies are failing to transform themselves fast enough to provide sufficient productive and decent employment to the increasingly large labor forces. For these reasons and at the risk of laboring the obvious, the adjective “inclusive” plays a role, if only to alert policymakers of the nature and magnitude of the problem.

\* In the developed countries too there is discontent. In recent work, Sum et al. (2011) conclude that during the slight recovery of the American economy through 2011, earnings and corporate profits have been the major beneficiaries (and not wages) of national income growth. Perhaps there is some truth behind all these complaints.

A telling example is that of the Philippines. In 2010, the country registered its highest economic growth in 3 decades, 7.6%. However, this growth does not appear to benefit the majority of Filipinos, as poverty does not recede and there is no perceptible improvement in key labor market indicators such as unemployment and underemployment. Obviously, the mere quantity of economic activity, as measured by a common indicator like GDP growth, taken alone, “says virtually nothing about whether life for the common Filipino is getting better or worse. It ignores the distribution of income and makes no distinction between workers with top-paying jobs and those workers who can barely eke out a living. It ignores the fact, for instance, that the record remittances which make economic figures so rosy have a heavy social toll in terms of broken families. The booming mining industry which the government touts? That has environmental costs, too, which should count for something when you’re calculating economic balance.”<sup>8</sup>

The purpose of this paper is to discuss the notion of inclusive growth and the policies to achieve it. Whether this new concept becomes useful or quickly degenerates into a fad and loses momentum will depend on how both multilateral development institutions and policy makers in developing countries *operationalize* it so that it becomes a means to achieve an end. For this to happen, both groups need to be able to transform ideas into concrete policy actions and specific interventions, in terms of both physical investments and reforms. And this requires a better understanding of the constraints that developing Asia faces. Developing Asia is undergoing significant structural transformation (the essence of growth) in a context of globalization and fast technical progress. This creates a permanent tension between the forces of growth in market economies; and the difficulties that market economies have solving problems such as inequality or unemployment.

The rest of the paper is structured as follows. In section 2, I argue that inclusive growth requires achieving full employment of the labor force. In section 3, I discuss whether it is possible to achieve full employment today. Finally, in section 4, I discuss five policies to achieve inclusive growth. Although much of the discussion focuses on developing Asia, many of the arguments apply equally to other developing regions.

“*There are about 500 million people unemployed and underemployed in developing Asia.*”

## **2. Inclusive Growth as Full Employment**

Felipe and Hasan (2006) estimate that there are about 500 million people unemployed and underemployed in developing Asia. During the next decades, developing Asia’s labor force will increase significantly, from about 1.7 billion people in 2005 to almost 2.2 billion in 2030.<sup>9</sup> Countries like Pakistan, Bangladesh or the Philippines, where population growth rates are still relatively high, will have to pay special attention to the question of job creation.

In a modern capitalist economy the necessary condition for a citizen to participate in society is that he/she undertakes a meaningful job.<sup>10</sup> Human beings participate in and contribute to society through their capacity to work. A job is the means not only to receive a wage (and therefore to be able to consume) but also to participate in society. Human work



is a conscious activity, purposive and fulfilling in that it is the instrument that allows human beings to be *someone*. As human beings, we have a working consciousness that allows us to develop our human creativity, the ability to create meaningful new forms. This attribute is what distinguishes us from other species. Work matters – to us as individuals, to our family and friends and also to the communities and societies in which we live. Indeed, work is one of the most defining aspects of our lives. As a consequence, those unemployed do not benefit from the opportunity and right to participate in society, as they are excluded. Unemployment and underemployment cause not only direct economic costs (e.g., loss of potential output and income, lower tax revenues due to a lower tax base, deterioration of labor skills and productivity), but also social costs such as poverty, misery, malnutrition, and injustice.<sup>11, 12, 13</sup> Persistent unemployment and underemployment lead to social exclusion and violate basic concepts of membership and citizenship, and thus they do not allow inclusive growth. Ultimately, as Sen argues, it is a question of justice “...the unemployed may feel deprived because of the lack of freedom in their lives, and this goes well beyond just the lowness of income”.<sup>14</sup> Indeed, analyzing one historical episode of mass unemployment, Solow concluded that “...apathy and the attenuation of social interaction were the main consequences of the experience of prolonged mass unemployment”.<sup>15</sup> See box 1.

### **Box 1: What exactly is so bad about unemployment?**

1. Loss of current output and fiscal burden: Unemployment not only reduces potential national output but also imposes a fiscal burden insofar as resources from those working have to be transferred in the form of unemployment subsidy.
2. Loss of freedom and social exclusion: Unemployed do not exercise much freedom of decision and are deprived of opportunities.
3. Skill loss and long-run damage: Unemployed “unlearn by not doing”.
4. Psychological harm: Unemployment causes intense suffering and mental agony.
5. Ill health and mortality: Unemployment can lead to dejection, lack of self-respect, collapse of motivation, and even suicide.
6. Motivational loss and future work: Long-term unemployment leads to a loss of motivation.
7. Loss of human relations and family life: Unemployment is disruptive of social relations and weakens the harmony and coherence within the family.
8. Racial and gender inequality: Both are exacerbated by unemployment.
9. Loss of social values and responsibility: Unemployed develop cynicism about the fairness of social arrangements.
10. Organizational inflexibility and technical conservatism: Unemployment may restrict the use of better technologies and resistance to any economic reorganization involving job loss.

Source: Sen (1997)

For these reasons, it is important that Governments pursue policies to achieve full employment of the labor force. This is the surest way to make growth inclusive. Full employment refers to zero involuntary unemployment. It means that no one who is ready and willing to work for an appropriate wage is without a job. This also means zero involuntary part-time employment, a type of underemployment pervasive across the developing world.\*<sup>16</sup> In developing countries, the latter aspect is very important, because underemployment is a much more serious problem than open unemployment. For this reason, the goal of full employment in developing countries is about reducing underemployment as well as reducing unemployment. Felipe and Hasan (2006) distinguish four types of underemployment: (i) working limited hours; (ii) high-skilled workers being forced to take up low-paying jobs; (iii) overstaffing; and (iv) workers carrying out their work with very little capital, and therefore, the objective of full employment must be complemented with that of generating *productive* employment.<sup>17</sup>

Likewise, the objective of policymaking must also be to generate *decent* employment (i.e., employment that provides living wages, benefits, reasonable job security, and a healthy work environment).

If the ultimate goal of policy making is to achieve a more equal society, policy efforts must be directed toward achieving full employment.<sup>18</sup> Without disregarding the importance of growth (as an economic objective), it will not, by itself, deliver full employment. A full employment economy delivers great individual and social benefits. However, policy makers throughout the world have moved away from even attempting to achieve it. Despite this state of affairs, there are powerful reasons to argue the case for full employment if key institutions in developing countries, as well as multilateral lending institutions, are serious about reducing poverty, making growth inclusive, and achieving the Millennium Development Goals. First and foremost, an economy running at full employment creates high overall purchasing or spending power. This leads to more buoyant markets, businesses, investment, and employment. A full-employment economy will provide everyone with opportunities. Second, as mentioned above, an economy operating at full employment can deliver great individual and social benefits. Third, employment is a right, and full employment as an objective of economic policy is found in the International Covenant on Economic, Social and Cultural Rights, the International Covenant on Civil and Political Rights, the International Labour Organization Conventions, the Charter of the United Nations (Article 55 and 56), and the UN Universal Declaration of Human Rights (Article 23). In the US, *high* employment is a mandate of the Federal Reserve. The Humphrey-Hawkins Full Employment and Balanced Growth Act of 1978 lists high employment, balanced growth, and price stability as specific policy goals.<sup>†</sup> Fourth, since 2006, decent work is a target of the first Millennium Development Goal,

---

*“It is more rational to argue that developing countries cannot afford unemployment and underemployment, than to suppose that they cannot afford full employment.”*

---

\* Ideally, I am thinking of full employment à la Beveridge, that is, full employment holds when there are at least as many unfilled job openings as there are unemployed individuals seeking work. Society’s responsibility is to create more positions than job seekers, so that firms do the search for workers, not the other way around. Certainly this is very unrealistic given the conditions in developing countries. I use this idea simply as a target.

† The Employment Act of 1946 commits the US to the goal of “maximum employment, production and purchasing power”. Most likely, although the term

namely, to eradicate extreme poverty and hunger. Fifth, full employment in the developing world contributes to political stability, as the levels of consumption of large segments of the population will be higher than when unemployment is widespread. Moreover, peace and prosperity in the developed world also depend on the well-being of the people in the developing world. And lastly, full employment should be an ethical imperative in today's world. The benefits of full employment outweigh the costs of its achievement. It benefits everyone, including capitalists. They may end up getting a smaller share (in percentage) of the pie, but the size of the pie will be growing possibly faster than with significant levels of unemployment. Therefore, it is more rational to argue that developing countries cannot afford unemployment and underemployment, than to suppose that they cannot afford full employment. In the words of Paul Krugman: "An unsold commodity is a nuisance, an unemployed worker a tragedy; it is terribly unjust that such tragedies are created every day by new technologies, changing tastes, and the ever-shifting flows of world trade."<sup>19</sup> Expressing a similar sentiment, Alan Blinder stated that "high unemployment represents a waste of resources so colossal that no one truly interested in efficiency can be complacent about it. It is both ironic and tragic that, in searching out ways to improve economic efficiency, we seem to have ignored the biggest inefficiency of them all."<sup>20</sup> Relegating vast numbers of people to do nothing or to do rote work is a dreadful waste of human capabilities. It is both morally and economically inefficient. For this reason, full employment must be the natural point of reference for economic policy and for evaluating a government's performance.

### **3. Is it possible to attain Full Employment today?**

*"If Globalization is a Bowl of Cherries, why are there so many Glum Faces around the Table?"<sup>21</sup>*

To answer this question, we must understand the basic features of today's world and the likely constraints to the achievement of full employment. In essence, we must answer if full employment is compatible with:

- (i) globalization, understood as a process whereby countries throughout the world are becoming increasingly integrated. The effects of globalization on the distribution of wealth and jobs were benign until about a decade ago;
- (ii) rapid technological progress that materializes in fast declines in transportation and communication costs; and
- (iii) the opening of formerly Communist countries, China and India, to the global capitalist market. The perception of the impact of these forces on employment differs across sectors and individuals.

In my view, the answer to the title of this section is a clear *no*: today's free market economies, if left to their own devices, will not generate full employment, insofar as the free market institutional system does not guarantee full employment, much less in a

---

was not used, it meant "full employment". The Humphrey-Hawkins Act refers, on the other hand, to "high" employment, not to "full". In practice, the US government has never adopted policies that guarantee the latter outcome. Rather, it has adopted a variety of "supply-side" policies and some "demand-side" policies in the hope that markets would operate at a sufficiently high level to ensure high employment. Since the market has not done this, the government has been forced to supplement these policies with various "welfare" programs.

developing country.<sup>22</sup> Traditional neoclassical theory puts forward a theory of how, under certain conditions, a market economy will tend toward full employment. This occurs through the workings of the price mechanism. However, the assumptions used to derive this result do not apply and the reality, i.e., the existence of persistent unemployment and underemployment, is that this theory is not too useful. As Keynes showed, even with flexible wages an economy has a tendency toward unemployment. To do this, he demolished the classical notion of “supply curve of labor” and showed that there was no reason to expect that an excess of unemployment would drive down real wages. Keynes showed that even with high unemployment, the employed workers would resist reduction of their nominal wages; and even in case this opposition failed, the subsequent reduction in nominal wages would bring down prices, leaving real wages unchanged.<sup>23</sup>

Moreover, the analysis of the “labor market” as if it behaved like the market for oranges is fallacious. For this reason, Galbraith speaks of a “job structure”, that is, “a historically, socially, and politically specific set of status and pay relationships in the economy, within and between firms and across industries”.<sup>24</sup> The elements of a job structure are much more complex than the simple supply and demand characterization of textbook analyses. This means that wages are not determined by the workings of supply and demand, but by a very complex process of comparisons within and across occupations and industries, as well as the qualifications of the worker. Once the notions of supply and demand of labor (as in the market for oranges) are questioned, the idea of the “Natural Rate of Unemployment” crumbles.

*“The only possible way to approach the state of full employment is to bring explicitly the objective of employment creation to the top of the policy agenda.”*

Also, globalization has increased international labor competition. This has contributed, among other things, to rupturing the link between wages and productivity growth. In the developed countries, this rupture has undermined the old wage based system of demand growth, forcing in turn to rely on debt and asset price inflation to drive growth. It has also increased income inequality. Restoring the wage-productivity growth link is therefore vital for both economic and political stability.

The only possible way to approach the state of full employment is to bring explicitly the objective of employment creation to the top of the policy agenda. As a consequence, it will be necessary to redirect the objectives of policy away from controlling inflation (rather than promoting employment), balancing the fiscal budget, eliminating current account deficits, lowering barriers to international trade, opening up new investment outlets for MNCs and financial speculators, and eroding public policies and institutions designed to protect working people and the poor.\*

It is important to also understand why, despite the obvious benefits of a full employment economy, it is not openly pursued by policy makers. This question was discussed at length by Kalecki, whose analysis continues to be relevant today.<sup>25</sup> He argued that the best way

\* This is not to say that some of these objectives are not important. Rather, my contention is that it is a question of priorities. Stiglitz et al. (2006), for example, argue that there is considerable confusion about the role of price stability. Inflation is interpreted by many as an indicator of economic *malperformance*. The problem with this view is that the indicator is interpreted by many as a policy objective, when in reality it is only an *intermediate* variable.

to achieve full employment was by Government spending on public investment. However, Kalecki argued, despite the obvious benefits that an economy running at full employment provides, the business class will, in general, oppose it. There are three important potential obstacles to increasing investment. First, in a market economy the private sector is the generator of wealth. However, in many developing countries, private investment may not collaborate due to, for example, low profitability, large uncertainty, high cost of investment, or because the full level of firms' savings out of profits is not reinvested. One possibility is, of course, to identify and relax the binding constraint on private investment. But perhaps doing this is not easy and may not be enough to increase investment to the necessary levels. For this reason, a policy of stimulating exclusively private investment may not be satisfactory. It is clear that, in these circumstances, the Government will have to step in to reach the desired level of investment. The role of Government investment is not, it must be stressed, to replace or crowd out private investment (much less in a region characterized by excess of saving over investment), but to complement it due to the latter's insufficiency. Indeed, the most effective and egalitarian way to achieve full employment is through a program of public investments targeted carefully at location-specific high employment activities. For this reason, it will be the Government's responsibility to provide a large volume of public sector investment, e.g., in infrastructure. This, I must stress, is not to deprive the private sector from any active role in the economy, quite the opposite. The private sector has to invest in whatever activities it finds profitable. This is the way a market economy will prosper, although this does not guarantee full employment of the labor force.

Moreover, in many developing countries the private sector cannot be relied upon to undertake the required volume of investment and of the appropriate structure. The reason is that nobody can force this sector to invest the required volume and in the areas that a developing country may need. In some developing countries the business class does not play, on a large scale, the role of dynamic entrepreneur that it should (contrary to what occurred in today's developed countries at the time they underwent deep structural changes), driven by 'animal spirits' (i.e., a spontaneous urge to action and willingness to take risks), using Keynesian terminology.<sup>26</sup> In some cases it is due to a poor investment climate (e.g., difficulties in opening a new business), the result of Government-imposed constraints; in other cases, the oligopolistic characteristics of some sectors of the economy favor some privileged groups that enjoy rents. These groups lobby to perpetuate this situation. The problem is neither the high cost of investment nor low returns (in the growth diagnostics terminology of Hausmann et al.) but the desire to maintain a situation of privilege.<sup>27</sup> Investment takes place in the areas that these groups control and at the pace that it suits them. At any point, and for strategic reasons, they might be unwilling to expand capital expenditures simply because it favors their objectives. In many developing countries, the capacity for entrepreneurship that the private sector has must be nurtured and developed, since the driving force in a capitalist economy is the decision to invest and the rate of capital accumulation (and the demand for labor depends on it). But the objective of the private sector is not the maximization of employment and hence it *cannot* be and should not be made responsible for the achievement of full employment. Although some may not like it, this requires some planning.

Stimulation of private investment through, for example, reductions in interest and/or tax rates or through subsidies to private investment, will not deliver full employment. If the economy is already in a boom, measures to stimulate investment further will be pointless.

And in a slump some of these measures may not work, e.g., reductions in interest rates may be ineffective due to the existence of excess capacity. Private investment depends, especially in developing countries, on expectations and political stability. Moreover, a “one-time” reduction in interest or tax rates does not eliminate a downturn (business cycle). Policy makers would have to lower them successively and continuously to keep the investment rate going. Moreover, Vickrey argued that firms’ savings out of profits represent income not spent.<sup>28, 29</sup> These savings cause the income of others to fall (through the multiplier effect). This is because savings not immediately transformed into capital simply ‘vanish’ and lead to reduced income. Therefore, private sector investment is the mechanism through which the sector’s profits are recycled into the income stream (i.e., the mechanism through which non-spending is transformed into spending). If a country’s total surplus were reinvested, the economy would get closer to the achievement of full employment. But when the total *full employment level of firms’ savings* is not recycled into spending by private investment (in fact, Vickrey believed that the private sector would not recycle the full employment level of its savings), some of the *full employment level of output* will not be justified by actual sales, i.e., part of the product will not be sold and goods will accumulate in stock. This will lead to reductions in production and employment. Unemployment is, therefore, the evidence of this gap (i.e., savings that are “kept idle” and not put to productive investment). Income (the equilibrating variable, and not interest rates) will fall and consequently savings will also decline until they are brought back to match *the below full employment level of private investment*. For Vickrey there is only one solution to closing this gap and bringing the economy to full employment: government deficits.

However, achievement of the full employment of labor through a large volume of public investment faces serious political obstacles. Kalecki argued that “The assumption that a Government will maintain full employment in a capitalist economy if only it knows how to do it is fallacious”. He gave three “reasons for the opposition of the ‘industrial leaders’ to full employment achieved by Government spending”:<sup>30</sup> (i) the opposition against Government spending based on a budget deficit and the dislike of Government interference in the problems of employment; (ii) the opposition against this spending being directed towards public investment (or towards subsidizing consumption, for example through subsidies to keep down the prices of necessities), except when it is confined to objectives which do not compete with private investment, that is, for construction of hospitals, schools, highways, etc.<sup>30</sup> It is interesting, however, that even these areas are contested today as domains of the private sector, and some argue that public investment crowds-out private investment on the grounds that the former lowers the real rate of return of the latter; and (iii) the opposition against *maintaining* full employment as this may give workers a very strong and dangerous position in the bargaining.<sup>31, 32</sup> No wonder Kalecki asked: “... why do not they [businessmen] accept gladly the ‘synthetic’ boom which the Government is able to offer them?”<sup>33</sup>

The second obstacle to increasing investment is that the investment goods sector (e.g., the construction sector) may be already running at close to or full capacity and thus may not be able to increase its output.

---

\* It is worth considering the grounds underlying these arguments, given that higher output and employment benefit both workers and firms, as profits rise. Moreover, a policy of full employment based on loan-financed Government spending does not affect profits as it does not require additional taxes. Despite that Kalecki wrote this article more than six decades ago, the argument is still valid and relevant today. One just has to read some newspapers or listen to the business segment of the news.

And finally, the third obstacle is that the country may run into the problem of how to secure an adequate supply of necessities to cover the demand resulting from the increase in employment. This increased demand will induce inflationary pressures as the supply of necessities (especially food) is limited.\* This situation has an additional implication. Suppose that the economy is capable of increasing investment. This will lead to more employment and to a higher total *nominal* wage bill. However, the overall wage bill in *real* terms will remain unchanged as a result of the increase in the price level. What is the implication? That although the level of employment has increased (certainly a positive outcome), the real wage rate (i.e., wage per worker) will have declined, and this is an unfair way of financing the acceleration in growth. The conclusion is that the increase in investment under conditions of an inelastic supply of food will cause both a fall in real wages and the acceleration in prices. For this reason, it is important to expand food production in parallel to industrial development. Investment in public transportation and public utilities should be accompanied by measures to expand agricultural production, such as land reform and easy credit to farmers.

This discussion means that in trying to achieve inclusive growth, policy makers cannot throw the costs of capital formation on the wage earners and, in particular, on the poor. In a command economy investment is financed out of the incomes of state institutions and not out of the savings of private individuals; but in countries that have followed the capitalist path of development (i.e., where savings and investment decisions are distinct), who bears the cost of capital accumulation is an important political economy question that needs to be answered. The same way that Governments must be accountable for their actions, policies, goals, and ultimately for their performance and capacity to deliver, the domestic upper and business class of developing countries, in many cases a relatively small group of individuals and families, must also be made ethically and politically responsible for the development of the country. Domestic investment often depends on the decisions of a reduced group of businessmen. As long as private investment cannot be “enforced”, the public sector will have to cover the gap up to full employment. Many developing countries, however, cannot enforce the tax collection system, tax evasion is rampant, and the implementation of progressive financial reforms is an uphill battle. Under these circumstances, the funds for investment are hard to extract. Both agriculture and manufacture fail to develop efficiently and growth of total output is swallowed up in growing consumption.

To these arguments, we need to add the economic/technical arguments that make the achievement of full employment a very difficult task. Often, standard analyses rely on the assumptions of perfect mobility and substitution of factors. Under these circumstances, the system “instantaneously” and easily adjusts to changes in technology. Structural change, however, is path-dependent, takes place in historical time, and leads to disproportional growth across sectors. Moreover, capital goods tend to be highly specific, which means that they cannot be shifted easily across lines of production and there is significant uncertainty regarding the future.

Pasinetti and Taylor worked out the conditions to achieve full employment in a system undergoing structural and technological change.<sup>34, 35</sup> Suppose an economy is growing, with some sectors expanding faster than others. Also assume productivity is increasing across sectors with unit labor requirements (i.e., labor per unit of output, or the inverse of labor

---

\* Of course, inflation may not show up if entrepreneurs are unwilling to expand their capital expenditures.

productivity) declining at different rates. Are these trends compatible with full employment? Pasinetti's general answer is no. The reason is that the condition Pasinetti derived is stringent, one that actual economies most likely do not satisfy: that labor per unit of output and demand per unit of labor must be in balance if demand is to support a full-employment output level. This condition obviously runs into difficulties in a dynamic context. First, labor per unit of output tends to decrease in time (since the 1950s, labor productivity has increased at a rate between 0% and 5% per annum, depending on the country). Second, per capita demand for many commodities or services may rise (e.g., iPods today) for some time, but ultimately tends to slow and even decline (demand saturation). If on one hand both unit labor requirements and demand per unit of labor are decreasing in a sector, the sector will lose employment. On the other hand, a rising demand per unit of labor in one sector may compensate a declining unit labor requirement in another sector, thus leading to employment growth. But this is not guaranteed to happen and, in general, the system will not be in balance. This means that in order to support employment growth, a market economy must constantly introduce new commodities and services as it eliminates the old ones.\* Therefore, some of the major obstacles to full employment lie in the technological conditions of production. In advanced market economies, the main mechanism to enable real per capita demand to increase has been growth in real wages at a rate close to that of labor productivity. In other words, an increase in real wage rates can offset reductions in unit labor requirements by supporting a growing aggregate demand per capita. But, once again, this process is not guaranteed to go on, that is, even if wages go up to offset the decreasing unit labor requirements, higher productivity may not lead to higher output and employment.

The different situations of disproportional demand and productivity trends that arise across sectors may require substantial labor force reallocation in order to maintain full employment. Most developing countries are not able to deal with the social consequences of labor reallocation (e.g., think of the People's Republic of China).<sup>36</sup>

The conclusion of this discussion is that the dynamics of structural change imply that, left to its own devices (i.e., the vagaries of the market), a developing economy will not achieve full employment. For this reason, the country's institutions, the government particularly, but also the central bank and the business class, must understand the importance of placing full employment at the top of the economic and political agendas.

#### 4. Policies to achieve Inclusive Growth

However difficult the achievement of full employment may be, governments have the responsibility to achieve it. This requires implementing a series of strategies in different areas. I propose the following policies:<sup>37</sup>

(i) *Redress the neglect of agriculture*: Agriculture is still the largest employer in many developing countries in Asia, including Bangladesh, Cambodia, PRC, India, Indonesia, Pakistan, Papua New Guinea, Thailand, or Viet Nam (in 2000–2004, agriculture was still

---

\* Also, the labor force participation rate may be declining (in countries where unemployment is increasing) as well as the share of time devoted to work. The economy may have mechanisms to counteract these forces. In developed countries, female participation rates have risen steadily. This has permitted households to buy all the new commodities that have entered the market during the last few decades (e.g., computers, new TVs, VCRs, tourism). In some developing countries, labor force participation rates are not increasing (at least when measured in terms of the formal labor market). Nobody knows what other factors may bite in the future to make the attainment of full employment an even more complex problem (e.g., environmental constraints).



“*Thailand’s labor productivity in agriculture is estimated at about \$1,650. In the US, it is about \$40,000.*”

the largest employer in developing Asia in 12 out of 23 countries for which data were available). And in many other countries in the region, although it is not the largest employer, it still employs a very significant share of the labor force.

However, for decades, agriculture has been neglected in large parts of Asia. For example, in 1980, 30% of the World Bank’s annual lending went to agriculture projects. By 2007, this share had declined to 12% (adjusted for inflation, the World Bank cut its agricultural lending to \$2.0 billion in 2004 from \$7.7 billion in 1980). Today, the overall proportion of official development assistance going to agriculture is only 4%. Why has this occurred? An important factor that accounts for the poor state of agriculture is countries’ attempt to emulate the experience of the East Asian countries. At the time these countries started growing in the 1970s, the prevailing view was that a significant amount of labor would be transferred from agriculture into industry and services. Likewise, there was some degree of export pessimism with regard to agriculture.

The prospects of achieving fast growth in the exports of labor-intensive manufactures were much better. The experience of East Asia seemed to corroborate these views, which led other countries in the region, especially in South Asia, to also push the export-led growth route. The consequence was the neglect of agriculture in favor of industrialization, although in many cases this strategy did not succeed to the extent that it had previously succeeded in East Asia. This is most obvious in India, where the decline in public infrastructure in rural areas has led to the sector’s stagnation. In Viet Nam, large agricultural areas are being lost in the name of industrialization. According to the Ministry of Agriculture and Rural Development, the country loses about 40,000 hectares a year of rice fields to construction of cities, highways, and industrial zones. And in Thailand, the area of land under cultivation declined by more than 13% between 1995 and 2005. This means that Asia’s food crisis may not end soon. Moreover, its solution requires international cooperation.

---

*“Increasing employment at the expense of a decrease in real wages should not be acceptable as a policy option.”*

---

If growth in developing Asia is to be inclusive, then agriculture will have to be given priority. Thailand’s labor productivity in agriculture is estimated at about \$1,650. In the US, it is about \$40,000. Labor productivity in agriculture in the Philippines, Indonesia, Myanmar, PRC, India, Nepal, Bangladesh, and Cambodia barely reaches \$1,000. There is no doubt that if developing Asian countries upgraded their agricultural practices only to the level of Thailand, millions of people would be lifted out of poverty. Another problem is the fragmentation of holdings due to population growth. In the PRC and Bangladesh, average farm size has fallen from about 1.5 hectares in the 1970s to about 0.5 hectares now. Improvements in agriculture will require deep understanding of the transformation that agriculture can potentially undergo. One such transformation is the increasing importance of commercialization and the role of supermarkets.

One could think that the solution may lie in reallocating the labor force out of agriculture toward more productive activities. I have in mind, for example, labor-intensive building and construction, although some industry and services activities could also serve the same purpose. The preliminary answer is yes; indeed, this is (part of) the solution. This encounters, however, an important obstacle. This is the bottleneck of supply of necessities (resulting from the low elasticity of agricultural production) that would arise. Indeed, an increase in employment outside agriculture creates additional income (wages) and, given that workers spend a considerable part of their wage bill on food, if there is no concomitant increase in agricultural output, food inflation will show up. How could policymakers avoid such inflationary pressures? Perhaps the first obvious measure would be to tax necessities (mostly consumed by low-income groups) to contain food inflation. This, however, is not a solution if policymakers aim at achieving inclusive growth. Indeed, increasing employment at the expense of a decrease in real wages should not be acceptable as a policy option, for it amounts to taxing the poor rather than the well-off on the grounds that the latter would not reduce their consumption despite the imposition of a tax (apart from the fact that it limits the expansion of the market for mass consumption articles, an important factor of industrialization). Nevertheless, taxation of the upper-income groups would probably only slightly depress the demand for food, and hence inflationary pressures would remain. Imports of food can also help relieve the problem. These, however, will require that the country in question export enough to pay for its imports. Otherwise, it will run a trade deficit. For this reason, in general, the increase in food supply will depend on domestic output.

If the increase in food supply will largely depend on increasing domestic output, policymakers will have to plan an increase in the supply of food (i.e., an increase in agricultural output), and in general of consumer goods, that matches the demand for them. Therefore, an increase in agricultural output is crucial for many developing countries to initiate economic development. This policy also matters because many developing countries today have a higher density of population on their land than most developed countries had at the time they underwent structural transformation and modern growth. The developing countries are also experiencing higher population growth than the developed countries ever experienced. For this reason, a complementary policy is to prevent large-scale migration from the countryside into urban areas. This requires agricultural policies aimed at absorbing more men per acre and the industrialization of the country side.

*(ii) Undertake public investment in basic infrastructure (energy, transport, urban services) targeted at high-employment projects:* As I noted earlier, Kalecki argued that the best way to achieve and maintain full employment was by Government spending on public investment (e.g., schools, hospitals, highways, etc.).<sup>38</sup> This policy recommendation remains valid today.

A dynamic economy will need increases in the growth rate of the capital stock (i.e., capital accumulation) in the form of, among others, investment in public transportation and in public utilities. Increases in the growth rate of the capital stock can be achieved in two ways. The first one is to increase the productivity with which capital is used. This route, however, is very difficult. In fact, the empirical evidence shows that capital productivity tends to decline in the long-run.<sup>39</sup> It seems that development entails increases in labor productivity combined with decreases in capital productivity.

The second mechanism to increase the growth rate of the capital stock is to increase the investment-to-output ratio. This is the basis for a policy of industrialization, and is the one followed by the successful East and Southeast Asian economies. The importance of investment for development is crucial. There is no lack of candidate projects: schools, hospitals, transportation, power and telecommunications, are all under-served in much of developing Asia. This is because it plays a dual role. On the one hand investment expenditures are a source of demand when they are incurred. And on the other hand, investment increases the productive capacity of the economy in the long run. This second role is the one I consider here.\*

How did the successful Asian countries increase their investment-to-GDP ratios? To see this, it is worth considering the relationship between the labor share, real wage rates and labor productivity. In a context of full employment, if there is a rise in labor productivity, and if the labor share is approximately constant, real wages will have to increase. But it is also possible that the labor share decreases and yet workers see their real wages increase. This will happen if productivity increases fast but such increases are not passed on to wages one-to-one (but these nevertheless increase fast too). Under these circumstances wages will increase by a lesser amount than labor productivity and thus the labor share will decrease. Workers, although they see their share in total income decrease, would tolerate the situation. This was possible in many Asian countries because there was little militancy in the labor force, partly because of a substantial labor surplus in the economy, and partly because of repression by state agencies.

While some Asian countries made huge efforts toward increasing investment (much of it into the manufacturing sector), it is important to also understand that these countries were initially somewhat lucky. In the late 1960s, the developed world started experiencing important internal changes that led them to relocate entire industries or particular industrial processes to the Third World. One important reason was the increase in wages in the advanced economies, resulting from the fact that the social contract established after World War II favored labor. At the same time, rapid technological progress led to the development of highly standardized manufacturing processes. This made it possible to transfer particular stages of production, namely, the labor-intensive processes that required low-skilled workers. What options did companies in the developed world have? Only two: Latin America and East and Southeast Asia. However, Latin America was ruled out for being much more politically unstable. This left only Asia. Thus, in the late 1960s, a number of electronics firms, including Hewlett-Packard, Texas Instruments and others, built factories in Singapore to assemble components, particularly semiconductors. This process was extended to Malaysia, Thailand and the Philippines. But what were the internal conditions that enabled capitalist South-East Asia to respond to the opportunities created by restructuring the industrial core? Brown argues that “one crucial condition [...] was the presence of a copious supply of cheap, largely unskilled, and essentially docile labour”. To this one must add the role of women, whose “dexterous fingers and patient temperament fitted them for such repetitive, minutely detailed tasks as electronic components assembly or garment production”; and weak labor unions.

---

\* In his discussion of “what causes periodical crises?” Kalecki (1939, pp.148-149) argued that investment is both an expenditure and an addition to capital accumulation. The tragedy of investment is that it causes crises because it is useful. The basic contradiction underlying investment lies in the different time horizon of the effects of investments on demand and on capacity; that is, the fact that while the impact of former is exhausted in a short time, the one on capacity lasts longer.

This is today an important component of what is referred to as ‘China’s competitiveness’.<sup>\*,40</sup>

A second condition was that Southeast Asia was resource-rich (except Singapore). This gave it an important advantage in the production of manufactures such as wood products, processed foods, cement, chemical fertilizer and paper, all of which involve the intensive use of local inputs. Finally, a third condition is that these countries possessed an acceptable level of communication, commercial and administrative infrastructure.

However, a dose of luck and these internal conditions do not explain entirely the success of East and Southeast Asia. The key lies, I believe, in the social contract implemented in many countries, and in the political pressure derived from the communist threat.<sup>41</sup> Underlying these, there was a series of complex structures of political, economic and bureaucratic interests that favored the accumulation of capital.

Naturally, the counterpart of the decrease in the labor share was the increase in the capital share. A good deal of evidence suggests that capital accumulation for industrialization is largely financed by profits in the form of retentions, rather than by household savings.<sup>42</sup> Indeed, according to Lewis: “...the major source of savings is profits, and if we find that savings are increasing as a proportion of the national income, we may take it for granted that this is because the share of profits in the national income is increasing.”<sup>43</sup> Over the long run, a high rate of retained profits tends to be associated with a high rate of corporate investment. Using data for 30 developing countries for the 1980s, Ros showed that there is a strong relationship between a high savings rate, a high share of manufacturing output in GDP and a high profit share in manufacturing value added in East Asia.<sup>44</sup>

It is important to emphasize a key point about this strategy of industrialization (i.e., the increase in the share of investment). This is that real wages should not fall in the process. This requires both a high rate of labor productivity and that the prices of essential consumer goods be stable, which implies that their supply must rise in step with their demand. Achieving this will also require that investment in the different sectors of the economy, in particular in the capital and consumer goods sectors, be undertaken in the “right” proportions. And it will also necessitate, as already noted, the adjustment of the rate of growth of employment to the limit set by the increase in food supply and articles of mass consumption in general. Certainly this is not easy. Moreover, maintaining the purchasing power of wages is also important because declines in real wages limit the expansion of the market for mass consumption articles. However, given the importance that I have placed on the objective of full employment as the basic measure of a socially equitable economic policy, it may appear that the constraint that real wages do not decrease could pose a problem. For this reason, the lower acceptable limit for society should be that real wages be stable for the better off workers and wage rates of the bottom workers increase. To be more precise, inclusive growth should favor policies that encourage faster wage growth for low-paying jobs than for highly-paid work. This means that, at the low end, wage growth will exceed productivity growth, while at the high end productivity growth will exceed wage growth. This proposal is consistent with the idea of broad-based growth, which should translate into development efforts directed toward raising the standard of living of those at the bottom. This policy implies that, most likely, prices will

---

\* Today, much foreign manufacturing in China is assembly activity and the workforce is disproportionately female and recruited from rural areas. The high female literacy rate has given China a crucial advantage in attracting foreign investment in manufacturing vis-à-vis India.

grow in the low-wage sector as costs rise. Preventing inflation will require some constraint on prices and wages in high wage sectors.<sup>45, 46, 47, 48</sup>

What is the impact of this development strategy on consumption? Given that workers have a high propensity to consume, the decrease in the labor share will affect overall consumption. How should policy makers proceed, i.e., what consumption categories should be reduced? In order to accomplish this in a “fair manner”, policy makers would have to restrain the consumption of non-essentials (something that politically is very difficult). For this, appropriate taxes should be imposed. In these circumstances, an acceleration of income (induced by the acceleration of investment) will be accompanied by an increase in the supply of necessities adequate to prevent inflationary pressures. Thus, a higher share of investment in output will be offset by a decline in the share of non-essential consumption via direct and indirect taxation of the upper classes. At what point is the share of investment too high and that of consumption too low? This is difficult to ascertain but there will be signals. Profitability may decrease precipitously leading the economy into a profitability slump. On the other hand, if authorities are not careful and the share of consumption of essential goods goes down, the problem might be under consumption.

*(iii) Use of industrial policy, understood as a collaborative effort between public and private sectors, to accelerate industrialization and structural transformation in general:* How can developing countries induce structural change and plan transitions to higher growth rates and deeper degrees of structural transformation and diversification? This is a fundamental aspect of the problem of developing countries (the need to increase productive capacity). Indeed, the transition from agriculture into a modern industrial and service economy, and decisions about how much to invest and where, can be viewed as problems of self-discovery and of understanding the externalities that lessen incentives for productive diversification. Today’s developed countries directed policies to industrialize. Chang argues that today’s developed countries—such as the UK, Germany, France, the US, Sweden, and Japan—used industrial, trade, and technological policies when they were developing and catching up.<sup>49</sup> They used some form of infant-industry policy or tariff protection. More recently, many East Asian countries also used infant-industry protection measures to develop their industrial sectors.<sup>50</sup>

Industrial policy has traditionally been understood as any type of selective intervention or government policy that attempts to alter the structure of production toward sectors that are expected to offer better prospects for economic growth than without such intervention. This type of intervention has its adherents—those who believe in market failures—and its detractors—those who believe in the efficient working of markets. The latter argue that industrial policy interventions have often degenerated into an exercise in “picking winners”, a game played by government officials deciding what activities and sectors to promote and to spend public money on.\*

In a series of papers, Rodrik has argued in favor of a new type of industrial policy. He acknowledges the existence of generic market failures, but argues “that the location and magnitude of these market failures are highly uncertain”. He argues that information and

---

\* The literature evaluating the pros and cons of industrial policy is inconclusive. While some authors argue positively about it (e.g., Amsden 1989), others are critical (e.g., Pack and Saggi 2006).

coordination externalities are more important than technological externalities, for the former weaken the entrepreneurial drive to restructure and diversify low-income economies. Rodrik argues that industrial policy is not about addressing distortions in the traditional way (i.e., by enumerating technological and other externalities and then targeting policy interventions on these market failures), but about eliciting information from the private sector on significant externalities and about the constraints to structural transformation (hence industrial policy also encompasses activities in agriculture and services) and the opportunities available. This requires “strategic collaboration” between the public and private sectors to determine the areas in which the country has a comparative advantage. The reason is that entrepreneurs may lack information about where the comparative advantage of a country lies and governments may not even know what they do not know. And certainly most governments do not have the adequate knowledge to pick winners. Uncertainty arising from lack of communication—that is, from one decision-maker having no way of finding out the concurrent decisions and plans made by others—may, if sufficiently great, inhibit investment decisions and arrest growth. In these circumstances, markets alone are likely to undersupply the incentives and demand for new activities necessary to transform the economy. These market failures are more prevalent in developing economies. As Rodrik notes: “The trick for the government is not to pick winners, but to know when it has a loser”. This requires the development of the appropriate institutional arrangements for industrial policy.<sup>51, 52</sup>

Industrial policy should be conceived as a joint effort of the state and the private sector to diagnose the sources of blockage in new economic activities and propose solutions to them. Industrial and technological upgrading requires purposeful effort in the form of industrial policy, in particular, effective government action and public-private collaboration. But this needs, first, a government that does not take any particular stand on the activities to be promoted or the instruments to be deployed. It only requires the government to build the private-public institutional setting from which information on profitable activities and useful instruments of intervention can be extracted. The key issue is not whether to protect, but how to protect and promote industry in order to ensure technical progress leading to higher labor productivity.\* And second, it needs a private sector that is willing to do its part of the deal, i.e., invest. Understood this way, industrial policy is a powerful tool for successful industrialization and structural change.

*(iv) Gear fiscal and monetary policies to the achievement of full employment:* Although Governments do understand the problems associated with unemployment and underemployment and make efforts to solve them, the reality is that some of the policies they implement run in the opposite direction. There are several reasons that explain this.<sup>53</sup> In essence, the “deficit fetishism”, as Stiglitz et al. refer to it, does not allow Governments to fill the difference between the saving desire of the private sector and the required spending of an economy to run at full employment.<sup>54</sup> Modern Governments that operate with fiat currency are not operationally constrained (like a family). Moreover, given how modern economies work, budget deficits do not lead to increases in interest rates (as the loanable funds model

---

\* Amsden (2000) and Amsden and Hikino (2000) argue that the new rules of the World Trade Organization (WTO) allow countries to promote their industries, including the manufacturing sector, in particular under the umbrella of advancing science and technology (e.g., by setting up technology parks). Subsidies in exchange for monitorable, results-oriented performance standards are acceptable. Countries can, for example, target national champions. The hurdles that developing countries face are the following: (i) informal political pressures by the developed countries in favor of market opening, (ii) the subjection of countries that make use of WTO rules to promote their industries to “reciprocal control mechanisms”, and (iii) their lack of “vision”.

predicts) and do not crowd out the private sector. In fact, government spending adds, dollar for dollar, to the country's overall savings. And given that often economies operate below full capacity, government spending is not inflationary. Given this, Governments should spend enough so as to bring the economy much closer to full employment. When this state is approached, then it is true that further spending will lead to inflation. Then there will be no reason for further Government spending (i.e., fiscal deficit). Or put in different terms: if the private sector spent enough so as to bring the economy close to full employment, then there would be no need to run fiscal deficits.

The case for a budget deficit depends on what the deficit is for, and not on what may appear to be *sound* or *unsound* according to any established traditional doctrine. Judging fiscal measures by the way they work or function in the economy is known as the doctrine of "Functional Finance". As with all macro policies, budget deficits should be judged in relation to the results. Moreover, budget deficits have different impacts depending on whether the economy is at full employment or far from it. In the former case, deficits are likely to have adverse effects, e.g., may crowd out private investment by increasing interest rates and lead to inflation (due to excessive aggregate demand), although the empirical evidence linking cause and effect is scant. If the economy is not at full employment, a deficit need not crowd out private investment. Therefore, a budget deficit incurred to achieve full employment should, at least, be considered.

It should not be inferred from these arguments that I am proposing budget deficits without limits. The size of the deficit is market-determined by the desired net saving of the private sector. Full employment is the limit. For this reason, functional finance is not about spending without limit.

The discussion above indicates that government expenditure and fiscal policy in general should be seen from the point of view of how to keep the total spending in the economy at the rate that would buy all the goods that it is possible to produce. Fiscal policy should be conceived as a mechanism that balances the system, exogenously increasing aggregate demand (e.g., by injecting expenditures) whenever private-sector spending falls short of a full-employment level of effective demand, and reducing aggregate demand (by taxing) if this exceeds the full-employment level. This also means that the purpose of taxation is not to finance or allow government spending, but to remove spending power from the private sector so as to reduce current aggregate demand, and maintain the (government-created) demand for the government's money. The key is to ensure that government spending is at the right level to induce neither inflationary nor deflationary forces. However, given the usual private-sector preferences regarding net saving, economic growth will most often require government deficits. Until full employment is reached, deficits can be increased to allow incomes to rise. Once full employment is reached, additional deficit spending will generate additional income that most likely will induce inflation.\* This also means that, in general, unemployment is the evidence that the government's deficit is too low. Deficit spending increases incomes and generates additional spending, and thus additional employment. This

---

\* Budget deficits can generate inflation before they reach full employment. This will happen when there are bottlenecks that lead to supply constraints and cost-push inflation. Likewise, inflation will happen if the tax system collapses, in which case the government's money (debt) becomes worthless. This would degenerate in hyperinflation.

additional spending will most likely stimulate the private sector, create more jobs, and reduce unemployment.\*

Inflation, and the policies to contain it are also controversial. Inflation can potentially damage developing countries because it erodes the purchasing power of wages and shifts the burden of financing development to workers. This is unethical and conflicts with the idea of inclusive growth. Price increases that lead to real wage reductions (especially for the workers at the bottom of the wage distribution, for whom low inflation is a public good of special importance) are inconsistent with the notion of inclusive growth, and measures should be taken against inflation.

*“There is a widespread perception that many governments have used unemployment as a way to contain inflation. Surely inflation is bad, but the social costs of unemployment are much worse.”*

However, Stiglitz et al. (2006) argue that there is considerable confusion about the role of price stability in an economy. Inflation is interpreted by many as an indicator of economic *malperformance*. The problem with this view is that the indicator is interpreted by many as a policy objective, when in reality it is only an *intermediate* variable. Unemployment, meanwhile, argues Galbraith, “has become a price-stabilizing instrument... [because] . . . those who have political voice and influence are more damaged by inflation than by unemployment”.<sup>55</sup> The key lies in understanding the causes of inflation, for these have different implications for economic policy.

The misunderstandings about what causes inflation, the belief that low inflation is a precondition for growth, and the implications of inflation for the rest of the economy are often a source of confusion. There is a widespread perception that many governments have used unemployment as a way to contain inflation. Surely inflation is bad, but the social costs of unemployment are much worse. Moreover, empirical studies show that (i) low inflation is not associated in general with high growth; (ii) hyperinflation is associated in general with low growth; and (iii) moderate rates of inflation, 20–30% per year, have been associated with rapid growth quite often. This means that, “given the uncharacteristically unified view among economists and policy analysts that countries with high inflation rates should adopt policies that lower inflation in order to promote economic prosperity, the inability to find simple cross-country regressions supporting this contention is both surprising and troubling”.<sup>56</sup> Overall, no scientific evidence suggests that a necessary condition for faster growth is that inflation should be as low as possible. What is truly damaging for an economy is unpredictable, unexpected, and volatile inflation, but not steady and predictable inflation. We must, therefore, be concerned with the likely sacrifices being made by many developing countries in terms of output losses (and, consequently, employment) as a result of trying to maintain very low inflation rates. This is even more obvious when moderate inflation around the world is not clearly the result of central banks’ policies rather than the result of the increased competition that derives from globalization. The conclusion is that probably many

\* I want to stress that I am not advocating budget deficits without limits. Rather, I argue that what seems to happen to many developing countries (i.e., their low level of productive capacity) is the failure to recycle a significant amount of savings out of profits of the private sector into the system as productive and useful investment. Hence, budget deficits have to fill in the gap, given that the private sector’s investment is often below the level of full employment.



countries can afford slightly higher inflation rates, possibly permitting higher growth and employment, without derailing the economy.

(v) *Devise Job Guarantee Programs (JGP) to ensure full employment with price stability:* Most governments are in a position to promote full employment through direct job creation through the implementation of Job Guarantee Programs. Long-term unemployment and underemployment may be due to skills mismatch or problems with the individuals who are unemployed, in which case the solution is job brokerage or training. But if the problem is job shortage, then improving the match between job seekers and vacancies, as well as training, will not do much. In this case, only direct job creation by an employer of last resort that can offer an infinitely elastic demand for labor can ensure full employment. This is the only way to ensure that everyone who wants to work will be able to obtain a job. Only the government can do this. The JGP is a theoretically solid proposal that provides a mechanism to ensure full employment with price stability.

---

*“The Job Guarantee Program is a theoretically solid proposal that provides a mechanism to ensure full employment with price stability.”*

---

The JGP is essentially a fixed price (the public-sector wage)/floating quantity (public-sector employment) system that acts as a countercyclical mechanism and as a buffer stock program: when the private sector downsizes in recessions, workers who lose their jobs can find a job in the JGP. And when aggregate demand increases, these workers are hired again by the private sector. The system can be implemented in a variety of ways, depending on circumstances. Under this scheme, the government pledges to hire anyone willing to work at a basic public-sector living (i.e., decent) salary, and the wage bill is paid for by deficit expenditure. But the program does not replace either private-sector or other public-sector employment. The JGP basic salary will act as a minimum wage that will put a floor to wages. It will reduce the downward pressure on wages and will help reduce inequality. If it is appropriately designed, it can connect wages and productivity growth, something critical for building a sustainable demand generating process. This minimum wage will depend on the country, but it could be, for example, a fixed percent of the median wage. This way, it will automatically rise with the median wage, creating a true floor that moves with the economy. Moreover, since it is set with reference to the local conditions in each country, it will reflect what the country can bear.

Authors who propose a JGP argue that this service does not replace unemployment with underemployment and that it is not inflationary.<sup>\*,57</sup> JGPs contribute to maintaining full employment with inflation control. When private-sector demand is high enough to cause wage-price pressures, governments can manipulate fiscal and monetary policies (preferably the former) to reduce them. The resulting increase in JGP employment indicates the degree of private-sector slack that is necessary to solve the distributional struggle that causes inflationary pressures.

JGPs are not inflationary because public employment may be directed toward public works such as infrastructure revitalization that might lead to higher productivity growth in

---

\* Some have argued that JGP cannot be implemented because they would become unmanageable; that corruption would make them fail; that useful (i.e., productive) jobs for all workers would be impossible to find; and that they are too expensive. Mitchell and Wray (2005) address these criticisms. A properly designed JGP system would mitigate or eliminate these problems. The success of a JGP depends on how it is designed and implemented, especially the mechanisms for accountability.

the private sector. This system can help diminish inflationary bottlenecks, as workers in it are available to the private sector. Therefore, in the view of its proponents, an economy can both have stable prices and eliminate unemployment. They also argue that workers' productivity will increase because workers taking part in the JGP will gain skills and knowledge. Workers engaged in the JGP can provide goods and services that markets do not provide, or that are too expensive for poor households (e.g., child and elderly care, tutoring, public safety); small-scale public infrastructure provision or repair (e.g., clean water and sewage projects, roads); or low-income housing.\* Many of these activities would contribute to the decline of the informal sector as workers get integrated into formal employment, gaining protection by the labor laws. Jobs created in these programs are labor intensive, requiring little capital equipment. Finally, and somewhat ironically, the JGP can be viewed as a mechanism that contributes to enhancing the flexibility of the labor market: it is a *reserve army of the employed*, not of the unemployed!

## 5. Conclusions

This paper has discussed the new concept of inclusive growth that some multilateral development agencies have adopted as part of their tool kit. Starting from the definition of inclusive growth as growth that allows all members of a society to participate in, and contribute to, the growth process, I have argued that in a modern capitalist economy the necessary condition for a citizen to participate in society is that he/she has access to a meaningful job. Given this, the paper has offered an interpretation of inclusive growth as a clear policy objective, namely, the achievement of full employment, that is, a state of zero involuntary unemployment. This means that no one who is ready and willing to work for an appropriate wage is without a job. This also means zero involuntary part-time employment.

Developing Asia is home to about 500 million people unemployed and underemployed. This is a major cause of poverty. An economy running as close as possible to full employment can deliver a great deal of benefits, both economic and social. For this reason, being as close as possible to full employment should be an explicit objective of policy makers across developing Asia. I have argued, however, that in today's world, characterized by globalization, rapid technological progress, and the opening of formerly Communist countries, plus China and India, to the global capitalist market, it will be very difficult to achieve full employment. Finally, I have proposed five policies to achieve full employment of the labor force: (i) redress the neglect of agriculture; (ii) undertake public investment in basic infrastructure (energy, transport, urban services) targeted to high-employment projects; (iii) Use of industrial policy, understood as a collaborative effort between public and private sectors, to accelerate industrialization, and structural transformation in general; (iv) Gear fiscal and monetary policies for the achievement of full employment; and (v) Implement Job Guarantee Programs.

### *Author Contact Information*

*Email: [jfelipe@adb.org](mailto:jfelipe@adb.org)*

---

\* India's National Rural Employment Guarantee Act, which guarantees 100 days of employment a year for at least one adult in every rural household, is an example of a scheme designed to help the poorest and most vulnerable (Felipe and Hasan 2006, chapter 5). The program is countercyclical with the agricultural season. One possible problem in very large countries is that, if they are net food importers, upward pressure might arise on domestic prices (people would eat more and probably better). Argentina's Plan Jefes y Jefas is another example. In the aftermath of the economic crisis, Argentina created a program that guarantees a job for poor heads of households. The program successfully created 2 million new jobs for poor families, and provided needed services and free goods to poor neighborhoods. Under this program, workers produce, among other things, clothing and furniture sold in formal markets.

## Notes

1. "Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020," *Asian Development Bank* (2008).
2. Nanak Kakwani and Ernesto Pernia, "What is Pro-Poor Growth?," *Asian Development Review* 18, no. 1 (2000): 1-16. Kakwani and Pernia define pro-poor growth as "growth that leads to poverty reduction".
3. Martin Ravallion and Shaohua Chen, "Measuring Pro-Poor Growth," *Economics Letters* 78, no. 1(2003): 93-99. Ravallion and Chen define pro-poor growth as "growth that reduces poverty".
4. Dani Rodrik, "Global Growth, Local Governance," *Ethos* no. 9 (2011): 51-55.
5. Michael Spence, "The Impact of Globalization on Income and Employment: The Downside of Integrating Markets," *Foreign Affairs* (2011): 28-36.
6. Ifzal Ali and Juzhong Zhuang, "Inclusive growth toward a prosperous Asia: Policy implications," *Asian Development Bank* No. 97 (2007).
7. Ifzal Ali and Hyun H. Son, "Defining and measuring inclusive growth: application to the Philippines," *Asian Development Bank* No. 28 (2007).
8. Ernesto Herrera, "More Than Common Economic Indicators" *The Manila Times* 18 March 2008. His comments refer to the high growth rate achieved by the country in 2007.
9. Jesus Felipe and Rana Hasan, *Labor Markets in Asia: Issues and Perspectives* (Basingstoke, UK: Palgrave Macmillan, 2006).
10. Jesus Felipe, *Inclusive Growth, Full Employment, and Structural Change. Implications and Policies for Developing Asia* (London: Anthem Press, 2010).
11. John Rawls, *Theory of Justice* (Cambridge, MA: Harvard University Press, 1971).
12. Amartya Sen, "Inequality, Unemployment and contemporary Europe," *International Labor Review* 136, No.2 (1997): 155-172.
13. Amartya Sen, *Development as Freedom* (New York: Alfred A. Knopf, 1999).
14. Sen, *Inequality, Unemployment and contemporary Europe*, 12.
15. Robert Solow, "Mass Unemployment as a Social Problem," In Kaushik Basu, Prasanta Pattanaik, and Kotaro Suzumura (eds), *Choice, Welfare, and Development: A Festschrift in honour of Amartya K. Sen* (Oxford and New York: Clarendon Press), 313-322.
16. William Beveridge, *Full Employment in a Free Society* (London: Allen and Unwin, 1944).
17. Felipe and Hassan, *Labor Markets in Asia: Issues and Perspectives*, 9.
18. Felipe, *Inclusive Growth*, 10.
19. Paul Krugman, *The Accidental Theorist* (New York: Penguin Books, 1999). Alan Blinder, *Hard Heads Soft Hearts* (New York: Addison-Wesley, 1987).
20. Alan Blinder, *Hard heads, Soft hearts*(Reading: Addison-Wesley, 1987).
21. Dani Rodrik, "Globalisation and Labour, or: if Globalization is a Bowl of Cherries, why are there so many Glum Faces around the Table?," In Richard Baldwin et al., (eds.), *Market Integration, Regionalism and the Global Economy* (New York: Cambridge University Press, 1999), 117-150.
22. Felipe, *Inclusive Growth*, 10.
23. John Maynard Keynes, *The General Theory of Employment, Interest and Money* (New York: St. Martin's Press, 1936).
24. James Galbraith, "Dangerous Metaphor: The Fiction of the Labor Market," Public Policy Brief No.36. 1997 *The Jerome Levy Economics Institute of Bard College*, New York.
25. Michal Kalecki, "The Difference Between Crucial Economic Problems of Developed and Underdeveloped Non-Socialist Economies," In Osiatyński, Jerzy, ed. *Collected Works of Michal Kalecki* (Oxford: Clarendon Press, 1966, 1991).
26. Keynes, *The General Theory of Employment, Interest and Money*, 23.
27. Ricardo Hausmann, Dani Rodrik and Andres Velasco, "Growth Diagnostics" 2005, John F. Kennedy School of Government, *Harvard University*.
28. William Vickrey, "Today's Task for Economists," *The American Economic Review* 83, no.1 (1993):1–10.
29. William Vickrey, "A Trans-Keynesian manifesto (thoughts on assets based macroeconomics)," *Journal of Post Keynesian Economics* 19, no. 4 (1997): 495-510.
30. Michal Kalecki, "Political Aspects of Full Employment," In Kalecki, M., *Selected Essays on the Dynamics of the Capitalist Economy* (Cambridge, UK: Cambridge University Press, 1943[1971]).
31. John Tatom, "Not All Deficits Are Created Equal," *Financial Analysts Journal*. 62, no.3(2006): 12–19.
32. Carl Shapiro and Joseph Stiglitz, "Equilibrium Unemployment as a Worker Discipline Device," *American Economic Review* 74, no.3 (1984):433–44.
33. Kalecki, *Political Aspects of Full Employment*, 30.
34. Luigi Pasinetti, *Structural Change and Economic Growth* (Cambridge: Cambridge University Press, 1981).

35. Lance Taylor, "Pasinetti's Processes," *Cambridge Journal of Economics* 19, no. 5 (1995):697–713.
36. Felipe and Hasan, *Labor Markets in Asia: Issues and Perspectives*, 9.
37. Felipe, *Inclusive Growth*, 10.
38. Michal Kalecki, "Three Ways to Full Employment," In Thomas Balogh, ed. *The Economics of Full Employment* (Oxford: Basil Blackwell, 1944).
39. Duncan Foley and Adalmir Marquetti, "Productivity, Employment and Growth in European Integration," *Metroeconomica* 50, no. 3 (1999):277–300.
40. Ian Brown, *Economic Change in South-East Asia, c.1830–1980* (Oxford: Oxford University Press, 1997).
41. Francisco Rodriguez, "Comment on Hausmann and Rodrik" Mimeograph. Department of Economics and Latin American Studies Program, *Wesleyan University*, 2005.
42. Yilmaz Akyüz and Charles Gore, "The Investment-Profits Nexus in East Asian Industrialization," *World Development* 24, no.2 (1996): 461–70.
43. Arthur Lewis, "Economic Development with Unlimited Supplies of Labor," *The Manchester School* 22, no.2 (1954): 139–91.
44. Jaime Ros, *Development Theory and the Economics of Growth* (Ann Arbor: University of Michigan Press, 2000).
45. Michal Kalecki, "Forms of Foreign Aid: An Economic Analysis," In Jerzy Osiatyński, ed., *Collected Works of Michal Kalecki*. (Oxford: Clarendon Press, 1966).
46. Hyman Minsky, "The Role of Employment Policy," In Margaret Gordon, ed., *Poverty in America* (San Francisco: Chandler Publishing Co., 1965).
47. Hyman Minsky, "Effects of Shifts of Aggregate Demand upon Income Distribution," *American Journal of Agricultural Economics* 59, no.2 (1968):328–39.
48. Hyman Minsky, "The Strategy of Economic Policy and Income Distribution," *The Annals of the American Academy of Political and Social Science* 409 (1973):92–101.
49. Ha-Joon Chang, *Kicking Away the Ladder* (London: Anthem Press, 2002).
50. Michael Schuman, *The Miracle. The Epic Story of Asia's Quest for Wealth* (New York: HarperCollins, 2009).
51. Dani Rodrik, "Industrial Policy for the Twenty-First Century" John F. Kennedy School of Government, *Harvard University*, 2004.
52. Dani Rodrik, "Industrial Development: Stylized Facts and Policies" John F. Kennedy School of Government, *Harvard University*, 2006.
53. Felipe, *Inclusive Growth*, 10.
54. Joseph Stiglitz et al., *Stability with Growth* (New York: Oxford University Press, 2006).
55. John Kenneth Galbraith, *The Good Society* (Boston: Houghton Mifflin Co., 1996).
56. Ross Levine and Sara Zervos, "What we have learned about policy and growth from cross-country regressions?," *The American Economic Review* 83, no. 2 (1993):426-430.
57. William Mitchell and Randall Wray, "In Defense of Employer of Last Resort: A Response to Malcolm Sawyer," *Journal of Economic Issues* 39, no.1 (2005):235–45.

## Bibliography

1. Amsden, Alice., *Asia's Next Giant: South Korea and Late Industrialization* (New York: Oxford University Press, 1989).
2. Amsden, Alice., "Industrialization under WTO Law" *UNCTAD*, 2000 [www.unctad-10.org/pdfs/ux\\_tdxrt1d7.en.pdf](http://www.unctad-10.org/pdfs/ux_tdxrt1d7.en.pdf)
3. Amsden, Alice and Takashi Hikino, "The Bark Is Worse Than the Bite: New WTO Law and Late Industrialization," *American Academy of Political and Social Science* 570 (2000): 104–14
4. Kalecki, Michal., *Essays in the Theory of Economic Fluctuations* ( London: Allen and Unwin, 1939).
5. Pack, Howard and Kamal Sagi, "Is There a Case for Industrial Policy? A Critical Survey," *World Bank Research Observer* 21(2006): 267–97.
6. Sen, Amartya, "Inequality, Unemployment and contemporary Europe," *International Labor Review* 136, No.2 (1997):155-172.
7. Sum, Andrew et al., 2011 (May). "The "Jobless and Wageless" recovery from the Great Recession of 2007-2009: The Magnitude and Sources of Economic Growth Through 2011 and Their Impacts on Workers, Profits, and Stocks Values." *Center for Labor Market Studies*, Northeastern University.

## **From Limits to Growth to Limitless Growth: A Revolutionary's Vision of Wealth and Welfare**

**Garry Jacobs**, Chairman of the Board, World Academy of Art & Science;  
Vice-President, The Mother's Service Society  
**Ivo Šlaus**, President, World Academy of Art & Science

### **Abstract**

*The publication of the Club of Rome's landmark report 'The Limits to Growth' in 1972 shook the intellectual foundations of social theory and challenged the very premises on which modern economy and prosperity are based. Once set in motion, it led to a revolutionary re-evaluation of human aspirations and economic activities. Among its many consequences, it has stimulated creative minds to look freshly at the underlying processes governing the wealth and welfare of nations. The article then traces their creative impact on the mind of one of the most original economic theorists of our age – Orio Giarini.\* As 'The Limits to Growth' alarmed the world by the unsustainability and dire consequences of unbridled economic growth, Giarini offers a correspondingly affirmative vision of economics with unlimited potential for wealth and welfare.†*

Forty years ago was a crucial turning point in human affairs, though it was poorly understood, disputed and even denied at that time. Three events stand out for their particular significance: the end of the Gold Standard in 1971, the publication of *The Limits to Growth* in 1972, and the first oil crisis in 1973. They marked the end of an era of rapid economic development for the industrialized countries, unalloyed optimism and unquestioned faith in capitalism, the beginning of a period of increasing doubt and uncertainty, which has now culminated in a multi-dimensional crisis of unparalleled proportions. Since then, the world has been wracked by increasing financial instability demarcated by more than 200 monetary currency crises and 145 large-scale banking crises. The average growth rate in Western Europe declined progressively from 6.1% in the 50s to 4.8% in the 60s and 2.3% in the 70s, then fell to less than 2% since 1990. The initial quadrupling of oil prices, an alarming reminder that non-renewable resources are actually non-renewable, spurred price inflation in the late 70s, which was only kept under control by tight monetary policy, slower growth, and rising levels of unemployment and income inequality in the decades that followed.

---

\* The events described in this narrative of the early history of the Club of Rome are based on a chapter in Orio Giarini's French autobiography, *Itinerary Towards Retirement* at 80, ( in French : "La retraite à 80 ans " ), Economica – Paris, 2003.

† The attack was on growth as defined quantitatively and measured by GDP. For discussion, see Orio Giarini et al., "Introductory Paper for a Programme on The Wealth of Nations Revisited," *Cadmus* 1, no.1 (2010): 9-27. <http://cadmusjournal.org/article/issue-1/introductory-paper-programme-wealth-nations-revisited> and Garry Jacobs and Ivo Šlaus, "Indicators of Economic Progress: The Power of Measurement and Human Welfare," *Cadmus* 1, no.1 (2010): 53-113. <http://cadmusjournal.org/article/issue-1/indicators-economic-progress-power-measurement-and-human-welfare>

Slower economic growth, financial instability, rising levels of unemployment and inequality, and depletion of scarce resources seem to be inextricably linked together, a gruesome set of omens prophesying the failure of free market, industrial capitalism and an early end to the exhilarating rates of growth witnessed by the industrialized nations in the aftermath of the Second World War. The current international financial crisis, economic contraction in some countries, slower growth in many others, high unemployment and rising inequality in OECD countries today appear, in retrospect, to be a natural outcome of a long historical trend. Recent global concern regarding climate change arising from the increasing and unsustainable consumption of fossil fuels seems only to confirm the deepest suspicions of those who believe that something is fundamentally wrong with current economic theory and the prevailing industrial growth model. But none of this was very clear at the time it was taking place. It was at this crucial juncture in recent history that Club of Rome published its landmark report *The Limits to Growth*, stirring vigorous debate and raising fundamental questions about humanity's future economic prospects.

Today we are poised like the 15<sup>th</sup> century Portuguese sailors who were urged by Henry the Navigator to navigate around the Cape of Bahador, and feared to travel to what so many believed was the edge and end of the world. As the whole world grapples for new ideas and practical solutions to fundamental economic and ecological challenges, it may be reassuring to discover that a significant groundwork has already been laid for the new theoretical perspectives so desperately required. Orio Giarini has been an eye-witness to these unfolding events, a keen observer of each step in the process, a critical analyst of prevailing ideas, and a cauldron for the brewing of new perspectives that gradually distilled over decades into profound insights. An unusual mix of academic economist, business practitioner, scientific research manager and original thinker, his four reports to the Club of Rome present provocative questions and fresh insights that press back the borders of conventional thinking in economics and extend beyond to the entire field of social sciences, challenging our very conception of knowledge. Raised in the fading old-world humanistic cultural values of Trieste, he learned to think freely and unconventionally while on Fulbright Scholarship at the University of Texas, acquired a disciplined realism and practicality during years directing industrial and scientific research at the Battelle Institute in Geneva, and learned to peer beyond the veil into the uncharted waters of uncertainty for almost three decades as founding Director of the Geneva Association, a global think tank established by the most important leaders of the world's insurance companies.

## **1. Origins of the Club and the Report**

Revolutionary advances often begin with a crisis. That is true of intellectual revolutions as well. The crisis of the early 70s was pre-eminently a crisis of the mind. It arose from a study commissioned by an informal think tank established by Aurelio Peccei and Alexander King in April 1968, a month prior to the largest ever general strike and massive public protests in France concerning the economic and social evolution of democracy. Peccei's rich and varied experience working in China before WWII, as one of the leaders of anti-fascist resistance during WWII at Fiat in Argentina after the war, and back in his native Italy as vice president of Olivetti and an important consulting group in the 1960s, exposed him to a wide range of social and economic conditions. The Cold War confrontation between the USSR and USA combined with the persistence of poverty and rapid population growth in developing

countries made him acutely concerned about the increasing vulnerability of the world to global disaster. He set forth these concerns in a book on global interdependence and planetary challenges entitled *Chasm Ahead* (1969).

Peccei was an industrialist. His co-founder was a scientist. Alexander King was at that time director-general of education and science at the Paris-based Organisation for Economic Cooperation and Development. A Scot by birth, a chemist by education, he coordinated Anglo-American military research during WWII, and later served as chief scientist at the British Department of Scientific and Industrial Research and then as director of the European Productivity Agency in Paris during the 1950s. He emerged from this experience with a strong commitment to work for the peaceful application of science for the betterment of humanity. These two were joined by Saburo Okita, a key economic adviser to the Japanese government who later became Foreign Minister; engineer Eduard Pestel, President of the Volkswagen Foundation, who founded the Institute for Applied Systems Analysis and Forecast eV (now Pestel Institute) and later became Minister of Science and Arts in Lower Saxony; and Hugo Thiemann, Director General of the Battelle Institute of Geneva, who requested Giarini to attend meetings and organize the first official conference of the Club of Rome at Berne in June 1970.

That meeting proved decisive. Hasan Özbekhan had been charged by the Club with preparing a project to describe and analyze the world “problematique” and launch a debate on possible solutions. Özbekhan was an American intellectual of Turkish descent, who had produced some reports for OECD on how to develop a modern economic plan. When he frankly confessed to Club members in Berne that his proposal had almost no chance of producing useful results, Jay Forrester of MIT’s Sloan School of Management bravely offered as an alternative to apply systems analysis to develop a model of global interdependence. Forrester drew up the basis for what would become the Club’s famous report on limits to growth during his flight back to the USA. Incorporating data on population growth, industrialization, food production, pollution and depletion of resources within a single model, he produced graphs illustrating that the world’s development would reach unsustainable levels within forty years, leading to a blind alley or a planetary crisis. After his preliminary text was endorsed by the Club’s executive committee at a meeting in Boston, Forrester entrusted verification of the simulations, assumptions and data to his assistant, Dennis Meadows, who drew on other university resources to organize special sectoral studies on key issues.

Forrester’s model highlighted a serious increase in pollution (already so very apparent in the rivers and urban centers of the Western world), the impacts of continued high rates of population growth, and the negative environmental effects of rapid economic growth. Coincidentally, this was the time when Battelle Institute was conducting research sponsored by major corporations examining the hypothetical impact of a quadrupling of oil prices. Prophetically, the actual price of oil did rise from \$3 a barrel to \$12 between 1971 and 1974.

---

*“The Limits to Growth portrayed the dark face of the benevolent God of infinite human well-being aspiring to liberate growth from its negative stigma by challenging the superstitions that support its irresponsible, destructive and extravagant excesses.”*

---

## 2. Intellectual Challenges

Like the worldwide protest movements of the late 1960s, which spread like wildfire because they were negative expressions of positive social urges for greater freedom, social equality, human dignity and self-affirmation, *The Limits to Growth* portrayed the dark face of the benevolent God of infinite human well-being aspiring to liberate growth from its negative stigma by challenging the superstitions that support its irresponsible, destructive and extravagant excesses. No one had anticipated the magnitude and intensity of fervor that would be generated when the report was published in 1972. Journals were inundated with articles, often written or inspired by economists, loudly and vigorously denouncing the false conclusions and deceptive logic applied in the report, challenging the very notion that a crisis or a slowdown in economic growth was at all likely. Harsh attacks by many economists centered on one point: according to them, the report under-rated the infinite or almost infinite capacity of research. Many confidently proclaimed that as soon as resources became scarce, pricing mechanisms would stimulate research which would in turn supply new solutions. These authors apparently believed that discovery and invention were merely a matter of short term investment. Conveniently, forgetting the long list of qualifying and rarely realizable conditions required for equilibrium between supply and demand taught in every first year economics course, this faith in the power of price to dictate results was tantamount to belief in myth or magic.

Giarini's experience directing long term research and technology development projects at Battelle did not support this blithe assessment. While fully cognizant of the remarkable achievements of modern science and technology, he knew firsthand the inherent risks involved in all research activities and the very high probabilities of failure. In pharmaceutical research, for instance, less than one in a hundred new ideas reaches clinical trials and fewer than ten percent of those ever reach the market. He realized that it was simply unrealistic to assume research could always be relied upon to generate any specific set of desirable results within a given budget and timeframe. Otherwise, how to explain why a cure for cancer and low priced electric cars had not been developed long ago? He was astonished by the unquestioning faith of those

*"The inherent uncertainty of future events was overlooked, which meant not only the possibility of unexpected failures, but equally the onset of unanticipated discoveries."*

who believed that the fundamental research was, in modern society, a factor totally within the economic system and subject to the same law of supply and demand that governed the production of toothpaste and TVs. This view failed to take into account limiting conditions, inertia, perceived risk factors and structural rigidities. But more fundamentally, he was struck by the fact that opponents of the report failed to recognize the inherent uncertainty of future events. Later, he was to observe the same attitude of confident absolutism among prophets of economic and ecological doom. Here too, he found unquestioned conviction that extrapolation from past and present trends was proof of future catastrophe. The end of growth appeared to be a foregone and inevitable conclusion. Here too, the inherent uncertainty of future events was overlooked, which meant not only the possibility of unexpected failures, but equally the onset of unanticipated discoveries. As none had expected the quadrupling



of oil prices in the early 70s, whoever imagined or anticipated the sudden emergence and exponential growth of the Internet since the mid 90s?

Gradually, the controversy over the Club of Rome report spread from the economists to the political arena in Europe. European Commission President Sicco Mansholt broadened the debate regarding ecological problems. Conservative French economist Raymond Barre and others condemned the report's dire economic prognosis as a provocation for social unrest. Secretary General of the French Communist Party, Georges Marchais, denounced it as a conspiracy of the industrial right to undermine labor union wage negotiations. Some Soviet intellectuals hailed it as a sign of the coming crisis of capitalism. Both the praise and vehement attacks on the report helped spread the word and boost circulation of the book, which was translated into ten languages and eventually sold over 10 million copies. Unexpectedly, quotations from the report regarding growth, ecology, population growth even found their way into academic text books. In spite of repeated efforts to emphasize the environmental and demographic issues, to the dismay of Peccei and King, the Club became widely regarded as an advocate of "zero growth". Academia and public opinion generally found themselves on opposite sides of the debate, but eventually it was public opinion that held sway. Calls to respect the environment, conserve natural resources, and strive for sustainable growth became increasingly frequent.

## **2.1 Scientific Certainty vs. Social Reality**

The wide gulf between economic thinking and actual economic reality points to a more profound gulf in knowledge underlying failures of modern economic theory as well as social theory in many other fields – the profound disconnect between theory and human life. The remarkable success of the natural sciences in earlier centuries had generated a blind confidence in the ability of science to measure, analyze, and deconstruct reality and then reassemble it in a more perfect configuration and working order. The mathematical precision of astronomical projections by Copernicus and Galileo, the infallible accuracy of the laws of motion which Newton deciphered, and countless other discoveries had created a widespread belief, which matured into a pervasive and unquestioned assumption, that a similar application of mathematical principles to economic and social life could lead to equally valid principles. Ironically, physicists had abandoned this simplistic notion almost a century earlier when Heisenberg first postulated his uncertainty principle. Yet, 19<sup>th</sup> century belief systems continue to pervade the social sciences.

## **2.2 Equilibrium vs. Evolution**

Furthermore, while the motion of objects, the behavior of gases and other physical processes could be accurately defined by equilibrium equations, it became apparent that social processes could never be adequately explained based on laws of equilibrium, because society undergoes a continuous process of development and evolution. Giarini argues that the well-known economic principle that the supply equals demand is not a law at all, but only a tautology. Economic systems very rarely and only transiently reach anything close to equilibrium. Indeed, as Soros and others have observed in diagnosing the current international financial crisis, markets tend to be inherently unstable, moving far from equilibrium before swinging back in the opposite direction. This is especially true of financial markets which are subject to unregulated speculation and profit-taking.

---

*“The report proved the inherent limitations of the existing industrial model of economic growth, not any inherent limits to growth itself.”*

---

But Giarini’s challenge goes even further. He argues that the very nature of economy is evolving and that the rules and formulas applicable to the old industrial economy which is receding are decreasingly relevant to the knowledge-based service economy which is emerging. Without our realizing it, the fundamental laws of economics have changed. Indeed he contested the widespread viewpoint of many both within and outside the Club of Rome that the report conclusively establishes finite limits to growth. *Rather, he argued that the report proved the inherent limitations of the existing industrial model of economic growth, not any inherent limits to growth itself.*

### 2.3 Divorce in the Social Sciences

*The Limits to Growth* pointed to one of the major reasons for this disconnect between theory and reality – a specific instance of a more fundamental schizophrenic malady – the tendency of the modern mind to dissect reality into slices and then further detail them into smaller and smaller segments which become increasingly separated and unconnected to the larger whole of which they form a part. He discovered this tendency not merely among theorists, but among business practitioners as well as scientists. The plight of humanity which the Club of Rome identified arose from a tendency to focus on economic growth for its own sake divorced from its wider impact on society and the environment. Theoretically, this translated into a narrowing and specialization of focus – the divorce of economics from political science, society, ecology and culture; the divorce of economic growth from employment and social welfare; and, as we now witness with increasing dismay its consequences, the divorce of financial markets from the real economy. Long ago he concluded that this fragmentation gives rise to a partial, fragmented and grossly distorted view of reality. More importantly, it gives rise to uni-dimensional strategies that sooner or later run into brick walls or threaten to bring down the entire edifice of civilization.

The controversy presented repeated occasions for serious reflection on fundamental assumptions underlying modern economics and prompted him to return for fresh insights to the great classics of economics, from Adam Smith to John Stuart Mill, by way of Marshall and Schumpeter. His reading compelled him to undertake a fundamental reassessment of the entire role of economy in the wider field of social existence. He was aided in this effort by continuous opportunities to interact and exchange views with other leading thinkers of the day. In addition to Aurelio Peccei, Alexander King, and other original members of the Club of Rome, his thought was stimulated by interactions with Nobel economist Jan Tinbergen; Karl Schwab, founder of the World Economic Forum; Michel Albert, Director General of the European Community and later President of the second largest French insurance group, Assurances de France; and many other prominent thinkers. In 1986 he set up the organizing committee for the Risk Institute, whose members came to include Nobel physicist Ilya Prigogine; science philosopher Karl Popper; futurists Alvin and Heidi Toffler; Raymond Barre, former EU Vice President before he became the first President of the Geneva Association and then the French Prime Minister; and Fabio Padoa, Managing Director of Generali Insurance in Trieste and founder of the Geneva Association.

### 3. Breaking the Limits

Giarini's four reports to the Club of Rome pinpoint limitations in prevailing theory when confronted with a rapidly evolving social reality. Saved from cynicism by a keen sense of history and a deep faith in human values, his books present an analysis of these limited conceptions and a plethora of fresh perspectives struggling desperately to be grasped, formulated and communicated.

In *Dialogue on Wealth and Welfare* (1980) he examined underlying premises regarding contemporary economic theory and its relationship with human welfare. Drawing on insights from Smith's *Wealth of Nations*, he traced back the roots of modern economic theory to the crucial point where theory became divorced from social reality. Smith had always regarded himself foremost as a moral philosopher and his interest in economics arose directly from his interest in promoting the welfare of humankind, both in his own country and in the world-at-large. For him, economic theory was a means to an end and never an end in itself. The task of the economist was not to discover the inalienable laws governing economic systems but to discover the means by which economic systems could be made to best promote the welfare of human beings. For him, economy was an inextricable part of a greater social whole. It is true that Smith advocated removal of barriers to free international trade, which under mercantilist regimes had become so burdensome that they stifled enterprise, supported monopolies and discouraged efficiency. But at the same time he regaled the blind pursuit of self-interest by business at the expense of public welfare and was deeply concerned by the concentration of wealth and power among a small group of influential producers.

---

*“Adam Smith’s interest in economics arose directly from his interest in promoting the welfare of humankind. For him, economy was an inextricable part of a greater social whole.”*

---

#### 3.1 What Type of Growth?

In his first report to the Club, Giarini argues that the central question regarding growth is not ‘How much?’ but ‘What kind?’ The simple, self-evident conclusion he arrived at was that the value of economic growth depended solely on its contribution to human welfare. Growth for growth’s sake is not only meaningless, but potentially disastrous. The problems highlighted in the Club of Rome report arose directly as the result of fundamental defects in the prevailing concept of economic growth.

That concept of growth is based in turn on a distorted view of economic value. Economics was founded at a time when scarcity appeared to be the inevitable human condition. Industrialization was viewed as a means to mitigate shortages by raising human productivity and lowering production costs. It was natural enough under these circumstances for the early economists to consider any increase in production as a net addition to national wealth, but that ceased to be a valid assumption long ago.

*“While most economists worried about how to stimulate demand to keep pace with growth of production, the changed circumstances compel us to ask a more fundamental question: “What type of growth do we really want?””*

Before the end of the 19<sup>th</sup> century, the problem of limited supply was supplanted by the problem of limited demand. Industrial economies could produce an endless supply of goods, but unless purchasing power were widely distributed and continuously rising, there would soon be too few people with the capacity to procure them. The principal economic crises of the 19<sup>th</sup> century were crises of demand. In recognition of this fact, Marshall first and then Keynes and later on more and more economists shifted their focus from the supply side to the demand side of the equation, which gave rise to a new set of economic principles that guided public policy in market economies throughout most of the 20<sup>th</sup> century. In the process of trying to keep growing, economists lost sight of a larger issue; namely, that unlimited capacity for production would inevitably tax the carrying capacity of the earth's resources. While most economists worried about how to stimulate demand to keep pace with growth of production, the changed circumstances compel us to ask a more fundamental question: "What type of growth do we really want?"

---

*"The only sound basis for assessing the value of any economic activity is according to its contribution to human welfare."*

---

### 3.2 The Problem of Value

This led Giarini to one of the most vexing problems of modern economics, the fundamental notion of value. You get what you measure, according to the management dictum; and the type of economic growth prevalent for the past two centuries is a direct reflection and result of the way we define and measure economic value. A truly constructive science of economics that eliminates the wasteful excesses and destructive aspects of unregulated activity can only be founded on a wholly positive conception of economic value. In *Dialogue on Wealth and Welfare*, he analyzed the fundamental flaws in the prevailing notion of value and how it is measured. Although many of his insights have now been widely recognized, his arguments still carry the force of his original perception and theoretical clarity. Value is a purely human conception and the only sound basis for assessing the value of any economic activity is according to its contribution to human welfare.

This led him inevitably to the concept of negative value. It could well be, he argued, that many transactions recorded as productive may be destroying more than they produce. Prevailing measures of economic growth and national wealth are based on the implicit assumption that all monetarized activity adds to the total stock of wealth and that this is the sole or major determinant of the wealth of nations. This premise ignores the now obvious fact that current wealth creation is largely based on the consumption of non-renewable natural resources, whose true replacement value is not being measured. Long before the consequences of climate change threatened to undermine all conventional notions of economic value, he argued that the real future cleanup costs of pollution from industrialization

*"Much of what we measure and record as growth represents activity which may actually reflect a deterioration in human welfare."*

and fossil fuel consumption were not reflected in measures of GDP and when later they came to be included, the expenditure to address pollution would be recorded as a further positive contribution to growth. Is expenditure on treatment and management of refuse really a net addition to wealth and welfare? Obviously, not all economic activity reflects a real enhancement in human welfare. Indeed, much of what we measure and record as growth represents activity which may actually reflect a deterioration in human welfare. Rising costs of medical care resulting from pollution and lifestyle stress, expenditure on bottled water to replace contaminated natural sources, rising costs of the criminal justice system due to higher rates of crime and drug abuse, increased military expenditure in response to high levels of youth unemployment, social unrest and terrorism abroad, all contribute to growth of GDP, yet result from a deterioration rather than an enhancement in human welfare. So too, the divergence of capital from the real economy to speculative financial markets has generated higher rates of growth for the financial service sector over the past two decades, but far fewer jobs and widening levels of income inequality.

A central theme of the report is the vital distinction between wealth and income. The right goal of economic activity is to enhance the wealth of the population, which means to enhance its accumulated capacity for consumption (stock), rather than striving to perpetually stimulate greater production (flow) for its own sake. The report challenged the very notion of trying to measure human welfare in terms of the flow of economic activity, as GDP measures it. Is the wealth of nations really enhanced, if rapid mechanization leads to a drastic increase in production at the cost of large scale unemployment, rising crime rates and mounting industrial pollution? Theoretically, it might be possible to generate an endless array and volume of goods, but of what significance would that be unless the entire population benefits from them?

The simple analogy of a bathtub full of water is illustrative. The water in the tub represents the cumulative stock of wealth in society. The tub is equipped with cold and hot water taps, representing the inflow of natural and human contributions to the creation of wealth. One tap represents the contribution of monetarized activities to wealth creation, the other represents non-monetarized activities such as air and water quality and depletion of resources. Sensors on both taps record only total inflow, regardless of whether the flow involves production of useful products and services or remediation for deterioration of health, social stability and the environment.\* Elizabeth Mann Borgese, daughter of the great German writer Thomas Mann, embraced this model and applied it to assess the economic value of ocean wealth in a report to the Club of Rome entitled *The Future of the Oceans* (1986).

Traditional growth measures also failed to reflect positive off-balance sheet transactions. When economic or technological development delivers useful goods and services at little or no cost, such as free email, internet chat, voice conferencing or global positioning, GDP remains untouched, while the real wealth and welfare of people increase substantially. Without more reliable measures, how can we ensure economic policy encourages the right type of activities? The obvious answer is that we cannot. An economics of human welfare necessitates a reconceptualization of value and development of new ways to measure it.

---

\* For more on the bathtub analogy, see <http://cadmusjournal.org/article/issue-3/evolution-wealth-human-security-paradox-value-and-uncertainty>

## 4. Extending Disciplinary Boundaries

One of the reasons Giardini's writings have not gained wider recognition is because his vision is all-encompassing and, therefore, foreign to the thinking of traditional academic economists. While others divide and subdivide economy into smaller specialized fields – finance, marketing, public policy, banking, central banking, employment, monetary policy and the like – this perspective constantly expands the boundaries of thought to encompass domains lying outside traditional economic thought. Apart from extending economy to encompass ecology and negative value, it expands the boundaries of economics in at least three other directions until it becomes co-terminus with society as a whole.

### 4.1 The Moving Line of Money

First is the emphasis on the non-monetarized sector comprising welfare-related activities which did not involve any monetary exchange. In Smith's day, only a fraction of those activities required to sustain human life involved money transactions. The majority of people lived or worked on farms producing their own food and clothing, building their own homes and either making or resorting to barter exchange to acquire other essential articles. The use of money was largely utilized for public expenditure, urban living, international trade and maintenance of standing armies. Today, both self-production and barter have largely been replaced by monetary transactions which contribute to growth of GDP but do not necessarily reflect a real enhancement in human welfare. In earlier decades very few people paid for drinking water. This raises concerns regarding the deteriorating quality of ordinary water today which has spurred the growth of the bottled water industry to \$60 billion globally. But does that growth really reflect a \$60 billion enhancement in human welfare?

*“Economists tend to focus on the defined field of the monetarized sector and overlook the potential of the greater non-monetarized sector from which it emerges.”*

Although passing largely unnoticed, the line between the monetarized and non-monetarized sectors is continuously shifting one way or the other. Due to the skyrocketing cost of medical care, doctors' home-visits are almost a forgotten service, but the cost and inconvenience to patients of travelling to clinics and hospitals go unrecorded. Household work remains one of the largest domains in the non-monetarized sector. Fewer middle class families can afford housemaids, chauffeurs and cooks today. Many people fill their own gas tanks, wash their own cars and mow their own lawns, where previously they may have paid someone else to do it. An obvious example is the housewife who seeks employment and hires others to clean her home and cook for the family or ends up serving nutrition-poor fast food to her children, because she has no time to prepare healthy meals at home. These monetarized activities all contribute to an increase in GDP, yet in the process the health of her children, the cleanliness of the house, the harmony of her family and her own peace of mind may have deteriorated.

Monetarized and non-monetarized sectors are related by an ever-changing and evolving interaction. Together they constitute a greater social and economic reality out of which monetarized economic potential emerges and from which it disappears. Economists tend

to focus on the defined field of the monetarized sector and overlook the potential of the greater non-monetarized sector from which it emerges. They see what exists today, but do not consider the unrealized potential. The Internet provides the most dramatic example of the unlimited potential of the non-monetarized sector. Internet companies have found a way to monetarize the value of human attention. The mere fact that so many people visit and view a web page or website is now recognized to be of immense value, so much so that the market value of Facebook is estimated at about \$100 billion at a time when its revenues are only about \$4 billion.

## 5. The Evolution of Economy

Smith published *Wealth of Nations* a year after James Watt perfected the improved steam engine which ushered in the first industrial revolution. The premises of modern economics and the conclusions of the Club of Rome's report were both based on the 19<sup>th</sup> century concept of industrial economy. The crises of the 1970s were a clear message that these premises were inadequate as a foundation for further social progress.

Even while the report was being written, society was in the process of rapid evolutionary changes that have led to a new model of knowledge-based service economy. This transition is characterized by an increasing shift from material resources and industrial capital to intellectual and scientific resources and human capital. The industrial worker was a proverbial cog in the wheel. The knowledge worker is a self-contained production unit, productive of new and improved ideas, processes, products and services. Human beings, not material resources, financial capital and technology, are the key to this radical transition. Based on this recognition, Peccei wrote in *The Human Quality* (1977), "It is only by developing adequately human quality and capacities all over the world that our material civilization can be transformed and its immense potential put to good use. This is the human revolution, which is more urgent than anything else..."<sup>21</sup>

While the growing importance of the service sector has been evident through much of the 20<sup>th</sup> century, its profoundest implications remain largely unrecognized even today. Society strives now to accord human beings an equivalent or greater value than money and technology, but that is at best a feeble halfway measure, which only places humanity on a par with what it creates. Development of human beings is still regarded as a means to an end, rather than an end in itself. In its early development, Giarini's thought points to the far greater potential that is yet to be recognized.

Apart from the increasing importance of education, human and social capital formation, the dematerialization of economy has had ecological implications, pointing to the possibility that future economic growth could become far less demanding of scarce and vulnerable environment resources. Over the last half century, this has resulted in a dramatic reduction in energy consumption per unit of GDP in OECD countries; but these energy savings have been more than offset by the dramatic increase in energy consumption by industry in developing countries.

The dematerialization of production by the service economy is complemented by an equally or more important dematerialization of needs. The growing centrality of services results from the fact that once basic material requirements are met, the aspiration is released for

the satisfaction of higher order, non-material needs – communication, information, education, healthcare, entertainment, recreation, and culture – which are not only far less demanding of material inputs but also far less limited in their growth potential. Food consumption is subject to limits; knowledge, human relationship and enjoyment are not. Thus, the growth in relative importance of the service economy represents a progressive shift from the pursuit of physical security to the quest for human security, welfare, well-being and unending development of our individual and collective human potential. Of even greater significance are two other implications of the modern service economy that have gone largely unrecognized.

### 5.1 Valuing Systems and Utilization Time

Discovering the full significance of the transition to services is the main theme of his second report to the Club of Rome, *The Limits to Certainty* (1993), co-authored with Walter R. Stahel. The report sets forth the need for a new general theoretical framework for economics to reflect fundamental changes in the nature of economic activity. “That which in the 1970s was interpreted as a problem of limits to economic growth in general, increasingly appears to be the description of the end of the great cycle of the classical Industrial Revolution. The simulations by Jay Forrester and Dennis Meadows indicate precisely this, not the end of economic growth as such, but rather the end of a certain kind of economic growth, that was based on priority and above all on hardware and machines instead of on software and organizational systems, on tangible products rather than services of every type. Of course, an important part of economic activity will always depend on tools and hardware, just as today we need agricultural products. Now, however, within most traditional industrial and agricultural sectors, service functions predominate.”

The growing contribution of services to GDP and employment is well-known, but its impact on the problem of value is still poorly understood. A major component of the service sector consists of large delivery systems, such as those related to telecommunications, transport, research, education, healthcare, banking, and research. The cost of delivering specific services through these huge systems is difficult to measure, because most of that cost consists of fixed overheads. The marginal cost of producing one more book, watch or computer can easily be computed, but not the cost of delivering an extra hour of high speed internet connection time, round-the-clock access to health maintenance facilities, or research to discover a cure for cancer. In the case of the first two, the cost of the service is largely dependent on overall usage of the system, rather than on individual transactions. In the case of research, costs might be accurately assessed or fixed in advance, but the outcome of the research and its real value cannot be known until after the fact, sometimes years or even decades after it is undertaken. The cost of a college education is even more problematic, since neither the individual delivery cost nor the value of the service to the individual customer can be easily measured.

In addition, valuing both products and services in today’s service economy presents a more fundamental challenge – the problem of utilization time. Unlike the traditional factory that produces so many loaves of bread or reams of paper every day, ‘cost of production’ for many products today commences years before the product enters the production line or ever leaves the factory. It includes costs such as materials research, product development, and process engineering. Furthermore, the actual cost of the product may not be accurately known for months or years after the actual date of sale, since it may include additional costs such as



after sales service, warranties, product liability, recycling and waste disposal. The \$25 billion mortgage settlement imposed by the US government on American banks in February 2012 is an example of a cost that could never have been anticipated at the time the mortgages were originally sold. Under these circumstances, assessment of the true cost and true value of any economic activity becomes far more difficult to assess.

## 6. Managing Uncertainty & Human Security

But the subject that has most deeply occupied Giarini and constitutes his most original and potentially important contribution is one which by its very nature defies clear delineation and measurement – the problem of uncertainty. The most tangible result of the publication of *The Limits to Growth* was to challenge projections regarding the future progress of industrial economy. It created doubt and over subsequent decades that doubt has continued to grow, further fueled by every subsequent crisis. His experience managing big-budget industrial research projects at Battelle had taught him the importance of managing uncertainty. His years operating the world's largest insurance industry think tank taught him the difficulty of costing and pricing future events. This led him to the perception that uncertainty was central to all economic activity, indeed to life itself. After all, when we speak of human welfare and well-being, we really refer to human security – personal health and safety, assured access to basic needs, protection of our basic rights and property, employment opportunities, job security and retirement. The fundamental objective of every economic system is to provide security to every citizen.

---

*“Uncertainty is an indefinable something out of which both problems and opportunities, crises and creativity emerge. People tend to perceive uncertainty as a risk, rarely as an opportunity.”*

---

But he also perceived that eliminating uncertainty represented only one side of the coin. For at the same time, insecurity and uncertainty are sources of human creativity and unbounded potential for wealth creation. His writings bring out both the creative and destructive aspects of uncertainty. Uncertainty is something we seek to minimize insecurity. Uncertainty is the ultimate, ever-present reality of social life from which new economic and business potentials continuously emerge. Uncertainty is an indefinable something out of which both problems and opportunities, crises and creativity emerge. People tend to perceive uncertainty as a risk, rarely as an opportunity. Uncertainty spurred the invention of limited liability corporations, without which the remarkable economic achievements of the past two centuries would have been unthinkable. Uncertainty brought down the international financial markets and wrought the catastrophe at Fukushima.

### 6.1 Insuring Security

Uncertainty also has given birth to the \$4+ trillion global insurance industry. But the positive contribution of insurance to human security and human welfare is incalculably greater. Insurance is an ingenious mechanism that converts uncertainty into a positive business opportunity and a precious source of human security. Insurance makes possible the entire modern health care infrastructure of the Western world, without which a bare few could

afford the protection and expertise it provides now to hundreds of millions. As a result, health care is one of the world's fastest growing industries, accounting for more than ten percent of the economy of most developed nations. A 2009 report from the US President's Council of Economic Advisors states that extending medical insurance to uninsured Americans would boost net economic welfare by \$100 billion annually. By 2007, health care insurance in Korea reached 96% of the population, whereas in India it hovers around 5 percent today, so the untapped scope is enormous. Life insurance penetration is still less than ten percent even in developed countries, but with five percent penetration India has shown that even countries with far lower national income can achieve disproportionately higher coverage.

The contribution of all types of insurance to the growth and sustenance of real estate, transportation, financial services, personal income security and countless other activities may be less perceptible but is of great significance. This accounts for the strong correlation between development of the insurance industry and overall rates of economic growth in both developed and developing countries worldwide. Over the past decade, China, which is the top ranked country in terms of both agricultural production and farm output, has put in place the world's second largest crop insurance program to further boost crop production.

There are limits to insurability of risks that can be covered commercially by the private sector, where only the entire society through government can act effectively, but the underlying principle remains valid. Collective action to promote individual security has immense potential for raising welfare and well-being by creating complementarity between public and private risk coverage. Thus, the principle of insurance can very beneficially be extended to life-long education, employment, entrepreneurship, self-employment and other activities that can open up unparalleled vistas for wholesome growth and human welfare. Low levels of education are strongly correlated with low earnings and high levels of unemployment globally. A program that ensures better earning employment opportunities for those who complete specific types and levels of higher education would be a powerful means to close the skill gap, raise productive capacity and reduce unemployment.

## **6.2 Transforming Contradictions into Complements**

Uncertainty and security are not contradictory or mutually exclusive concepts. They are really complements and the interaction between them represents a virtually unlimited source for wealth creation. Humanity creates structured arrangements to enhance security. In doing so, it imposes limits on the infinite possibilities of nature. The very creation of these structures imposes limits on what is possible, including limits on original thinking, creativity, invention, innovation and freedom of action. It defines specific roles, rules, laws, hierarchical structures, ways of life in order to create a field of certainty and security. In the process it tends to mistake the structured field for the whole reality, to focus so intently on the limited field that it loses sight of the limitless possibilities and the progressive evolutionary process that is unfolding. Society develops when it gives up this defensive posture of self-preservation with relation to the unknown and uncertain and explores how best that unchartered territory can be tapped and harnessed for its advancement. Adventurers risked their lives in search of sea routes to India. Pioneers gave up the security of the Old World for freedom from the stifling limitations of religious and social structure to found a New World. Entrepreneurs risk their capital to prove the profitability of new types of businesses. Inventors seek to transcend and

improve upon the limits of nature by growing their own food, creating new objects, substances and energy sources. Original thinkers challenge the limits of established dogma and belief, venturing into the unknown in quest of wider and greater truth. Humanity's entire historical experience confirms that present limits – limits in knowledge, power and accomplishment – inevitably give way before wider potentials. Uncertainty and the non-monetarized wider society, of which monetary economic activity constitutes a small portion, are the creative and unlimited source of humanity's future evolution.

### 6.3 Transcending the Dichotomy

It is at this point the problem of wealth and welfare transcends economics and becomes one of governance, human values and moral philosophy. Here the economist becomes the humanist and world federalist. As humanity expands exploration of the unknown and uncertain, comforts and conveniences increase, but we also discover that problems and threats increase as well. In search of security, humanity created 70,000 nuclear weapons, computerized stock exchanges whose gyrations no human being can control, installed industrial robots that displace human workers and render them unemployed, while exhausting our resources and polluting the environment.

---

*“Humanity strives continuously to organize opportunities out of uncertainty, but does so mainly from the perspective of narrow self-interest.”*

---

Our human mode of development seems to always confront us with this dichotomy that the quest for greater good seems to inevitably lead to greater evil. Problems and crises arise because of our ignorant egoistic attitudes, such as the possessiveness of the rich who refuse to pay taxes and reject any responsibility for the welfare of the rest of the society or the assertiveness of the speculators who insist on their right to destabilize financial markets in search of greater profit. Humanity strives continuously to organize opportunities out of uncertainty, but does so mainly from the perspective of narrow self-interest, rather than for the benefit of humanity as a whole. We overexploit groundwater for personal gain without regard for the future. Our laws protect and empower some at the expense of others, accord rights and status to some by excluding others. These structures are the essential mechanism for organizing life out of uncertainty. They are the essential means of development at one stage, but they later become the greatest obstacles, because they become rigid and fixed, base themselves on ideas and values that refuse to evolve with the changing times, like the resurrected American Tea Party pretending this is still 1776. The unregulated market structure that once so effectively released social energy through freedom now prevents that energy from expanding by more equitable distribution of the benefits. Instead it generates negative intensities – problems and conflicts that eventually lead to the destruction of those structures that refuse to evolve, as in the French Revolution, the Crash of 1929, and the two great world wars involving sovereign nation states.

The complexity of modern life compels us to transcend the dichotomy between certainty and uncertainty. When we do so we perceive that risk can by a change of view be converted into opportunity. Insurance is a social organization that creatively relates certainty with uncertainty. Today it protects against unforeseen loss. But it has the potential to evolve into

something even greater. It can in the next stage help build the society, bringing more of the uncertain areas under the protection of certainty. Uncertainty viewed from the perspective and for the benefit of all beings – without the restricting beliefs and values of the structure of narrow self-interest by which the world is now governed – can create a wider base for economics capable of generating unlimited wealth and well-being without crises. Such a change is conceivable. With the spread of education and emergence of an intelligentsia, the narrow vested interests of monarchy and aristocracy have progressively given way to a structure that is far more encompassing and more productive of human welfare and well-being. The spread of education among the once ignorant masses was formerly inconceivable. Now it is recognized as desirable and necessary. Such a change in perception regarding uncertainty in economics is possible too.

## 7. Future of Work

Never content with pure abstract theoretical reflections, Giarini always returns to the concrete practical problems of humanity and none today is more pressing than the future of employment. What purpose, he asks, does an economic system serve if it does not provide the most basic of all economic functions, access to the means of obtaining the essential necessities and non-essential components of a modern civilized life? Today hundreds of millions of able-bodied human beings, including more than 75 million youth, are deprived of access to gainful employment opportunities, not by their own or anyone else's willful refusal but by the structural rigidities and blatant inequalities of an economic system that values money more than it values human welfare. While squandering the earth's rare natural resources, it blindly neglects the most precious and perishable of all resources, human aspirations and capabilities.

Mindful of the utter failure of unregulated markets and unsocialized systems to address this most basic need, in 1996 he authored his third report to the Club of Rome *The Employment Dilemma and The Future of Work* in collaboration with Patrick Liedtke, his successor as Secretary General and Managing Director of the Geneva Association and a member of the Club of Rome and the World Academy of Art & Science. Written at the request of the then Club of Rome President Ricardo Diez Hochleitner and originally published in Spanish, the report traces the evolution and transformation of the nature of work from the agrarian age through the industrial revolution to the modern service economy. In this report the authors discard both market and socialist philosophies in favor of a pragmatic, comprehensive, four-layered solution designed to provide basic economic security to all, while optimizing the incentives for those who have the capacity and will to work and earn more. Their objective is nothing less than full employment and economic security for all.

Recognizing the essential role of higher education and life-long learning in any permanent solution to the employment challenge, this led naturally to the last of the four reports on the subject of university education and continuous training, *The Double Helix* (UNESCO, 2003) written in collaboration with another Club of Rome member and WAAS Fellow, Mircea Malitza. There they examine the mismatch between the human life cycle and education, the fragmentation of specialized disciplines, and the lack of integration between education and real life challenges. The report calls for a reorganization of education into multi-disciplinary, integrated modules that combine all the knowledge required to address real work issues.

Then in 2005, Giarini turned his attention to the lengthening of the life cycle and the problem of economic security and productive security for a progressively aging but ever more healthy and active elderly population, by establishing and editing the journal *European Papers on The New Welfare: the counter-aging society*.

## 8. Globalization and Uncertainty

The 1970s opened a challenging new chapter in the unfolding saga of globalization, vulnerability and the management of uncertainty. The new millennium marks a continuation of that evolutionary process, confirming the fears of many who believed that human progress was on the ebb and challenging the naysayers who vigorously rejected the earlier warnings. But the recent past is not merely more of the same. Over the past four decades the world has become far more interdependent and the foci of risk and vulnerability have largely shifted from the national to the global level. The threats of financial instability, unemployment, inequality, nuclear weapons, terrorism, pollution, resource depletion and climate change are more truly global than ever before.

---

*“Today, acute scarcity and overflowing abundance exist side by side. It seems odd to speak of limits at a time when global financial assets exceed \$216 trillion and \$4 trillion circles the globe daily in search of speculative returns.”*

---

Today, the world is confronted by two kinds of reality linked to human nature and its social organization: the question of power and the legitimacy of national and international institutions. Power must be placed at the service of human freedom. Institutions must promote harmony and equity. Only then can human aspirations be fulfilled and the human propensity for destructive excesses controlled. “To what extent are the world’s economic institutions legitimate?” Giarini asks. Today, acute scarcity and overflowing abundance exist side by side. It seems odd to speak of limits at a time when global financial assets exceed \$216 trillion and \$4 trillion circles the globe daily in search of speculative returns. The world is not suffering from shortages, but non-utilization of precious human resources and misdirection of other capabilities away from the very points where they can make the greatest contribution and generate the greatest return for humanity.

All human achievement is founded on a bedrock of values. Values have no limit. Ultimately it is the values we choose to embrace that determine the real limits to growth. Narrow self-interest, mindless exploitation of earth, blindness to the needs of others, unbridled greed and extravagance can only take humanity so far. Our problems are of our own making and so are our opportunities. The very powers and institutions we forge to further our aims too easily become fetters that confine and enslave us. We are imprisoned by structures of our own device, simply because we refuse to open the door and walk out. Will humanity insist on clinging to broken systems out of fear to experiment, or will it have the courage to invent and innovate freer, fairer, more equitable, and more civilized arrangements for wealth creation and governance? Humanity’s ultimate challenge is not to cope with the forces of external nature or the problems of production, but rather to wrestle with and master human character and its inclinations.

Giarini has never been a prophet of doom. On the contrary, a close reading of his reports reveals an unparalleled potential for future prosperity. If the goal of economics is to truly generate prosperity and abundance for all, the knowledge can be found to accomplish it. Where others see the insecurity of uncertainty, he senses unrealized opportunities. That necessitates looking beyond secondary causes to discover the fundamental process of human development that propels social evolution. His study of both economic theory and the real economy convinced him that the theory was deficient, not humanity's collective capacity to generate wealth for all. He has the insight and courage to look beyond the traditional boundaries and 'scientific' respectability of accepted concepts and econometric formulas to the vague hinterlands where economy merges in identity with the society of which it is a part and society engages in a creative interaction with the unformed potentialities of its own future. Still he gazes into the unknown, mindful of real and present dangers, but ever confident and hopeful of what will emerge.

---

*“Giarini has never been a prophet of doom. Where others see the insecurity of uncertainty, he senses unrealized opportunities.”*

---

### 8.1 Theory and Practice

Social theory can only be perfected in the cauldron of real life where the enormous complexity of living systems refines intellectual conception into practical strategy. Ever questioning, but never satisfied by the answers he himself could derive, he has the good sense and humility to know how much more there is to be known. His thought points compellingly to the uncharted boundaries of human social potential. What remains is for a society, even a community, to come forward to break out of the straight-jacket of arbitrary rules and constricting institutions to fully harness the enormous creative potential of its human and social capital. Full employment, equitable income distribution, life-long learning, ecological sustainability, welfare and well-being are the objectives. Freedom, harmony and equality are the values. An endless development of human capacity is the means. Unparalleled prosperity will be the result.

Economic evolution, whether in theory or practice, is inseparable from cultural evolution. That inevitably led Giarini to ponder the ultimate implications of a world in which scientific determinism and human choice seem to be juxtaposed in perpetual conflict. Is it possible to imagine a culture which reconciles social order and human security with the creative freedom to continuously evolve by exploring and engaging the unknown which contains the ultimate mystery of life? That is the challenge which now confronts science and humanity.

*Author Contact Information:*

**Garry Jacobs** - Email: [garryj29@gmail.com](mailto:garryj29@gmail.com)

**Ivo Šlaus** - Email: [slaus@irb.hr](mailto:slaus@irb.hr)

### Notes

1. Aurelio Peccei, *The Human Quality* (Oxford: Pergamon Press, 1977).

## **Getting Risks Right: Thoughts about Increasing the Resilience of the Global Social & Economic System**

**Patrick M. Liedtke**, Secretary General & Managing Director of  
The Geneva Association; Fellow, World Academy of Art & Science

### **Abstract**

*The extraordinary extent of the financial crisis has inspired deep systemic reforms world-wide, rethinking financial stability, the resilience of our economic systems, and the role that national and international institutions play. While most of the ongoing activities are understandably centred on banks and the banking sector – the origin and centre of the crisis – other important elements have been relegated into secondary roles and fundamental democratic processes have been sidelined. Financial issues have crowded out real economic issues as policy-makers and politicians spend more time on the financial than the substantial (i.e. the real economy) and the democratic. Two fundamental concerns need to be addressed proactively: 1. A comprehensive approach to deal with both financial and real world risks on this planet, and 2. The global governance system based on democratic principles to follow globalisation of the business (and particularly the financial) sector.*

### **1. Introduction**

Since 2007, our global economic and financial systems have been in a higher degree of turmoil than at any other point in living memory. The last few years were extremely challenging and busy especially for all those concerned with the well-being of the financial system. Suddenly, highly sophisticated financial issues became the subject matter of a heated political debate in public as well as private discussions. Actions taken in the midst of the soaring financial crisis to combat specific problems took on a life of their own. They also inspired many of the systemic reforms undertaken recently world-wide, causing a deep rethinking process about financial stability, the resilience of our economic systems, and the role that different (national and international) institutions play and would play in the future. This regulatory explosion which often appears following major failures in an existing infrastructure and which seems to be challenging the existing regulatory paradigms is actually nothing new. As Jan Monkiewicz and I pointed out in our book *The Future of Insurance Regulation and Supervision – A Global Perspective*, it happened many times before.<sup>1</sup> The bigger the failure, the more sweeping the reforms that are proposed and later implemented. The important new element this time is (besides a particular intensity of the debates and hence generally a larger scope of actions) arguably the global reach of the current considerations indicating a high degree of interdependence of various local solutions.

This demonstrates how much contemporary economies are inter-linked and dependent on the well-being and proper functioning of the global system. This includes its constituent parts and its regulatory and supervisory framework, which are supposed to provide the necessary preconditions that allow a proper functioning.

Most of the on-going discussion and activities on current and future framework are centred on banks and the banking sector. This is not a surprise as this is where most work to improve our current systems has to occur. What is surprising though is how many other elements have been relegated into secondary roles in the process and how some fundamental democratic processes have been sidelined. It seems that financial issues have not only crowded out real economic issues, as policy-makers and politicians spend more time on the financial than the substantial (in which I would mean the real economy), they have also sparked a way to deal with these issues that are based less on democratic processes which would create legitimacy through direct participation and empowerment, but have propelled a mix of well-intentioned self-appointed groups and particular interests into positions of power with only indirect links to the wider population or in some cases very direct links only to minority subgroups of activists.

*“A comprehensive approach on how to deal with both financial and real world risks in this planet does not exist. The global governance system based on democratic principles has not been able to follow the globalisation of the business (and particularly the financial) sector.”*

At this stage, there are two fundamental concerns that we ought to address more proactively: 1. A comprehensive approach on how to deal with both financial and real world risks in this planet does not exist, and 2. The global governance system based on democratic principles has not been able to follow the globalisation of the business (and particularly the financial) sector.

In the following contribution, we hope to develop some thoughts that are aimed at increasing the resilience of the global social and economic system while safeguarding basic democratic principles. Hopefully others might take this thinking further.

## 2. Starting Observations

The following are some fundamental observations that, subject to falsification in the best of Popper’s tradition, provide a background for the tasks at hand:

- A lot of the current problems in financial markets seem to stem from the fact that finance and real economics have drifted apart. The world of finance and the interested stakeholders controlling it have found ever more intricate ways of diverting a larger share of the value produced into their direction. The result has been an increasingly weaker link between, on the one hand, the finance that is truly needed to make complex projects happen over long periods of time and to guarantee that savings, investment and payment processes function at all times and, on the other hand, the finance that serves its own purpose. We will have to find better and more efficient ways to link the two parts of our economic system closer together again.



- We are experiencing a deeply rooted problem with our global governance, the existing global institutions and the failure of our systems to be able to project the will of the citizens fully onto the globalized stage. While business has globalized, democracy has not. Therefore, we lack functioning mechanisms to help steer what is socially desirable and desired for our planet. As any economist knows, there are some necessary preconditions for functioning markets. However, while there is a strong focus on getting the economic variables right – following the disaster of the financial crisis triggered by more of a laissez-faire approach than was good for the world – this has been less the case for the social variables. However, functioning social systems also need a proper framework and the (relative) best social governance system we have come up with so far is democracy. Making the economic and financial systems ever more global while keeping the social national or at best regional will create further tension as popular outbursts of dissatisfaction and anger have shown. Civil unrest will only increase if this chasm is not narrowed or, worse, continues to widen.
- The collapse of the communist block and indeed socialism as an alternative to unrestrained capitalism has deprived the capitalistic concept of what some consider an important corrective factor for its systemic problems. Many elements that anchor the capitalistic system in societies today (social security, old-age and accident protection, sharing in production factors etc.) are in effect based on non-capitalistic ideas. It has been a great strength of the capitalistic system to be flexible enough to integrate these ideas in an efficient way, providing more stability and social acceptability in the process. Today, unfortunately, it seems that the only rival to capitalism is a new form of state-controlled economic system (maybe to be understood as a combination of reformed and adapted neo-mercantilism) by often authoritarian regimes.
- Another issue is the penetration of the bureaucratic. The current economic performance of the advanced economies is to no small degree the result of a financial system being pumped with cheap liquidity based on government debt – never before has so much money been pumped into financial markets so rapidly. Indeed, the result of the public interventions in financial and real economy markets has led to an explosion of government debt that is historically only comparable to the levels reached in times of war. Economic history suggests that massive peace-time increments in government debt levels tend to prove enduring and are seldom reduced in an orderly fashion. They tend to create a lot of financial stress and political instability, depressing future growth rates and tying future performance to governmental decisions rather than the force and efficiency of markets. At the same time, the level of government penetration in the financial sector has increased notably. Governments not only have direct stake-holdings in so many financial institutions, which somehow will need to be wound down, but they are also linked with the explosive growth of central bank balance sheets. This is coupled with an apparently new doctrine that more micromanagement, if not direct containment, of the entrepreneurial spirit in the economy is the right answer to the crisis. However, it would be remarkable indeed if historic experience were suddenly to reverse and governments turned out to be more efficient generators of growth and prosperity than functioning markets.
- What is still absent from the macro level and indeed the governmental process to provide a stable, resilient and sustainable framework for the globalised society is a larger focus

than simply on the financial. Real risks ought to be considered and worked with deploying the same energy and similarly sophisticated instruments. Currently, unfortunately, there are not enough attempts to create true risk management systems at the global level that would embed the full cost of consequences early in the process and factor in all monetised and non-monetised aspects, according equal weight and importance to the economic and the non-economic. As insurance specialists can only too readily testify, the indirect costs of any large disaster tend to be a multiple of the direct costs – and of those only a fraction are fully insured providing a special layer of protection for those affected. At the same time, the temptation to push more and more risks into the tail of the distribution (ecological, economical, financial etc.) has to be resisted, otherwise we will continue ending up too often in similar predicaments as now.

---

*“Risks emerge as we perceive uncertainty in a specific way. Risks and opportunities go hand in hand, and risk management is trying to find a balance between the two. Risk perception differs between cultures and needs. What is a risk to one person is an opportunity to another.”*

---

### 3. Understanding Risks

As we propose to put global risk management into a more prominent place, we need to understand the concept of risk and our relation to it more profoundly. There are three basic aspects about risk that are crucial:

1. *Risk is a construct and there are no risks per se. Risks emerge as we perceive uncertainty in a specific way. Risks and opportunities go hand in hand, and risk management is trying to find a balance between the two.*
2. *Risk perception differs between cultures and needs. What is a risk to one person is an opportunity to another.*
3. *Risk management happens as a reaction to the risk perception: How do risks influence us? Can we influence risks? We can certainly adapt our position towards risks.*

With Prof. Brian Woodrow and the Applied Services Centre (ASEC), we have pursued special work over the past years on risk, uncertainty, hazards, and vulnerability — all terms that we commonly encounter in various and numerous contexts each and every day.\* In his Foundation Paper, Brian Woodrow explores the concepts: “As words or as behavior, we hear, talk or encounter both fundamental or more mundane uncertainties: what the weather will be

---

\* The Applied Services Economic Centre was created in 1985 and conceived essentially as an “observatory”, a lookout institution which would scan, focus and report on emerging trends and issues affecting the services universe and the emerging “services economy”. ASEC’s continuing purpose is to investigate those developments and trends which deserve greater attention in their own right, are of broad interest to the insurance industry worldwide, and then serve to stimulate interest and wide-ranging efforts by interested individuals and organisations. A set of Foundation Papers explore key features of the concept of Vulnerability and how it can be applied to specific issues and cases. The author is an ASEC Director.

tomorrow and what the best route might be to get to work; whether, when, and where a major terrorist attack might take place; the uncertain science and impacts of global warming; how the stock market supposedly hates uncertainty but thrives on risk; or simply the uncertainty of what national team will win the World Cup of Football in 2010.”<sup>22</sup>

Uncertainties often generate risks and, as Woodrow explains, we face risks routinely in virtually all activities of our daily lives, sometimes expressly calculating those risks and taking action to mitigate them. These could be the following types of risks: the chance of severe storms happening, the attendant risk to be struck by lightning; the upside or downside risks of investing in the stock market; whether the technological risks associated with nuclear power or manned space flights justify their costs and benefits; or potentially massive risks of a category 5 hurricane or a magnitude 8 earthquake occurring in any particular place on earth. Indeed, we are continually confronted with the need to learn to live in a “risk society”—this despite the fact that risk is an inherent biological concept and intrinsic to life itself. Also, sometimes, whether voluntarily or involuntarily, knowingly or out of ignorance individuals choose explicitly to act in the face of risk economics thereby subjecting themselves to hazard. If they built their houses on a known flood plain and severe weather results in floods which destroy lives and property; or if they create a trade off between the thrills and risks, such as choosing to bungee-jump; or if they balance perceived pleasure against increased risk, as when smoking cigarettes or drinking alcohol so as to cause disease or injury to themselves and possibly others. Humans are permanently engaging in hazardous activities or behaviour.

While it seems relatively straightforward to deal with concrete risks, especially if they are of a personal kind, the larger and more complex a threat is and the slower it develops, the less we seem able to deal with it, especially as a society. Take as an example the crash of an airliner with 200 passengers on board. This is an almost universal news item that will travel around the world at the speed of our wired and wireless networks. It also results in outcry over possible lack of safety, sorrow for the victims and generally generates quite a commotion. At the same time, many more daily deaths on our roads do not elicit a similar response: the sudden and concentrated beat the slow and continuous. Managing risk also means dealing with different risk perceptions, overcoming different awareness thresholds and employing different risk management techniques according to specific circumstances. This is especially difficult to achieve at the global level, where risk management is confronted with a maximum of heterogeneity.

#### **4. Global Regulation and Its Rationale**

Any system in which various active elements with differing interests are meant to coexist with some degree of harmony needs rules. It is somewhat surprising then to see how many rules we have created on the local and national level, but how limited the development has been at the global level. While in the past one could make the case that the lives of the persons on this planet were not connected enough and that the means to transmit information – which is at the heart of facilitating joint decision processes – were not available, this is simply no longer true today. People can and do interact more readily than ever before and the fully interconnected ecological nature of our planet combined with the now (largely) globalised economic system has created many shared interests and common touch-points.

This means we need rules, also in the form of specific regulation, to organise our global society. There are many excellent articles on the basic principles of regulation, and many institutions at the national level and a few at the international level that deal with economic issues that are habitually put out in papers in which they justify the interference in what would otherwise be free systems. Regulators of the economic generally want to ensure competitive, solvent, and fair markets in which all key stakeholders are adequately protected. To achieve this, a fine balancing act is necessary: the various objectives have to be pursued in such a way that transfers can take place in an efficient way and that access to markets is open to interested parties. Regulators try to ensure that reasonably-priced quality products and services are available from reliable producers. As mentioned above, the financial crisis has triggered more regulation, especially of a financial kind, than in previous decades.

It is obvious that every new wave of regulation produces winners and losers, hence competition among the parties concerned is fierce. This competition does not only take place among companies of a different type, sometimes pitting large against small, specialist against generalist, national against international, or privately held against publicly traded companies. Competition also occurs among regulators who want to be seen in control of things, especially following some of the more spectacular failures that occurred during the crisis. Regulators and policymakers vie for attention and have to be careful not to engage in a competition for who comes up with the most punishing rules. And for politicians this is a chance to shine, to build more political capital and maybe even to get an important reform project named after them, thus receiving the public recognition so important for winning the next election. In consequence, activism rather than cool objectivity is a constant danger and the objective of properly conceived regulation becomes entangled in special interests and cluttered with ulterior motives\*.<sup>3</sup>

## 5. Addressing Global Risks through the Group of Twenty (G-20)?

From a political point of view, the most important source for international regulatory initiatives and indeed some wider political issues at the world level is currently the Group of Twenty or G-20. It has supplanted traditional organisations such as the UN, the IMF, the World Bank or the WTO as the key driving force behind the creation of a new framework, choosing largely to concentrate on the most pressing topic at hand – overhaul of the global financial architecture.

The G-20 is a self-organised group consisting of finance ministers and central bank governors from 19 countries plus a special seat for the European Union. It describes itself as “...*the premier forum for our international economic development that promotes open and constructive discussion between industrial and emerging-market countries on key issues related to global economic stability. By contributing to the strengthening of the international financial architecture and providing opportunities for dialogue on national policies, international co-operation, and international financial institutions, the G-20 helps to support growth and development across the globe.*”<sup>†</sup> Members of the G-20 represent about two-

---

\* James Schiro, for example, writes, “The process of designing new regulation is not always perfect. Too often regulators react to political pressure or regulation emerges through litigation and not in response to sound economic criteria.”

† See the mandate of the G-20 [www.g20.org/about\\_what\\_is\\_g20.aspx](http://www.g20.org/about_what_is_g20.aspx)

thirds of the world's population and approximately 85% of the Global National Product.\*

The G-20 was originally created as a response to the financial crises of the late 1990s. A key motivating factor was the growing recognition that key emerging-market countries with increasing global economic and financial relevance were not adequately included in the core of global economic discussion and governance. Following the full eruption of the financial crisis in 2008, it was the forum of choice for the leaders of the largest economies around the world (both developed and developing) to tackle the problems that the crisis created. The members wanted to strengthen international cooperation in the face of the largest financial emergency since the Great Depression. In the process, the G-20 has become the source of many important concerted actions comprising a wide array of measures like the introduction of unprecedented expansionary macroeconomic policies in member countries, the push for significant enhancements of international financial regulation (mostly concerning banking but also affecting the wider financial services sector), and the expansion of resources to strengthen the international financial institutions. At the same time, some other issues entered the debates of the leaders, de facto widening the scope of their debates from the strictly financial: questions on job creation, the use of fossil-fuels, the mitigation of climate change, how to bolster food security, or how to intensify the international fight against corruption etc.

Today, the G-20 acts as a key source and driver of a new governance model, pushing a wave of regulation in the international sphere that is relevant to many countries beyond the 20 members. And although up to date most major projects have yet to see full implementation in all member states, many highly relevant projects exist where broad international agreement has already been reached.†

The G-20 is without doubt very important but it has three potential weaknesses: Firstly, it has no specific democratic legitimisation beyond the decision of its members to co-operate and there is no objective and widely accepted mechanism to decide on who should be allowed to participate in the group. Already, seats around the table are contested and several countries feel excluded. Secondly, now that the financial crisis seems to evolve out of its most threatening phase, the interests of its members in the post-crisis setting are starting to diverge. As long as the common menace of a global collapse of the world's financial system unites the members in their efforts and concentrates the minds of those that have to take the key decisions on a common goal, co-operation is easier. It will be interesting to see how the G-20 will develop in the future as these common themes will vanish. Will it be relevant enough to withstand serious questions about its representativity and legitimisation? Will a coalition of the self-appointed willing be acceptable to the whole planet and deemed appropriate from a global governance point of view? And thirdly, it has a core focus on the financial and those issues connected to it, with a sporadic excursion into topics that reflect to a certain degree the current populist trends. However, is this enough? Where do the real risks enter in this equation? And who will be the future guardians of the world's global risk management processes? It seems that even the most recent addition to the global set of institutions has difficulties with such a comprehensive mission.

---

\* For some, the International Monetary Fund, founded in 1945 and comprising more than 180 members, would be a more appropriate international body to steer global economic and financial affairs. However, at this time it is clearly the G-20 which is the source of most initiatives to deal with the economic and financial problems at the global level. Depending on how both G-20 and IMF develop, the prominent role of the G-20 could diminish in favour of either the IMF or maybe even a third body.

† For more detailed information see the current projects on the G-20 website.

So far, the existing international institutions, including the new G-20 platform, have not been able to address the question of how to create resilient world systems in a satisfactory manner. However, the international financial markets, the world economy and indeed our global society are in need of an institution (or maybe even more than one institution) that takes the lead in determining how we deal with the key risks facing us, under what rules nation-states and different markets can and should collaborate, how we interact socially, and how we will respond to the global risk management challenge, both in the financial as well as the real sphere.

“Following the financial crisis, there is a new and stronger awareness that an overhaul of global governance – at least as far as economic and financial markets are concerned – is urgently needed.”

## 6. Key Aspects to Watch

Economic activities and real risk management are strictly dependent on which setting they are carried out and under what conditions the discussions are organised that lead to future rules and norms which define how we deal with the economic and social challenges. We would posit that the following key trends that have arisen out of the financial crisis are of special relevance in this context. They ought to be watched carefully as each point will have a major impact on how the financial, economic and social systems will develop at the global level:

1. *The crisis has made everybody more aware of true globalisation and its consequences:* While for several decades following the Second World War the global interaction of businesses has readily increased and the openness of national economies has grown, the term globalisation came to describe a new phenomenon of tight integration of markets at the world level and the appearance of global companies with production facilities and service centres in many different countries.\* What has not followed in an equally dynamic manner are development of the governance structures needed at the world level to direct globalising economies and the political and civil institutions required to accompany them. Both are needed in order to provide the same stable framework that has characterised the national (and some regional) approaches for market-oriented systems. Following the financial crisis, there is a new and stronger awareness that an overhaul of global governance – at least as far as economic and financial markets are concerned – is urgently needed. What is still lacking though is the corresponding development for addressing the risk issues of the non-financial environment.
2. *Neoclassical capitalism and the Anglo-Saxon financial hegemony are questioned:* For several decades, mainstream economic thinking has been strongly influenced by the neoclassical economic theories and their derivatives. The most dynamic economic and

---

\* The openness of an economy is defined as imports plus exports divided by (twice) the GDP of the economy. According to OECD figures, this measure has increased markedly for almost all nations over the past fifty years.

financial developments resulted from a set of paradigms that are now being scrutinized in ever more detail in order to discover more possible shortcomings than the ones that led to the most recent crisis. The impacts of behavioural economics and other more progressive theories have begun to exert a direct influence on how the current generation of policymakers regard market performance, efficiency, resilience and limitations. Together with the increased relevance of emerging markets for the world economy, this is expected to lead to a reduced importance of the traditional centres in the Anglo-Saxon world.

3. *New focus of national and international policies, binding of resources:* The near collapse of the world's financial system resulting in the financial crisis (especially in October 2008) led to an immediate shift in attention of all major governments. Following the rescue actions, the question of how to deal with financial stability and systemic risk became the central concern for all G-20 countries. This has led to a crowding out of other issues, such as climate change, trade negotiations, natural catastrophes etc. While one would expect that the less threatening the situation in the world financial markets appears the more energy will be available again for other projects, it is obvious that the challenges to safeguard the global financial system against future threats will require many years of unrelenting efforts to produce acceptable solutions. Until this is achieved, the challenges for financial stability and systemic risk will require constant attention and hence reduce the capacity of all involved governments to take on other projects at the same time. It is to be expected that less progress can be made on the real risk front when most energies are absorbed by the financial.

In addition, there will have to be a continued and sustained struggle against any potentially appearing tendencies for protectionism as some countries may try to isolate their economies from financial havoc happening elsewhere through inappropriate measures, which would not only have detrimental effects on world trade and future growth but also possibly slow down the progress towards more integrated global thinking and advancements in global governance and risk management.

4. *Creation of new institutions or revamping current ones to deal with global stability:* Although a lot has already happened in this respect on the financial side of things, see e.g. the establishment of the G-20 and the reorganisation of the Financial Stability Forum (FSF) into the Financial Stability Board (FSB) with added powers, more activity is needed, especially beyond the purely financial. In many countries and regions around the world, governments are getting ready to establish systemic risk councils and boards that are going to be tasked with regional or local financial stability monitoring. Other organisations such as the IMF or the World Bank are adapting their operations to be more useful in the future to avoid financial instability and to combat it whenever it might appear. This will ultimately lead to an institutional landscape that will be very different from what was in place before the financial crisis. It will also have an influence on how and where key decisions for the world markets will be taken and what kind of framework will exist for nation-states to interact in the future.
5. *International reform projects pushing national agendas:* As has been evident over the past three years, it is increasingly an international agenda that drives national agendas rather than the other way around. The G-20 as a key source for regulatory projects

and driver of institutional change has clearly established an international platform that directs the focus of national governments. Reform projects such as Basel III, Solvency II (which is increasingly not only a European project but growing into an international benchmark) or International Financial Reporting Standards reforms have not only a global quality to them but establish a mechanism of the international influencing and determining the national. They currently do so mostly for the financial, but the trend is expected to have increasing consequences for the economic, political and social environments in all countries.

6. *Higher relevance of politicians and public servants for economic issues:* With laissez-faire capitalism (that postulated minimal governmental intervention and a soft touch for regulation and supervision as key principles) coming to an end, so a new group of persons will require more relevance – government officials. As central banks have greatly increased their balance sheets, as governments and their agencies have massively augmented their debt burden, as regulators and supervisors are vying for more control over the financial and economic systems, the officials in control of these institutions all exert more direct control over markets. Many decisions that will be taken by policymakers and public servants now have a more immediate impact on the economy and following the new wave of regulation this is set to increase. Market participants will have to pay closer attention to these decisions, understand who takes them and why, and how they will possibly affect the markets in which they are active. Consequences in the social dimension will follow this trend.

## 7. Conclusion

As we write at the outset of this paper, we hope to develop some thoughts that are aimed at increasing the resilience of the global social and economic system while safeguarding basic democratic principles at the global level. There is a long way ahead of us in this respect and hopefully the financial crisis can be used as a catalyst for producing further change that will bring the social dimension of globalisation, which has yet to appear in a more evident way, closer in line with the financial one, which has already seen significant (for some even excessive) advancement. Ultimately, our global systems can be resilient if they are based not only on efficient markets that can cope with future crises, but on principles that also allow for the projection of civic will and preference onto the global level. Stability and resilience are laudable goals but they need to be achieved in all three dimensions, the financial, the economic and the social, in a participatory fashion.

### *Author Contact Information*

*Email : [patrick\\_liedtke@genevaassociation.org](mailto:patrick_liedtke@genevaassociation.org)*

## Notes

1. Patrick Liedtke and Jan Monkiewicz, *The Future of Insurance Regulation and Supervision — A Global Perspective* eds., (London: Palgrave Macmillan, 2011).
2. Brian Woodrow, "Towards A Concept and Metrics of Vulnerability: An Initial Formulation," *ASEC* December 2006 / Revised 2008 and 2010 [www.asecinfo.org](http://www.asecinfo.org)
3. James Schiro, "External Forces Impacting the Insurance Industry: Threats from Regulation," *The Geneva Papers on Risk and Insurance* 31, no.1 (2006): 25-30.



## Flaws in the Concept of Nuclear Deterrence

**John Scales Avery**, University of Copenhagen, Denmark;  
Fellow, World Academy of Art and Science

### Abstract

*The concept of nuclear deterrence is seriously flawed, and it violates the fundamental ethical principles of all major religions. Besides being morally unacceptable, nuclear weapons are also illegal according to a historic 1996 decision of the International Court of Justice, a ruling that reflects the opinion of the vast majority of the world's peoples. Even a small nuclear war would be an ecological catastrophe, not only killing civilian populations indiscriminately in both belligerent and neutral countries, but also severely damaging global agriculture and making large areas of the earth permanently uninhabitable through radioactive contamination. The danger of accidental nuclear war continues to be very great today, and the danger of nuclear terrorism is increasing. In this perilous situation, it is necessary for the nuclear nations to acknowledge that the concept of deterrence has been a mistake, which is threatening the lives of all human beings as well as threatening devastation of the biosphere. Acknowledging that the policy of nuclear deterrence has been a grave error can reduce risk of nuclear weapons proliferation.*

Before discussing other defects in the concept of deterrence, it must be said very clearly that the idea of “massive nuclear retaliation” is completely unacceptable from an ethical point of view. The doctrine of retaliation, performed on a massive scale, violates not only the principles of common human decency and common sense, but also the ethical principles of every major religion. Retaliation is especially contrary to the central commandment of Christianity which tells us to love our neighbor, even if he or she is far away from us, belonging to a different ethnic or political group, and even if our distant neighbor has seriously injured us. This principle has a fundamental place not only in Christianity but also in all other major religions. “Massive retaliation” completely violates these very central ethical principles, which are not only clearly stated and fundamental but are also very practical, since they prevent escalatory cycles of revenge and counter-revenge.

Contrast Christian ethics with estimates of the number of deaths that would follow a US nuclear strike against Russia: Several hundred million deaths. These horrifying estimates shock us not only because of the enormous magnitude of the expected mortality, but also because the victims would include people of every kind: women, men, old people, children and infants, completely irrespective of any degree of guilt that they might have. As a result of such an attack, many millions of people in neutral countries would also die. This type of killing has to be classified as genocide.

When a suspected criminal is tried for a wrongdoing, great efforts are devoted to clarifying the question of guilt or innocence. Punishment only follows if guilt can be proved beyond any reasonable doubt. Contrast this with the totally indiscriminate mass slaughter that results from a nuclear attack!

It might be objected that disregard for the guilt or innocence of victims is a universal characteristic of modern war, since statistics show that, with time, a larger and larger percentage of the victims have been civilians, especially children. For example, the air attacks on Coventry during World War II, or the fire bombings of Dresden and Tokyo, produced massive casualties which involved all segments of the population with complete disregard for the question of guilt or innocence. The answer, I think, is that modern war has become generally unacceptable from an ethical point of view, and this unacceptability is epitomized in nuclear weapons.

The enormous and indiscriminate destruction produced by nuclear weapons formed the background for a historic 1996 decision by the International Court of Justice in The Hague. In response to questions put to it by WHO and the UN General Assembly, the Court ruled that “the threat and use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and particularly the principles and rules of humanitarian law”. The only possible exception to this general rule might be “an extreme circumstance of self-defense, in which the very survival of a state would be at stake”. But the Court refused to say that even in this extreme circumstance the threat or use of nuclear weapons would be legal. It left the exceptional case undecided. In addition, the World Court added unanimously that “there exists an obligation to pursue in good faith and bring to a conclusion, negotiations leading to nuclear disarmament in all its aspects under strict international control”.

This landmark decision has been criticized by the nuclear weapon states as being decided “by a narrow margin”, but the structuring of the vote made the margin seem more narrow than it actually was. Seven judges voted against Paragraph 2E of the decision (the paragraph which states that the threat or use of nuclear weapons would be generally illegal, but mentions as a possible exception the case where a nation might be defending itself from an attack that threatened its very existence). Seven judges voted for the paragraph, with the President of the Court, Mohammad Bedjaoui of Algeria casting the deciding vote. Thus the Court adopted it, seemingly by a narrow margin. But three of the judges who voted against 2E did so because they believed that no possible exception should be mentioned! Thus, if the vote had been slightly differently structured, the result would have been ten to four.

Of the remaining four judges who cast dissenting votes, three represented nuclear weapons states, while the fourth thought that the Court ought not to have accepted the questions from WHO and the UN. However, Judge Schwebel from the United States, who voted against Paragraph 2E, added in a separate opinion, “It cannot be

---

*“The concept of nuclear deterrence is not only unacceptable from the standpoint of ethics; it is also contrary to international law. Although no formal plebiscite has been taken, the votes in numerous resolutions of the UN General Assembly speak very clearly on this question.”*

---

accepted that the use of nuclear weapons on a scale which would – or could – result in the deaths of many millions in indiscriminate inferno and by far-reaching fallout, have pernicious effects in space and time, and render uninhabitable much of the earth, could be lawful”. Judge Higgins from the UK, the first woman judge in the history of the Court, had problems with the word “generally” in Paragraph 2E and therefore voted against it, but she thought that a more profound analysis might have led the Court to conclude in favor of illegality in all circumstances. Judge Fleischhauer of Germany said in his separate opinion, “The nuclear weapon is, in many ways, the negation of the humanitarian considerations underlying the law applicable in armed conflict and the principle of neutrality. The nuclear weapon cannot distinguish between civilian and military targets. It causes immeasurable suffering. The radiation released by it is unable to respect the territorial integrity of neutral States”.

President Bedjaoui, summarizing the majority opinion, called nuclear weapons “the ultimate evil”, and said “By its nature, the nuclear weapon, this blind weapon, destabilizes humanitarian law, the law of discrimination in the use of weapons... The ultimate aim of every action in the field of nuclear arms will always be nuclear disarmament, an aim which is no longer utopian and which all have a duty to pursue more actively than ever”.

Thus the concept of nuclear deterrence is not only unacceptable from the standpoint of ethics, it is also contrary to international law. The World Court’s 1996 advisory opinion unquestionably also represents the opinion of the majority of the world’s peoples. Although no formal plebiscite has been taken, the votes in numerous resolutions of the UN General Assembly speak very clearly on this question. For example, the New Agenda Resolution (53/77Y) was adopted by the General Assembly on 4 December 1998 by a massively affirmative vote, in which only 18 out of the 170 member states voted against the resolution.\* The New Agenda Resolution proposes numerous practical steps towards complete nuclear disarmament, and it calls on the Nuclear-Weapon States “to demonstrate an unequivocal commitment to the speedy and total elimination of their nuclear weapons and without delay to pursue in good faith and bring to a conclusion negotiations leading to the elimination of these weapons, thereby fulfilling their obligations under Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)”. Thus, in addition to being ethically unacceptable and contrary to international law, nuclear weapons are also contrary to the principles of democracy.

Having said these important things, we can now turn to some of the other defects in the concept of nuclear deterrence. One important defect is that nuclear war may occur through accident or miscalculation – through technical defects or human failings. This possibility is made greater by the fact that despite the end of the Cold War, thousands of missiles carrying nuclear warheads are still kept on a “hair-trigger” state of alert with a quasi-automatic reaction time measured in minutes. There is a constant danger that a nuclear war will be triggered by an error in evaluating the signal on a radar screen. For example, the BBC reported recently that a group of scientists and military leaders are worried that a small asteroid entering the earth’s atmosphere and exploding could trigger a nuclear war if mistaken for a missile strike.

---

\* Of the 18 countries that voted against the New Agenda resolution, 10 were Eastern European countries hoping for acceptance into NATO, whose votes seem to have been traded for increased probability of acceptance.

A number of prominent political and military figures (many of whom have ample knowledge of the system of deterrence, having been part of it) have expressed concern about the danger of accidental nuclear war. Colin S. Gray, Chairman, National Institute for Public Policy, expressed this concern as follows: “The problem, indeed the enduring problem, is that we are resting our future upon a nuclear deterrence system concerning which we cannot tolerate even a single malfunction”. General Curtis E. LeMay, Founder and former Commander in Chief of the United States Strategic Air Command, has written, “In my opinion a general war will grow through a series of political miscalculations and accidents rather than through any deliberate attack by either side”. Bruce G. Blair (Brookings Institute) has remarked that “It is obvious that the rushed nature of the process, from warning to decision to action, risks causing a catastrophic mistake”... “This system is an accident waiting to happen.”

“But nobody can predict that the fatal accident or unauthorized act will never happen,” Fred Iklé of the Rand Corporation has written, “Given the huge and far-flung missile forces, ready to be launched from land and sea on both sides, the scope for disaster by accident is immense... In a matter of seconds – through technical accident or human failure – mutual deterrence might thus collapse.”

Another serious failure of the concept of nuclear deterrence is that it does not take into account the possibility that atomic bombs may be used by terrorists. Indeed, the threat of nuclear terrorism has today become one of the most pressing dangers that the world faces, a danger that is particularly acute in the United States.

Since 1945, more than 3,000 metric tons (3,000,000 kilograms) of highly enriched uranium and plutonium have been produced – enough for several hundred thousand nuclear weapons. Of this, roughly a million kilograms are in Russia, inadequately guarded, in establishments where the technicians are poorly paid and vulnerable to the temptations of bribery. There is a continuing danger that these fissile materials will fall into the hands of terrorists, or organized criminals, or irresponsible governments. Also, an extensive black market for fissile materials, nuclear weapons components etc. has recently been revealed in connection with the confessions of Pakistan’s bomb-maker, Dr. A.Q. Khan. Furthermore, if Pakistan’s less-than-stable government should be overthrown, complete nuclear weapons could fall into the hands of terrorists.

On November 3, 2003, Mohamed ElBaradei, Director General of the International Atomic Energy Agency, made a speech to the United Nations in which he called for “limiting the processing of weapons-usable material (separated plutonium and high enriched uranium) in civilian nuclear programmes – as well as the production of new material through reprocessing and enrichment – by agreeing to restrict these operations to facilities exclusively under international control.” It is almost incredible, considering the dangers of nuclear proliferation and nuclear terrorism, that such restrictions were not imposed long ago. Nuclear reactors used for “peaceful” purposes unfortunately also generate fissionable isotopes of plutonium, neptunium and americium. Thus, all nuclear reactors must be regarded as ambiguous in function, and all must be put under strict international control. One might ask, in fact, whether globally widespread use of nuclear energy is worth the danger that it entails.

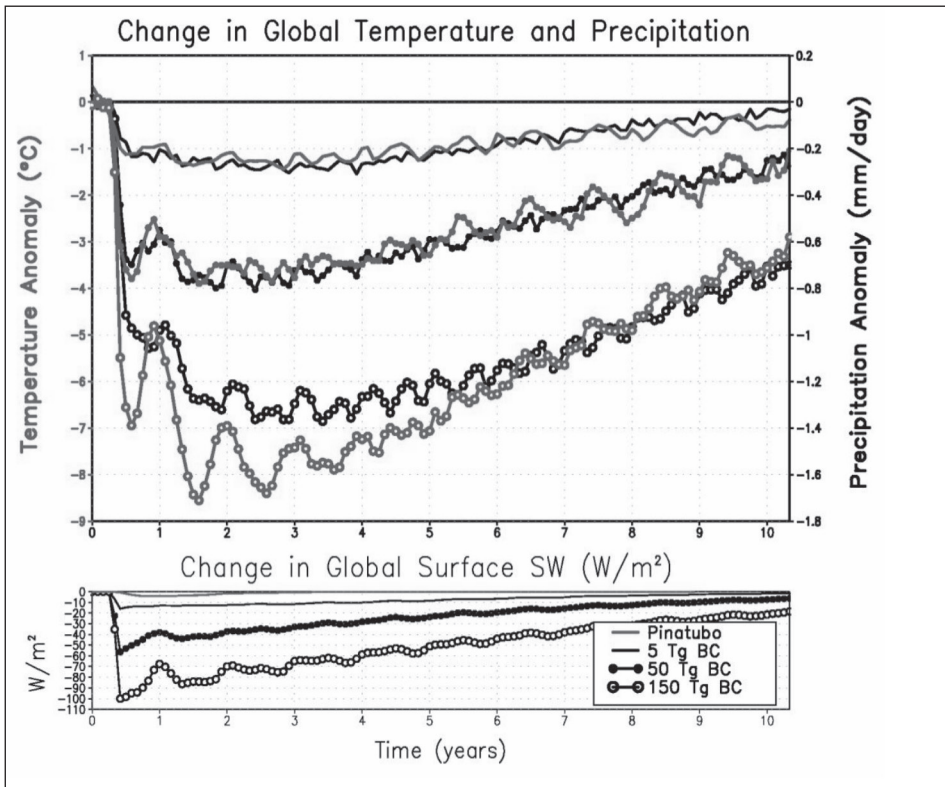


Figure 1: Recent studies by atmospheric scientists have shown that the smoke from burning cities produced by even a limited nuclear war would have a devastating effect on global agriculture. The studies show that the smoke would rise to the stratosphere, where it would spread globally and remain for a decade, blocking sunlight and destroying the ozone layer. Because of the devastating effect on global agriculture, darkness from even a small nuclear war (e.g. between India and Pakistan) would result in an estimated billion deaths from famine. Nuclear darkness resulting from a large-scale war involving all of the nuclear weapons that are now on high alert status would destroy all agriculture on earth for a period of ten years, and almost all humans would die of starvation. (See O. Toon, A. Robock, and R. Turco, "The Environmental Consequences of Nuclear War", *Physics Today*, vol. 61, No. 12, 2008, p. 37-42).

The Italian nuclear physicist Francesco Calogero, who has studied the matter closely, believes that terrorists could easily construct a simple gun-type nuclear bomb if they were in possession of a critical mass of highly enriched uranium. In such a simple atomic bomb, two grapefruit-sized sub-critical portions of HEU are placed at opposite ends of the barrel of an artillery piece and are driven together by means of a conventional explosive. Prof. Calogero estimates that the fatalities produced by the explosion of such a device in the center of a large city could exceed 100,000.

We must remember the remark of U.N. Secretary General Kofi Annan after the 9/11/2001 attacks on the World Trade Center. He said, “This time it was not a nuclear explosion”. The meaning of his remark is clear: If the world does not take strong steps to eliminate fissionable materials and nuclear weapons, it will only be a matter of time before they will be used in terrorist attacks on major cities. Neither terrorists nor organized criminals can be deterred by the threat of nuclear retaliation, since they have no territory against which such retaliation could be directed. They blend invisibly into the general population. Nor can a “missile defense system” prevent terrorists from using nuclear weapons, since the weapons can be brought into a port in any one of the hundreds of thousands of containers that enter on ships each year, a number far too large to be checked exhaustively.

*“It is time for civil society to make its will felt. If our leaders continue to enthusiastically support the institution of war, if they will not abolish nuclear weapons, then let us have new leaders.”*

In this dangerous situation, the only logical thing for the world to do is to get rid of both fissile materials and nuclear weapons as rapidly as possible. We must acknowledge that the idea of nuclear deterrence is a dangerous fallacy, and that the development of military systems based on nuclear weapons has been a terrible mistake, a false step that needs to be reversed. If the most prestigious of the nuclear weapons states can sincerely acknowledge their mistakes and begin to reverse them, nuclear weapons will seem less glamorous to countries like India, Pakistan, North Korea and Iran, where they now are symbols of national pride and modernism.

Civilians have for too long played the role of passive targets, hostages in the power struggles of politicians. It is time for civil society to make its will felt. If our leaders continue to enthusiastically support the institution of war, if they will not abolish nuclear weapons, then let us have new leaders.

*Author Contact Information*  
*Email : avery.john.s@gmail.com*

## **Simulated ICJ Judgment: Revisiting the Lawfulness of the Threat or Use of Nuclear Weapons**

**Winston P. Nagan**

Member of the Board of Trustees, World Academy of Art and Science;  
Director, Institute for Human Rights, Peace and Development, University of Florida

### **Abstract**

*The author prepared this simulated judgment at the request of Cadmus editors to demonstrate that there is ample ground for revisiting and revising the landmark 1996 advisory opinion of the ICJ on the legality of nuclear weapons. The ICJ failed to anticipate the proliferation of nuclear weapons, which expands the evolution of the concept of sovereignty, the potential cataclysmic impact of nuclear war on climate change, the multiplication of nuclear-weapon-free zones as evidence of a widespread rejection, mounting evidence regarding the physical and psychological harm, and unwillingness of the nuclear weapons states to fulfill their obligations under the NPT. This article challenges the notion that a few sovereign states should be the sole arbiters of international law and affirms the legitimate claim of the global community of protection from the existential threat posed by nuclear weapons. The use or threat of use undermines foundational values of the international legal system and the specific rules of self-defense and humanitarian law. The contribution seeks to give an accentuated role for the explicit use of the fundamental values of international legal order, in crafting an innovative methodology for the formulation of the judgment. The very existence of these weapons undermines the rights of all of humanity. The ICJ should be moved to categorically declare the use and possession of nuclear weapons a crime against humanity.*

### **1. Summary of Findings of 1996 Rulings**

The principal findings of the Court in its 1996 advisory opinion are as follows:

1. By a vote of 14-0 the Court found that “There is in neither customary nor conventional international law any specific authorization of the threat or use of nuclear weapons”;
2. By a vote of 11-3 the Court found that “There is in neither customary nor conventional international law any comprehensive and universal prohibition of the threat or use of nuclear weapons as such”;
3. By a vote of 14-0 the Court found that “A threat or use of force by means of nuclear weapons that is contrary to Article 2, paragraph 4, of the United Nations Charter and that fails to meet all the requirements of Article 51, is unlawful”;
4. By a vote of 14-0 the Court found that “A threat or use of nuclear weapons should also

be compatible with the requirements of the international law applicable in armed conflict, particularly those of the principles and rules of humanitarian law, as well as with specific obligations under treaties and other undertakings which expressly deal with nuclear weapons”;

5. By a vote of 7-7 the Court found that “The threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and in particular the principles and rules of humanitarian law; However, in view of the current state of international law, and of the elements of fact at its disposal, the Court cannot conclude definitively whether the threat or use of nuclear weapons would be lawful or unlawful in an extreme circumstance of self-defence, in which the very survival of a State would be at stake”;
6. By a vote of 14-0 the Court found that “There exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control”.

---

*“Law should reflect the basic values and sense of public conscience which emerge from evolving expectations .”*

---

## 2. Rationale for Review of the 1996 Judgment

The Court is subject to a request to review its own findings of its earlier advisory opinion issued in 1996.\* The Court has determined that it has the jurisdiction to proceed with this question. The court also determines, as it did in 1996, that this question raises matters of a distinctively legal character and therefore it is appropriate for the Court to discharge its obligation to provide advisory opinion on a legal question. Finally, the Court has discretion whether to provide an advisory opinion or not.

In a fundamental sense, law should reflect the basic values and sense of public conscience which emerge from evolving expectations responding to changes in perceptions, attitudes and shared subjectivities of society at large. Law in our time emerges during a very turbulent period. In the aftermath of the Cold War, the prevailing perceptions and attitudes were inevitably colored by the five-decade-long arms race in which the salience of nuclear weapons in national defense strategy was unassailable and a perspective encompassing the security needs of humanity as a whole had yet to emerge. Furthermore, facts and circumstances impacting on an assessment of this issue have changed substantially since our earlier judgment.

“The Court did not adequately consider that its own response may serve as a justification or stimulus for the further proliferation of nuclear weapons.”

1. The vitality and relevance of law are tied to its sensitivity and the responsibility it generates for its impacts on humanity and its social consequences. In our earlier judgment, the Court did not adequately consider that its own response may serve as a justification or stimulus for the further proliferation of nuclear weapons. Since then at

---

\* Legality of the Threat or Use of Nuclear Weapons, ICJ Advisory Opinion (8 July 1996).



least three other countries – India, Pakistan and North Korea – have acquired possession of nuclear weapons, substantially escalating the dangers of an intentional detonation of nuclear weapons. According to testimony of the IAEA, a fourth nation, Iran, may be close to doing so. Studies by respected institutions indicate the likelihood that a continuation of the legal status quo could encourage or provide compelling justification for other nations to acquire nuclear weapons.

2. Recent disclosures regarding accidents relating to nuclear weapons and materials in the USA and the former USSR – both during and since the end of the Cold War – make clearer the magnitude of the danger of a nuclear accident. Evidence has come to light which suggests that the Court may not have sufficiently considered the possible unintended dangers arising from its judgment, since it considered only the question of intended usage. Recent studies tracking fallout from the Fukushima nuclear accident in 2011 indicate that thousands of citizens in other countries around the world may have lost their lives or incurred serious illness as a result of the fallout from the accident. If there is a probability that any action, whether it be erection of a nuclear power plant or possession of nuclear weapons, may lead to unintended consequences that impact on other claimants, then those claimants have a right to seek reasonable protection under law from such actions and the Court has an obligation to examine the issue from this perspective as well.
3. Both of these factors acquire even greater significance in the light of the rising levels of international terrorism over the past two decades, which have plagued and continue to plague the international community since the attack on the World Trade Center in September 2001. While the 1996 judgment directly concerned only the usage of nuclear weapons, sanctioning possible usage necessarily implies a sanction for the possession of nuclear weapons. In doing so, therefore, the Court may have inadvertently undermined the rights of other nation-states and the world community to protection from victimization, as a result of weapons stolen from nuclear weapon states.
4. With the end of the Cold War, it appeared in 1996 that the world may well be nearing the end of its long history of war. Yet, since then, two major destabilizing wars have flared up in Afghanistan and Iraq and spread waves of violence to a neighboring nuclear weapons state, Pakistan. The recent change of leadership in North Korea, also a nuclear weapons state, has heightened tensions and threat levels.
5. While the presumption of earlier testimony before the Court was that the use of nuclear weapons might possibly be required as a last resort for self-defense, since then several nuclear weapon states including the USA and USSR have actually enhanced the status of nuclear weapons as part of their overall defense strategies, including the possibility of first use. This suggests that the Court's earlier judgment was not sufficiently clear in its pronouncement on the inherent illegality of these weapons.
6. Perhaps, most significant of all, our earlier judgment was made before there was widespread understanding regarding the threat posed by climate change to the security of the entire human race and the potentially devastating impact of nuclear war on global warming, a threat to humanity that could well overshadow all other considerations.

7. Our earlier judgment was predicated around the issue of whether sovereign states had the right to possess and possibly to use nuclear weapons. It did not sufficiently take into account the rights of other non-belligerent states to protection from the possible intended or unintended consequences of possession or use of these weapons.
8. Earlier, the Court acted under the assumption that sovereign states were the sole legitimate participants in the creation and interpretation of law related to nuclear weapons. It now becomes evident that the security and welfare of the entire world community may be directly and very powerfully influenced by the question whether use of nuclear weapons is considered legal under any circumstances. From this perspective, it is necessary to reconsider whether an act by one party in self-defense may be justified when there is a possibility that it may have consequences for the entire world community. Can self-defense of the part be justified if it endangers the security of the whole?
9. The concept of national sovereignty has evolved from the notion of state absolutism to a concern that sovereignty derives its authority from the people, whose interests are reflected in the emergence of norms of good governance which require transparency, accountability, responsibility and a fundamental regard for the human rights and dignity of the people, protected by the rule of law. Sovereign authority does not come from the barrel of a gun but from the individual components of the body politic. There are grounds to question whether the Court's earlier judgment was founded upon an interpretation of the rights of nation-states which may be at variance with recent developments in international rule of law, which significantly change assumptions of state sovereign absolutism.
10. This issue raises fundamental questions regarding the rightful claimants in this case. Resolutions in the UN General Assembly, efforts to establish regional nuclear-free zones, studies and opinion polls measuring global public opinion in both nuclear and non-nuclear weapon states all indicate a growing abhorrence and rejection of the legitimacy of these weapons. The 2011 resolution of the UN General Assembly calling for a convention to prohibit the use of nuclear weapons was approved by 117 nations. While it is true that the ICJ was originally established by an international treaty signed by nation-states, the ultimate sovereignty and authority of these states must necessarily arise from and rest with their citizens. In recent years, the UN Security Council has recognized the right of the international community to intervene in countries such as Libya when it became evident that national governments were acting in contravention of the will of the majority of their own people. If it be found that the vast majority of the world's citizens reject the legality of nuclear weapons, then it may be that the legality of prevailing national laws and international treaties is subject to question. Therefore, this issue compels the Court to consider whether in fact claimants other than nation-states may under certain circumstances have legitimate interests that should be accounted for in the expression of international rights and obligations on this important issue.
11. Finally, the Court's earlier judgment was predicated on the explicit premise that the nuclear weapons powers would pursue and conclude good-faith negotiations leading to complete nuclear disarmament as they are legally bound to do under article VI of the Treaty on the Non-Proliferation of Nuclear Weapons. Events subsequent to the Court's

earlier judgment have not borne out this premise. On the contrary, not only have at least three additional states acquired nuclear weapons, but in addition several of the largest nuclear weapons powers have actually upgraded the salience of nuclear weapons in their military strategies, a move directly counter to their obligations under the Treaty.

In view of the salience of these issues for the future of international law and the future of global society, the Court holds that it lies within its sound discretion to revisit its earlier ruling and to provide a clear and precise legal appraisal of the issue.

### 3. Evolution of the Concept of Sovereignty

In 1996 we provided an important clarification concerning the unique characteristics of nuclear weapons and the scope of the applicable International Law. This approach rejected the arguments of nuclear-enabled states which argued that there was no specific rule of customary international law or treaty law that specifically held the threat or use of nuclear weapons to be illegal or that there was no international prohibition on its face that the threat or use of nuclear weapons was incompatible with international law. This proposition was based on the *Lotus Case* decided by the PCIJ in 1926.\*

The case involved a collision on the high seas between a French and a Turkish ship in peace time. Turkey had sought to prosecute the Officer of the Watch on the French ship for criminal negligence. The Court ruled in favor of France. Essentially, Turkey could point to no international treaty or customary rule that gave it jurisdiction over French personnel with regard to an accident occurring on the high seas. In short, the Court ruled that since there was no specific rule of international law to which the parties had consented, there could be no restraint based on International Law imposed on a sovereign State. The context of this case did not emerge under the shadow of the laws of war or contemporary human rights obligations. As a consequence, the precedent provides no guidance for the current problem. Additionally implicit in the *Lotus Case* is a strong version of sovereignty, a version significantly modified by the expanded scope of international obligation under the UN Charter.

The concept of sovereignty and the implication of state absolutism have been considerably modified by the UN Charter and state practice since WWII. For example, the Preamble of the UN Charter begins with the phrase “We the peoples of the United Nations determine...” While it is true that membership in the UNO is confined to Sovereign states, those states condition UN membership on agreeing to subordinate sovereignty to the major purposes of the UN Charter. These include the values of peace and security, friendship between nations, the value of humanitarian and human rights law, which implicate universal dignity, and a commitment to the rule of law. Additionally, the post-war period has emerged with a principle of universal jurisdiction for certain crimes against humanity, grave violations of human rights and genocide. Additionally, the international system has developed a class of obligations known as obligations *erga omnes*, obligations which trump sovereignty. In addition, international law has developed the principle of peremptory norms of international law, *jus cogens*, which is also a principle which trumps sovereign absolutism. Finally, there is emerging, in international law, a further limitation on the notion of sovereign absolutism.

---

\* S.S. *Lotus* (Fr. v. Turk.), 1927 P.C.I.J. (ser. A) No. 10 (Sept. 7)

This is the emergence of the abuse of the idea of sovereignty which is specifically designed to diminish sovereign absolutism when significant or serious violations of human rights happen.

The doctrinal basis of sovereignty gives preference to the legal personality of the state but has historically had the consequence of viewing the individual as not a subject of international law, but an object of it. This extinguishes individual identity and correspondingly the individual as an articulator of individuated interests in the international legal system. This is an outgrowth of objective positivism, which seeks to base law solely on external fact and explicit agreement ignoring the subjective reality of human aspirations, inalienable rights and universal human values. The state is viewed as an entity apart, something separate from the individuals who constitute its members, an objective reality in its own right, even its right to impose itself on its own people. It bases itself on faith in a mechanical process of ordering and organization which may fail to perceive or honor the subjective aspirations and values of those it seeks to govern. The subjective reality is based on the developing self-consciousness of humanity and its quest for self-realization.

*“The individual, the nation-state and the global community all have a legitimate claim for protection and freedom, and justice necessitates evolution of a rule of law that recognizes, harmonizes and reconciles rather than merely balances and compromises the claims of all three.”*

As indicated, a condition of membership in the UN is that a State is able and willing to honor the obligations codified in the UN Charter itself. Moreover, judicial method has itself evolved in the exposition of law. The idea of law as a set of narrowly formulated rules to be mechanistically followed is incompatible with the fundamental principle embedded in the UN Charter that law should be construed in the light of the major object, purposes and values of that instrument. In short, in the absence of specific rules it is completely unnecessary, and possibly irresponsible, to consign vitally important aspects of human conduct to a legal vacuum in our global social and legal process. To this end, modern law brings to legal discourse more than simply “rules”; it brings to the discourse higher level principles, standards, doctrines and fundamental legal values for the complete and careful discharge of the judicial function. More than that, adjudication, be it advisory or contentious, must understand the problem before the Court in its appropriate context. It must be alert to the possible value of a multidisciplinary perspective, it must keep in mind the basic values which are ultimately the foundation of the law itself and must see law as an important expression of authoritative and controlling responses in the common interest of all mankind.

As national law is ultimately founded on the fundamental rights of individual human beings, the true basis of international law cannot be relegated solely to the rights of national entities represented by their governments, but must be ultimately founded on the rights of all human beings. So too, it must not only recognize the existence and rights of sovereign nation-states to protect their territory and freedom to determine their way of life, but also and equally the existence and rights of the global human community to protect the global commons and freedom from compulsions dictated by smaller collectives. Prevailing international law is

based on the need to control the egoism of individual nation-states, but this is an insufficient basis for the evolution of global governance. Sovereignty is not a matter of supremacy of the nation-state over its own people or freedom from binding obligation to humanity. The individual, the nation-state and the global community all have a legitimate claim for protection and freedom, and justice necessitates evolution of a rule of law that recognizes, harmonizes and reconciles rather than merely balances and compromises the claims of all three.

#### **4. Foundations of the 1996 ICJ Judgment**

In our 1996 judgment, even the dissenting Justice Weeramantry conceded that we had advanced and clarified the discourse about the legal aspect of the control and regulation of nuclear weapons in terms of either threat or use. However, we believe that our opinion should be improved upon. Our exposition could be more explicit and rational about our methods of reasoning so as to provide greater clarity and guidance to the leaders in the world community about the actual status of nuclear weapons as well as guidelines to assure their eventual abolition. Ultimately, the concern with the limitations of our 1996 opinion was the position we took on the question of nuclear weapons, self-defense and survival of the State. It is appropriate to quote the relevant portion of that judgment in full:

*“in view of the current state of international law, and of the elements of fact at its disposal, the Court cannot conclude definitively whether the threat or use of nuclear weapons would be lawful or unlawful in an extreme circumstance of self-defense, in which the very survival of a State would be a stake.”*

In 2012 we may confidently state that the current state of international law today is not unclear or uncertain. Indeed, in reviewing the opinions of the dissenters it may even be stated that the law was clear on this question in 1996. The Court had indicated in 1996 that the current elements of fact available to the Court did not provide a basis for a definitive conclusion. It is our contention that the facts available then, as well as contemporary elements of fact today, remove all doubt about the information available to the Court to reach a definitive conclusion. In order to sustain the opinion of the Court today we approach the task by changing and modernizing the method of judicial exposition and analysis. We start our analysis with the problem which the Court was and is now confronted with – the unique nature of nuclear weapons.

#### **5. The Unique Nature of Nuclear Weapons**

Nuclear weapons are weapons of mass destruction. Indeed, the nuclear arsenals distributed among nuclear empowered States are such that there is no necessity for delivery systems because detonating a critical number of thermonuclear weapons could trigger the destruction of all human life on planet Earth. In 1945 the United States completed the testing of its nuclear bomb and President Truman authorized its use on the Empire of Japan which was still at war with the US. These atom bombs were rather miniscule when compared with thermonuclear weapons that are in nuclear arsenals today. For example, one megaton bomb would represent the destructive capacity of 70 Hiroshima bombs. A 15 megaton bomb would be the equivalent of 1,000 megaton bombs. A one megaton bomb is the equivalent of a

million tons of TNT. These statistics are mind-boggling when it is considered that there are a multitude of 20+ megaton bombs kept in readiness for the threat or use in terms of sovereign interest. What distinguishes nuclear and thermonuclear weapons from conventional weapons is explained by the United States Atomic Energy Commission:

*“it differs from other bombs in three important respects: first, the amount of energy released by an atomic bomb is a thousand or more times as great as that produced by most powerful TNT bombs; secondly, the explosion of the bomb is accompanied by highly penetrating and deleterious invisible rays, in addition to intense heat and light; and, thirdly, the substances which remain after the explosion are radioactive, emitting radiations capable of producing harmful consequences in living organisms”.*

## 6. The Nuclear Threat to a Viable Eco-System – Nuclear Winter

Life, including human life, depends upon environmental integrity. To destroy environmental integrity is to destroy life as we know it. This is one of the most important and unique threats that nuclear arsenals pose for survival. Consider the following statement of the World Commission on the Environment and Development:

*“The likely consequences of nuclear war make other threats to the environment pale into insignificance. Nuclear weapons represent a qualitatively new step in the development of warfare. One thermonuclear bomb can have an explosive power greater than all the explosives used in wars since the invention of gunpowder. In addition to the destructive effects of blast and heat, immensely magnified by these weapons, they introduce a new lethal agent – ionizing radiation – that extends lethal effects over both space and time.”*

Such is the potential destructive capacity of already deployed nuclear arsenals that the capacity inheres in these weapons to destroy life on this planet many times over. On the assumption that, unlikely as it is, some forms of humanity may survive, the byproducts of a nuclear explosion, take plutonium 239 for instance, will last for 20,000 years retaining its lethality for human habitation. The principal radioactive elements that result from the detonation of nuclear weapons are as follows:

*Table 1: Half-life of Radioactive Nuclides*

<b>Nuclide</b>	<b>Half-life</b>
Cesium 137	30.2 years
Strontium 90	28.6 years
Plutonium 239	24,100 years
Plutonium 240	6,570 years
Plutonium 241	14.4 years
Americium 241	432 years

Table 1 underscores the lethal multigenerational effects of radiation. In short, we are not dealing simply with contemporaneous extinction but an extinction that ensures no future generation any survivability. If the scope of destruction is more limited there will still be catastrophic effects on the Earth-space eco-system.

The environmental and human consequences of nuclear weapons violate the laws of armed conflict in important ways, particularly in light of the new scientific certainty regarding the after-effects of a nuclear conflict, both through death and injury to non-combatant nations, as well as the long term degradation of food stocks and arable land which would devastate human civilization.<sup>1</sup> One of the possible aftereffects of a massive nuclear exchange would be the emergence of a nuclear winter. A smoke cloud and the debris generated from a multitude of explosions would block out sunlight. There would be crop failures and global starvation.<sup>2</sup> Climatic changes resulting from nuclear conflict would occur many thousands of times faster and thus would likely be far more catastrophic than the ones predicted as a result of global warming. The rapidity of the war-induced changes, appearing in a matter of days and weeks, would give human populations and the whole plant and animal kingdoms no time to adapt.

Historical evidence indicates that radical long term climate change occurred in the past due to a single volcanic eruption. Recent research by Alan Robock utilizing a model designed by NASA's Goddard Institute for Space Studies, which was used to produce results of the Intergovernmental Panel on Climate Change (IPCC), indicates that the smoke from burning cities generated by even a limited nuclear war would have devastating impact on global agriculture and result in billions of deaths from famine.<sup>3</sup> Robock likens the impact to that caused by the eruption of Mount Tambora in Indonesia in 1815, the largest such event on record. The resulting cloud of ash spread around the world and caused crops to fail the following year in North America and Europe, resulting in the worst famine of the century.

A relatively immediate consequence of such an exchange could be the triggering of a nuclear winter. The darkness resulting from a large scale nuclear war could destroy all agriculture on earth, threatening the extinction of all humanity.<sup>4</sup> The threat or use of nuclear weapons represents existentially the most absolute form of alienation of humanity from itself. It is this consequence that poses the most important challenge to the defense of the foundational values of humanity and law which is the challenge before this Court.

The limits of acceptable collateral damage are explicitly delineated in military manuals which treat Nuclear Weapons usage. The USAF Intelligence Targeting Guide explicitly states that collateral damage must be limited so that friendly troops and populations have a 99% safety factor. In light of the new scientific evidence regarding the long term consequences of nuclear weapons, no use of nuclear weapons would fall within the parameters of acceptable collateral damage in the use of nuclear weapons.<sup>5</sup> As Justice Weeramantry observed in his dissenting opinion, "no credible legal system could contain a rule within itself which rendered legitimate an act which could destroy the entire civilization of which that legal system formed a part."

## **7. Medical Appraisal of the Nuclear Threat**

The two "mini" atom bombs dropped on Hiroshima and Nagasaki resulted in 140,000 and 74,000 deaths respectively. The World Health Organization (WHO) estimated that the use

of a single nuclear weapon or one involving multiple weapons would cause deaths varying from 1 million to 1 billion. A similar number would be seriously injured with burns as well as radiation poisoning. It was also estimated that if India and Pakistan had actually exchanged nuclear weapons several years ago, the lucky victims would be those who were killed. The possibility of a nuclear exchange triggering a nuclear winter, which could result in the mass extinction of humanity, is one that includes the termination of all human existence. This factual contingency anticipates its own condemnation and repudiation. In short, a nuclear winter outcome involves not only a repudiation of the idea of law or the fundamental values behind law but a repudiation of humanity itself.

In the event of an exchange of nuclear arsenals on or near population centers it may be anticipated that, apart from the massive extermination of human beings, there will be thousands upon thousands who have survived and suffered massive burns, and who would be left without any medical response. In short, if the entire world community had mobilized its medical burn unit resources, it would be completely insufficient to even present a token element of medical intervention. Moreover, there are no medical responses for the survivors of a nuclear exchange. When the atomic bomb was used in Japan, there was little evidence that thought was given to the effects of the weapon on human survivors. According to Judge Weeramantry:

*“The death toll from lingering death by radiation is still adding to the numbers. Over 320,000 people who survived but were affected by radiation suffer from various malignant tumors caused by radiation, including leukemia, thyroid cancer, breast cancer, lung cancer, gastric cancer, cataracts and a variety of other after-effects more than half a century later, according to statistics given to the Court by the representative of Japan. With nuclear weapons presently in the world’s arsenals of several multiples of the power of those explosions, the scale of damage expands exponentially.”*

The incredible damage caused by the heat and the blast, apart from the destruction of the physical structure of a city or community provides immense destructive force.\*

In this context the specific issue which implicates international concern in part is whether the effects of a nuclear exchange or detonation can be confined within the territorial boundaries of conflicting States. Scientific studies indicate that the fallout from such detonations will extend for hundreds of kilometers and gamma-ray exposure from the fallout will contaminate human beings across the borders of States. In short, the effect of the use of nuclear weapons will be transnational and therefore trigger an important level of international legal concern. We might therefore conclude this portion of our opinion by stressing the potential of nuclear arsenals to destroy human civilization, culture, communication systems, nuclear reactors, food productivity and more. Nobel Laureate Professor Rotblat had the following statement,

---

\* As human beings are vaporized, or simply torn apart with body parts flying around like missiles in all different directions. The radiation effects are both immediate and long term and have destructive effects on human genetics. A witness from the Marshall Islands described the genetic abnormalities experienced by islanders contaminated by thermonuclear testing:  
“Marshallese women give birth, not to children as we like to think of them, but to things we could only describe as ‘octopuses’, ‘apples’, ‘turtles’, and other things in our experience. We do not have Marshallese words for these kind of babies because they were never born before the radiation came. Women on Rongelap, Likiep, Ailuk and other atolls in the Marshall Islands have give birth to these ‘monster babies’ ... One woman in Likiep gave birth to a child with two heads... There is a young girl on Ailuk today with no knees, three toes on each foot and a missing arm...  
The most common birth defects on Rongelap and nearby islands have been ‘jellyfish’ babies. These babies are born with no bones in their bodies and with transparent skin. We can see their brains and hearts beating... Many women die from abnormal pregnancies and those who survive give birth to what looks like purple grapes which we quickly hideaway and bury...”



which was to be presented to the Court in 1996. That statement was relevant then as it is now:

*“I have read the written pleadings prepared by the United Kingdom and the United States. Their view of the legality of the use of nuclear weapons is premised on three assumptions: (a) that they would not necessarily cause unnecessary suffering; (b) that they would not necessarily have indiscriminate effects on civilians; (c) that they would not necessarily have effects on territories of third States. It is my professional opinion – set out above and in the WHO reports referred to – that on any reasonable set of assumptions their argument is unsustainable on all three points.”*

One central fact emerges from the above material. From the point of view of conventional medicine, the idea of preparing a credible medical response after an exchange of nuclear weapons, which was the assumption of the profession, has been repudiated by a number of professional medical associations globally. Indeed, the consensus of the profession is that the delivery of any credible medical response after a nuclear exchange is quite simply an illusion. Hence, development within the medical profession of a determined focus on the prevention of nuclear war is seen as the best form of medical intervention. According to the Physicians for Social Responsibility,

*“Since it is impossible to prepare adequately for every type of nuclear attack, the physician’s responsibility goes beyond mere disaster planning. Physicians, charged with the responsibility for the lives of their patients and the health of their communities, must also explore a new era of preventive medicine, the prevention of thermonuclear war.”<sup>6</sup>*

The International Physicians for the Prevention of Nuclear War received the Nobel Prize in 1995. Receiving the Prize on behalf of the organization, Dr. Bernard Lown made the following pertinent point about the threat that nuclear arsenals pose to the survival of humanity:

*“We physicians who shepherd human life from birth to death have a moral imperative to resist with all our being the drift toward the brink. The threatened inhabitants on this fragile planet must speak out for those yet unborn, for posterity has no lobby with politicians... We physicians have focused on the nuclear threat as the singular issue of our era. We are not indifferent to other human rights and hard-won civil liberties. But we must be able to bequeath to our children the most fundamental of all rights, which preconditions all others: the right to survival.”<sup>7</sup>*

In 1962, the New England Journal of Medicine, one of the most prestigious professional medical journals, published a series of articles focused on the medical consequences of thermonuclear war. The potential health effects of nuclear explosions were described in professional clinical detail. These included considerations of multitudes of massive traumatic injuries, massive burns and life-threatening radiation exposure. The authors concluded that attempted responses by health professionals after nuclear weapons had been exploded would be “almost entirely futile.” These early studies have been supplemented by continued research into this issue and confirm the conclusion that there is no medical response of any credibility in the aftermath of an exchange of nuclear explosions.<sup>8</sup> In the context of the conflict between India and Pakistan, noises were made about the possibility of a nuclear exchange. A multitude

of sources including those from the medical fraternity raised the question of medical responses in the aftermath of a nuclear exchange. It became clear that the resources of the entire planet involving burn specialists using skin grafts and related medical technologies were vastly insufficient even if mobilized on a global basis to respond to the crisis. In short, such an exchange would leave hundreds of thousands of survivors with no medical assistance.<sup>9</sup> Roy Farrell, President of the Physicians for Social Responsibility, stated quite bluntly that “there is no effective medical response to a nuclear explosion.”<sup>10</sup>

The conclusion, which may be drawn from the possibility of the use of a nuclear explosive device as an act of war, is that it would slaughter untold numbers of combatants and civilians, and the survivors would have no expectation of medical relief, which suggests unconscionable suffering on a massive scale. The further consequences of such an exchange involve effects of radiation and its long-term effects on human and ecological survival.

*“The problem posed by nuclear arsenals reposes basically in the challenge they present to the basic values upon which the international legal system is founded.”*

## **8. Factual Problem of the Threat or Use of Nuclear Arsenals in the Context of the Foundational Values of the International Legal System**

The problem posed by nuclear arsenals reposes basically in the challenge they present to the basic values upon which the international legal system is founded. To understand the nature of the challenge and why these weapons represent a potential repudiation of the most basic values of international social and legal coexistence, it is important that the problem itself be clarified in terms of the challenges to these values that it represents.

Judge Weeramantry in his dissent has insightfully drawn attention to what he describes as six keynote precepts that are the foundation of the UN Charter. We may go further and consider these precepts the most fundamental values upon which the UN Charter and modern international law are founded. As an approach to legal exposition and discourse, juxtaposing the problem in terms of its value challenges would appear to be the clearest possible way to present these issues to the professional culture of law, as well as to the larger political culture of the world community. The six keynote precepts or values are:

- a. *Principle of Humanity*: The very first words in the Charter recognize that it is based on “We the people of the United Nations”. This means that every individual human being on the planet is a part of “we the peoples” and has a vital interest in promoting and defending the values of survival and progress of “we the peoples of the planet”. Moreover, in the context of the law of war the interest of the peoples is expressed in terms of the “principles of humanity” and the “dictates of public conscience”.
- b. *Rights of Future Generations*: Determination of the peoples to save the succeeding generations from the scourge of war. Clearly, this would be meaningless if it precluded war using nuclear weapons. Peace is a foundational people’s value.
- c. *Dignity and worth of the individual human being*: The mass slaughter of vast human aggregates or indeed the entire corpus of humanity is a thorough denial of this value.

- d. *Rights of human aggregates in large or small States*: Clearly, the concentration of nuclear weapons in large States erodes the equality of human aggregates in small States.
- e. *Other Sources of International Law*: The fifth keynote precept or value insists on the respect for maintaining obligations arising from international agreements as well as “other sources of international law”. We should note here that the legality of nuclear weapons is in fact challenged by these “other sources of international law”.
- f. *Promotion of Social Progress*: The sixth keynote precept or value describes as a fundamental Charter expectation the promotion of social progress and improved standards of life.

These weapons, if used, have the capacity to move humanity, if it is fortunate, into the stone ages and less fortunately carries the capacity to completely destroy humanity, thereby extinguishing social progress and improved living standards. Keeping these values in full view of our discourse, we can now begin to look beyond the claims of nuclear empowered states that there must be a specific international agreement giving the consent of the State to nuclear abolition. We may see this narrow and astigmatic rule-centered approach as in effect a repudiation and denial of the most foundational values behind international law, in effect a repudiation of the very idea of international law itself. It is indeed a repudiation of the values which are the reason for the very existence of this Court.

If we are to be faithful to the foundational values of the international legal system, it is important that we consider other sources of law that are relevant to an appraisal from a legal point of view of the question put to the Court for its advisory opinion. These sources include the following; (1) the law of arm conflicts, which refers to the *jus ad bellum* and *jus in bello*; (2) the relevant *lex specialis* implicating agreements which create expectations about nuclear weapons and related weapons of mass destruction; (3) the entire corpus of international law, which establishes the idea of international obligation constraining sovereignty, establishing rights and duties such as, for example, human rights law, which may have a radiating effect on nuclear weapons policy.

## 9. The Jus In Bello

The *jus in bello* refers to both custom, tradition as well as specific agreements that impose humanitarian restraints on the conduct of war. It is widely recognized that all major civilizations have recognized and often insisted that humanitarian considerations in armed conflict be respected. These traditions have significantly influenced the development of modern law in this area. An early codification of humanitarian law and principles emerged in the St. Petersburg Declaration of 1868. This document suggested that humanitarian law was designed to “conciliate the necessities of war with the laws of humanity”. The modernization of warfare provided a necessary impetus to radically develop and codify humanitarian law principles which are reflected in the Geneva Conventions and related protocols. After WWII, the Nuremberg Tribunal applied an as yet undeveloped idea of crimes against humanity. The related idea of “elementary considerations of humanity” as part of the evolving developments of humanitarian law from antiquity is evident in the Hindu, Buddhist, Christian and Islamic traditions. In the Indian Epics, the *Ramayana* and the *Mahabharata*, there is evidence of

these principles. For example, in the *Ramayana*, Rama's brother Lakshmana indicates that a weapon of war has become available that would destroy the entire race of the enemy including non-combatants. Rama indicates that this weapon should not be used in war because such destruction *en masse* was forbidden by the ancient laws of war, even though Ravana was fighting an unjust war with an unrighteous objective. In the *Mahabharata*, there emerges the principle which forbids the use of hyper-destructive weapons:

*“Arjuna, observing the laws of war, refrained from using the ‘pasupathastra’, a hyper-destructive weapon, because when the fight was restricted to ordinary conventional weapons, the use of extraordinary or unconventional types was not even moral, let alone in conformity with religion or the recognized laws of warfare.”*

The Buddhist tradition is avowedly anti-war and passivist. It does not believe that taking life, inflicting pain, enslaving others, taking their goods or lands are ever justified. Correspondingly, Buddhism even rejects the idea of just war:

*“According to Buddhism there is nothing that can be called a ‘just war’ – which is only a false term coined and put in circulation to justify and excuse hatred, cruelty, violence and massacre. Who decides what is just and unjust? The mighty and the victorious are ‘just’, and the weak and the defeated are ‘unjust’. Our war is always ‘just’, and your war is always ‘unjust’. Buddhism does not accept this position.”*

Islam contains many principles which affirm the traditions of conscience and humanitarian concern. The same theme permeates the ethical foundations of the Christian tradition, principles which deeply influenced the father of modern international law, Grotius.

In the 19<sup>th</sup> Century, US President Lincoln directed Professor Lieber to prepare instructions for the armies of the Union. These instructions were referenced in the 1899 Peace Conference in The Hague as well. One of the most important outcomes of this conference which sought to codify humanitarian principles was the famous Marten's Clause. Essentially, this was put into The Hague Convention because of the recognition that the drafters could not specify every possible contingency that implicated humanitarian values. The Martens Clause states:

*“Rule of law must ultimately be founded on fundamental laws of humanity which are a codification of the public conscience.”*

*“Until a more complete code of the laws of war has been issued, the High Contracting Parties deem it expedient to declare that, in cases not included in the Regulations adopted by them, the inhabitants and the belligerents remain under the protection and the rule of the principles of the law of nations, as they result from the usages established among civilized peoples, from the laws of humanity, and the dictates of the public conscience.”*

The Martens Clause is a vital antidote to excessive legalism in approaching the appraisal of the status of nuclear weapons in international law. It is based on the premise that rule of law

must ultimately be founded on fundamental laws of humanity which are a codification of the public conscience. Although a great deal of humanitarian law has been codified, they do not specifically address hyper-destructive weapons such as nuclear arsenals. Excessive legalism would then hold that since there is no specific rule addressing the destructive capacity of nuclear arsenals, the issue would fall into a legal vacuum and be left to the anarchic impulses of sovereign State elites. This would create the anomalous situation in which a weapon vastly destructive of humanitarian values and a negation of the foundational values of international law would be precluded from review and careful legal analysis. This therefore underlines the importance of reshaping the judicial craft in such a way as to understand the problem realistically, understand it in terms of the foundational values that it compromises and promote the idea that legal precepts not only emerge in rules but in the framework of principles, standards, doctrines and foundational legal values. And all these tools should be deployed as the essence of judicial craft skills to reach a rational result that communicates clearly and unequivocally to the relevant target audience, in this case, humanity at large.

The Martens Clause may be read in the light of keynote Charter values as well as Article 22 of the Hague Regulations of 1907, which stipulates that “the right of belligerents to adopt the means of injuring the enemy is not unlimited.” This may not be a rule, but it is a principle and gets meaning from being read in the light of the standard represented in the Martens Clause, as well as the foundational legal values of the international system that we summarized earlier. The Martens Clause has been affirmed in judicial practice and multiple resolutions of the General Assembly have referred to the incompatibility of nuclear weapons with the dictates of public conscience. Our analysis and description of the unique character of nuclear weapons make it abundantly clear that nuclear weapons with their effects on the environment, human life and its genetic effects, and survival are incompatible with the dictates of public conscience.

*Table 2: Nuclear-Weapons-Free Zones<sup>11</sup>*

<b>Treaty</b>	<b>Region</b>	<b>Land Km<sup>2</sup></b>	<b>States</b>	<b>Date in Force</b>
Antarctic	Antarctica	14,000,000		1961-06-23
Space	Outer Space			1967-10-10
Tlatelolco	Latin America Caribbean	21,069,501	33	1969-04-25
Seabed	Seabed			1972-05-18
Rarotonga	South Pacific	9,008,458	13	1986-12-11
Bangkok	ASEAN	4,465,501	10	1997-03-28
MNWFS	Mongolia	1,564,116	1	2000-02-28
Semei	Central Asia	4,003,451	5	2009-03-21
Pelindaba	Africa	31,221,532	53	2009-07-15
<b>All NWFZs Combined</b>		<b>84,000,000</b>	<b>115</b>	<b>39% world pop</b>
<b>Nuclear Weapons States</b>		<b>41,400,000</b>	<b>9</b>	<b>47% world pop</b>
<b>Neither NWS nor NWFZ</b>		<b>24,000,000</b>	<b>68</b>	<b>14% world pop</b>

As Judge Shi observed in his declaration to the 1996 Advisory Opinion of the Court, the structure of the community of States is built on the principle of sovereign equality. Any undue emphasis on the practice of materially powerful nuclear weapons States, constituting a fraction of the membership of the community of States, would be contrary to the principle of sovereign equality of States.

The Court earlier agreed that regional treaties prohibiting nuclear weapons in Latin America and the South Pacific “testify to the growing awareness of the need to liberate the community of States and the international public from the dangers resulting from the existence of nuclear weapons...however, it does not view these elements as amounting to a comprehensive and universal conventional prohibition of the use, or the threat of use, of those weapons..”<sup>\*</sup> Reference to these treaties omitted consideration of the treaties banning these weapons in Antarctica and the seabed. 46 countries were covered by nuclear-free zones at the time of the Court’s earlier opinion; since then, the area of the globe covered by nuclear-weapons-free zones has grown substantially. Table 2 provides evidence that 115 nations representing 60% of all states and 56% of the earth’s landmass now reside in nuclear-weapons-free zones.<sup>†</sup>

Earlier the Court came to the conclusion that there was insufficient evidence that the possession of nuclear weapons had come to be universally regarded as illegal. However, the absence of such specific prohibition does not in itself confirm their legality. In recognition of that fact, the Court agreed that there were parts of customary international law that would also apply to the use of nuclear weapons, but decided not to pronounce on the matter.

## 10. The Specific Rules of Humanitarian Law at War

The most important international law rules governing humanitarian law include the following:

- a) the prohibition against causing unnecessary suffering;
- b) the principle of proportionality;
- c) the principle of discrimination between combatants and non-combatants;
- d) the obligation to respect the territorial sovereignty of non-belligerent States;
- e) the prohibition against genocide and crimes against humanity;
- f) the prohibition against causing lasting and severe damage to the environment;
- g) human rights law.

It would be apparent in the light of our description of the unique nature of nuclear weapons and the way they are incompatible with the foundational values of the international legal system, that the specific rules of that system mean, when understood in terms of the values they are meant to defend and enhance, that the threat or use of nuclear weapons cannot be compatible with the specific rules of the humanitarian law of war. It is in the nature of the

---

\* Para 63 of ICJ opinion

† South Pacific Nuclear Free Zone Treaty (Treaty of Rarotonga); See also *SEANWFZ Enters Into Force; U.S. Considers Signing Protocol Arms Control Association* (April 1997); See also *Nuclear free zone in Central Asia enters into force Saturday*, The Earth Times (20 March 2009); Resolution 3472 – Comprehensive study of the question of nuclear-weapon-free zones in all its aspects; Resolutions adopted on the reports of the First Committee, United Nations General Assembly 30th session, 2437th plenary meeting (11 December 1975); A/RES/64/26 - Establishment of a nuclear-weapon-free zone in the region of the Middle East United Nations General Assembly Sixty-fourth session (14 January 2010); “Speech: Robson - Arctic Nuclear Weapons Free Zone,” Scoop News (12 August 2009)

weapon that it causes unlimited destruction and perforce must cause unnecessary suffering. A weapon of such unlimited destructive capacity cannot be constrained by the principle of proportionality; cannot distinguish between combatants and non-combatants; its effects are invariably transnational and compromise the sovereignty of non-belligerent States; the capacity for mass extinction of human beings implicates both genocide and crimes against humanity; radiation and other effects cause lasting and severe ecological destruction; and ultimately its contemplated use is completely incompatible with human rights law.

The importance in humanitarian law of the dictates of conscience is in part answered in the section that deals with the medical effects of a nuclear war. However, we may follow the lead of Judge Weeramantry in his dissenting opinion in 1996 when he posed the question about the dictates of public conscience and the consequences of the use of nuclear weapons on humanity's conscience. The following is a list of the questions that he expresses for the purpose of underscoring the importance of this principle for a specific application of the law:

*“Is it lawful for the purposes of war to induce cancers, keloid growths or leukemias in large numbers of the enemy population?”*

*Is it lawful for the purposes of war to inflict congenital deformities and mental retardation on unborn children of the enemy population?*

*Is it lawful for the purposes of war to poison the food supplies of the enemy population?*

*Is it lawful for the purposes of war to inflict any of the above types of damage on the population of countries that have nothing to do with the quarrel leading to the nuclear war?”*

We might finally conclude this section by referring to the foundational values which inform the United Nations Charter and constitute the value foundations of the concept of international obligation binding in all States. This reference makes clear that the contemplated threats and possible uses of nuclear weapons are completely incompatible with the *jus in bello* and the rules of humanitarianism and public conscience characteristic of this body of law. When this orientation is applied to the specific rules of international law about the conduct of war we find that every articulated rule that has been codified and is clearly as attainable as a source of positive law is subject to violation by the threat or use of nuclear weapons. We briefly summarized these issues. The law prohibits the idea of conducting war which results in cruel and unnecessary suffering. These principles have long been codified in modern law such as the Lieber Code of 1863, Declaration of St. Petersburg in 1868, Hague Conventions in 1899 and 1907, Hague Rules of Air Warfare in 1923, The Nuremberg Charter in 1945 and Four Geneva Conventions in 1949. Regarding the principle of proportionality, the well-accepted principle that the strategies and tactics of war are not unlimited, is another matter that is violated by a war based on nuclear weapons. The observations of two American Statesmen are pertinent. According to Robert McNamara:

*“It is inconceivable to me, as it has been to the others who have studied the matter, that ‘limited’ nuclear wars would remain limited – any decision to use nuclear weapons would imply a high probability of the same cataclysmic consequences as a total nuclear exchange.”*

According to Henry Kissinger;

*“Limited war is not simply a matter of appropriate military forces and doctrines. It also places heavy demands on the discipline and subtlety of the political leadership and on the confidence of the society in it. For limited war is psychologically a much more complex problem than all-out war... An all-out war will in all likelihood be decided so rapidly – if it is possible to speak of decision in such a war – and the suffering it entails will be so vast as to obscure disputes over the nuances of policy.”*

*“Limited nuclear war is not only impossible, according to this line of reasoning, but also undesirable. For one thing, it would cause devastation in the combat zone approaching that of thermonuclear war in severity. We would, therefore, be destroying the very people we are seeking to protect.”*

Nuclear weapons cannot distinguish between combatants and non-combatants and therefore represent another transgression of humanitarian law. They cannot have their effects confined to a single jurisdiction and will invariably implicate and damage non-belligerent States. To the extent that they have the capacity to exterminate whole human aggregates it is very probable that a targeted human aggregate will be a protected class under the convention that outlaws genocide. With regard to human rights values, virtually every human rights convention, declaration or resolution is subject to violation by the use of nuclear weapons.

## **11. Law of Self-Defense and Nuclear Weapons**

It is well established in customary international law and the law of the UN Charter that a State has a right to self-defense. However, once the State invokes this right its conduct is governed by the *jus in bello* which includes humanitarian law. Clearly, under conventional international law a State has a right to use force in self-defense. However well established this right is, it is quite different from the next proposition which seems to be sanctioned by the opinion

“*The fact that international law validates the right to self-defense does not mean that it validates the right to self-defense with nuclear weapons.*”

of the Court in 1996 that a State may use nuclear weapons in self-defense. The fact that international law validates the right to self-defense does not mean that it validates the right to self-defense with nuclear weapons. Essentially, the form of self-defense available to a State is constrained by the fundamental values of the system and, in particular, the basic rules which govern humanitarian law. These principles, to restate them, include: avoiding unnecessary suffering, the principle of proportionality, discrimination, non-belligerent States, genocide, environmental damage and human rights. The use of nuclear weapons to either initiate coercion or to respond in self-defense with nuclear weapons means that either way the weapons themselves will violate the values of the system and the specific principles that govern the conduct of war. It, therefore, would be a logical conclusion that either we have to discard the values of the system and the time-tested rules of humanitarian law in order to justify a form of



coercion centered on nuclear weapons or must limit the form of war to conventional weapons and retain the integrity of the values and the rules of the international system.

From this perspective the answer suggests itself. Nuclear weapons cannot be used either to initiate coercion or to respond in self-defense because in either case there would be a clear violation of the principles of humanitarian law and outright repudiation of the foundational values of international law and society. Former Secretary of Defense, Robert McNamara, provided a scenario implicating nuclear exchanges between nuclear weapon states. The scenario he gave, which he believed was realistic, is a frightening one. It is one that this Court should judicially acknowledge. According to McNamara,

*“But under such circumstances, leaders on both sides would be under unimaginable pressure to avenge their losses and secure the interests being challenged. And each would fear that the opponent might launch a larger attack at any moment. Moreover, they would both be operating with only partial information because of the disruption to communications caused by the chaos on the battlefield (to say nothing of possible strikes against communication facilities). Under such conditions, it is highly likely that rather than surrender, each side would launch a larger attack, hoping that this step would bring the action to a halt by causing the opponent to capitulate.”*

In sum, invocation of the use of force in self-defense does not absolve the self-defense responder of the obligation to respond within the restraints of the law of war. A nuclear response will generate unnecessary suffering, be incapable of being expressed in terms of the principle of proportionality, be unable to deploy the discrimination necessary to distinguish combatants from non-combatants, be unable to use its weapons without compromising the rights of non-belligerent States, run the risk of committing genocide in the cause of self-defense, inflict enormous catastrophic environmental damage on the eco-system of the target community, and, finally, inflict grave and horrendous human rights violations on the target group. It is therefore clear that invocation of the right to use nuclear weapons based on a right of self-defense, which runs the risk of the extinction of the most basic values which underlie international legal and social order and which repudiates the specific rules that have evolved from those values, represents a claim to competence that cannot be justified under any circumstances under the current facts as this Court understands them and the current framework of legal order that binds this Court.

This Court therefore concludes that the statement of law in Judge Weeramantry’s dissenting opinion in 1996 more accurately reflects the conditions of fact that shape world order and reflects as well an accurate application of law and its basic values to the problem posed by the threat or use of nuclear weapons.

## **12. Deterrence: Threat of Use**

The concept of deterrence is in general one of the reasons given by sovereign states as to why they develop and deploy nuclear weapons. The logic of deterrence led to an assumption that mutually assured destruction was the foundation of deterrence. This implication appeared to undermine the restrained nature of the deterrence concept. In our time, the military policy of some nuclear weapon states includes a statement of conditions under which nuclear weapons may be used in future. These statements when made public constitute a policy of

deterrence intended to prevent acts of aggression by other states. Indeed, both American and Russian defense policies include statements of conditions under which first use or unilateral use of these weapons might still be an option. However, Pakistan openly asserts a first use nuclear policy that it might include use of these weapons even in a conventional war with India initiated by it. North Korea has repeatedly made similar threats in recent years. This necessitates examination of whether even the threat of use constitutes a violation of the human and humanitarian rights of civilian populations around the world. This suggests that the coherence of the deterrence justification continues to be deteriorating in state practice. Indeed, Jonathan Granoff concludes that “deterrence is too dangerous. Even under the best of circumstances, mistakes can be made.” In support of this he cites General Lee Butler, U.S. Commander of Strategic Nuclear Forces. According to Butler, after a study of nuclear incidents and accidents, these events are “more chilling than anything one can imagine.” He refers to missiles blowing up in their silos which ejected their warheads, B-52 aircraft colliding with tankers and spreading nuclear weapons. The General gives many more chilling illustrations.<sup>12</sup>

When we examine the development and deployment of nuclear arsenals in the light of the alleged constraints of deterrence, other social and humanitarian deficits become obvious. Numerous studies conducted during the height of the Cold War documented the negative impact of the perceived danger of nuclear weapons on the psychological health of the population, especially anxiety, cynicism, fear and apathy in children, adolescents and the unemployed.<sup>13</sup> More recent studies link anxiety and mental health disorders with the broader spectrum of physical disorders. These concerns are still very real and widespread among communities around the world, as evidenced by the extensive and growing level of public protests and organized voluntary campaigning for the eradication of nuclear weapons. After the Fukushima nuclear accident, the incidence of severe mental disorders rose by 50% and milder disorders by 100%.<sup>14</sup> Nuclear arsenals, even with deterrence, therefore generate high levels of personal insecurity, anxiety and even mental illness for large segments of humanity.

The legality of even threat of use under some circumstances is very questionable. Law prohibits making threats under circumstances when the very act of threatening may constitute harm to the party so threatened. Blackmail, the threat of disclosure of information, is illegal in all countries, even when it is based on information that is found to be true, because the act of threatening is itself a form of forceful intimidation and harm to the party. Deterrence depends on intimidation and, at least psychological coercion.

### **13. Right to Possession of Nuclear Weapons**

The Court earlier examined the legality of possession of nuclear weapons as well as their use or threat of use. Declaring the threat or use of nuclear weapons to be unlawful does not necessarily mean that the possession of nuclear weapons without a threat or possible use is on its face unlawful. The earlier ICJ judgment notes that there is no specific language in the UN Charter or other treaties specifically forbidding possession of nuclear weapons. We now observe that the mere absence of a specific prohibition is insufficient grounds for declaring possession as legal. If law is founded upon basic values implicated in the public conscience and where an issue clearly and abundantly contradicts the dictates of laws, basic values and public conscience, it may be found deficient on an inadequate basis for determining legality.

The mere fact that nuclear weapons are not specifically prohibited by the Second Hague Convention of 1899 or the 1925 Protocol regarding chemical weapons cannot be deemed relevant since nuclear weapons did not even exist at the time.

However, the inextricable linkage between possession and use necessitates that the Court also reflect on the legality of possession. In recent years ample evidence has come to light indicating that the very existence and possession of nuclear weapons constitute a grave risk to possible use, either intentional or accidental.\* The risk from accidental detonation or radioactive contamination, even of weapons in the possession of the countries with the most sophisticated command and control systems, is well documented.<sup>15</sup>

---

*“Therefore, the very possession of nuclear weapons violates the fundamental human rights of the citizens of the world and must be regarded as illegal.”*

---

Apart from this, the very existence of these weapons poses a constant threat that they may fall into the possession of either states or non-state actors who have no regard for international law and would be willing to contravene all the statutes and principles set forth in this judgment in the pursuit of their own political or ideological ends. Should even a single weapon be stolen and used in such a manner, the physical devastation and contravention of humanitarian international law would be incalculable. Under such circumstances, the state that lost control of the weapons would undoubtedly plead innocence on the grounds that it did not intend either the theft or use of weapons. But the very possession of these weapons necessitates an acceptance of responsibility for all possible events, including the extremely improbable occurrence of the earthquake and tsunami of historically unprecedented proportions which resulted in the Fukushima accident in 2011.

International law must take into consideration the possibility and consequences of such eventualities. There are ample instances of domestic law regarding the practice of medicine, sale of drugs, safety provisions on cars and airplanes and many other instances based on the responsibility of law to foresee and prevent the possibility of extreme occurrences.

The evidence indicates that the very existence of nuclear weapons, as well as the accepted military doctrines supporting their possible use, infringe on the rights of large sections of the world population at the present time and will continue to do so as long as these weapons are in existence. Therefore, the Court is compelled to conclude that the very possession of nuclear weapons violates the fundamental human rights of the citizens of the world and must be regarded as illegal.

---

\* See also Jonathan Granoff, *Supra*

## 14. Beyond Objectivism

There is a more fundamental principle at issue here, a principle which pervades the entire gamut of international law, but which is presented more forcefully with regard to the issue of nuclear weapons. Current perspectives of international law are founded on principles of objectivism which view the state as an entity apart, something fundamentally separate and different from the many individual members of the state community who have their own rights and this includes a claimed right to impose its will on its own people. The current view of international law gives a nod to objectivism and collectivism by regarding law merely as the external machinery for ordering and controlling the activities of States. No doubt it recognizes the rights of individuals to protection, but it accords a secondary status to their values, aspirations, and quest for self-affirmation. International law seeks to protect the individual against excessive interference from the State, but fails to recognize the individual as the ultimate unit of legal analysis and concern under law. Indeed it fails to provide even a mechanism for the individual or collective humanity to stake a claim in the arena of international law, an arena dominated by enormous national collectives purporting to represent the interests and will of all humanity.

The nation-state is in reality an intermediate aggregate between the individuals of which it is composed and the collective sum of all human beings of which it is a part. The rightful basis and purpose of international law is not merely to control the egoism of nation-states, but one which accords a vital status and consideration to the fundamental right to development of all human beings, indeed, of all humanity. In this light, no law can be considered authoritative if it generates the potential for exterminating the rights of countless human beings, no matter what the consequences may be for that objective abstraction described as the nation-state. In short, a focus on the shared subjectivities of all participants in global society will provide a foundation of realism in seeking to secure and promote the foundational values of global law and social process.<sup>16</sup>

## 15. Conclusion

This Court, therefore, unanimously concludes that the use or threat of the use of nuclear weapons is unlawful in all circumstances and without exception. The Court further believes that stating the matter in a vigorous and forthright manner and grounding its opinion in the fundamental values underlying the organization of global society and international law as well as the growth of the idea of the legal obligation to respect the rule of law requires that sovereigns subordinate unilateral assertions of interest to the global inclusive interests and concerns for the survival of humanity, the survival of the human prospect, the universal expansion of peace and security, and the expectations of dignity under the UN Charter.

The obligation that States have embraced in the Non-Proliferation Treaty requires that they work towards a world completely free of nuclear arsenals. Our opinion must therefore be read in the light of the supplemental meanings given by this provision of the Treaty. We add that there is complexity about the science and administrative practices that go with the decommissioning of nuclear arsenals. The fundamental principle of interpretation that accompanies international law and the stipulations in this advisory opinion is that the States must act reasonably in developing their policies and practices for the elimination of nuclear arsenals and coordinating them. In this context, reasonably means the obligation to act with

deliberate speed to achieve the objectives of the complete elimination of nuclear arsenals from the planet.

*Author Contact Information*

*Email : nagan@law.ufl.edu*

## Notes

1. Ed Chen, "Climate Effects Of Nuclear Weapons" *The Guardian* 3<sup>rd</sup> November, 2010.
2. R.P Turco et al., "Nuclear Winter: Global Consequences of Multiple Nuclear Explosions," *Science* 222, no. 4630 (1993): 1283-1292.
3. Alan Robock, Luke Oman and Geogiy Stenchikov, "Nuclear winter revisited with a modern climate model and current nuclear arsenals: Still catastrophic consequences," *Journal of Geophysical Research* 112, no. D13107 (2007).
4. Alok Jha, "Climate threat from nuclear bombs" *The Guardian* 12<sup>th</sup> December, 2006.
5. Chen, *Nuclear Weapons*, 1.
6. Ian Maddocks, "Evolution of the Physicians' Peace Movement: A Historical Perspective," *Health and Human Rights* 2, no. 1 (1996): 88-109 citing V.W. Sidel, H.J. Geiger and B. Lown, "The medical consequences of thermonuclear war, II. The physician's role in the post-attack period," *New England Journal of Medicine* 266 (1962): 1137-45.
7. Ian Maddocks *Supra* citing B. Lown, *Nobel Prize Acceptance Speech*, IPPNW 4th Congress, Helsinki, June 1994.
8. P.H. Leiderman and J.H. Mendelson, "The Medical Consequences of Thermonuclear War, IV: Some Psychiatric and Social Aspects of the Defense-Shelter Program," *New England Journal of Medicine* 266 (1962): 1149-1155. For a useful survey of the medical approach and policy recommendations on nuclear abolition see Lachlan Forrow and Victor W. Sidel, "Medicine and Nuclear War: From Hiroshima to Mutual Assured Destruction to Abolition 2000," *JAMA* 280, no. 5 (1998).
9. Shamim-ur-Rahman and Ganapati Mudur, "Doctors in India and Pakistan campaign against nuclear war," *BMJ* 324 (2002).
10. WUSA Staff, "India - Pakistan Nuclear War Would be Catastrophic" *USA Today* 10<sup>th</sup> June, 2002.
11. "Nuclear Weapon Free Zone," *Wikipedia* [http://en.wikipedia.org/wiki/Nuclear-weapon-free\\_zone](http://en.wikipedia.org/wiki/Nuclear-weapon-free_zone)
12. Jonathan Granoff, "Beyond Deterrence," in Manpreet Sethi, *Towards a Nuclear Weapon Free World* (New Delhi: K.W. Publishers, 2009), 33-36.
13. S.J.Kiraly, "Psychological effects of the threat of nuclear war," *Canadian Family Physician* 32(1986):170-174 <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2327576/pdf/canfamphys00191-0166.pdf>
14. Claire McCurdy, "Fukushima's Rice: Mental Health Crises in Fukushima" *Journal of Foreign Relations* 8<sup>th</sup> December 2011. <http://www.jofr.org/2011/12/08/fukushimas-rice-mental-health-crises-in-fukushima/>
15. *Id.*; See also Manmohan Singh, "Inaugural Address," in Manpreet Sethi, *Towards a Nuclear Weapon Free World* (New Delhi: K.W. Publishers, 2009).
16. Steven R. Brown, *Political subjectivity: Applications of Q methodology in political science* (Connecticut: Yale University Press, 1980); See also Steven R. Brown, "The History and Principles of Q Methodology in Psychology and the Social Sciences," *Department of Political Science, Kent State University* (1997); See also Steven R. Brown, "Q methodology as the foundation for a science of subjectivity," *Operant Subjectivity* 18 (1995); See also Steven R. Brown, "Empowerment as Subjective Operant," *World Bank* (2003).

## Social Evolution, Global Governance and a World Parliament\*

Andreas Bummel

Chair, Committee for a Democratic U.N

### Abstract

*This article describes the relevance of a world parliament in the context of long-term social evolution and the crisis of global governance. It is argued that due to the development of weapons of mass destruction and complex interdependency, war has ceased to be a driver of socio-evolutionary consolidation of power at the world-system level. At the same time, there is an increasingly urgent need for global governance in spheres such as climate change mitigation or economics and finances. The author looks at how the established and now dysfunctional pattern of evolutionary change can be overcome and identifies the institution of a world parliament as an important political and psychological aspect of the evolving collective.*

Social evolution can be conceived as a continuous integration and disintegration of human communities. In a continuum between cooperation and competition human communities compete for areas of settlement, natural resources, food and political authority. In the course of technological development and population growth, these social units become more differentiated and their links with each other become ever more complex.

Within these communities rules develop, that organize communal life as peacefully as possible, even though primarily to the benefit of a ruling class that commands the exercise of force and the distribution of resources. Towards other units mistrust predominates. The preparedness to use force is high. War, oppression, slavery and assimilation were characteristics of this process. From a historical perspective, democracy, human rights and (humanitarian) international law are new developments.

In the course of history, the number of units has decreased. Their maximum size and degree of organization have grown. From hunter-gatherers, nomadic pastoralists and settled communities, different forms of political organization gradually developed such as city states, principalities, dynastic realms, continental empires or today's territorial states. At around 1,500 B.C. with an estimated world population of 50 million, maybe 600,000 political units existed.<sup>1</sup> Today, seven billion people are distributed amongst the 193 states in the world.

Regressions such as the breakup of the Roman Empire were followed by new processes of amalgamation. In his famous work *The Civilizing Process*, Norbert Elias has described this development since the Middle Ages. According to Elias, states today are still engaged in

---

\* This article was first published in German in *Tattva Viveka* (48): 64-69, August 2011.

a permanent competitive struggle that inherently implies the formation of ever larger power units with overarching monopoly on the use of force.<sup>2</sup>

Due to the existence and availability of nuclear weapons, the relational system between the leading states in the world has been subject to a fundamental change since the end of the Second World War. Because of the destructiveness of these weapons, up to almost complete annihilation, a direct armed conflict between the great powers as a means to solve disputes or for power expansion has become potentially suicidal. They are locked, to use the words of Wilhelm Wolfgang Schütz, in an “interdependency of perdition”.<sup>3</sup>

This means that a consolidation of the state system into one political unit as a result of violent conflict, one of the main drivers in the past, is not possible (and, of course, not desirable anyway). After a Third World War, it is reasonable to assume that not much would be left of human civilization as we know it today. This also means that until a global monopoly of the use of force has come about voluntarily, the system would remain in a dangerously instable condition. “Even if we assume that global Armageddon will not occur, it seems to be the unfortunate fate of humanity that it has to live in constant fear of this disaster,” wrote John H. Herz.<sup>4</sup>

The system is not only unstable from a perspective of peace and security, it also has no “capacity to govern”, an urgent problem that has already been addressed, for example, in a report by Yehezkel Dror to the Club of Rome in 1994.<sup>5</sup> As yet, no improvement is in sight. Quite the contrary. The technological revolution in the course of the last two decades has resulted in an ever stronger global linkage of almost all spheres of life. Crucially important political questions and challenges have slipped out of the control of nation states. The activity of international institutions reflects the lowest common denominator of conflicting government interests. National governments, whether representative or autocratic, are keen to hold on to their traditional sovereignty, even if in reality this sovereignty no longer is in accordance with effective autonomy. This is the case, for example, with regard to the global economic and financial system, as the financial crisis since 2007 impressively shows, but above all in climate policy.

Meanwhile, there is a broad international consensus that global warming of more than two degrees Celsius in this century will have incalculable catastrophic consequences for humanity. A transformation towards a sustainable post-carbon world, however, “can only succeed if nation states put global cooperation mechanisms before their own short-term oriented interests,” as the German Advisory Council on Global Change pointed out recently.<sup>6</sup>

The non-existence of a governable political world community remains to be the most dangerous characteristic of today’s world system. Further evolution and long-term survival of human civilization make it necessary to develop a democratic world federation. The world will have to unite politically in order to prevent the impending disintegration of global civilization.

The core issue is not just one of power politics and structure. The challenge is much more of a cognitive and intellectual nature. According to Elias, there is an inextricable linkage between human sociogenesis and psychogenesis. The growing complexity of social relationships that is characteristic of the emergence of states and modernization, for example,

came along with stronger emotional self-control, rationality and a more developed sense of shame.

Georg W. Oesterdiekhoff has reconstructed that in human history it is possible to trace “a sequentially advancing, unilinear and growing differentiation and integration of social and psychic structures”.<sup>7</sup> “As the cognitive development of the individual takes place under social conditions,” said Jürgen Habermas, “there is a circular process between societal and individual learning processes”.<sup>8</sup> Accordingly, Ken Wilber for instance has related the cognitive levels of consciousness that he described with “geopolitical systems levels”.<sup>9</sup>

In the face of the logic inherent in human evolution until now, Richard Newbold Adams and others claim, based on Wilhelm Friedrich Hegel’s *Phenomenology of Mind*, that global government is simply impossible as Earth is faced with no external enemy, no external social unit, that makes political integration at the planetary scale necessary or at least easier. “Identity is fundamentally the binary differentiation of some set of ‘we’ from some set of ‘other’,” says Adams.<sup>10</sup>

Overcoming this mode of forming collective identity is exactly the challenge of necessary transformation. Arash Abizadeh for example points out that collective global identity could also be formed in a temporal way instead of geographically by differentiating from the past and its values. “Humanity’s own past provides a rich and terrifying repository in contrast to which cosmopolitan identity could constitute its ‘difference’”.<sup>11</sup>

As a matter of fact, more and more people conceive of themselves as world citizens and as such develop a sense of solidarity with each other. To a degree these people begin to outgrow the evolutionary logic that implies that identity can only be formed by differentiation from others. They concentrate on what all human beings have in common. They do not wish to carry on as before. They include future generations into their thinking. Their thinking is fundamentally different from that of the government executives who pursue particular interests.

“Nation states as institutions have proven reluctant to cooperate in ways that compromise their sovereignty or their freedom to pursue their maximal national interest. ... But it appears that individuals as a whole are more ready to cooperate in a global framework and are not as constrained by competitive national narratives,” explains Steven Kull in an analysis of international polls.<sup>12</sup>

The emerging view stems from what could be called a planetary consciousness. This consciousness is integral insofar as it does not suppress or deny other levels of identity and belonging but instead adds a holistic view to them that includes humanity and the planet as a whole. One of the most important pioneers of integral philosophy, Jean Gebser, has noted that such “mutations in consciousness” have always occurred in situations “when the prevalent structure of consciousness was no longer sufficient to cope with the world’s tasks.”<sup>13</sup> Such a situation exists today. The political unification of the world will have to be the result of *an inner revolution*, a conscious evolutionary act carried out by humanity.

According to Steve McIntosh, global governance that is not based on integral consciousness is neither achievable nor desirable – “but with the rise of the integral worldview, a world federation becomes realistic and even inevitable”.<sup>14</sup>



The connection between sociogenesis and psychogenesis can also be found in McIntosh's reflections. He argues that "every new worldview has taken shape around a political issue, and the rise of the integral worldview will be no exception". The integral worldview, he says, needs a political platform "to produce lasting cultural evolution". The establishment of a world parliament is probably the most obvious and most promising project for this.

The first step into the direction of a world parliament would be the establishment of a Parliamentary Assembly at the United Nations.\* This is a complex undertaking where it is easy to get lost in questions of detail. *Grasping the project from an evolutionary perspective is all that matters.* Because, as Habermas said, "It is possible to characterize every evolutionary boost through institutions that embody the structures of rationality of the next evolutionary stage".<sup>15</sup>

From this point of view it is of highest importance that the assembly would consist of democratically elected representatives of the world's population. As such the assembly would be *the first* political body in the history of humankind that establishes a direct connection between every single human being and the planet. Through its existence alone the assembly would contribute to the recognition of profound, one could say, revolutionary ideas, the first being the notion of the world as a community of individual world citizens. As a global voice of the world's citizens, the assembly would embody a planetary consciousness and at the same time facilitate its growth.

---

*"As a planetary consciousness takes root over time, the assembly could help to evolve the United Nations accordingly and push forward the political integration of the world. In this way, the inner and outer dimensions of the global transformation – the development of consciousness on the one hand and the development of social institutions on the other – would reciprocally strengthen and stabilize each other."*

---

The assembly and its members could become a focal point for a new, cooperative understanding of global politics. As a planetary consciousness takes root over time, the assembly could help to evolve the United Nations accordingly and push forward the political integration of the world.

---

\* The proposal was introduced in the 2<sup>nd</sup> issue of Cadmus, see <http://cadmusjournal.org/article/issue-2/towards-global-democratic-revolution-global-parliament-and-transformation-world-order>.

In this way, the inner and outer dimensions of the global transformation – *the development of consciousness on the one hand and the development of social institutions on the other* – would reciprocally strengthen and stabilize each other.

### *Author Contact Information*

*Email: bummel@kdun.org*

## **Notes**

1. Robert Carneiro, "The Political Unification of the World: Whether, When, and How — Some Speculations," *Cross-Cultural Research* 38, no. 2 (2004): 162-177.
2. Norbert Elias, *Über den Prozeß der Zivilisation. Zweiter Band* 19th ed., (Frankfurt: Suhrkamp, 1995 [1939]).
3. Wolfgang Wilhelm Schütz, *Wir wollen Überleben, Außenpolitik im Atomzeitalter* (Stuttgart: DVA, 1956).
4. John Herz, *Weltpolitik im Atomzeitalter* (Stuttgart: Kohlhammer, 1961).
5. Yehezkel Dror, *The Capacity to Govern: A Report to the Club of Rome* (Portland: Frank Cass, 1994).
6. WBGU (German Advisory Council on Global Change), ed. 2011. *A Social Contract for Sustainability. Summary for policy-makers* (Berlin: WBGU, 2011) <http://www.wbgu.de>.
7. Georg Oesterdiekhoff, *Zivilisation und Strukturgenese. Norbert Elias und Jean Piaget im Vergleich* (Frankfurt: Suhrkamp, 2000).
8. Jürgen Habermas, *Zur Rekonstruktion des Historischen Materialismus* (Frankfurt: Suhrkamp, 1976).
9. Ken Wilber, *Sex, ecology, spirituality: the spirit of evolution 2nd ed.* (Boston: Shambhala, 2000).
10. Richard Newbold Adams, *Energy and Structure: A Theory of Social Power* (London: University of Texas Press, 1975).
11. Arash Abizadeh, "Does Collective Identity Presuppose an Other? On the Alleged Incoherence of Global Solidarity," *American Political Science Review* 99, no. 1 (2005): 45-60.
12. Steven Kull, "Listening to the Voice of Humanity," *Kosmos Journal* (Spring/Summer 2010): 26-29.
13. Jean Gebser, *Ursprung und Gegenwart Zweiter Teil* (Gesamtausgabe: Novalis Verlag, 1978 [1949]).
14. Steve McIntosh, *Integral Consciousness and the Future of Evolution* (St. Paul: Paragon House, 2007).
15. Habermas, *Rekonstruktion*, 37.

# **From European Union to World Union: Building Effective and Democratic Global Governance**

## **ACTION for a World Community for Food Reserves**

**John McClintock\***

Civil Servant, European Commission;  
Co-Founder of ACTION for a World Community for Food Reserves

### **Abstract**

*Sovereignty-sharing has placed European countries in a position to resolve their common problems through law, not war. As a result, the EU member states now live in peace together and take peace, justice and order for granted. The system of global governance is dysfunctional – some states are failing and the Security Council lacks legitimacy. Humanity does not have a mechanism to resolve its global problems through law, making it difficult – if not impossible – to resolve global problems such as famine, hunger, climate change, war and terrorism, nuclear proliferation, regulation of corporations – including banks, destruction of fish stocks, and population. Sharing of sovereignty at the global level can address these problems, starting in the area of food security, then proceeding to climate management and other fields. Shared sovereignty can eliminate famine and hunger globally.*

### **1. Introduction: The European Union is a Success Story**

The European Union, despite past and present crises, is one of the success stories of our time and shows that countries *can* work together to resolve common problems. The European Union is democratic – each and every member country has a say on the rules and the European Parliament must also give its consent. This is in stark contrast to the United Nations where there is no Parliament and only 15 countries have a seat in the Security Council.

Secondly, the European Union is able to hold its member countries to the rules. Once rules are made they become ‘binding and enforceable.’ Again, this is very different from the United Nations in which the law may be binding but is not enforceable. If a government of an EU member state does not respect the rules, it has to answer for itself in front of the judges of the European Court of Justice. On several occasions, member countries have had to pay a stiff financial penalty.

---

\* The author is currently an official of the European Commission and has written this paper in his capacity as a member of ACTION. The views expressed in this paper do not implicate the European Commission in any shape or form whatsoever.

## **2. The Cleaning of the River Rhine: An Example of what Sovereignty-Sharing can Achieve**

The quintessential feature of the European Union is that its member countries share sovereignty in a limited number of areas. What does this somewhat theoretical notion mean in the real world?

The cleaning of the Rhine River – the busiest waterway in the whole of Europe – is a practical example of what can be achieved when countries share sovereignty. The river flows through Germany and France and empties itself at the port of Rotterdam in the Netherlands. Many cities and industries, such as the coal mines of the Ruhr Valley, occupy its banks. For hundreds of years the river was used as a free sewer and the level of pollution was very high. The last salmon disappeared in 1935.

After the Second World War, there was an effort to clean it up. Governments of the countries concerned formed the International Commission for the Protection of the Rhine. But despite the International Commission's best efforts, pollution steadily worsened. When it came to governments taking action, the International Commission – like all inter-governmental organisations – could exhort but could not oblige.

In 1986, a chemical factory caught fire and water from the fire hoses washed twenty tonnes of pesticides into the river. There was extensive damage and thousands of fish were killed.

After this disaster, the International Commission drew up the Rhine Action Plan Against Chemical Pollution. Among other measures, it proposed a strict regime on chemical discharges and that toxic substances be transported only in double-walled vessels. But the fundamental problem remained – while the governments were under a moral obligation to implement the proposals, they were not under any legal obligation to do so.

One year later, however, the European Union (then the European Community) decided that it should adopt the plan as part of its broader programme to clean up Europe's environment. Thereupon, the plan became part and parcel of European Union law and, as a result, had the status of 'binding and enforceable law.' From this point on, if a government did not keep up with the plan, it risked having to appear in front of the Court of Justice.

This meant that having previously paid lip-service to cleaning up the river, the governments finally started to take their responsibilities seriously. The river was soon cleaned up and fish returned to water.

This is a practical example of what happens when governments keep up their promises. Official rhetoric *can* be transformed into action. But without the sharing of sovereignty in a new legal framework of the European Union, it is likely the Rhine would have remained a polluted and dirty sewer.

## **3. A Sovereignty-Sharing World Community?**

But could the same arrangement be made global? Could Europe's system be adopted by

the world as a whole? We believe it could – to everybody’s great benefit.\*

We are proposing that what has been done in Europe can now be done for the world as a whole. Essentially, we are proposing that – incrementally and gradually – countries share parts of their sovereignty and that they use the pool of shared sovereignty to make, through a democratic process, rules that are binding and enforceable.

This is an ambitious idea and I have tried to explain it in some detail in my book entitled *The Uniting of Nations: An Essay on Global Governance*, published by Peter Lang in 2010 (third edition).

A putative World Community has to start in a particular area. But which one? Cleaning up rivers, as in the case of the Rhine? Nuclear disarmament? Global poverty? Climate change? In our view, we could begin in the domain of global food security.

#### **4. Global Food Security**

When food prices are volatile, many problems ensue. Food becomes unaffordable – leading to acute hunger, malnutrition and death. The first to suffer are poor families, irrespective of whether they are in poor or rich countries. (We should not forget that some families in the United States and in the European Union find it difficult to afford enough to eat.)

Hungry people quickly become angry and in recent years, due to food price volatility, the world has witnessed many food riots (e.g. Haiti, Bangladesh, Cameroon 2007; Egypt, Tunisia 2011). People have been killed and buildings set on fire.

But price volatility has effects that are more pernicious than unaffordable prices. Farmers need price stability to invest in their farms to make them more productive. A reluctance to invest in farming is the last thing that the world needs; it needs the opposite: farmers who are confident about the future of farming and are willing to invest in their farms. Farmers will then be in a position to feed a growing world population and to adjust their farming methods to the exigencies of climate change. Stable price thus becomes a necessity.

#### **5. What can Governments do to avoid Unaffordable Food Prices?**

What can a country do when the price of food escalates on its national market and its citizens start to find the price unaffordable? If the country is rich, it can go to the world market, purchase food and import it. By purchasing on the world market, the country may push up the world market price for everybody else, which may cause difficulties to other countries that need to import.

If a country is an agricultural exporter – such as Argentina, Australia, Brazil, Canada, Thailand and the United States – then it can restrict its exports of food. This will stop the price of food from escalating on the national market. Of course, it means that less food is offered to the world market and the price on the world market may increase. A national solution can bring, in its wake, a global problem.

---

\* By ‘we’, the author refers to ACTION for a World Community for Food Reserves – a not-for-profit, non-governmental organisation established in 2011 under Belgian law. See [www.world-community-for-food-reserves.org](http://www.world-community-for-food-reserves.org)

What about countries that are neither rich enough to augment their supplies from the world market nor are agricultural exporters? Such countries – there are many, many of them – can appeal to the United Nation’s World Food Programme (WFP) for food aid. If the WFP has funds, it buys food from the market and gives it to the government.

There are several problems with food aid. Firstly, it takes time to process applications, to purchase grain and to ship it to the affected country. Food aid can arrive months after the crisis has passed. Secondly, the WFP is reliant on donations of money from governments. Sometimes they give enough, but sometimes they do not. This has led to tragedies. For example, it was reported in June 2009 that:

*‘The United Nations World Food Programme is cutting food aid rations and shutting down some operations as donor countries that face a fiscal crunch at home slash contributions to its funding.’*

*‘In recent weeks the WFP has quietly started reducing rations and closing down distribution operations to conserve cash. It reduced emergency food aid rations in Rwanda, for example, from 420 g to 320 g of cereals per person a day...The cost of food commodities such as corn and soya bean has surged this week to levels not seen since the start of the food crisis in late 2007.’<sup>1</sup>*

Thirdly, by its very reliance on the market for supplies of grain, the organisation may be as much part of the problem as part of the solution. The WFP frequently needs to buy when markets are tightening. But to buy on a tightening market simply bids up the price for everybody else.

The fourth problem is a legal one: there is no accountability. It is impossible to hold countries to their promises to give funds. It is also impossible to properly investigate countries when there are allegations of corruption in the use of food aid. The WFP has no powers to investigate allegations or to bring charges against individuals.

Clearly, the world has not yet found an effective answer to the problem of food price volatility.

## **6. When Stocks are Low, Prices Tend to be Volatile**

To solve price volatility we have to be sure that we know what causes it. Why is the price of grain volatile in the first place?

The price of grain fluctuates because supply and demand change. The reader will remark: the supply and demand of all goods change – what is so special about grain?

Grain is special because a small change in supply and/or demand induces a big change in price. The reason for this is that, in the short term, both the supply of grain from farms and the demand for grain for consumption are what economists term ‘price inelastic’.

It follows that if the world is ever going to reduce volatility, we have to bring about a situation such that supply and demand are price *elastic*, not price inelastic.

This can be done by storing grain. If, in addition to grain being supplied by farms it can also be supplied from grain stores, then the supply of grain is no longer price inelastic. It is

*price elastic*. By the same token, if the demand for grain is not only for consumption (i.e. for food and livestock feed) but is also for storage, then the demand for grain is no longer price inelastic. It too becomes *price elastic*. The fact that there are people or public agencies buying and selling grain for storage means that the market is no longer so brittle and sensitive to a slight change in the amount supplied or demanded. There is, in effect, a sort of sponge or buffer that is able to absorb changes in supply and demand without causing prices to go up and down dramatically. Prices do change, reflecting market fundamentals, but do so relatively gently and moderately.

### 7. Historical Evidence Regarding The Role of Stocks

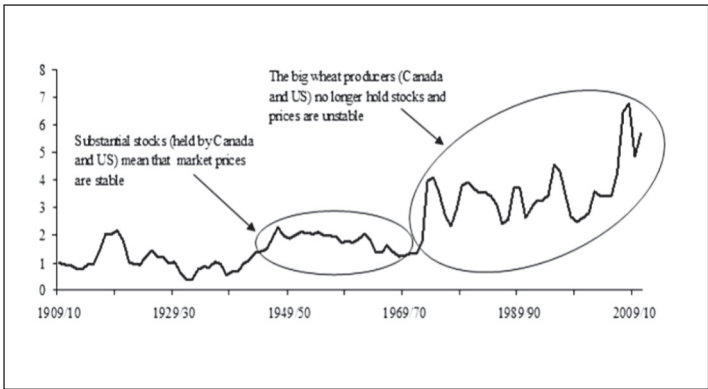
Figure 1 shows the price of wheat over the last hundred years (the prices are those received by US farmers).<sup>2</sup>

After the Second World War and until the 1970s, the price was relatively stable. Whilst prices varied from one year to the next, there were no sudden hikes or rapid falls. Why were prices stable for this 20-year period? Because, the major countries of the world wanted stability and predictability. To this end, they concluded an International Wheat Agreement which, to some extent, brought order to international trade in wheat. In addition, Canada and the United States decided to hold fairly substantial stocks of wheat which acted as a buffer, absorbing changes in supply and demand and thereby helping to stabilise world market prices.

Stable prices were advantageous to the world as a whole. However, the cost of price stabilisation was borne by these two countries – Canada and the United States. It was not a cost that was shared between all beneficiary countries.\*

Prices were stable until the early 1970s when Canada and the United States decided not to continue to hold substantial stocks. They considered that the benefits of stable prices did not warrant the costs to their own economies and public budgets. As a result, the price of wheat started to vary significantly from one year to the next. There were no longer any stocks that could act as a buffer.

*Figure 1: The price of wheat (nominal, US \$ per bushel)*



\* The beneficiary countries were all those which engaged in wheat trade, either as importers or exporters. The benefit was greater price stability.

## 8. What may we Expect in the Future?

Price volatility may become worse because global warming could reduce crop yields meaning from time to time there may be less food available.

## 9. Grain Stocks – Should they be Private or Public?

As told in the Book of Genesis, Pharaoh and Joseph in ancient Egypt may not have known about price elasticity but they certainly realised that stocks were indispensable. Just as stocks were used to avoid price volatility several thousand years ago, so they can be used for the same purpose today and it is this that we propose. But should governments do it or should storage be left to the private sector?

Generally speaking, private grain storers store only that quantity of grain that they are reasonably sure of selling at a later date at a profit. This is the quantity that they deem the market can absorb until the next harvest comes in. In calculating how much to store, private grain storers assume that the next harvest will be a normal harvest. To assume otherwise, for instance, to assume that the next harvest will be bad would be to take the risk of ending up storing more than the market can absorb and of making a trading loss.

The problem for society, of course, arises when the next harvest does, indeed, turn out to be bad. Then prices escalate, because the amount of grain that private storers have in store is not sufficient to cover the harvest shortfall. The inability of private storers (of the ‘free market’) to resolve this societal problem is an example of a market failure and, like all other market failures, can be rectified only by public (i.e. government) action. The storage of grain – at a level over and above that which the private sector is willing to undertake – is therefore a public good to be supplied by governments.

Rather than each country having its own reserve stock, for several reasons it would make sense to have one global stock upon which governments could call as and when necessary. Firstly, many countries are too poor to establish their own national stocks. Secondly, in some countries, because of local pressures, courts of law have difficulty following up cases of alleged corruption. Thirdly, compared to the sum total of individual national stocks, a global stock would provide greater cover for the same cost (aggregation of risk and the insurance effect).

*“We therefore propose that a new organisation be set up, perhaps called the ‘World Community for Food Reserves’”*

## 10. Our Proposal

Our proposal is for a reserve stock of grain, held at the world level. If international stocks are going to be properly and soundly managed, they have to be under the control of a supranational body, i.e. a body in which there is a limited sharing of sovereignty. This confers on the body a measure of authority over its member countries so that it can oblige them to act in the broad *global* interest of humanity as a whole rather than in the *national* interest of the country. It is for this reason that if a global grain reserve is to be properly managed the



managing body has to be sovereignty-sharing rather than inter-governmental.\*

We therefore propose that a new organisation be set up, perhaps called the ‘World Community for Food Reserves’. This organisation would be responsible for managing the stocks – for their establishment, release and replenishment. Its member countries would share sovereignty in this particular domain.

The members of the World Community for Food Reserves would be individual countries with the European Union as a single member in its own right (rather than its 27 member states).

There are already some eight international organisations working in the field of food. Instead of setting up yet another international organisation, would it not be logical to charge one of the existing organisations with the task of managing reserves?

Alas, none of the existing organisations are in a position to set up and manage a reserve stock of food. They do not have the requisite powers and it is extremely unlikely that they will ever receive those powers from their member states. The existing organisations are inter-governmental – just like the International Commission for cleaning up the Rhine. They can exhorted, cajole and try to persuade governments to take particular actions but they cannot oblige them to do so. The proper management of a global food reserve requires governments to stick to the rules. Only a sovereignty-sharing body can ensure this.

The big difference between this proposal and the existing international organisations is that *the World Community would have teeth* because its rules would be binding and enforceable.

## 11. A Gradual Enlargement in Membership

Initially, the new organisation is likely to have a few members only, but if it becomes successful, it would grow – success being the best advertisement to attract aspiring members. The Community would have an executive commission, a council representing its member states, a parliamentary assembly representing the citizens and a court to hear cases of alleged infringement. All the member countries would have a guaranteed seat and a guaranteed voice in the council. The principles of democracy would apply. In the event that it is not possible to reach a decision by consensus – on, say, the amount of money that each country should contribute, or the conditions under which grain could be released – a vote would be taken by qualified majority voting.

The Community would be open to all countries that meet two conditions. Firstly, they must be *willing* to share sovereignty in the field of food stocks. Secondly, they must be *able* to share sovereignty in this field. In practice this means that their governments must have the administrative capacity to manage reserve stocks of food.

What would the World Community for Food Reserves do with its stocks? Would they be sold to governments or given away directly to the hungry? How would it all work in practice? Figure 2 shows the basic operations.

**Step 1:** The Community procures a stock of grain and stores it in its own warehouses. The warehouses are sited in its member countries.

---

\* For an explanation of how countries can share sovereignty, see: Beginner’s guide to sovereignty sharing, available on website: [www.world-community-for-food-reserves.org](http://www.world-community-for-food-reserves.org)

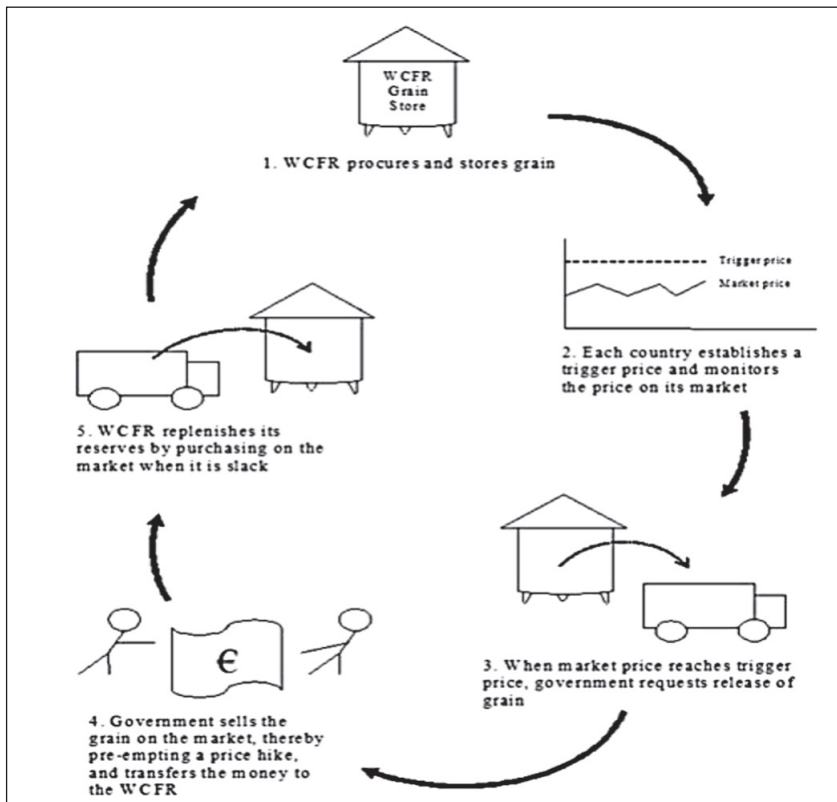
**Step 2:** The Community has agreed, in advance, with each government a national ‘trigger price’. This is the price at which grain becomes very expensive for, say, the poorest quartile of the urban population. Each government monitors the price of grain on its market.

**Step 3:** If the market price reaches the ‘trigger price’ then the government submits a request for the release of grain from the Community’s stock. If the request is deemed to be justified, the Community authorises the release of grain to the government.

**Step 4:** The government does not give the grain to its citizens. Rather, it sells the grain on the market and returns the money to the Community.

**Step 5:** When the market price has started to fall (after the next harvest, assuming that it is a normal harvest) the Community replenishes its stock by buying grain on the local market. The replenishment has to be done when markets are slackening to avoid causing the very problem that this proposal seeks to avert (unaffordable prices).

*Figure 2: How the World Community for Food Reserves would function*



## 12. Conclusion

This is our thesis: firstly, the world is lacking the means to address global problems in an efficacious manner; secondly, the evidence of the European Union demonstrates that sovereignty-sharing works – the Rhine is just one of many examples; and thirdly, that we could start to share sovereignty at the global level with food security (and subsequently addressing climate change, global poverty, war and conflict and other world problems).

Perhaps, we can learn from the European Union's experience, recalling the words of Jean Monnet, its founding father: "The European Community is but a step towards the way we will organise the world of tomorrow." \*

*"Perhaps, we can learn from the European Union's experience, recalling the words of Jean Monnet, "The European Community is but a step towards the way we will organise the world of tomorrow.""*

### *Author Contact Information*

*Email : [john.mcclintock@world-food-security.org](mailto:john.mcclintock@world-food-security.org)*

*Website: [www.world-community-for-food-reserves.org](http://www.world-community-for-food-reserves.org)*

## Notes

1. Javier Blas, "Funds crunch threatens world food aid," *Financial Times*, 11<sup>th</sup> June 2009 <http://www.ft.com/cms/s/0/524d50da-56ae-11de-9a1c-00144feabdc0.html>
2. USDA ERS, Wheat Data: Yearbook Tables U.S. and foreign wheat prices, Retrieved from <http://www.ers.usda.gov/Data/Wheat/YBtable20.asp>

---

\* In original French: "... La Communauté elle-même n'est qu'une étape vers les formes d'organisation du monde de demain."

## New Paradigm for Global Rule of Law

**Winston P. Nagan**, Member, Board of Trustees, World Academy of Art & Science;  
Director, Institute for Human Rights, Peace & Development, University of Florida, USA

**Garry Jacobs**, Chairman of the Board, World Academy of Art & Science;  
Vice-President, The Mother's Service Society, India

### Abstract

*Law is both a condition and a consequence of social development, an outcome of the broader social process, a form of social organization which channels social energies based on the relative strength of past practice and precedent, the present balance of power and emerging social values. Values are the bedrock of social process and the driving force for social activism. Historically, law evolves as a mechanism for conflict avoidance and resolution founded on the practical management of conflict and higher values, made possible by the implicit acceptance and internalization of the authority component of collective expectations. Established law acts as a conservative force of the status quo subject to continuous pressure to evolve from the changing public conscience and social values. Lasswell's comprehensive model of social process highlights the contribution of multiple participants to the evolution of law at the macro and micro level, including the role of individual value demands and the potential assertive power of the human community as a whole. The article explores the potential role of non-states in changing international law regarding the legality of nuclear weapons. An appreciation of the integral relationship between law, politics and society is essential to a fuller understanding of social, power and legal processes and the goal of universalizing peace and human dignity.*

Law is a powerful instrument for social development. At the same time it is itself a product of social development. The objective of this paper is to formulate a paradigm of law and development that will foster realization of the values essential for addressing global issues and the positive evolution of the human community. Law is a response to the problems that emerge from the social process and from the process of social development. Human problems represent conflicts between values that change over time. Effective solution to human conflicts depends on our ability to arrive at clarity and consensus regarding those values which are most conducive to human progress.<sup>1, 2, 3, 4</sup> An appreciation of how law has developed historically in response to past conflicts may serve as a guide to understanding its present status and possible future directions. This historical focus must include not only the formulation of law, but also its actual practices and outcomes. This is apparent when we consider that the

---

*“Law is both a condition and a consequence of social development.”*

---

eradication of discrimination or corruption depends as much on the prescription and application of prevailing law as it does on the prescription of new law.

Law is both a condition and a consequence of social development. All aspects and dimensions of society impact on and are influenced by the rule of law. For example, in recent months, the European financial crisis has exerted strong pressure for modification of the laws governing financial management of EU member states as well as the powers and responsibilities of national and European institutions to address the challenges posed. Changes in law and public policy relating to the financial management of banks and central banking institutions constitute important components of the policy response. Similarly, rapid advances in technology and communications impact on laws relating to regulation of the Internet and intellectual property. Political activism, like the Arab Spring, Moscow Winter, Occupy Wall Street Movement, has thrown into question the constitutional legitimacy of governments and the fundamental rights of citizens. Soaring levels of unemployment have compelled changes in labor and social welfare policies and greater government responsibility for the economy. The Fukushima disaster has led to changes in law and public policy regarding nuclear energy in Germany and Switzerland and raised legal issues related to the rights of sovereign nations to environmental protection from the actions of their neighbors. These are just a few of the many aspects of social change which influences and is influenced by the prescription and application of law. An appraisal of the relevant trends and conditions which have influenced legal outcomes against the values that are claimed and preferred requires acute analysis not only of past precedent and the present balance of interests and forces; it must also take into account the likely direction of their future development.

Law does not evolve in a vacuum. It evolves with human agents as interest articulators and authoritative and controlling decision makers. It evolves as an important dimension of the wider quest of society for more effective institutional arrangements to fulfill the goals of the collective. The global challenge is to formulate creative strategies that will facilitate the most rapid and satisfactory progress for global society as a whole. A greater theoretical understanding of the relationship between law and social development and the processes governing their interaction and evolution should enable us to arrive at practical measures to resolve present conflicts and advance the collective human agenda.

---

*“A greater theoretical understanding of the relationship between law and social development and the processes governing their interaction and evolution should enable us to arrive at practical measures to resolve present conflicts and advance the collective human agenda.”*

---

## **1. Law as Outcome of Social Process**

As an aspect of social organization, law is a mechanism for channeling social energies and interests. At any point in time, law consists of a more or less precarious balance between the past, present and future. Application and development of law are social processes that are influenced by multiple forces: the force of past precedent, established custom, and accepted tradition; the force of present political, economic and social power; the force of emerging aspirations; and ideas about the shaping and the sharing of the basic values for which there is a demand for acceptance.

Values are the bedrock of the social system and a driving force for social development. They represent the quintessence of society's acquired knowledge and convictions regarding the essential principles for survival and sustained human accomplishment. Law reflects the arena of important values in society and the precise points at which there is contention between conflicts about those values. For example, when sophisticated, rapid-fire, automatic weapons are involved in tragic instances of mass homicide, public outrage in the US rises once again to challenge antiquated constitutional protection for citizens' rights to bear arms, a right originally instituted at a time when 'arms' referred to single shot, musket-loaded flint lock pistols and muskets.\* Thus, legal choices go to determine what to conserve, what to bury, what to affirm and what to enhance. Since values are changing rapidly in the modern era, social change leads to changes in understanding of the law as well as reconstruction of its prescriptions, application and enforcement over time. Growing support for government curbs speculative investments by banks and huge compensation packages for bank executives, which reflects changing social attitudes toward the social responsibilities of banks as institutions of public trust. Law is a continuing process of authoritative and controlling decision-making within which the community seeks to defend and secure the common interest. It is a continuing challenge for the present and the future.

The founding of the United Nations Organization (UN) illustrates this process of interaction and precarious balancing and its evolution over time.† Although conceived and cast in the highest idealistic terms of universal human values, the real basis on which the UN was founded was the overwhelmingly dominant physical, economic and political power of the allied nations which emerged victorious in World War II. The UN can be seen as an outcome of a global conflict. The UN Charter creating a semblance of democracy and universality in the composition of the General Assembly nevertheless concedes effective power concentrated almost exclusively in the Security Council, in which the five permanent members possess absolute power to act in concert on behalf of the world or in opposition to one another in pursuit of their own narrow self-interests. The basis for this undemocratic arrangement was the old concept of national sovereignty, a legacy of three centuries of nationalistic consolidation and competition, which already showed signs of irrelevance to cope with the emerging problems of an increasingly globalized world. Nationalism, power and idealism were combined in a formula that was sufficiently prescient to avoid world war for the last 65 years, yet increasingly powerless and inept to cope with the emerging problems of the 21<sup>st</sup> century.

## 2. Evolution from Coercion to Rule of Law

Historically, the threat and use of coercion have played a central role in determining the outcome of social processes. Conflict and coercion are outcomes of the social process. These outcomes we may identify and map as a process of effective power.‡,5 Conflicts

---

\* *Amendment II of the United States Constitution* – The Second Amendment was adopted on December 15, 1791, along with the rest of the United States Bill of Rights. It is the part of the Bill of Rights that protects the right of the people to keep and bear arms. The right to keep and bear arms, often referred as the right to bear arms or to have arms, is the assertion that people have a personal right to fire arms for individual use, or a collective right to bear arms in a militia, or both.

† The United Nations Organization was founded in 1945 after World War II to replace the League of Nations, to stop wars between countries, and to provide a platform for dialogue.

‡ More generally on the relation of law to social process see Lasswell and McDougal, "The Relation of Law to Social Process: Trends in Theory about Law," *University of Pittsburg Law Review* 465 (1976).

*“Law evolves as a sublimated alternative to physical coercion...”*

about effective power are reflected in the issue of States' rights and abolition of slavery in America. These issues were resolved on the battlefields at Gettysburg, Shiloh and Vicksburg. The liberation of Libya in 2011 from four decades of dictatorship was similarly resolved by force of arms. If all social relations were exclusively a function of conflict, then the strongest would inevitably prevail on the basis that might is right. However, as societies evolve they generate understandings about managing power and develop strategies for conflict resolution. As conflict becomes increasingly expensive and destructive, protagonists frequently determine that the costs of conflict may exceed the potential gains. At this point the power brokers would look for ways to stabilize conflict and manage fundamental decision making by agreement and understanding. As democracy and human rights become more prevalent as sources of authority, they support tolerance and subordinate exclusive resort to naked power, both internally and internationally. Thus, the Arab Spring in Egypt, for example, achieved peacefully what their neighbors achieved by violence. Law evolves as a sublimated alternative to physical coercion, but legal authority retains the capacity for coercion as its ultimate foundation and reinforcement. Social authority comes to replace physical coercion as the primary means for resolving conflicts, but its power is accepted and respected because it retains an explicit or implicit capacity for physical enforcement, as well as the use of authority as a base of power.

Legal authority evolves as an alternative mechanism for conflict avoidance and resolution founded on higher values such as peace, collective security, human rights, justice and due process. Law evolves as an instrument to manage the politics of conflict based on authorized decisions and agreed upon rules of social order. Law is not the only social institution that plays this role. Money also became an important factor in the transition from violence to social order, providing economic incentives, rewards and punishments to protagonists to eschew resort to force. Historically, money has been used to resolve disputes, appease aggressors, compensate victims, propitiate antagonists, and incentivize competitors. But as governance and law evolved as recognized authorities, coercive force progressively gave way to social convention, legislation and jurisprudence as the principal means for dispute resolution. This evolution from physical violence to social power to authorized competence and higher values is an affirmation of the value basis of law. It replaces the principle that might is right and applies value-based principles to affirm the rights and enhance the power of the weaker segments of society.

This process is evident in the field of international relations where the habitual resort to war between nation-states that characterized European affairs for centuries has now been effectively replaced by an institutionalized political and legal framework. In the words of Dutch security expert Rob de Wijk, “War in Europe has become unthinkable.” Similarly, though with less absoluteness, establishment of the UN system after the Second World War has replaced periodic conflicts between nation-states, widespread imperialistic ambitions and colonialism with treaty negotiations across the conference table, debate in General Assembly and Security Council, judicial inquiries, international commissions, arbitration, mediation,

binding and non-binding resolutions, and countless other mechanisms for channeling energies from coercive violence into political, legal and intellectual processes. This transition from violence to law continues today in both national and international contexts.

Law involves an implicit acceptance and internalization of social authority which is reflected in the constitutionalization, that is to say, the acceptance of the allocation of fundamental decision making authority for society which generates shared expectations about the shaping and sharing of human values. Law codifies the most enduring values which emerge as social norms and customary practices accepted by the community, often representing the “living law” of the society.<sup>6</sup> Indeed, public acceptance of basic expectations is a crucial aspect of law. Unless the community accepts the legitimate authority of its authorized decision makers and their prescription,

application and enforcement of law, such authority may lose its authoritative foundation and be compelled to resort to coercive force to maintain the status quo. Unless those laws reflect accepted norms and expectations, such acceptance is unlikely. Thus, rule of law is based on the major expectations which the community holds about the exercise of authority and control in the common interest. Law as codified strives to be the embodiment of the basic values reflected in the public conscience of what the collective of human beings agree to accept, that is to say, the collective fundamental expectations about authority, control, and the respect for basic values.<sup>7</sup>

---

*“Law codifies the most enduring values which emerge as social norms and customary practices accepted by the community, often representing the “living law” of the society.”*

---

### **3. Role of Law in Social Progress**

Once formulated, law represents a conservative force for maintenance of the status quo and resistance to change. On the other hand, public conscience, social attitudes and values continue to evolve over time, exercising a continuous pressure for changes in the formulation, interpretation and application of law. This has profound implications for the evolution of both national and international law and emerging expectations of justice and value.

The growth of positivism gave prominence to the idea that law is a critical agent of social change in the form of legislation. As Bentham expressed it, legislation can serve the common interest by measures to promote the greatest happiness for the greatest number.<sup>8</sup> However, Bentham perceived judges as an inherently conservative force, wrapping their conservatism in the symbols of natural law, which he called “nonsense on stilts”.<sup>9</sup> He spurred an awareness of the importance of science in understanding and improving the performance of law in social process and development.

Modern discourses have generated a multitude of approaches resulting in important but partial insights about the role of law in social process. Two Fellows of the World Academy, Harold D. Lasswell and Myres McDougal, saw the problem in a very different light and developed a far reaching theory integrating social process and legal process based on universal human values. The culmination of their efforts was a two-volume work titled



*Jurisprudence for a Free Society: Studies in Law, Science and Policy*.<sup>10</sup> The intellectual and scholastic challenge presented in their work requires an integration of many of the traditional approaches to law and society in a manner that leads to a new paradigm for the study of law and society. Their approach is problem-oriented and contextual, multidisciplinary, goal and value-guided, and decision-focused. They viewed law as a process of authoritative and controlled decision-making in which, since time immemorial, the community has sought to clarify and implement the perceived common interest. They regarded law as decision in response to the problems that emerge from the social context. That response may conserve, modify, change or be changed by the values and the institutions of society, which suggests that law may be both a condition and a consequence of the social dynamics of society.

The genius of their approach was to provide a framework of social process that permits mapping at any level of detail or abstraction. The basic model can be described as *human beings pursuing values through institutions based on resources*.<sup>11</sup> Using in part anthropological experience, they identified eight salient values that are identifiable cross-culturally in any social process at any level of abstraction – power, wealth, respect, enlightenment, health and well-being, affection, skill and rectitude. These values broadly encompass the entire spectrum of human needs and aspirations: political, economic, social, educational, health-related, human security, family and personal relationships, capacities and ethics.

The central purpose of the rule of law is to ensure that value allocations and the institutional forms specialized to the production and distribution of values should at least minimally secure the preservation of the prevailing values of the society. This is the conservatory function of law. However, social processes are dynamic and social values change over time. Frequently, the demands by social participants require that institutions evolve to reflect a change in values and to enhance the production and distribution of those values that are demanded. Here, the role of law in the form of decision is charged with the development and sustainability of institutions and situations for the purpose of enhancing positive social outcomes for an improved human prospect.

It is obvious that a multidisciplinary method is necessary for understanding the conservative and progressive aspects of the role of law. This requires understanding the role of law in the establishment and maintenance of constitutional order, the role of law in managing the production and distribution of values that are a condition and a consequence of constitutional order, and the role of law in the protection and enhancement of civic order and civil society. These challenges are waiting for a new generation of thinkers to formulate a comprehensive global framework, while at the same time moving with dexterity in understanding the local social consequences and policy implications of law.

“...individuals are often the initiators, the movers and shakers of important social developments.”

## 4. Critical Participants in the Global Community\*, †

Such an endeavor necessitates development of a theory of social process that is sufficiently comprehensive and global to encapsulate all the critical participants in the global community – the factors that determine their interactions; the processes that govern the development of these participants and those that govern the evolution of the global community as a whole. At the same time, the theory should be capable of reflecting the unique role of various agents in this wider process. In short, the theory is confronted with the challenge of being comprehensive, selective and specific.

### 4.1. The Individual

Traditionally, the formulation of international law has been regarded principally as the purview of nation-states. Lasswell argued for a wider perspective that takes into account the contribution to the social process of all participants, including the individual. The global social process is comprised of individuals and sometimes associations of individuals who act as claimants demanding access to the shaping and sharing of basic values. We observe in both the national and the global context that individuals are often the initiators, the movers and shakers of important social developments. Without these individual participants, social movement and development would flow at a modest pace. Try to imagine the Indian Independence Movement without Mahatma Gandhi, the American Civil Rights Movement without Martin Luther King Jr., the Anti-Apartheid Movement without Nelson Mandela, or the end of the Cold War and the “Fall of the Berlin Wall” without Mikhail Gorbachev.<sup>12, 13, 14, 15</sup> Similar roles have recently been played in different fields by Al Gore, Osama bin Laden, and the Four Horsemen (Kissinger, Nunn, Perry, Schultz). The central point here is that the individual is a participant in the global social process.<sup>16</sup> Under certain circumstances, the individual stakes a claim to his or her identity, rights or convictions and acts to preserve and protect them. Additionally, the individual is a claimant and, therefore, an articulator of value demands on behalf of groups or an entire community. Without the individual as a claimant, there would be no social change and no social progress. What is true of individuals is also true of groups of individuals, small organizations such as the Club of Rome (climate change), Al Qaeda (terrorism), International Physicians for Prevention of Nuclear War (IPPNW), and Pugwash (nuclear weapons).

The process of claiming is a process of actively staking demands about the basic values of society. These demands are articulated in the form of basic rights. Human rights are driven by the demands of individuals and associations of social participants in the global social process. Lasswell devoted much of his academic life to exploring the role of the individual in the global social process. His approach was regarded as threatening to conventional legal and political wisdom, because it radically expanded the field of participants and multiplied the complexity of analysis required. In addition, it challenges conventional wisdom by disproportionately magnifying the potential power of the individual. Yet, this challenge to convention resonates

---

\* For the purpose of this presentation we limit our focus regarding the full range of participants in the global community process. In addition to individuals and nation states we should recognize that organized participants include governments, political parties, pressure groups and private associations specialized in different value objectives. Unorganized groups include groups focused on culture, class, interests, and personality types; much of these participants fall in the framework of global civil society.

† See *Jurisprudence for a Free Society*, Vol. I, pp. 143-144; See also M. McDougal, H.D. Lasswell & L.H. Chen, *Human Rights and World Public Order*, pp. 94-160 (1980)

with much of the historical narrative in which individuals – Napoleon, Lincoln, Edison, Ford, Einstein, Gandhi, Hitler, Roosevelt, Stalin, Churchill, Mao, King, Mandela, Gorbachev – have exercised overwhelming influence on global processes. Professor Richard Falk, one of the most distinguished international lawyers of the 20<sup>th</sup> Century, described these ideas as generating what he called “dangerous knowledge”.<sup>17</sup> The intellectual challenge generated by a realistic demand for an accurate depiction of global social process and all the important social participators remains a matter of unfulfilled promise and represents a unique opportunity for an original contribution of global significance.

#### **4.2. Nation-States**

Law, in particular, and the social sciences, in general, prefer to work with large aggregates. Classes, nations, sovereigns, and inter-sovereign organizations dominate the conceptualization, the problems and the discourses about these issues. Influenced by highly formalistic positivism, the boundaries of international law are largely conceptualized around the sovereign nation state. Since there are a limited number of sovereign states in the world community, a science of international law has a limited range of participant actors who are the focus of study and action.<sup>18</sup> These assumptions constitute important barriers to a realistic understanding of the central components of global society and tend to deny the appropriate intellectual space for the role of the individual in the global social process.

Developments in both law and the social sciences have sought to reduce the rigidity of this form of collective conceptualization of participants in global society, giving rise to partial theories which selectively and somewhat anecdotally broaden the range of appropriate participants. One of the most important challenges for new theory is to determine whether a global orientation can generate effective theory and effective methods of exposition to account for all the important stakeholders in global society, especially the individual social participant.

#### **4.3. Sovereignty and Human Rights**

Sovereignty is one of the most widely invoked symbols of international governance. This concept asserts that the State is the sole legitimate participant in and determinate of the constitutive process. In contrast, the fundamental premise of human rights is to give a place for individual legal identity in both the national and the global social and legal process. Whereas national constitutive processes clearly affirm the rights of individuals and provide legal processes for their enforcement, international law still focuses primarily on the rights of sovereign states which may be in direct conflict to individual rights. Nuclear energy is a case point. As the Fukushima accident illustrates, increasing global dependence on nuclear energy has the potential to create significant conflicts between sovereign states and between states and citizens of other countries. If the impact of a nuclear power plant accident crosses national

---

*“Last year, Germany, Switzerland and Italy announced plans to completely phase out nuclear energy within the next decade. Yet, that would afford their citizens no protection from the fallout of an accident in a neighboring country that continues to rely on nuclear energy.”*

---

boundaries, what rights do states have against actions by other states that may pose equal or greater dangers to their own citizens? For example, recent reports attribute thousands of fatalities in the USA in 2011 to rising levels of radiation resulting from the Fukushima accident.\* Last year, Germany, Switzerland and Italy announced plans to completely phase out nuclear energy within the next decade.<sup>19</sup> Yet, that would afford their citizens no protection from the fallout of an accident in a neighboring country that continues to rely on nuclear energy.

Issues such as these make it extremely important that we understand the place of human rights in global society and the basis for the claim that they are universally binding on States and peoples. Lasswell's model may provide us with a way of unpacking sovereignty and human rights to better understand their place in the global constitutional scheme.<sup>20</sup>

The World Academy's own historical antecedents justify this pursuit and illustrate its relevance. The founders of WAAS largely consisted of scientists, philosophers and heads of international organizations who had witnessed, or participated in, the ravages of two world wars. Albert Einstein and Bertrand Russell authored the famed Einstein-Russell Manifesto highlighting the dangers posed by nuclear weapons, which led to the founding of the Pugwash Conferences in 1957 and the Academy in 1960.†,‡,§<sup>21</sup> After heading the Manhattan Project, which developed the first atomic weapons, Robert Oppenheimer grew increasingly alarmed at the future implications of the nuclear genie he had helped unleash, opposed development of the hydrogen bomb, and became a vocal advocate of efforts to prevent a nuclear arms race.<sup>22</sup> Joseph Rotblat, a nuclear scientist who left the Manhattan Project in protest, later helped found both Pugwash and the Academy and went on to win the Nobel Peace Prize in 1995 for his dedicated efforts for the abolition of nuclear weapons.¶ These and many other individuals and organizations, including Pugwash and the International Physicians for the Prevention of Nuclear War, played a crucial role in bringing the International Court of Justice to the verge of declaring any use of nuclear weapons as a crime against humanity in their landmark advisory opinion the following year.

## 5. Micro-law<sup>23</sup>

Lasswell's recognition of the critical role of the individual in the formation and application of law led to development of a parallel insight by his student, Michael Reisman, another WAAS Fellow who highlighted the importance of micro-level events in the formation and application of law.<sup>24</sup>¶ It is not merely acts of the legislature, executive and judiciary at various levels of government that determine the law of the land. Individual actions of individuals and groups can under certain circumstances acquire a symbolic and practical significance that

---

\* *Radiological Assessment of effects from Fukushima Daiichi Nuclear Power Plant*, United States Department of Energy (16 April 2011) – The radiation effects from the Fukushima Daiichi nuclear disaster are the result of release of radioactive isotopes from the crippled Fukushima Daiichi Nuclear Power Plant after the 2011 Tōhoku earthquake and tsunami.

† *The Pugwash Conferences on Science and World Affairs* – an international organization that brings together scholars and public figures to work toward reducing the danger of armed conflict and to seek solutions to global security threats. It was founded in 1957 by Joseph Rotblat and Bertrand Russell in Pugwash, Nova Scotia, Canada, following the release of the Russell-Einstein Manifesto in 1955.

‡ *The Russell-Einstein Manifesto*, Issued in London, 9 July 1955

§ The Nobel Peace Prize 1995 was awarded jointly to Joseph Rotblat and Pugwash Conferences on Science and World Affairs “for their efforts to diminish the part played by nuclear arms in international politics and, in the longer run, to eliminate such arms”; See “The Nobel Peace Prize 1995”, Nobelprize.org.

¶ See also Michael Reisman, *Law in Brief Encounters*, Yale University Press (1999); See also Winston P. Nagan, *Reisman's "Law in Brief Encounters" (Book Review)*, *South African Law Journal* 120, no. 4 (2003): 907; Walter Weyrauch, “The “Basic Law” or “Constitution” of a Small Group,” *Journal of Social Issues* 27 (1971): 49–63; See also Walter Weyrauch, “Law in isolation—the penthouse astronauts; An experimental group cut off from the world makes its own rules,” *Society* 5, no. 7 (1968): 39-46.

either undermines existing principles of law or establishes new ones in their place.

Gandhi's 1930 Salt March was a brilliant strategy encapsulated in a single act designed to challenge the legitimacy of British rule in India and demonstrate at the same time to hundreds of millions of Indians, the power they possessed to overturn an illegitimate colonial government.<sup>25</sup> A tax on salt, an almost universally applied tax by European countries at home as a source of revenue, was extended to India by an act of Parliament in 1882.<sup>26</sup> Enforcement of the act in a country with such a vast population and extensive coastline was inconceivable without the docile cooperation of the local population. For years, that compliance was forthcoming. In a single act of statesmanship, Gandhi launched a massive civil disobedience movement that spread throughout the country and led to the arrest of more than 80,000 Indians.<sup>27</sup> From then on, it became evident that the days of British rule were numbered. The Salt March later served as a source of inspiration for Martin Luther King Jr.'s Civil Rights Movement. Like the Boston Tea Party, a single local act had profound legal consequences nationally and internationally.

*“The individual act of value demand is the micro unit of the social process by which law is made and by which it evolves over time.”*

On December 1, 1955 Rosa Parks refused to obey a bus driver who ordered that she give up her seat to make room for a white passenger in Montgomery, Alabama.<sup>28</sup> Her arrest and summary trial sparked a 381-day bus boycott by the black community of Montgomery, until the law requiring segregation on public buses was lifted. Parks' civil disobedience became a symbol of the modern Civil Rights Movement. Parks herself became an international icon of resistance to racial segregation. The individual act of value demand is the micro unit of the social process by which law is made and by which it evolves over time.

In December 2010, 26-year-old Mohamed Bouazizi was getting ready to sell fruits and vegetables in the rural town of Sidi Bouzid, Tunisia. Bouazizi was the breadwinner for his widowed mother and six siblings, but he didn't have a permit to sell the goods. When the police asked him to hand over his wooden cart, he refused and a policewoman allegedly slapped him. Angered after being publicly humiliated, Bouazizi marched in front of a government building and set himself on fire.<sup>29</sup> His act of desperation resonated immediately with others in the town. Protests began that day in Sidi Bouzid, captured by cell phone cameras and shared on the Internet. Within days, protests started popping up across the country, calling upon President Zine El Abidine Ben Ali and his regime to step down. About a month later, the President fled the country.<sup>30</sup> The momentum in Tunisia set off uprisings across the Middle East that became known as the Arab Spring.

## **6. Lasswell's Social Process Model**

Lasswell's summation of social process is valid for any level of conceptualization; human beings pursue values through institutions based on resources.<sup>31</sup> Simple as this model is, it can be generalized to the global level and yet also serve to explain the social process dynamics of small groups, such as the family (micro-social interaction). The central elements of this model begin with the individual human being who is active in demanding access to the

shaping and sharing of values. Cross-culturally, value demands target the social institutions specialized for the production and distribution of particular values. The individual therefore targets the institution. In targeting the institution, the individual must make some assessment of what bases of power he may access to facilitate and make more effective his claim on the system. This model generates complexity because it requires methods to assess those bases of power, to describe society as it is, to describe the problems in society as they are, and to consider as well the institutions of problem-solving at any level that can be deployed in response to the problem of value claims and resistance to these claims.

Borrowing insights drawn from the natural sciences, Lasswell and McDougal developed a form of conceptual and analytic mapping to guide inquiry into the social process.\* They developed a map that can be summarized in terms of the following markers: (1) identification of the participators, as discussed above; (2) subjectivity of the participators, including their claims for identity, claims for values and claims relating to expectations; (3) description of the values available to participants.<sup>32</sup> They based this approach on a radical description of social power postulating that power may be sought for its own sake or for access to any other important value. At the same time, they perceived that every other non-power value may serve as a base of power to achieve access to power in any other value.

*Table 1: Major Components of Lasswell's Global Social Process Model*

<b>Values</b>	<b>Institutions</b>	<b>Situation</b>	<b>Outcomes</b>
Power	Governance – Political Parties	Arena	Decision
Enlightenment	Universities – WAAS	Forum	Knowledge
Wealth	Corporations	Market	Transaction
Well-Being	Hospitals, Clinics	Habitat	Vitality
Skill	Labor Unions, Professional Organizations	Shop	Performance
Affection	Micro-social Units (Family) Macro-social Units (Loyalty)	Circle	Cordiality, Positive Sentiment, Patriotism
Respect	Social Class	Stage	Prestige
Rectitude	Churches, Temples	Court	Rightness

Situations define the context in which the claims on values occur. They are especially important in the global context, because of the unequal distribution of power and the multitude of conceptual models which shape the way we think about global issues (bipolar,

\*Id.; See also Michael Reisman, *The New Haven School: A Brief Introduction* (2007)

tripolar, multipolar). Traditional models based on a state-centered paradigm may not adequately account for multinational firms, large hedge fund investors, popular uprisings, liberation movements, terrorist operations or organized crime activity. Each of these actors considers the possible strategies they may use given the demands, bases of power accessible to them, and the importance of critical strategies to generate desirable outcomes. Strategies implicate ideological symbols, diplomatic protocol, economic strategies and coercive military initiatives.

The critical marker of global social process is its outcomes and effects for the participants. A fully valid theory and method for the elucidation of the global social process should give us the ability to systematically and accurately predict the outcomes that emerge from this global process, such as the ultimate impact of the current European financial crisis on the structure of the European Union, survival of the Eurozone and regulation of international banking.

Table 1 summarizes the major components of Lasswell's Global Social Process Model.\* It includes eight value categories identified from anthropological sources and expanded under the influence of the Universal Declaration of Human Rights. The authors used values descriptively to understand the state of social process, including its deficits as they actually are. The challenge is to determine how we might develop strategies to influence social process so that it enhances the positive scheme of value distribution and consumption.

## 7. Good Governance

Good governance is a valued outcome of the constitutive process.<sup>33</sup> Good governance is a function of the participants who are included and excluded from the governance process, the fundamental claims of the participants regarding the allocation of power and competence, and the basic expectations they hold about the structures that establish and maintain the constitutive process.<sup>34</sup> The stakeholders in the governance process participate by way of making claims and counterclaims, including claims by the State to conservation and to change.<sup>35</sup>

Participation also requires access to a basis of power through some form of communication and representation based on prevailing social values that affirm the legitimacy, right or essential necessity of that participation. The toppling of Mubarak's government in Egypt in 2011 was possible because the society-at-large recognized and asserted its right to demand political change and successfully effected change without violence, whereas in Libya and Syria public protestors were denied access and forced to resort to alternative strategies. Rising public outrage over rampant political corruption in India has recently enabled a popular movement to gain national support for legislation to curb and punish malpractices. Internationally, specific individuals and organizations such as Pugwash and IPPNW have been able to gain access to power structures, but global public opinion lacks the legitimacy to exert influence even on issues such as nuclear abolition or climate change where the vast majority of human beings share common values and interests.

Participation takes place in arenas, such as legislative, executive, judicial, administrative and electorate, which represent spatial, temporal factors central to participation. They could

---

\* See Part III for a more detailed discussion of Lasswell's model.

also include arenas of local and global salience – Tiananmen Square in Beijing, Tahrir Square in Cairo, and Wall Street. These arenas may be geographical, institutional, etc.

Any justifiable constitutive process will provide the participants with access to strategic resources to support their claims to effective participation. These resources could be described as coercive or persuasive. Persuasive resources include strategies of conciliation, mediation, negotiation, arbitration or non-violent civil disobedience. Coercive strategies could involve the use of the power of the State to compel complaints with desired modes of behavior.

The outcomes of a constitutive process could result in the grudging distribution or a maximal distribution of power to enhance participation. This is a model that could be developed for application to any global problem of governance, such as the challenges represented in the Arab Spring.

## **8. Application of the Model to Law regarding Nuclear Weapons<sup>36</sup>**

The efficacy of this model as a conceptual tool and a source of strategy may be illustrated with reference to nuclear weapons. The Nuclear Non-Proliferation Treaty (NPT) is the primary international legal instrument governing the development, proliferation, and possession of nuclear weapons.\* Originally framed in 1968, its immediate aim was to prevent further proliferation of nuclear weapons technology to other states. The treaty also set forth the conditions under which non-nuclear weapon states (NNWS) would be granted access to technology for the peaceful use of nuclear energy in exchange for foregoing the right to develop or possess nuclear weapons. In exchange, Article VI of the treaty stipulated that the five original nuclear weapon states (NNS) shall enter into good faith negotiations leading to complete nuclear disarmament. The treaty essentially sought to freeze the status quo by denying access to nuclear energy technology to states that refused to sign. In spite of continued calls by the NNWS, the NNS have resisted steps to implement Article VI, resorting to military, political, economic and social pressure to maintain their monopoly. The fact that the world has been unable to compel the NNS to fulfill their pledge or to prevent at least four other states from acquiring nuclear weapons points to serious lacunae in the framing and implementation of international law relating to this issue.

A full comprehension of the situation requires that we broaden the framework, as Lasswell and McDougal assert, to encompass a much wider range of participants, a broader set of values and other social processes that fall outside the traditional boundaries of law. We have already referred to the key role played by a few distinguished individuals and organizations. The actual field of institutional participants numbers in the thousands, including organizations drawn from all eight categories listed in table 1, such as Global Zero, Greenpeace, WFUNA, ICAN, IPPNW, Middle Powers Initiative, Abolition 2000, Mayors for Peace, Nobel Peace Laureates, and countless groups of parliamentarians, scientists, physicians, women, lawyers, religious, military, civic and labor leaders. Although the NPT never anticipated a role for the UN General Assembly, WHO, UNESCO, the International Court of Justice, the Human Rights Commission, self-declared regional nuclear free zones and many others have exercised influence and made value demands related to this issue.

---

\* *The Treaty on the Non-Proliferation of Nuclear Weapons*, Opened for signature in 1968, entered into force in 1970 and extended indefinitely on 11 May 1995.



Furthermore, over the years the value base for these claims has also shifted markedly. No longer is it confined to the security of nations. Today, individuals and civic groups are major claimants demanding protection for their individual and community rights: present and former military leaders protesting against wasteful expenditure on unusable weapons systems; environmentalists demanding recognition of the ecological threat represented by these weapons; physicians warning of the health hazards of radiation, etc. Other groups assert that the very existence of these weapons constitutes a threat to the fundamental human rights. Primarily, as the result of efforts by Pugwash, IPPNW and WHO, the case was brought before the ICJ in 1995. Thus far, the widening field of participants has resorted primarily to raising public awareness through the media or seeking to influence political decisions at the national or international level. This does not preclude the possibility of unified action by larger associations of participants.

Lasswell's model not only takes into account the myriad efforts of these other participants to influence international rule of law. It also points to the possibility of other strategies. The Prosecutor of the International Criminal Court suggested the possibility of approaching the ICC with a case against NWS on the grounds that even the threat of use of these weapons constitutes a crime against humanity. Recent experience within the World Academy suggests that there may be other more direct forms of action that can be taken to bring about a change in international law.

Underlying all these initiatives are some fundamental questions of international law: Do individuals and groups of the world have an inherent and inalienable right to freedom from the threat of nuclear weapons and from the medical and environmental damages that could affect large civilian populations as a result of nuclear weapons usages? Do the world's citizens have a sovereign right to representation and exercise of their political will independent of the structures and policies of the nation states within which they reside? Do the nations of the world, the vast majority of which protest and reject the right of the NWS to retain nuclear weapons and which also represent the vast majority of human beings, have a right to declare use and possession of these weapons illegal? What is the legal validity of international institutions based on an undemocratic, unrepresentative constitutive process? Are there salient principles of international law and universal human rights that override the authority of unrepresentative and undemocratic institutions of global governance? Is there an inherent right, and if so, is there a feasible means by which the majority of humankind can express, exercise and demand recognition of the values it affirms?

---

*“The process of social power is itself a subset or component of a still wider social process by which human beings collectively affirm values and seek to realize them in their individual and collective lives.”*

---

There are of course a multitude of value/institutional concerns that implicate the global rule of law. Among the most important of these questions is the issue of the global environmental crisis.<sup>37</sup> These issues do not exhaust the range of rule of law problems that might fall within the scope of legitimate inquiry by the Academy.

## 9. Integrated Theory

Lasswell perceived that the constitutive process by which law is created and modified forms a component or subset of a more fundamental and comprehensive process of social power by which authority is exercised in society, and that the process of social power is itself a subset or component of a still wider social process by which human beings collectively affirm values and seek to realize them in their individual and collective lives.

Similarly, Lasswell and McDougal widened our understanding of the agents who participate in the formulation and evolution of law, power and other values in society. While traditional legal theory focuses almost solely on the role of legislative, judicial and executive branches of government, Lasswell perceived that all those who can claim access to power in society have the potential capacity to influence the constitutive legal practice. Furthermore, he understood that the eight major categories of values are inter-convertible. Therefore, any agent who possesses one value has the potential capacity to influence or acquire the others. This is most evident in the case of the possessors of wealth, who enjoy considerable influence over political and legal processes in all countries of the world. It is less evident but also true of the possessors of other values, which explains instances in which popular movie stars, respected religious leaders, outstanding technocrats and skilled orators exert considerable influence on politics and law. Lasswell and McDougal extended the principle of integration still further by tracing the constitutive, power and social processes down to the micro-level where they are subject to influence by small groups and single individuals. They identified underlying social, cultural and psychological factors which influence the conceptions, motivations and actions of these micro-level actors and events.

Some legal theorists argue that this model adds such mind-boggling complexity to legal analysis that it renders the theory impractical. But the historical record so clearly affirms the truth of Lasswell's fundamental premises, that it is impossible to reject their obvious truth. When we examine great revolutionary or evolutionary transitions in law and politics, invariably we find outstanding individuals – a Rosa Parks, King or Gandhi – as well as small acts of civil disobedience or other significant events associated with them. So too, when we examine the most modest incremental changes in law that more commonly occur, we discover at their roots the acts of individual legislators, presiding judges, jurors, expert witnesses and special interest groups expressing their personal attitudes, convictions and beliefs in acts of judgment and power that influence the formation, interpretation and application of law.

The integral relationship between legal, political and social process and the linkage between the micro-level acts of individuals, groups, institutions and governments and macro-level changes in law may deter theorists from pronouncing generalized truths of legal process. But, for those interested in and committed to accelerating the evolution of law and legal processes to more fully embrace and reflect higher human values, Lasswell's model provides a detailed map of the potential participants, resources, institutions and strategies that can be harnessed to alter social outcomes. It makes more conscious the processes by which society, power and law evolve. It empowers those committed to social change. It offers hope and inspiration that more rapid and radical progress is possible nationally and globally.

*Author Contact Information:*

**Winston Nagan** - Email: [nagan@law.ufl.edu](mailto:nagan@law.ufl.edu)

**Garry Jacobs** - Email: [garryj29@gmail.com](mailto:garryj29@gmail.com)

## Notes

1. Myres McDougal, William Reisman & Andrew Willard, "The World Community: A Planetary Social Process," Faculty Scholarship Series Paper 753 (1988) [http://digitalcommons.law.yale.edu/fss\\_papers/753](http://digitalcommons.law.yale.edu/fss_papers/753) The most recent expression of the idea of a global social process and how to map it is found in the article.
2. Myres McDougal, "International Law and the Future," *Faculty Scholarship Series Paper 2662* (1979) [http://digitalcommons.law.yale.edu/fss\\_papers/2662](http://digitalcommons.law.yale.edu/fss_papers/2662)
3. Harold Lasswell, "The Inter-relations of World Organization & Society," *Yale Law Journal* 55 (1946): 889-909 [http://digitalcommons.law.yale.edu/fss\\_papers/3120/](http://digitalcommons.law.yale.edu/fss_papers/3120/)
4. Harold Lasswell, "Future Systems of Identity in the World Community," in *The Future of the International Legal Order* eds. Cyril Black & Richard Falk (Princeton: Princeton University Press, 1972).
5. Harold Lasswell & Myres McDougal, *Jurisprudence for a Free Society: Studies in Law, Science and Policy* Vol. II, Appendix IV (Leiden: Martinus Nijhoff Publishers, 1992), 1439-1488. Lasswell and McDougal provide a detailed outline and map of "The Community Power Process: An Outline for Policy-Oriented Inquiry".
6. Louis D. Brandeis, "The Living Law," *Illinois Law Review* 10, no.7 (1916): 461.
7. Myres McDougal, Harold Lasswell & William Reisman, "The World Constitutive Process of Authoritative Decision," in McDougal & Reisman, *International Law Essays* (New York: Foundation Press, 1981). The establishment of control conjoined by authority reflects the emergence of basic constitutional understandings and processes. A comprehensive description is given.
8. James Burns, "Happiness and Utility: Jeremy Bentham's Equation," *Utilitas* 17, no. 1 (2005): 46-61.
9. Jeremy Bentham, et al., eds., Rights, Representation, and Reform: *Nonsense upon Stilts and Other Writings on the French Revolution* (Oxford: Oxford UP, 2002), 291.
10. Harold Lasswell and Myres McDougal, *Jurisprudence for a Free Society: Studies in Law, Science and Policy* Vol. I & II (New York: Springer, 1992).
11. A summary of this view of social process and the relevant markers is found in a section of *Jurisprudence for a Free Society*, Vol. I, pp. 141-201. *Trends in Theories about Law: The Relation of Law to its Larger Community Context* (1992) – this section maps the global community process, the global process of effective power, the global constitutive process and the global system of public order as an integrated framework. For a detailed map of the social process context, which is developed with a map of each specific value of institutional reference, see also pp. 335-587; See also Daniel Ryan Koslosky, "Sexual Identity as Personhood: Towards an Expressive Liberty in the Military Context," *North Dakota Law Review* 84 (2008): 175 citing Myres S. McDougal, W. Michael Reisman & Andrew R. Willard, "The World Community: A Planetary Social Process," *U.C. Davis Law Review* 21 (1988): 807, 809-10. It is notable that the "perception of interdependence" within the social process "leads participants to appreciate the relevance of pursuing common interests and motivate them to clarify it." See Harold D. Lasswell, *Psychopathology and Politics* 240-67 (1930) (describing the "state as a manifold of events"). The policy sciences look to signs and symbols to demarcate the meaning of interaction between persons. See Myres S. McDougal, Harold D. Lasswell & James C. Miller, *The Interpretation of Agreements and World Public Order* xii (1967) (theorizing that "signs are materials or energies that are specialized to the task of mediating between the subjective events of two or more persons"). For an orientation of the social process see generally Harold D. Lasswell, *World Politics and Personal Insecurity* 149-50 (1935).
12. Dennis Dalton, *Mahatma Gandhi: nonviolent power in action* (England: Columbia University Press, 2001).
13. Thomas F. Jackson, *From civil rights to human rights: Martin Luther King, Jr., and the struggle for economic justice* (Philadelphia: University of Pennsylvania Press, 2007).
14. Hakan Thörn, *Anti-apartheid and the Emergence of a Global Civil Society* (England: Palgrave MacMillan, 2006).
15. Peter Schweizer, *The fall of the Berlin Wall: reassessing the causes and consequences of the end of the Cold War* (Stanford: Hoover Institution Press, 2000).
16. Winston P. Nagan & Craig Hammer, "The Changing Character of Sovereignty in International Law and International Relations, Human Rights," *Columbia Journal of Transnational Law* 12, no. 1992 (2003): 1-60.
17. Richard Falk, "A New Paradigm for International Legal Studies: Prospects and Proposals," *The Yale Law Journal* 84, no.5 (1974-1975): 969-1021.
18. *Member States of the United Nations* (<http://www.un.org/en/members/index.shtml>) – there are 13 states whose sovereignty is disputed and 193 member states.
19. Seth Masia, "Nuclear power retreats in Germany, Switzerland, Italy" *American Solar Energy Society*; 1<sup>st</sup> June, 2011).
20. Myres McDougal, Harold Lasswell & Lung-chu Chen, *Human Rights and World Public Order* (London: Yale University Press, 1980)
21. "The World Academy of Art and Science: History and Manifesto," *Cadmus* 1, no. 1 (2010): 119-120. <http://cadmusjournal.org/content/world-academy-art-and-science-history-and-manifesto>
22. Joseph Rotblat, "Leaving the Bomb Project," in *Visionary for Peace* eds. Reisner Braun et al., (Weinheim: Wiley-VCH Verlag GmbH & Co. KGaA, 2007).
23. Winston Nagan & Craig Hammer, "Communications Theory and World Public Order: The Anthropomorphic, Jurisprudential Foundations of International Human Rights," *Virginia Journal of International Law* 47, no. 3 (2007): 725-805.

24. Myres McDougal, Harold Lasswell and William Reisman, "The World Constitutive Process of Authoritative Decision," *Journal of Legal Education* 19, no.3 (1966-1967): 253-300.
25. Allen H. Merriam, "Symbolic action in India: Gandhi's nonverbal persuasion," *Quarterly Journal of Speech* 61, no. 3 (1975): 290-306.
26. Romesh Dutt, *The Economic History Of India* (London: Routledge And Kegan Paul Ltd, 1906).
27. Merriam, *Symbolic Action in India*, 24.
28. Rosa Parks & Gregory J. Reed, *Quiet Strength: The Faith, the Hope, and the Heart of a Woman Who Changed a Nation* (Miami: Zondervan, 2000).
29. "How a fruit seller caused revolution in Tunisia," *CNN*, January 16, 2011.
30. "Tunisia: President Zine al-Abidine Ben Ali forced out," *BBC Africa News*, 14 January 2011.
31. Daniel Ryan Koslosky, *Supra* at note 11.
32. *Id.*
33. Winston Nagan & Craig Hammer, "Rise of Outsourcing in Modern Warfare: Sovereign Power, Private Military Actors, and the Constitutive Process," *Maine Law Review* 60, (2008): 429.
34. *Id.*; See also Lynn M. Sanders, *The Psychological Benefits of Political Participation Department of Government and Foreign Affairs*, Prepared for presentation at the Annual Meeting of the American Political Science Association, San Francisco (August 30 - September 2, 2001).
35. Harold D. Lasswell, "International Lawyers and Scientists as Agents and Counter-Agents of World Public Order," *The American Journal of International Law* 65, no. 4 (1975): 366-376.
36. Winston P. Nagan & Erin K. Slemmens, "Developing U.S. Nuclear Weapons Policy and International Law: The Approach of the Obama Administration," *Tulane Journal of International & Comparative Law* 19 (2010): 41.
37. Myres S. McDougal & Jan Schneider, "The Protection of the Environment and World Public Order: Some Recent Developments," Faculty Scholarship Series, Paper 2653 (1974); Myres McDougal & Jan Schneider, "Priorities for Public Order of the Environment," *Annals of the New York Academy of Sciences* 261(1975): 255-260; See also Myres McDougal "International Law and the Future," *Mississippi Law Journal* 50, (1979).

### ***Right To Employment***

*"To allow the market mechanism to be sole director of the fate of human beings and their natural environment, indeed, even of the amount and use of purchasing power, would result in the demolition of society. For the alleged commodity "labor power" cannot be shoved about, used indiscriminately, or even left unused, without affecting the human individual who happens to be the bearer of this peculiar commodity. In disposing of a man's labor power the system would, incidentally, dispose of the physical, psychological, and moral entity of "man" attached to the tag. Robbed of the protective covering of cultural institutions, human beings would perish from the effects of social exposure; they would die as the victims of acute social dislocation through vice, perversion, crime, and starvation. Nature would be reduced to its elements, neighborhoods and landscapes defiled, rivers polluted, military safety jeopardized, the power to produce food and raw material destroyed."*

**Karl Polanyi**, *The Great Transformation: The Political & Economic Origins of our Time*  
(New York: Rinehart, 1944)

## **Law in Transition Biblioessay: Globalization, Human Rights, Environment, Technology**

**Michael Marien**, Director, GlobalForesightBooks.org;  
Fellow, World Academy of Art & Science

### **Abstract**

*As globalization continues, many transformations in international and domestic laws are underway or called for. There are too many laws and too few, too much law that is inadequate or obsolete, and too much law-breaking. This biblioessay covers some 100 recent books, nearly all recently published, arranged in four categories. 1) International Law includes six overviews/textbooks on comparative law, laws related to warfare and security, pushback against demands of globalization, and gender perspectives; 2) Human Rights encompasses general overviews and normative visions, several books on how some states violate human rights, five items on how good laws can end poverty and promote prosperity, and laws regulating working conditions and health rights; 3) Environment/Resources covers growth of international environmental law, visions of law for a better environmental future, laws to govern genetic resources and increasingly stressed water resources, two books on prospects for climate change liability, and items on toxic hazards and problems of compliance; 4) Technology, Etc. identifies eight books on global crime and the failed war on drugs, books on the response to terrorism and guarding privacy and mobility in our high-tech age, seven books on how infotech is changing law and legal processes while raising intellectual property questions, biomedical technologies and the law, and general views on the need for updated laws and constitutions. In sum, this essay suggests the need for deeper and timely analysis of the many books on changes in law.*

### **FOREWORD**

This “frontier frame” assembles catalog information on recent books that focus on international law and comparative law, with special attention to human rights, environmental law and technologies making current laws obsolete. It serves as a companion to “Taming Global Governance Idea Chaos: A ‘Frontier Frame’ for Recent Books” (CADMUS, 1:3, Fall 2011), which surveyed some 100 titles mostly published in the past three years.

Some 100 titles are also cited here, virtually all published in the past three years. Attention to domestic and global legal issues appears to be a major trend, and one might think that “global governance” and “global law” would be closely linked. Yet there is surprisingly very little overlap, and less than a dozen titles are cited in both essays. In other words, books on global governance say little on global law, and vice versa!

Most books identified here are published by prestigious US/UK university presses such as Harvard (8), Stanford (8), Cambridge (9), Oxford (5), Pennsylvania (5), New York University (5), MIT (5), Columbia (4), and Princeton (4), but the authors come from a wide range of developed-world countries. No references are known, however, to books on globalizing law published in other countries or languages. As global governance proceeds, and as law slowly becomes more globalized, one should expect a wider range of voices on transitions in law that are underway, as well as desirable “good society” ideals.

Items are arranged in four major categories:

1. **INTERNATIONAL LAW** (Overviews, Textbooks, Comparative, Security, Pushback, Gender)
2. **HUMAN RIGHTS** (General, Visions, State Crime, Anti-Poverty, Work and Health)
3. **ENVIRONMENT/RESOURCES** (General, Visions, Resources, Other Issues)
4. **TECHNOLOGY, ETC.** (Global Crime, Terrorism/Security/Privacy, Infotech, Biotech, Normative Visions)

## 1. INTERNATIONAL LAW

**OVERVIEWS:** Laws, rules, regulations, and guidelines are issued to guide human behavior in a great number of areas (arguably too many areas, at least in some countries). As global problems emerge, along with an increasingly globalized economy aided by new communications technologies, international laws need strengthening, along with new laws. Perhaps the best starting point is **Law Without Nations** edited by Austin Sarat *et al.* (Stanford, 1/11, 256p), which examines ways in which the growing internationalization of law affects domestic national law, the relationship between cosmopolitan legal ideas and understandings of national identity, and how law divorced from nations would clear the ground for more universalist grounds for law. Pushing this ideal further, in **States Without Nations: Citizenship for Mortals** (Columbia, 1/09, 384p), Jacqueline Stevens of University of California, Santa Barbara imagines a world without national laws of birthright citizenship, family inheritance, state-sanctioned marriage, and private land.

**TEXTBOOKS:** Four textbooks provide introductory overviews. **International Law: Contemporary Issues and Future Developments** edited by Stanford R. Silverburg (Westview, 3/11, 656p) covers R2P and universal jurisdiction, international political economics, the International Court of Justice, humanitarian law, the environment, and terrorism. **International Law in World Politics: An Introduction** by Shirley V. Scott (Lynne Rienner, 2<sup>nd</sup>ed, 2010, 509p) discusses multilateral treaties, intergovernmental organizations and non-state actors, human rights, use of force and arms control, and humanitarian law. **International Law: Classic and Contemporary Readings** edited by Charlotte Ku and Paul Diehl (Lynne Rienner, 3<sup>rd</sup>ed, 2009, 509p) explains international legal process, implementation and compliance issues, international legal structures, protecting human rights and the environment, managing the ocean and outer space commons, and future evolution of the international legal system. **Law in Many Societies: A Reader** edited by Lawrence M. Friedman *et al.* (Stanford, 4/11, 368p) recognizes that law is increasingly global and cross-national, and shows how law relates to society in different times and places.

**COMPARATIVE:** Continuing the comparative theme, **The Handbook of Comparative Criminal Law** edited by Kevin Jon Heller and Markus Dubber (Stanford, 12/10, 720p) explores criminal law systems in 16 countries, noting similarities and differences in design of criminal codes, protected rights, and specific offenses. **Law and Long-Term Economic Change: A Eurasian Perspective** edited by Debin Ma and Jan Luiten van Zanden (Stanford, 7/11, 368p) covers different legal regimes in Western Europe, East and South Asia, and the Middle East, insofar as the nature and evolution of legal regimes, ownership and property rights, courts, and dynamics of legal transplantations through processes such as colonization. **Asian Legal Revivals: Lawyers in the Shadow of Empire** by Yves Dezalay and Bryant Garth (Chicago, 11/10, 288p) discusses the role of colonial experiences and the increasing importance of law and lawyers in South and Southeast Asia. **Eurolegalism: The Transformation of Law and Regulation in the European Union** by R. Daniel Kelemen (Harvard, 4/11, 328p) points to the advent of regulation through litigation with the growth of the EU, causing detailed and judicially enforceable rules—often framed as “rights”—that are backed with public enforcement litigation. **Upgrading the EU’s Role as Global Actor** by Michael Emerson *et al.* (Centre for European Policy Studies, 1/11, 100p) analyzes the changing position of the EU since acquiring a legal personality, and whether these developments lead to upgrading EU’s presence in conventions of international law. **Constitutional Theocracy: Law in a Non-Secular World** by Ran Hirschl (Harvard, 11/10, 290p) views an emerging new legal order at the intersection of two global trends: rising popular support for theocratic governance and the spread of constitutionalism or judicial review, exploring religion-and-state jurisprudence in dozens of countries (seen as a prudent strategy allowing opponents of theocratic governance to bring it under check and protect against radical religion).

**SECURITY: War and War Crimes** by James Gow (Columbia, 11/10, 256p) notes that military strategies increasingly embrace justice and law as crucial components of success, how militaries can maintain a sense of legitimacy, and when a war act becomes a war crime. However, **New Battlefields, Old Laws: Critical Debates on Asymmetric Warfare** edited by William C. Banks (Columbia, 10/11, 304p) argues that changing patterns of global conflict are forcing a rethink of traditional laws of war; gaps in the laws of war leave modern battlefields largely unregulated, emboldening non-state combatants to exploit forbidden strategies. **The Challenge of Abolishing Nuclear Weapons** edited by David Krieger of the Nuclear Age Peace Foundation (Transaction, 5/09, 242p) explores the role of international law in facilitating abolition, while noting little meaningful progress toward disarmament. **Securing Freedom in the Global Commons** by Scott Jasper (Stanford, 3/10, 312p) points to an ever-expanding range of threats to global security and regulation by international law of outer space, international waters and airspace, and cyberspace.

**PUSHBACK:** Not surprisingly, international law conflicts with national laws, especially an issue for the waning US hegemon, which often employs “selective self-exemption”. **Meeting the Enemy: American Exceptionalism and International Law** by Natsu Taylor Saito (NYU Press, 3/10, 384p) describes how the US has supported the international legal system while also distancing itself from many international law principles and institutions, which leads to decreasing effectiveness of the global rule of law. Also see **Taming Globalization: International Law, the U.S. Constitution, and the New World Order** by John Yoo and Julian Ku (Oxford, 1/12, 280p), which reconciles demands of globalization

by reconceptualizing the Constitution and embracing mediating devices. In **The Perils of Global Legalism** (Chicago, 10/09, 280p), Eric A. Posner warns of a dangerously naïve tendency toward legalism—an idealistic belief that law can be effective in the absence of legitimate institutions of governance.

**GENDER: Sex and World Peace** by Valerie M. Hudson *et al.* (Columbia, 2/12, 256p) argues that the systemic insecurity of women acts to unravel the security of all, and notes discrepancies between national laws protecting women and enforcement of those laws, as well as inequitable family laws. **Constituting Equality: Gender Equality and Comparative Constitutional Law** edited by Susan H. Williams (Cambridge, 8/11, 378p) examines constitutional doctrines across a range of different countries and gender equality issues in constitutional drafting, including domestic incorporation of international law and rights provisions. **Trafficking and Prostitution Reconsidered: New Perspectives on Migration, Sex Work, and Human Rights** edited by Kamala Kempadoo (Paradigm, 2<sup>nd</sup>ed, 3/11, 304p) updates recent developments in law, policy, and international agreements. **Legalizing Prostitution** by Ronald Weitzer (NYU, 12/11, 288p) draws on research in the Netherlands, Belgium, and Germany to develop “best practices” that can serve as a model for other nations. **Women’s Human Rights: The International and Comparative Law Casebook** by Susan Deller Ross (Pennsylvania, 8/09, 688p) describes the deprivation and violence women suffer due to discriminatory laws and customs, provides legal tools for change, and shows how human rights treaties can be used to obtain new laws and court decisions.

## 2. HUMAN RIGHTS

**GENERAL: International Human Rights Law: An Introduction** by David Weissbrodt and Connie de la Vega (Pennsylvania, 8/10, 448p) surveys development of human rights as a domain of international law, summarizing principles and practices relevant to equality, life, slavery, fair trial, detention, torture, privacy, health, food, housing, clothing, environmental health, peace, self-determination, and security from terrorism. **Human Rights Lawyering: Cases and Materials** by Ralph G. Steinhardt *et al.* (Westlaw, 2009) emphasizes enforcement of human rights law in several settings, demonstrating its linkages to labor law, refugee law, humanitarian law, corporate law, environmental law, and international economic law. **Universal Human Rights and Extraterritorial Obligations** edited by Mark Gibney and Sigrun Skogly (Pennsylvania, 1/10, 296p) presents a brief for a more complex and updated approach to protecting human rights worldwide, in that globalization is challenging fundamental principles of international law. Similarly, **Human Rights for the 21st Century: Sovereignty, Civil Society, Culture** by Helen M. Stacy (Stanford, 2/09, 304p) finds that human rights abuses still continue at “an alarming rate,” and proposes a new ethical and legal framework to fill gaps in current approaches.

**VISIONS:** Looking even further ahead, **2048: Humanity’s Agreement to Live Together** by J. Kirk Boyd (Berrett-Koehler, 4/10, 222p; [www.2048.berkeley.edu](http://www.2048.berkeley.edu)) argues that provisions of the far-ranging 1948 Universal Declaration of Human Rights are inadequate, and proposes an enforceable International Convention in place by the 100<sup>th</sup> UDHR anniversary that safeguards basic freedom of speech and religion, freedom from want and from fear, and freedom for the environment. But is this the best framing? In **A Quest for Humanity: The Good Society in a Global World** (University of Toronto, 12/11, 252p), Canadian sociologist



Menno Boldt describes “significant inadequacies of human-rights doctrine as a blueprint for social order” and how it “lacks the authenticity to be accorded the status of constitutional supremacy that trumps all other laws and community moral standards”. Rather, we need a morality based on “an authentic universal humane ethical principle that will inspire common cause and commitment to individual liberty and social justice...an ethic of universal and equal human dignity and humanity as the basis for international relations and cooperation...a global moral social order founded on the absolute principle and the concept of humane mutuality [that] embodies the universal aspiration of humankind.” Obviously, an ongoing discussion and debate on these different views are needed.

**STATE CRIME:** Nation-state regimes are often the cause of human rights violations, as argued in **State Terrorism and Human Rights: International Responses since the Cold War** by Paul Wilkinson (Routledge, 10/10, 240p), documenting responses based on democratic principles and the rule of law, with proposals for a more effective protection of human rights. **Political Repression: Courts and the Law** by Linda Camp Keith (Pennsylvania, 12/11, 336p) explores tools of state repression and international human rights norms that can serve as a constraint. **State Crime: Current Perspectives** by Dawn L. Rothe and Christopher Mullins (Rutgers, 11/10, 368p) asserts that current media and political discourse on crime has long ignored crimes committed by states themselves, despite their greater financial and human toll. **Crimes Against Humanity: Historical Evolution and Contemporary Application** by M. Cherif Bassiouni (Cambridge, 5/11, 850p), President Emeritus of the International Human Rights Law Institute, examines evolution of crimes against humanity since WWI, criminal tribunals, and the International Criminal Court. **Genocide: A Normative Account** by Larry May (Cambridge, 3/10, 300p) explores the crime of genocide in international criminal law and expands its definition to include cultural genocide and ethnic cleansing. **The Justice Cascade: How Human Rights Prosecutions Are Changing World Politics** by Kathryn Sikkink (W.W. Norton, 9/11, 342p) argues that prosecutions are a powerful political tool, and that state leaders in Europe, Latin America, and Africa have lost their immunity from any accountability for their human rights violations—a shift that is affecting the behavior of political leaders worldwide. (As of February 2012, however, Syria’s Bashar Assad does not seem to have gotten the message.) **The Sun Climbs Slow: The International Criminal Court and the Struggle for Justice** by journalist Erna Paris (Seven Stories Press, 4/09, 400p) describes US opposition to a permanent ICC and the developing tension between unchallenged political power and rule of international law. **Human Rights Regimes in the Americas** edited by Monica Serrano of the Global Centre for the Responsibility to Protect and Vesselin Popovski of the UNU Institute for Sustainability and Peace (UNU Press, 3/10 280p) finds that the Americas have seen considerable progress in human rights, yet abuses of rights and challenges to the rule of law have taken on a different and more elusive character.

**ANTI-POVERTY: Freedom from Poverty: NGOs and Human Rights Praxis** by Daniel P.L. Chong (Pennsylvania, 6/10, 232p) points out that NGOs modify human rights practices by taking up the cause of subsistence rights, promoting access to economic goods into national laws, and using legal instruments to build social movements and guide development work. **Solomon’s Knot: How Law Can End the Poverty of Nations** by Robert D. Cooter and Hans-Bernd Schafer (Princeton, 1/12, 328p) argues that ineffective private and business laws are the root cause of poverty, and that effective property, contract, and

business laws help unite capital and ideas. Similarly, **Pillars of Prosperity: The Political Economy of Development Clusters** by Timothy Besley and Torsten Persson (Princeton, 9/11, 432p) states that rich and peaceful countries avoid repressive government, have a tax system for a broad base with widespread compliance, and also have a legal infrastructure that enforces contracts and property rights in line with the rule of law. Reinforcing these views, **The Long Divergence: How Islamic Law Held Back the Middle East** by Timur Kuran (Princeton, 12/10, 384p) shows that slow economic development of the Middle East is not due to colonialism, geography, or Muslim attitude, but Islamic legal institutions that promote low trust, rampant corruption, and weak civil societies. Also, **One Billion Rising: Law, Land, and the Alleviation of Global Poverty** edited by Roy L. Prosterman *et al.* (University of Amsterdam Press, 8/09, 450p) notes that most of the world's poorest people lack ownership of—and rights to—the land that forms their principal source of livelihood, and that land reform and related legal work have transformed the lives of millions of families.

**WORK AND HEALTH: Working Conditions Laws: Report 2010** (Geneva: International Labor Office, 2/11, 72p) provides a global comparative analysis of national working conditions standards in over 100 countries, including minimum wages, working hours and holidays, maternity protection, and significant global trends. **Regulating for Decent Work: New Directions in Labor Market Regulation** edited by Sangheon Lee and Dierdre McCann (ILO, 8/11, 380p) discusses issues such as regulation of precarious work, responses to neoliberal ideologies, new types of labor markets, effectiveness of legal norms, and labor market uncertainty. **Equality at Work: The Continuing Challenge** (ILO, 8/11, 92p) is the global report under the follow-up to the ILO Declaration on Fundamental Principles and Rights at Work in 2011, showing that discrimination is becoming more varied than ever, and that “pay equality remains an elusive goal”. **The Employment Relationship: A Comparative Overview** by Giuseppe Casale (ILO, 12/10, 320p) explores definitions, laws, and practices in various regions, finding that globalization has increased the need for employee protection because changes in the world of work have modified traditional employment relations, such that it is increasingly difficult to determine who is in a legally defined relationship. **Litigating Health Rights: Can Courts Bring More Justice to Health?** (Harvard, 5/11, 208p), edited by Alicia Ely Yamin of the Harvard Law School Global Health and Human Rights program and Siri Gloppen, notes a “tremendous growth” in the number of health rights cases in the last 15 years, as regards access to health services and essential medications; case studies of advancing the right to health by holding governments accountable include Argentina, Brazil, Colombia, Costa Rica, India, and South Africa.

### 3. ENVIRONMENT/RESOURCES

**GENERAL: Environmental Protection and Human Rights** by Donald K. Anton and Dinah Shelton (Cambridge, 4/11, 1,124p) shows how the relationship between environment and human rights is being formalized into law in many legal systems, instructs on environmental techniques that assist in protecting human rights, and shows a growing international jurisprudence on promotion/protection of human rights related to a clean environment, as concerns rights to life, to health, to public participation, and to access information. **The Art and Craft of International Environmental Law** by Daniel Bodansky (Harvard, 1/10, 330p) describes how environmental problems get on the international agenda, how

effective law develops and is put into practice, impacts on state and non-state actors, and how environmental law can address obstacles to international cooperation. **Global Governance of the Environment** by Afshin Akhtarkhvari (Edward Elgar, 2011, 320p) examines the role of integrating environmental principles in changing international law and politics. **The Future of International Environmental Law** edited by David Leary and Balakrishna Pisupati of UNEP (United Nations UP, 11/10, 340p) surveys successes and failures in the context of ever-worsening environmental crises, arguing that future responses will be more about good governance that accommodates needs of all nations, rather than just additional treaties and laws; discusses climate change, biodiversity loss, pollution, challenges in the Arctic, biofuels, and overfishing of oceans. **Contemporary Issues in Environmental Law and Policy** by John and Sharon McEldowney (Edward Elgar, June 2011, 416p) considers how environmental law and science can address key 21<sup>st</sup> century issues and issues likely to dictate the future of environmental law; includes a bibliography with references to websites, NGOs, and policymakers.

**VISIONS:** Looking further ahead normatively, **Beyond Environmental Law: Policy Proposals for a Better Environmental Future** edited by David M. Driesen and Alyson Flournoy (Cambridge, 2/10, 304p) proposes a third generation of US environmental law, involving an Environmental Legacy Act to define what must be preserved for future generations and an Environmental Competition Statute to spark clean technologies. **Global Democracy and Sustainable Jurisprudence: Deliberative Environmental Law** by Walter F. Baber and Robert Bartlett (MIT Press, 9/09, 248p) outlines necessary traits of a meaningful global jurisprudence that would underpin international environmental law, pointing to the legitimacy-imparting value of deliberative democracy and citizen involvement. Going still further, **Wild Law: A Manifesto for Earth Justice** by Cormac Cullinan of EnAct International (Chelsea Green, 2<sup>nd</sup> ed, 4/11, 208p) argues that survival of life on Earth requires fundamental alteration of the purpose of law and governance, and includes the Universal Declaration of the Rights of Mother Earth proclaimed in 2010 by the People's World Conference on Climate Change and the Environment. Similarly, **The Earth Charter: A Framework for Global Governance** edited by Ron Engel and Klaus Bosselmann (Amsterdam: Kit Publishers, 9/10, 200p) discusses challenges surrounding current international law and governance: state sovereignty, sustainable development, and the precautionary principle.

**RESOURCES:** **Globalization and Natural Resources Law** by Blanco and Jona Razzaque (Edward Elgar, 4/11, 380p) considers what will be needed to make the transition to sustainable globalization and improved resource efficiency, and specific approaches for biological resources, renewable energy, and water resources. **Genetic Resources, Equity and International Law** by Camena Guneratne (Edward Elgar, 5/12, c.240p) reviews ownership of, and access to, plant genetic resources for food and agriculture in light of a number of international agreements on trade, intellectual property, and conservation. **Biodiversity and the Law: Intellectual Property, Biotechnology and Traditional Knowledge** edited by Charles R. McManis (Earthscan, 12/09, 520p) describes the biodiversity that is being lost, what is to be done, biotech as part of both the solution and the problem, protecting traditional knowledge, and lessons about bio-prospecting. **Lyster's International Wildlife Law** by Michael Bowman *et al.* (Cambridge, 2/11, 784p) analyzes key treaties that regulate wildlife conservation and habitat protection, and mechanisms to make them work. **The Law**

**and Governance of Water Resources: The Challenge of Sustainability** by Douglas Fisher (Edward Elgar, 2010, 400p) argues that sustainable use and development of water resources are unlikely to be achieved without a set of coherent legal arrangements designed to ensure effective governance; looks at how legal arrangements have evolved worldwide over hundreds of years, how norms of current legal regimes are responding, and how legal rights and duties should be structured. **Water Resources Planning and Management** edited by R. Quentin Grafton and Karen Hussey (Cambridge, 3/11, 800p) views water as an increasingly critical global issue and considers international law as fundamental to peaceful management.

**OTHER ISSUES: Climate Change Liability** edited by Michael Faure and Marjan Peeters (Edward Elgar, 2011, 304p) explores the utility of litigation as an alternative to conventional measures in the battle against climate change; while acknowledging the difficulties of imposing liability, solutions are suggested to meet these challenges, thus paving the way to take the fight against global warming to the courts. Similarly, **Climate Change Liability: Transnational Law and Practice** edited by Richard Lord *et al.* (Cambridge, 1/12, 690p) looks at growing interest in liability for climate change damage, and explores the potential in the laws of various nations. **Taking Back Eden: Eight Environmental Cases That Changed the World** by Oliver Houck (Island Press, 1/09, 200p) provides stories of lawsuits to defend the environment brought in eight countries, and describes strategies and obstacles, as well as setbacks and victories in creating a new brand of law. **Toxic Loopholes: Failures and Future Prospects for Environmental Law** by Craig Collins (Cambridge, 3/10, 312p) explains why US environmental laws have failed to arrest the “rising environmental crime wave” of lethal toxins permeating the environment; weak laws and legal loopholes pacify the public with a false sense of security and shield powerful polluters. Also considers the possibility of cooperative international agreements to confront the rising tide of ecological perils. Similarly, **Legally Poisoned: How the Law Puts Us at Risk from Toxicants** by Carl F. Cranor (Harvard, 2/11, 256p) warns that far too many suspected toxic hazards are unleashed every day that affect development and function of our brain, immune system, reproductive organs, or hormones; no public health law requires product testing of most chemical compounds before they enter the market. **Compliance and Enforcement in Environmental Law: Toward More Effective Implementation** edited by Lee Paddock *et al.* (Edward Elgar, 6/11, 768p) provides a global perspective from 15 countries on enforcing multilateral agreements, compliance strategies and tools, the role of courts and citizens, natural resources protection, and compliance issues related to economic instruments.

#### 4. TECHNOLOGY, ETC.

**GLOBAL CRIME:** Problems of enforcing environmental and human rights laws parallel problems of global organized crime and illicit trade. As argued in **Corruption, Global Security, and World Order** edited by Robert I. Rotberg of the World Peace Foundation (Brookings Institution Press, 8/09, 375p), widespread corruption threatens global security, human rights, development; criminals and criminalized states now control many areas of the world and remedies are needed such as enhanced transparency, new sanctions, and tougher punishment. **Dark Logic: Transnational Criminal Tactics and Global Security** by Robert Mandel (Stanford, 12/10, 280p) views transnational organized crime as undermining the security of countries, and when and how it can be successfully combated. **Illicit: How**

**Smugglers, Traffickers, and Copycats are Hijacking the Global Economy** by Moises Naim (Doubleday, 10/05, 340p), former World Bank Executive Director and editor of *Foreign Policy*, describes the rise of illicit trade with the Internet boosting speed and efficiency; chapters describe traffic in small arms and loose nukes, the global drug trade, counterfeit drugs, slavery and sex trafficking, illicit labor, fake goods, counterfeit music and films, money laundering, art theft, and trade in endangered species; fighting this global problem will require cooperative solutions. **Crime and the Global Political Economy** edited by H. Richard Friman (Lynne Rienner, 2009, 215p) considers crime as an integral part of globalization, with both societal and state actors pursuing selective criminalization while embracing diverse patterns of compliance with prohibition regimes. **International White Collar Crime: Cases and Materials** by Bruce Zagaris (Cambridge, 3/10, 366p) documents the rise of transnational economic crime (money laundering, terrorism, corruption, organized crime), recent global strategies, new technologies for criminal purposes, and the arduous tasks of extraterritorial jurisdiction, evidence gathering, extradition, and international prisoner transfer. **Illicit Trade and the Global Economy** edited by Claudia Costa Storti and Paul De Grauwe (MIT Press, 1/12, 272p) points to illegal trade growing in tandem with expansion of international trade, and the social problems resulting from organized crime, hidden financial flows, the illegal drug trade, and the war on drugs. **War on Drugs: Report of the Global Commission on Drug Policy** ([www.globalcommissionondrugs.org](http://www.globalcommissionondrugs.org), 6/11, 24p), a group including Kofi Annan (also a former US Secretary of State and former presidents of Brazil, Colombia, and Mexico), proclaims that “the global war on drugs has failed, with devastating consequences for individuals and societies around the world”. Proposals include ending criminalization and stigmatization of people who use drugs, respecting the human rights of such people, abolishing abusive treatment practices, and “transformation of the global drug prohibition regime” with fiscally responsible policies grounded in science, health, security, and human rights. Also see **Drugs and Drug Policy: What Everyone Needs to Know** by Mark A.R. Kleiman *et al.* (Oxford, 7/11, 240p), on the nature of addiction, legalization issues, criminal prohibitions, the relation of drug-dealing to finance terrorism, etc.

**TERRORISM/SECURITY/PRIVACY: The 9/11 Effect: Comparative Counter-Terrorism** by Kent Roach (Cambridge, 9/11, 488p), a member of the International Task Force on Terrorism, Democracy, and the Law, examines responses of the UN and various countries to the 9/11 terror attacks, involving regulation of speech associated with terrorism, use of criminal and immigration law, failures of the American extra-legal approach, and challenges of transnational cooperation and accountability. **Laws, Outlaws, and Terrorists: Lessons from the War on Terrorism** by Gabriella Blum and Philip B. Heymann (MIT Press, 9/10, 232p) describes how the US waged war on terrorism in a “no-law zone” where peacetime domestic law was irrelevant and international law inapplicable. **Legislating the War on Terror** edited by Benjamin Wittes (Brookings Institution Press, 9/09, 288p) compares US and foreign standards for detention and surveillance, and offers an agenda for reform that balances the need for security, the rule of law, and rights of freedom. **Nothing to Hide: The False Tradeoff between Privacy and Security** by Daniel J. Solove (Yale, 6/11, 248p) exposes fallacies of many pro-security arguments, examines concerns with new technologies, and offers remedies to the failed current system. **Habeas Corpus after 9/11: Confronting America’s New Global Detention System** by Jonathan Hafetz (NYU Press, 1/10, 336p) looks at efforts to challenge the detention system through habeas corpus—a

petition to appear in court to claim unlawful imprisonment. **Securing Human Mobility in the Age of Risk: New Challenges for Travel, Migration, and Borders** by Susan Ginsburg (Migration Policy Institute, 4/10, 240p) views protection of human mobility as a complex homeland security challenge, and advocates travel bans and new international organizations that comprehensively ensure the integrity of mobility infrastructure, while preventing life-threatening and illicit movement. **Imagining New Legalities: Privacy and Its Possibilities in the 21st Century** edited by Austin Sarat *et al.* (Stanford, 3/12, 232p) considers different concepts of privacy, contemporary challenges to the public/private distinction, and questions about control of information in the digital age. **More Essential Than Ever: The Fourth Amendment in the 21st Century** by Stephen J. Schulhofer (Oxford, 7/12, 224p), defends the Fourth Amendment to the US Constitution on the right of people to be secure, and discusses problems of government surveillance, data-mining, airport body scans, drug testing, and aggressive police patrolling—a general trend that threatens the pillars of democracy.

**INFOTECH: Law on Display: The Digital Transformation of Legal Persuasion and Judgment** by Neal Feigenson and Christina Spiesel (NYU Press, 5/11, 252p) explains how rapidly developing digital technologies have accelerated legal changes, with the law itself going online in the form of virtual courts, cyber juries, etc. Similarly, **Parchment, Paper, Pixels: Law and the Technologies of Communication** by Peter M. Tiersma (Chicago, 6/10, 256p) shows how shifting forms of technological literacy shape the practice of law, judicial opinions, and legal texts. **Virtual Justice: The New Laws of Online Worlds** by Greg Lastowka (Yale, 10/10, 240p) illustrates real legal dilemmas posed by virtual worlds, where tens of millions of people live part of their life, and explains how the laws of property, jurisdiction, crime, and copyright are being adapted to pave the path for virtual law. **The Global Flow of Information: Legal, Social, and Cultural Perspectives** edited by Eddan Katz of the Electronic Frontier Foundation and Ramesh Subramanian (NYU Press, 8/11, 256p) discusses “enormous regulatory challenges” of information flows at the global level, whether the flow of information across borders can be controlled, the role of law in regulation, information warfare, and the pharmaceutical industry. **Configuring the Networked Self** by Julie E. Cohen (Yale, 1/12, 288p) argues that legal and technical rules governing flows of information are out of balance: cultural and technical flows are overly restricted, while flows of personal information are often not restricted at all. **Access to Knowledge in the Age of Intellectual Property** edited by Gaelle Krikorian and Amy Kapczynski (Zone Books/MIT Press, 11/10, 640p) maps emerging A2K activism as intellectual property law is being increasingly tightened at the request of diverse industries. **Beyond Intellectual Property: Matching Information Protection to Innovation** by William Kingston (Edward Elgar, 6/10, 224p) worries that evolving intellectual property laws are increasingly shaped by interests that benefit from them, rather than visions of the public good.

**BIOTECH: Global Pharmaceutical Policy: Ensuring Medicines for Tomorrow's World** by Frederick M. Abbott and Graham Dukes (Edward Elgar, 10/09, 320p) describes laws, policies, and customs relating to development and timely provision of medicines, and proposes global solutions for getting appropriate and affordable medicines. **Reframing Rights: Bioconstitutionalism in the Genetic Age** edited by Sheila Jasanoff (MIT Press, 9/11, 320p) notes that we are in a period of transformative change in law and the life sciences, and explores the evolving relationship of biotech and law in various national and cross-

national case studies. **The Law of Life and Death** by Elizabeth Price Foley (Harvard, 4/11, 290p) points to changing legal definitions of what counts as human life and death in US law, due to new biomedical technologies. Also see **Legal Conceptions: The Evolving Law and Policy of Assisted Reproductive Technologies** by Susan L. Crockin and Howard Jones (Johns Hopkins, 1/10, 352p), which notes that technology advances have far outpaced laws to protect all who use them.

**NORMATIVE VISIONS: Cultivating Conscience: How Good Laws Make Good People** by Lynn A. Stout (Princeton, 11/10, 296p) proposes that the legal system should use social cues to trigger unselfish behavior, rather than emphasizing self-interest. **Legality** by Scott J. Shapiro (Harvard/Belknap, 1/11, 360p) offers a “new theory of law” that views laws as plans. **Design for Liberty: Private Property, Public Administration, and the Rule of Law** by Richard A. Epstein (Harvard, 11/11, 230p) argues that the current over-regulated state allows too much discretion by regulators, and calls for predictable laws that confine the zone of discretion. Similarly, **Sacred Cows: How Dead Laws Drag Down Democracy** by Philip K. Howard (W.W. Norton, 2/12, 224p) insists that well-intentioned laws have ossified over time into special interest entitlements and deadweights on society. Howard also wrote **Life without Lawyers: Liberating Americans from Too Much Law** (W.W. Norton, 2/10, 224p). **The Living Constitution** by David A. Strauss (Oxford, 5/10, 144p) explains how the U.S. Constitution can sensibly evolve and be vital to life in the 21<sup>st</sup> century. **The Constitution in 2020** edited by Jack Balkin and Reva Siegel (Oxford, 6/09, 336p) offers a progressive vision for the years ahead, responding to new technologies, economic rights, international human rights, etc., as **A More Perfect Constitution: 23 Proposals** by Larry J. Sabato (Walker & Co, 2007), and **A Bill of Rights for 21st Century America** by futurist Joseph F. Coates (Kanawha Institute, 2007) do.

### ***CODA: LOOKING DEEPER, BROADER, AND AHEAD***

This exploratory biblioessay is a mere outline of recent books on transformations in domestic and international law that are underway and needed in the future. Law is needed to promote human rights, protect the environment, and keep up with myriad technologies that are changing our world. But it must be effective law that promotes the public interest, is widely respected, and is enforced. This is a huge and multi-faceted ideal, but can be pursued.

The key to moving toward this ideal is conscious information management for the 21<sup>st</sup> century. Similar to taming the myriad and overlapping ideas about global governance with a Global Governance Information Commons (*Cadmus*, 1:3, 142-155), this essay suggests expanding such commons to include current thinking about law. For both global governance and law, *deeper* and more extensive abstracting of timely books and articles is needed, as well as analysis and critique of similarities and differences in proposals, and a website to accommodate the latest thinking. Such a clearinghouse should also seek to be *broader* by identifying law and governance thinking in non-English languages, and earlier ideas that could still guide our efforts. Finally, the clearinghouse should encourage thinking *ahead* so that law and governance can attempt to accommodate the numerous challenges of globalization, many new technologies, and the emerging Anthropocene Era.

*Author Contact Information:*  
*Email: mmarien@twcny.rr.com*

## **Research Integrity: A Vital Condition for Science & Scholarship**

**Pieter J. D. Drenth**, Past President and Honorary President, All European Academies (ALLEA); Fellow, World Academy of Art & Science; Chairman of the Working Group ‘Code of Conduct’ of the ESF Member Organisation Forum on Research Integrity

### **Abstract**

*Research misconduct is a serious threat to science and to society. A variety of Codes of Conduct for research integrity have been developed in Europe by universities, academies of sciences and funding organisations, but this has resulted in a patchwork of codes and procedures, which hampers international collaborative research. ALLEA and ESF have taken the initiative to achieve more international harmonisation by developing a European Code of Conduct for Research Integrity. This paper presents a description of this Code, including the principles of scientific integrity, the violations of these principles, suggestions for good practices, and recommendations on how to deal with allegations of misconduct. This Code is a canon for self-regulation. Hopefully, it will establish standards across Europe that can eventually be held valid and implemented world-wide.*

### **1. Misconduct in Science and Scholarship**

During the last few decades an increasing number of unacceptable cases of misconduct in science and scholarship have been reported in the press. This is certainly due to the fact that the world of scientific and scholarly research has become more transparent and subject to critical control by the public press. But one cannot help thinking that there is an increasing prevalence of various forms of misconduct. Scientists are under mounting pressure to perform and to publish. Output scores, citation and h-indices are becoming increasingly important factors for appointments, tenure decisions, promotions and funding. The commercialisation of science, the harder competition for restricted funds, more opportunities through internet and an inadequate peer-review system for complex research projects have given rise to a climate in which scientists are too easily tempted to engage in unacceptable behaviour and to commit infringements upon the norms of proper and responsible research.

---

*“The Commercialisation of science, the harder competition for restricted funds, more opportunities through internet and an inadequate peer-review system for complex research projects have given rise to a climate in which scientists are too easily tempted to engage in unacceptable behaviour and to commit infringements upon the norms of proper and responsible research.”*

---



Hard data on the exact prevalence of scientific misconduct are not so easy to get; reports and surveys are probably quite inaccurate. Scientists, and certainly the leadership of universities and research institutes exercise a natural reserve when it comes to exposing research misconduct. They are inclined to defend their profession, tend to keep the dirty laundry indoors, want to protect individuals, or are afraid to become the subject of public vilification. Moreover, given the far reaching consequences, one must be very sure of their facts when making charges. It could even lead to costly legal procedures, as Deyo et al. have shown in a case in which the pharmaceutical industry lobby applied undue pressure on researchers who intended to publish data that it found unwelcome.<sup>1</sup> It should also be recognised that the definition of various forms of misconduct is not always clear and unequivocal, and that the demarcation line between unacceptable and still acceptable behaviour is often vague and debatable. Nevertheless, some empirical data have become available lately, leading to the conclusion that major research misconduct may occur rather infrequently (Steneck, the principal advisor of the Office of Research Integrity (ORI) in the USA estimates between .1 % and 1% of funded research projects), but that in absolute terms it is given the scale of present day research, anything but a rare phenomenon. Steneck's estimate implies between 150 and 1500 cases per annum in the USA and between 100 and 1000 cases per annum in Europe. In addition, the fear expressed by some (among others the Presidents of European Academies in a modest survey that I conducted in 2000) who noticed far more small-scale fiddling with results and tampering with data does not seem unfounded.

Besides its reservations for reasons described above, the scientific world has also underestimated or scaled down the extension of research misconduct. Serious misbehaviour was seen as very exceptional and imputed to particular, probably even disturbed, researchers. Cases discussed in the press were considered anecdotal and blown up incidents. Science cherished the hope that self-regulation and the peer-review system would keep things under control. It was only fairly recently that the scientific world has come to the conclusion that such optimism is not justified, and that we deal with a serious development that could potentially undermine the very foundation of science and scholarship.

The effects of research misconduct are harmful indeed. Of course, in the first place, for science itself, incorrect theories are not disproved, false insights are not invalidated and deceptions continue. Individuals or the society at large may also suffer. Wrong applications may be defended, wrong treatments or drugs may be recommended and wrong decisions may be taken. In the third place trust in science will be subverted. As a result of disclosed cases of misconduct the general public will lose confidence in science as a useful source of information and a dependable base for decision making.

Therefore, given its occurrence and its injurious effects research misconduct is a serious threat for science itself as well as for the society at large. A proper and well accepted definition of (forms of) misconduct, reliable means of identification, and effective corrective actions deserve a high priority on the agenda of research institutes, universities, academies and funding organs. Besides, international scientific collaboration has increased sharply during the last decades, not in the least stimulated by electronic communication means and internet. Universities and research institutes as well as national funding organisations vigorously stimulate such international collaboration, and many international funding bodies (e.g. Framework Programmes of the European Commission) accept this as a mandatory condition.

“It became evident that we need an international approach and agreement on norms and standards for scientific integrity and on ways of dealing with recurring misconduct.”

Of course, the requirements of scientific integrity apply equally strongly in international collaborative research. And it will be clear that a common agreement on norms, rules and standards within the collaborating parties is a prerequisite for the furthering of research integrity and for proper dealing with cases (allegations) of misconduct. And that is a serious difficulty. Many countries lack a coherent and generally accepted policy and

approach in this field. Definitions, standards, procedures of dealing with allegations, and sanctions often differ between countries. Codes and rules of good practice vary or are even non-existent. It became evident that we need an international approach and agreement on norms and standards for scientific integrity and on ways of dealing with recurring misconduct. Supra-national scientific organisations, such as All European Academies (ALLEA), the European Federation of National Academies of Sciences and Humanities and the European Science Foundation (ESF), and also international learned societies with individual members, such as Academia Europaea and the World Academy of Art and Science (WAAS) should see the importance of this challenge and take up this gauntlet.

## 2. Coordination Initiatives

Codes of Conduct for research integrity are and have been developed by universities, research institutes, academies of sciences, funding organisations and national governments. As indicated above, however, this has resulted in a patchwork of codes and procedures, which is most inconvenient in (international) collaborative research. A number of initiatives to achieve more international harmonisation have been taken in recent years.

First of all, a series of World Conferences on research integrity may be mentioned. This first conference (*Research Integrity: fostering responsible research*) took place in Lisbon on Sept. 17-19, 2007. The second world conference in Singapore (July 21-24, 2010) resulted in the *Singapore Statement on Research Integrity*, emphasising four principles (honesty, accountability, professional courtesy, and good stewardship) and fourteen responsibilities (integrity and good practices). The third conference is planned for the year 2013 in Montreal, Canada.

The second initiative took place at the European level and resulted in a *European Code of Conduct* that will be discussed in the next section in some more detail.

As a follow up of the Lisbon Conference, ALLEA and ESF decided to combine forces and to prepare a project ‘European Coordinated Approach to Research Integrity (ECARI)’. Objectives of this project were to share information and experiences, to provide a vehicle for benchmarking best practices, to stimulate the development of appropriate structures, and to encourage the development of common approaches across Europe. Within the framework of this project ESF, together with the Spanish National Research Council CSIC, organised a workshop on research integrity (*From Principles to Practice*, Madrid, Nov. 17-18, 2008), and started a Member Organisation Forum on Research Integrity with the objectives ‘to serve

as a platform for the exchange of information on attempts and initiatives to ensure research integrity and to prevent misconduct, and to encourage organisations which do not yet have appropriate structures to initiate debates in their respective communities on adequate models'. The following four working groups were created with the task each to address one particular aspect of the problem area in question:

- WG 1 'Raising awareness and sharing information' (chair: Sonia Ftacnikova (SK)). The task of this working group was to develop and implement activities to continue raising awareness and sharing information on good practices to promote and safeguard research integrity.
- WG 2 'Code of Conduct' (chair: Pieter Drenth (NL)). This working group was to develop a Code of Conduct which defines core values to be pursued and norms to be complied with in responsible research, and which could be used as a template for national or institutional codes of conduct in Europe.
- WG 3 'Setting up national structures' (chair: Maura Hiney (IE)). This working group had to analyse and make proposals for setting up national and institutional structures to promote good research practices and deal with research misconduct.
- WG 4 'Research on scientific integrity' (chair: Livia Puljak (HR)). This working group had to develop and promote research programmes to map out what is already known and to better understand research misconduct (occurrences, contributing factors, effectiveness of various measures, etc.).

Each of the four working groups produced an interim report. Their insights and conclusions were integrated in a final report *Fostering Research Integrity in Europe* that appeared in March 2011 ([www.esf.org](http://www.esf.org)). An executive summary had already been published earlier (June 2010) under the same title. The report hopes to offer a comprehensive strategy for promoting and safeguarding integrity in scientific and scholarly research and practice nationally and in the wider European context.

### 3. The European Code of Conduct

The Code of Conduct proposed by Working Group 2 emerged from a series of discussions both within WG2 and ALLEA on the basis of a preliminary discussion paper.<sup>2</sup> Evaluation and feedback were given by ALLEA's Standing Committee on Science and Ethics and by representatives of ALLEA's Member Academies at a special meeting in Berne (June 29-30, 2009). Each subsequent version was discussed and commented on by WG2. Pursuing this dual path of consultation and feedback the final proposal of the ESF Member Organisation Forum has also met with the general approval of the European National Academies associated in ALLEA. This is an important achievement, since in the further promotion and implementation of this code both the national funding organisations (strongly represented in ESF) and the national academies have to play an important role.

We present a few elements from the European CoC below. <sup>\*,3</sup>

---

\*The full text of the Code can be found in the ESF publication ([www.esf.org](http://www.esf.org)).

### 3.1 Principles

The Code starts with the formulation of 8 principles of scientific integrity. These principles have a fundamental and universal character. They apply to all countries and all disciplines and should be observed in pure research as well as applied settings. They include:

- (1) *Honesty* in presenting research goals and intentions, in precise and nuanced reporting on research methods and procedures, and in conveying valid interpretations and justifiable claims with respect to possible applications of one's own or other's research results.
- (2) *Reliability* in performing research (meticulous, no carelessness, no inattention), and in communication of the results (fair and full and unbiased reporting).
- (3) *Objectivity*: founding interpretations and conclusions on facts and data capable of proof, transparency in the collection, analysis and interpretation of data, and general verifiability of the scientific reasoning.
- (4) *Impartiality* and *independence* from commissioning or interested parties, from ideological or political pressure groups, and from economic or financial interests.
- (5) *Open communication* in discussing the work with other scientists, in contributing to public knowledge through publication of the findings, in honest communication with the general public. This openness presupposes a proper storage and availability of data, and accessibility for interested colleagues.
- (6) *Duty of care* for the object of research, be it a human being, animal, the environment or a product of culture. Research on human subjects should always rest on the principle of respect.
- (7) *Fairness* in providing proper references and giving due credits to the work of others, in treating colleagues with integrity and honesty.
- (8) *Responsibility for future science generations*: The education of young scientists and scholars requires binding standards for mentorship and supervision.

### 3.2 Violations

The Code continues defining and describing various forms of violation of these principles. Since the principles are universal, so are the condemnations of their violations. Here again we deal with universal basic standards. There is no room for cultural conditioning or contextualisation. These violations include the following:

- (1) Fabrication: making up results and recording or reporting them as if they were real.
- (2) Falsification: manipulating research processes or changing or omitting data.
- (3) Plagiarism: the appropriation of other people's ideas, research results or words without giving proper credit.
- (4) Minor misdemeanours (a little tampering with data, leaving out an unwelcome observation, a selective citation) may not lead to formal investigations, but are just as damaging given their probable frequency, and should be corrected by teachers and mentors.

- (5) Misconduct also includes improper dealing with infringements, such as negligence, attempts to cover up misconduct, and reprisals on whistle blowers.

The first two infringements, fabrication and falsification, are the most serious. Plagiarism seems to be of a different order since it is expected to be more injurious to colleague scientists than to science as such. However, progress in present day science depends very much on open communication and discussion among fellow scientists and on a well-functioning peer-review system. And, if scientists should hesitate or refuse to take part in this open debate for fear of not being recognised or being taken advantage of, the quality of science would suffer.

The response to these violations must be proportionate to the seriousness of the misconduct: as a rule it must be demonstrated that the misconduct was committed intentionally, knowingly or recklessly, and proof must be based on the preponderance of evidence. Research misconduct should not include honest errors or differences of opinion. Misbehaviour such as intimidation of students, misuse of funds and other behaviour that is already subject to universal legal and social penalties are unacceptable as well, but we prefer this not to be classified as 'research misconduct' *in stricto sensu*, since it does not affect the integrity of the research record.

### 3.3 Good Practices

In addition to the principles and the violations thereof, the European CoC discusses and advises on many other forms of objectionable practices in scientific research. Many of them also undermine public trust in science and have to be taken just as seriously. We may think of the following categories:

- (1) *Data practices*: including data management and storage, placing data at the disposal of colleagues who want to replicate the findings, adequate preservation of original data.
- (2) *Proper research procedures*: The choice of an improper research design, carelessness in experimentation and calculations, which can lead to gross errors, may be classified under this heading, although the walls between dishonesty and incompetence are rather thin here.
- (3) *Responsible research procedures*: Deviations from desired practices include insufficient care for research subjects, insufficient respect to human subjects, animals, the environment, or cultural heritage, violating protocols, ignoring the requirement of informed consent, insufficient privacy protection, and improper use of laboratory animals, or breach of trust and confidentiality.
- (4) *Publication-related conduct*: including authorship practices. Unacceptable are claiming or granting undeserved authorship and denying deserved authorship, inadequate allocation of credit. Breaching publishing rules, such as repeated publications, salami-slicing of publications, insufficient acknowledgement of contributors or sponsors, or a too long delay of publication falls within this category as well.
- (5) *Reviewing and editorial issues*: including independence and conflict of interests, personal bias and rivalry, appropriation of ideas.

As said, it is difficult to formulate universal guidelines here. Many practices are subject to different traditions and legislative regulations and may differ over countries, even over disciplines. In the European CoC we have confined ourselves to a listing of recommendations on good practices. Some of them do have universal character since they join in with rules adhered to by science publishers and formulated by the Committee on Publication Ethics (COPE). Others do not. Anyway, the regulations to be agreed on should be part of any national or institutional system of *Good Practice Rules*.

### *3.4 Dealing with allegations of misconduct*

It is generally accepted that the primary responsibility for investigating and handling cases of misconduct lies in the hands of the leadership of the institution where the accused researcher works, i.e. university or research institute. Such institutions should be supported by a confidential standing committee, counsellor or ombudsman. In a few European countries (serious) allegations are dealt with by a national body (e.g. governmental body or Academy of Sciences). In many other countries such a national body has an advisory function or may act as a court of appeal.

Requirements for a proper procedure include a due and fair process, uniform and sufficiently rapid, and leading to proper outcomes and sanctions. The CoC lists a number of such principles for dealing with cases of misconduct, that are in line with general recommendations developed by the OECD.

In *international* collaboration, partners should agree to conduct their research according to the same standards of research integrity, as developed in the European CoC. They should bring any suspected deviation from these standards to the immediate attention of the project leader(s). Cases of suspected misdemeanour should then be investigated according to the policies and procedures of the partner with the primary responsibility for the project.

In more formal large scale collaborative projects (e.g. funded by the European Commission) one is advised to follow the recommendations of the Co-ordinating Committee of the OECD Global Science Forum (2009) that describe the procedures for investigating allegations of research misconduct. The European CoC suggests to use a boiler plate text for International Agreements (Appendix OECD report, 2009), which should then be embodied in the formal documents for the collaborative project.<sup>4</sup>

## **4. Final Remarks**

It should be understood that this Code is not a body of law. It does not have a legal character but intends to be a canon for self-regulation. The scientific community is responsible for the formulation and reinforcement of the principles and virtues of scientific and scholarly research, and for proper corrective actions when scientific integrity is threatened.

In this report on the European Code of Conduct often the words ‘science’ and ‘scientific’ have been used. What is meant throughout is the broad field of science and scholarship. The Code applies to natural and life sciences, as well as to social sciences and humanities. These disciplines differ in method and content, but have a fundamental characteristic in common:

they depend on argument and evidence, based on observations of nature, or of humans and their actions and products.

The objective of the European Code of Conduct is to stimulate and further the emergence of institutional settings that enforce research integrity. The Code could be a basis for the development or improvement of national or institutional codes of ethics and could set a benchmark for proper behaviour in collaborative research. Hopefully, this Code will achieve to set standards across Europe that can, eventually, be held valid and be implemented world-wide.

#### *Author Contact Information*

*Email : pjdd@xs4all.nl*

#### **Notes**

1. Richard Deyo et al., "The messenger under attack – intimidation of researchers by special interest-groups," *New England Journal of Medicine*, 336 (1997): 1176-1179.
2. Pieter Drenth, "Scientific Integrity, a discussion paper," KNAW/ALLEA, 2009.
3. Pieter Drenth, "Research integrity; protecting science, society and individuals," *European Review* 18, no.3 (2010): 417-426, and in Drenth, P.J.D. (2012), "The European Code of Conduct for Research Integrity," In Nicholas Steneck and Tony Mayer, *Promoting Research Integrity in a Global Environment*, World Scientific Publishing Co. Pte., Ltd, chapter 22.
4. *Investigating Research Misconduct Allegations in International Collaborative Research Projects: A practical guide* (Paris: OECD, 2009).

## Entropy and Economics

**John Scales Avery**, University of Copenhagen, Denmark;  
Fellow, World Academy of Art and Science

### Abstract

*In this essay, human society is regarded as a “superorganism”, analogous to colonies of social insects. The digestive system of the human superorganism is the global economy, which ingests both free energy and resources, and later excretes them in a degraded form. This process involves an increase in entropy. Early in the 20th century, both Frederick Soddy and Nicholas Georgescu-Roegen discussed the relationship between entropy and economics. Soddy called for an index system to regulate the money supply and a reform of the fractional reserve banking system, while Georgescu-Roegen pointed to the need for Ecological Economics, a steady-state economy, and population stabilization. As we reach the end of the fossil fuel era and as industrial growth falters, massive unemployment can only be avoided by responsible governmental action. The necessary steps include shifting labor to projects needed for a sustainable economy, dividing the available work fairly among those seeking employment, and reforming the practices of the financial sector.*

### 1. Human Society as a Superorganism, with the Global Economy as its Digestive System

A completely isolated human being would find it as difficult to survive for a long period of time as would an isolated ant or bee or termite. Therefore, it seems correct to regard human society as a superorganism. In the case of humans, the analog of the social insects' nest is the enormous and complex material structure of civilization. It is, in fact, what we call the human economy. It consists of functioning factories, farms, homes, transportation links, water supplies, electrical networks, computer networks and much more. Almost all of the activities of modern humans take place through the medium of these external “exosomatic” parts of our social superorganism.\*

The economy associated with the human superorganism “eats” resources and free energy. It uses these inputs to produce local order, and finally excretes them as heat and waste. The process is closely analogous to food passing through the alimentary canal of an individual organism. The free energy and resources that are the inputs of our economy drive it just as food drives the processes of our body, but in both cases, waste products are finally excreted in a degraded form.

---

\*The terms “exosomatic” and “endosomatic” were coined by the American scientist Alfred Lotka (1820-1949). A lobster's claw is endosomatic - it is part of the lobster's body. The hammer used by a human is exosomatic - like a detachable claw. Lotka spoke of “exosomatic evolution”, including in this term not only cultural evolution but also the building up of the material structure of civilization.



Almost all of the free energy that drives the human economy came originally from the Sun's radiation, the exceptions being geothermal energy which originates in the decay of radioactive substances inside the earth, and tidal energy, which has its origin in the relative motion of the Earth-Moon system. However, since the start of the Industrial Revolution, our economy has been using the solar energy stored in fossil fuels. These fossil fuels were formed over a period of several hundred million years. We are using them during a few hundred years, i.e., at a rate approximately a million times the rate at which they were formed.

The total ultimately recoverable resources of fossil fuels amount to roughly 1260 terawatt-years of energy (1 terawatt-year = 10<sup>12</sup> watt-years - 1 TWy is equivalent to 5 billion barrels of oil or 1 billion tons of coal). Of this total amount, 760 TWy is coal, while oil and natural gas each constitute roughly 250 TWy. In 1890, the rate of global consumption of energy was 1 terawatt, but by 1990 this figure had grown to 13.2 TW, distributed as follows: oil, 4.6; coal, 3.2; natural gas, 2.4; hydropower, 0.8; nuclear, 0.7; fuel wood, 0.9; crop wastes, 0.4; and dung, 0.2. By 2005, the rate of oil, natural gas and coal consumption had risen to 6.0 TW, 3.7 TW and 3.5 TW respectively. Thus, the present rate of consumption of fossil fuels is more than 13 terawatts and, if used at the present rate, fossil fuels would last less than a century. However, because of the very serious threats posed by climate change, human society would be well advised to stop the consumption of coal, oil and natural gas well before that time.

The rate of growth of new renewable energy sources is increasing rapidly. These sources include small hydro, modern biomass, solar, wind, geothermal, wave and tidal energy. However, these sources currently account for only 2.8% of total energy use. There is an urgent need for governments to set high taxes on fossil fuel consumption and to shift subsidies from the petroleum and nuclear industries to renewables. These changes in economic policy are needed to make the prices of renewables more competitive.

The shock to the global economy that will be caused by the end of the fossil fuel era will be compounded by the scarcity of other non-renewable resources, such as metals. While it is true (as neoclassical economists emphasize) that “matter and energy can neither be created nor destroyed”, free energy can be degraded into heat, and concentrated deposits of minerals can be dispersed. Both the degradation of Gibbs free energy into heat and the dispersal of minerals involve increase of entropy.

## **2. Frederick Soddy**

One of the first people to call attention to the relationship between entropy and economics was the English radiochemist Frederick Soddy (1877-1956). Soddy won the Nobel Prize for Chemistry in 1926 for his work with Ernest Rutherford demonstrating the transmutation of elements in radioactive decay processes. His concern for social problems then led him to a critical study of the assumptions of classical economics.

Soddy believed that there was a close connection between Gibbs free energy and wealth, but only a very tenuous connection between wealth and money. He was working on these problems during the period after World War I, when England left the gold standard, and he advocated an index system to replace it. In this system, the Bank of England would print more money and lend it to private banks whenever the cost of standard items indicated that too little money was in circulation, or conversely destroy printed money if the index showed the money supply to be too large.

Soddy was extremely critical of the system of “fractional reserve banking” whereby private banks keep only a small fraction of the money that is entrusted to them by their depositors and lend out the remaining amount. He pointed out that, in this system, the money supply is controlled by the private banks rather than by the government, and also that profits made from any expansion of the money supply go to private corporations instead of being used to provide social services. Fractional reserve banking exists today, not only in England but also in many other countries. Soddy’s criticisms of this practice cast light on the subprime mortgage crisis of 2008 and the debt crisis of 2011.

As Soddy pointed out, real wealth is subject to the second law of thermodynamics. As entropy increases, real wealth decays. Soddy contrasted this with the behavior of debt at compound interest, which increases exponentially without any limit, and he remarked: “You cannot permanently pit an absurd human convention, such as the spontaneous increment of debt [compound interest] against the natural law of the spontaneous decrement of wealth [entropy]”. Thus, in Soddy’s view, it is a fiction to maintain that being owed a large amount of money is a form of real wealth.

Frederick Soddy’s book, *Wealth, virtual wealth and debt: The solution of the economic paradox*, published in 1926 by Allen and Unwin, was received by the professional economists of the time as the quixotic work of an outsider. Today, however, Soddy’s commonsense economic analysis is increasingly valued for the light that it throws on the problems of our fractional reserve banking system, which becomes more and more vulnerable to failure as economic growth falters.

### 3. Nicholas Georgescu-Roegen

The incorporation of the idea of entropy into economic thought also owes much to the mathematician and economist Nicholas Georgescu-Roegen (1906- 1994), the son of a Romanian army officer. Georgescu-Roegen’s talents were soon recognized by the Romanian school system, and he was given an outstanding education in Mathematics, which later contributed to his success and originality as an economist.

Between 1927 and 1930 the young Georgescu studied at the Institut de statistique in Paris, where he completed an award-winning thesis: *On the problem of finding out the cyclical components of phenomena*. He then worked in England with Karl Pearson from 1930 to 1932, and during this period his work attracted the attention of a group of economists who were working on a project called the Harvard Economic Barometer. He received a Rockefeller Fellowship to join this group, but when he arrived at Harvard, he found that the project had been disbanded. In desperation, Georgescu-Roegen asked the economist Joseph Schumpeter for an appointment to join his group. Schumpeter’s group was in fact a remarkably active and interesting one, which included the Nobel laureate Wassily Leontief, and there followed a period of intense intellectual activity during which Georgescu-Roegen became an economist.

Despite offers of a permanent position at Harvard, Georgescu-Roegen returned to his native Romania in the late 1930s and early 1940s in order to serve his country. He served as a member of the Central Committee of the Romanian National Peasant Party. His experiences at this time led to his insight that economic activity involves entropy. He was also helped to

this insight by Borel's monograph on Statistical Mechanics, which he had read during his period of stay in Paris.

Georgescu-Roegen later wrote: "The idea that the economic process is not a mechanical analogue, but an entropic, unidirectional transformation began to turn over in my mind long ago, as I witnessed the oil wells of the Ploesti field of both World Wars' fame becoming dry one by one, and as I grew aware of the Romanian peasants' struggle against the deterioration of their farming soil by continuous use and by rains as well. However it was the new representation of a process that enabled me to crystallize my thoughts in describing the economic process as the entropic transformation of valuable natural resources (low entropy) into valueless waste (high entropy)." After making many technical contributions to economic theory, Georgescu-Roegen returned to this insight in his important 1971 book, *The Entropy Law and the Economic Process* (Harvard University Press, Cambridge, 1971), where he outlines his concept of bioeconomics. In a later book, *Energy and Economic Myths* (Pergamon Press, New York, 1976), he offered the following recommendations for moving towards a bioeconomic society:

- the complete prohibition of weapons production, thereby releasing productive forces for more constructive purposes;
- immediate aid to underdeveloped countries;
- gradual decrease in population to a level that could be maintained only by organic agriculture;
- avoidance, and strict regulation if necessary, of wasteful energy use;
- abandon our attachment to "extravagant gadgetry";
- "get rid of fashion";
- make goods more durable and repairable; and
- cure ourselves of workaholic habits by rebalancing the time spent on work and leisure, a shift that will become incumbent as the effects of the other changes make themselves felt.

Georgescu-Roegen did not believe that his idealistic recommendations would be adopted, and he feared that human society was headed for a crash.

#### **4. Limits to Growth: A steady-state economy**

Nicholas Georgescu-Roegen's influence continues to be felt today, not only through his own books and papers but also through those of his student, the distinguished economist Herman E. Daly, who for many years has been advocating a steady-state economy. As Daly points out in his books and papers, it is becoming increasingly apparent that unlimited economic growth on a finite planet is a logical impossibility. However, it is important to distinguish between knowledge, wisdom and culture, which can and should continue to grow, and growth in the sense of an increase in the volume of material goods produced, which is reaching its limits.

Daly describes our current situation as follows: "The most important change in recent times has been the growth of one subsystem of the Earth, namely the economy, relative to

the total system, the ecosphere. This huge shift from an “empty” to a “full” world is truly ‘something new under the sun’... The closer the economy approaches the scale of the whole Earth, the more it will have to conform to the physical behavior mode of the Earth... The remaining natural world is no longer able to provide the sources and sinks for the metabolic throughput necessary to sustain the existing oversized economy – much less a growing one. Economists have focused too much on the economy’s circulatory system and have neglected to study its digestive tract.”

In 1968, Aurelio Peccei, Thorkil Kristensen and others founded the Club of Rome, an organization of economists and scientists devoted to studying the predicament of human society. One of the first acts of the organization was to commission an MIT study of future trends using computer models. The result was a book entitled *The Limits to Growth* published in 1972. From the outset the book was controversial, but it became a best-seller. It was translated into many languages and sold 10 million copies. The book made use of an exponential index for resources, i.e. the number of years that a resource would last if used at an exponentially increasing rate. Today, the more accurate Hubbert Peak model is used instead to predict rate of use of a scarce resource as a function of time. Although the specific predictions of resource availability in *The Limits to Growth* lacked accuracy, its basic thesis – that unlimited industrial growth on a finite planet is impossible – was indisputably correct. Nevertheless, the book was greeted with anger and disbelief by the community of economists, and these emotions still surface when it is mentioned.

Economic activity is usually divided into two categories, 1) production of goods and 2) provision of services. It is the rate of production of goods that will be limited by the carrying capacity of the global environment. Services that have no environmental impact will not be constrained in this way. Thus, a smooth transition to a sustainable economy will involve a shift in a large fraction of the workforce from the production of goods to the provision of services.

In his recent popular book *The Rise of the Creative Class*, the economist Richard Florida points out that in a number of prosperous cities – Stockholm, for example – a large fraction of the population is already engaged in what might be called creative work – a type of work that uses few resources, and produces few waste products – work which develops knowledge and culture rather than producing material goods. For example, producing computer software requires few resources and results in few waste products. Thus, it is an activity with a very small ecological footprint. Similarly, education, research, music, literature and art are all activities that do not weigh heavily on the carrying capacity of the global environment. Furthermore, cultural activities lead in a natural way to global cooperation and internationalism, since cultural achievements are shared by the people of the entire world. Indeed, the shared human inheritance of culture and knowledge is growing faster than ever before. Florida sees this as a pattern for the future, and maintains that everyone is capable of creativity. He visualizes the transition to a sustainable future economy as one in which a large fraction of the workforce moves from industrial jobs to information-related work. Meanwhile, as Florida acknowledges, industrial workers feel uneasy and threatened by such trends.

## 5. Biological Carrying Capacity and Economics

Classical economists pictured the world as largely empty of human activities. According to the empty-world picture of economics, the limiting factors in the production of food and goods are shortages of human capital and labor. The land, forests, fossil fuels, minerals, oceans filled with fish, and other natural resources upon which human labor and capital operate, are assumed to be present in such large quantities that they are not limiting factors. In this picture, there is no naturally-determined upper limit to the total size of the human economy. It can continue to grow as long as new capital is accumulated, as long as new labor is provided by population growth, and as long as new technology replaces labor by automation.

Biology, on the other hand, presents us with a very different picture. Biologists remind us that if any species, including our own, makes demands on its environment which exceed the environment's carrying capacity, the result is a catastrophic collapse, both of the environment and of the population which it supports. Only demands which are within the carrying capacity are sustainable. For example, there is a limit to regenerative powers of a forest. It is possible to continue to cut trees in excess of this limit, but only at the cost of a loss of forest size, and ultimately the collapse and degradation of the forest. Similarly, cattle populations may for some time exceed the carrying capacity of grasslands, but the ultimate penalty for overgrazing will be degradation or desertification of the land. Thus, in biology, the concept of the carrying capacity of an environment is extremely important; but in economic theory this concept has not yet been given the weight which it deserves.

Adam Smith was perfectly correct in saying that the free market is the dynamo of economic growth; but exponential growth of human population and economic activity have brought us, in a surprisingly short time, from the empty-world situation in which he lived to a full-world situation. In today's world, we are pressing against the absolute limits of the earth's carrying capacity, and further growth carries with it the danger of future collapse. Full-world economics, the economics of the future, will no longer be able to rely on industrial growth to give profits to stockbrokers or to solve problems of unemployment or to alleviate poverty. In the long run, neither the growth of industry nor that of population is sustainable; and we have now reached or exceeded the sustainable limits.

The limiting factors in economics are no longer the supply of capital or human labor or even technology. The limiting factors are the rapidly vanishing supplies of petroleum and metal ores, the forests damaged by acid rain, the diminishing catches from overfished oceans, and the croplands degraded by erosion or salination, or lost to agriculture under a cover of asphalt. Neo-classical economists have maintained that it is generally possible to substitute man-made capital for natural resources; but a closer examination shows that there are only very few cases where this is really practical.

The size of the human economy is, of course, the product of two factors: the total number of humans, and the consumption per capita. If we are to achieve a sustainable global society in the future, a society whose demands are within the carrying capacity of the global environment, then both these factors must be reduced. The responsibility for achieving sustainability is thus evenly divided between the North and the South: Where there is excessively high consumption per capita, it must be reduced; and this is primarily

the responsibility of the industrialized countries. High birth rates must also be reduced; and this is primarily the responsibility of the developing countries. Both of these somewhat painful changes are necessary for sustainability; but both will be extremely difficult to achieve because of the inertia of institutions, customs and ways of thought which are deeply embedded in society, in both the North and the South.

## **6. Population and Food Supply**

Let us look first at the problem of high birth rates: The recent spread of modern medical techniques throughout the world has caused death rates to drop sharply; but since social customs and attitudes are slow to change, birth rates have remained high. As a result, between 1930 and 2011, the population of the world increased with explosive speed from two billion to seven billion.

During the last few decades, the number of food-deficit countries has lengthened; and it now reads almost like a United Nations roster. The food-importing nations are dependent, almost exclusively, on a single food-exporting region, the grain belt of North America. In the future, this region may be vulnerable to droughts produced by global warming.

An analysis of the global ratio of population to cropland shows that we probably already have exceeded the sustainable limit of population through our dependence on petroleum. Between 1950 and 1982, the use of cheap petroleum-derived fertilizers increased by a factor of 8, and much of our present agricultural output depends on their use. Furthermore, petroleum-derived synthetic fibers have reduced the amount of cropland needed for growing natural fibers, and petroleum-driven tractors have replaced draft animals which required cropland for pasturage. Also, petroleum fuels have replaced fuel wood and other fuels derived for biomass. The reverse transition, from fossil fuels back to renewable energy sources, will require a considerable diversion of land from food production to energy production.

As population increases, the cropland per person will continue to fall, and we will be forced to make still heavier use of fertilizers to increase output per hectare. Also marginal land will be used in agriculture, with the probable result that much land will be degraded through erosion or salination. Reserves of oil are likely to be exhausted by the middle of this century. Thus, there is a danger that just as global population reaches the unprecedented level of 9 billion or more, the agricultural base for supporting it may suddenly collapse. The resulting ecological catastrophe, possibly compounded by war and other disorders, could produce famine and death on a scale unprecedented in history – a catastrophe of unimaginable proportions, involving billions rather than millions of people. The present tragic famine in Africa is to this possible future disaster what Hiroshima is to the threat of thermonuclear war, a tragedy of smaller scale, whose horrors should be sufficient, if we are wise, to make us take steps to avoid the larger catastrophe.

At present, a child dies from starvation every five seconds – six million children die from hunger every year. Over a billion people in today's world are chronically undernourished. There is a threat that unless prompt and well-informed action is taken by the international community, the tragic loss of life that is already being experienced will increase to unimaginable proportions.

As glaciers melt in the Himalayas, threatening the summer water supplies of India and China, as ocean levels rise, drowning the fertile rice-growing river deltas of Asia, as aridity begins to decrease the harvests of Africa, North America and Europe as populations grow, as aquifers are overdrawn, as cropland is lost to desertification and urban growth and as energy prices increase, the billion people who now are undernourished but still survive, might not survive. They might become the victims of a famine whose proportions could exceed anything that the world has previously experienced.

It is vital for the world to stabilize its population, not only because of the threat of a catastrophic future famine, but also because rapid population growth is closely linked with poverty. Today, a large fraction of the world's people live in near-poverty or absolute poverty, lacking safe water, sanitation, elementary education, primary health care and proper nutrition. Governments struggling to solve these problems, and to provide roads, schools, jobs and medical help for all their citizens, find themselves defeated by the rapid doubling times of populations. For example, in Liberia, the rate of population growth is 4 percent per year, which means that the population of Liberia doubles in size every eighteen years. Under such circumstances, despite the most ambitious development programs, the infrastructure per capita decreases. Also, since new jobs must be found for the new millions added to the population, the introduction of efficient modern methods in industry and agriculture aggravates the already-serious problem of unemployment.

Education and higher status for women are vitally important measures, not only for their own sake, but also because in many countries these social reforms have proved to be strongly correlated with lower birth rates. Religious leaders who oppose programs for the education of women and for family planning on "ethical" grounds should think carefully about the scope and consequences of the catastrophic global famine which will undoubtedly occur within the next 50 years if population is allowed to increase unchecked.

At the United Nations Conference on Population and Development, held in Cairo in September 1994, a theme which emerged very clearly was that one of the most important keys to controlling the global population explosion is giving women better education and equal rights. These goals are desirable for the sake of increased human happiness, and for the sake of the uniquely life-oriented point of view which women can give us; but in addition, education and improved status for women have shown themselves to be closely connected with lowered birth rates. When women lack education and independent careers outside their homes, they can be forced into the role of baby-producing machines by men who do not share in the drudgery of cooking, washing and cleaning; but when women have educational, legal, economic, social and political equality with men, experience has shown that they choose to limit their families to a moderate size.

Sir Partha Dasgupta of Cambridge University has pointed out that the changes needed to break the cycle of overpopulation and poverty are all desirable in themselves. Besides education and higher status for women, they include state-provided social security for old people, provision of water supplies near dwellings, provision of health services to all, abolition of child labor and general economic development.

## 7. Social Values and Levels of Consumption

Let us next turn to the problem of reducing the per-capita consumption in the industrialized countries. The whole structure of western society seems designed to push its citizens in the opposite direction, towards ever-increasing levels of consumption. The mass media hold before us continually the ideal of a personal utopia filled with material goods.

Every young man in a modern industrial society feels that he is a failure unless he fights his way to the “top”; and in recent years, women too have been drawn into this competition. Of course, not everyone can reach the top; there would not be room for everyone; but society urges all of us to try, and we feel a sense of failure if we do not reach the goal. Thus, modern life has become a struggle of all against all for power and possessions.

One of the central problems in reducing consumption is that in our present economic and social theory, consumption has no upper bound; there is no definition of what is enough; there is no concept of a state where all of the real needs of a person have been satisfied. In our growth-oriented present-day economics, it is assumed that, no matter how much a person earns, he or she is always driven by a desire for more.

The phrase “conspicuous consumption” was invented by the Norwegian-American economist Thorstein Veblen (1857-1929) in order to describe the way in which our society uses economic waste as a symbol of social status. In *The Theory of the Leisure Class*, first published in 1899, Veblen pointed out that it is wrong to believe that human economic behavior is rational, or that it can be understood in terms of classical economic theory. To understand it, Veblen maintained, one might better make use of insights gained from anthropology, psychology, sociology, and history.

The sensation caused by the publication of Veblen’s book, and the fact that his phrase, “conspicuous consumption”, has become part of our language, indicate that his theory did not completely miss its mark. In fact, modern advertisers seem to be following Veblen’s advice: Realizing that much of the output of our economy will be used for the purpose of establishing the social status of consumers, advertising agencies hire psychologists to appeal to the consumer’s longing for a higher social position.

---

*“Western society urgently needs to find new values to replace our worship of power, our restless chase after excitement, and our admiration of excessive consumption.”*

---

When possessions are used for the purpose of social competition, demand has no natural upper limit; it is then limited only by the size of the human ego, which, as we know, is boundless. This would be all to the good if unlimited economic growth were desirable. But today, when further industrial growth implies future collapse, western society urgently needs to find new values to replace our worship of power, our restless chase after excitement, and our admiration of excessive consumption.

The values which we need, both to protect nature from civilization and to protect civilization from itself, are perhaps not new: Perhaps it would be more correct to say that we need to rediscover ethical values which once were part of human culture, but which were



lost during the process of industrialization when technology allowed us to break traditional environmental constraints.

Our ancestors were hunter-gatherers, living in close contact with nature, and respecting the laws and limitations of nature. There are many hunter-gatherer cultures existing today, from whose values and outlook we could learn much.\* In some parts of Africa, before cutting down a tree, a man will offer a prayer of apology to the spirit of the tree, explaining why necessity has driven him to such an act. The attitude involved in this ritual is something which industrialized society needs to learn, or relearn.

Older cultures have much to teach industrial society because they are already pressing against environmental limits. In a traditional culture, where change is extremely slow, population has an opportunity to expand to the limits which the traditional way of life allows, so that it reaches equilibrium with the environment. For example, in a hunter-gatherer culture, population has expanded to the limits which can be supported without the introduction of agriculture. The density of population is, of course, extremely low, but nevertheless it is pressing against the limits of sustainability. Overhunting or overfishing would endanger the future. Respect for the environment is thus necessary for the survival of such a culture.

Similarly, in a stable, traditional agricultural society which has reached an equilibrium with its environment, population is pressing against the limits of sustainability. In such a culture, one can usually find expressed as a strong ethical principle the rule that the land must not be degraded, but left fertile for the use of future generations.

It would be wise for the industrialized countries to learn from the values of older traditional cultures; but what usually happens is the reverse: The unsustainable, power-worshipping, consumption-oriented values of western society are so strongly propagandized by television, films and advertising that they overpower and sweep aside the wisdom of older societies. Today, the whole world seems to be adopting values, fashions, and standards of behaviour presented in the mass media of western society. This is unfortunate, since besides showing us unsustainable levels of affluence and economic waste, the western mass media depict values and behavior patterns which are hardly worthy of imitation.

“Although the history of the 1929 depression is frightening, it may nevertheless be useful to look at the measures which were used then to bring the global economy back to its feet.”

## 8. The Responsibility of Governments

Like a speeding bus headed for a brick wall, the earth's rapidly-growing population of humans and its rapidly growing economic activity are headed for a collision with a very solid barrier – the carrying capacity of the global environment. As in the case of the bus and the wall, the correct response to the situation is to apply the brakes in good time, but fear prevents us from doing this. What will happen if we slow down very suddenly? Will not many of

\* Unfortunately, instead of learning from them, we often move in with our bulldozers and make it impossible for their way of life to continue. During the past several decades, for example, approximately one tribe of South American forest Indians has died out every year. Of the 6000 human languages now spoken, it is estimated that half will vanish during the next 50 years.

the passengers be injured? Undoubtedly. But what will happen if we hit the wall at full speed? Perhaps it would be wise, after all, to apply the brakes!

The memory of the great depression of 1929 makes us fear the consequences of an economic slowdown, especially since unemployment is already a serious problem. Although the history of the 1929 depression is frightening, it may nevertheless be useful to look at the measures which were used then to bring the global economy back to its feet. A similar level of governmental responsibility may help us during the next few decades to avoid some of the more painful consequences of the necessary transition from the economics of growth to the economics of equilibrium.

*“The economics of growth must be replaced by equilibrium economics, where considerations of ecology, carrying capacity, and sustainability are given proper weight, and where the quality of life of future generations has as much importance as present profits.”*

Economists, industrialists and business leaders have a duty to the peoples of the world and to the global environment in much the same way that physicians have a sacred duty to the welfare of their patients. Therefore, the education of economists and industrialists ought to emphasize ethical and ecological principles. Like doctors, economists and industrialists carry matters of life and death in their hands: Think of the 10 million children who die each year from poverty-related causes; think of the wholesale extinction of species; think of global warming; think of the risk of a catastrophic future famine caused by population growth, by energy shortages, by climate change and by ecological degradation. We urgently need to introduce biology, ecology and ethics into the education of economists. The economics of growth must be replaced by equilibrium economics, where considerations of ecology, carrying capacity, and sustainability are given proper weight, and where the quality of life of future generations has as much importance as present profits.

Not only economists, but students of business administration should also be made conscious of the negative, as well as positive effects of globalization, and should consider the measures that will be needed to correct the negative effects. Students of business administration should be helped to develop an attitude of responsibility towards the less developed countries of the world, so that if they later become administrators in multinational corporations, they will choose generous and enlightened policies rather than exploitative ones.

The economic impact of war and preparation for war should be included in the training of economists. Both the direct and indirect costs of war should be studied, for example, the effect of unimaginably enormous military budgets in reducing the money available to solve pressing problems posed by the resurgence of infectious disease (e.g. AIDS, and drug-resistant forms of malaria and tuberculosis); the problem of population stabilization; food problems; loss of arable land; future energy problems; the problem of finding substitutes for vanishing non-renewable resources, and so on. Many of these problems were discussed at a recent conference of economists in Copenhagen, but the fact that all such global emergencies could be adequately addressed with a fraction of the money wasted on military budgets was not discussed.

Finally, economics curricula should include the problems of converting war-related industries to peaceful ones – the problem of beating swords into plowshares. It is often said that our economies are dependent on arms industries. If this is so, it is an unhealthy dependence, analogous to drug addiction, since arms industries do not contribute to future-oriented infrastructure. The problem of conversion is an important one. It is the economic analog of the problem of ending a narcotics addiction, and it ought to be given proper weight in the education of economists.

The Worldwatch Institute, Washington D.C., lists the following steps as necessary for the transition to sustainability: 1) Stabilizing population; 2) Shifting to renewable energy; 3) Increasing energy efficiency; 4) Recycling resources; 5) Reforestation and 6) Soil Conservation. All of these steps are labor-intensive; and thus, wholehearted governmental commitment to the transition to sustainability can help to solve the problem of unemployment.

In much the same way that Keynes urged Roosevelt to use governmental control of interest rates to achieve social goals, we can now urge our governments to use their control of taxation to promote sustainability. For example, a slight increase in the taxes on fossil fuels could make a number of renewable energy technologies economically competitive; and higher taxes on motor fuels would be especially useful in promoting the necessary transition from private automobiles to bicycles and public transport.

The economic recession that began with the US subprime mortgage crisis of 2007 and 2008 can be seen as an opportunity. It is thought to be temporary, but it is a valuable warning of irreversible long-term changes that will come later in the 21st century when the absolute limits of industrial growth are reached. Already we are faced with the problems of preventing unemployment and simultaneously building the infrastructure of an ecologically sustainable society.

Today's economists believe that growth is required for economic health; but at some point during this century, industrial growth will no longer be possible. If no changes have been made in our economic system when this happens, we will be faced with massive unemployment. Three changes are needed to prevent this:

- ♦ Labor must be moved to tasks related to ecological sustainability. The tasks include development of renewable energy, reforestation, soil and water conservation, replacement of private transportation by public transport. Health and family planning services must also be made available to all.
- ♦ Opportunities for employment must be shared among those in need of work, even if this means reducing the number of hours that each person works each week and simultaneously reducing the use of luxury goods, unnecessary travel, conspicuous consumption and so on. It will be necessary for governments to introduce laws reducing the length of the working week, thus ensuring that opportunities for employment are shared equally.
- ♦ The world's fractional reserve banking system needs to be reformed. We have the chance, already today, to make these changes in our economic system. The completely unregulated free market alone has proved to be inadequate in a situation where economic growth has slowed or halted, as is very apparent in the context of the present financial crisis. But, halfway through the 21st century, economic growth

will be halted permanently by ecological constraints and vanishing resources. We must construct a steady-state economic system – one that can function without industrial growth. Our new economic system needs to have a social and ecological conscience, it needs to be responsible, and it needs to have a farsighted global ethic. We have the opportunity to anticipate and prevent future shocks by working today to build a new economic system.

The introduction of Pigovian taxes by one country may make it less able to compete with other countries that do not include externalities in their pricing. Until such reforms become universal, free trade may give unfair advantages to countries which give the least attention to social and environmental ethics. Thus free trade and globalization will become fair and beneficial only when ethical economic practices become universal.

Governments already recognize their responsibility for education. In the future, they must also recognize their responsibility for helping young people to make a smooth transition from education to secure jobs. If jobs are scarce, work must be shared with a spirit of solidarity among those seeking employment; hours of work (and if necessary, living standards) must be reduced to ensure that all who wish it may have jobs. Market forces alone cannot achieve this. The powers of government are needed.

---

*“In the world as it is today, a trillion dollars are wasted on armaments each year; and while this is going on, children in the developing countries sift through garbage dumps searching for scraps of food.”*

---

Governments must recognize their responsibility for thinking not only of the immediate future but also of the distant future, and their responsibility for guiding us from the insecure and socially unjust world of today to a safer and happier future world. In the world as it is today, a trillion dollars are wasted on armaments each year; and while this is going on, children in the developing countries sift through garbage dumps searching for scraps of food. In today’s world, the competition for jobs and for material possessions makes part of the population of the industrial countries work so hard that they damage their health and neglect their families; and while this is going on, another part of the population suffers from unemployment, becoming vulnerable to depression, mental illness, alcoholism, drug abuse and crime. In the world of the future, which we now must build, the institution of war will be abolished, and the enormous resources now wasted on war will be used constructively. In the future world, as it can be if we work to make it so, a stable population of moderate size will live without waste or luxury, but in comfort and security, free from the fear of hunger or unemployment. The world which we want will be a world of changed values, where human qualities will be valued more than material possessions. Let us try to combine wisdom and ethics from humanity’s past with today’s technology to build a sustainable, livable and equitable future world.

*Author Contact Information*  
*Email : avery.john.s@gmail.com*

## Notes

1. Frederick Soddy, *Wealth, virtual wealth and debt: The solution of the economic paradox* (Sydney: Allen and Unwin, 1926).
2. Frederick Soddy, *The Role of Money* (London: George Routledge & Sons Ltd, 1934).
3. Nicholas Georgescu-Roegen, *The Entropy Law and the Economic Process* (Cambridge: Harvard University Press, 1971).
4. Michael Rowbotham, *The Grip of Death: A Study of Modern Money, Debt Slavery and Destructive Economics* (Oxfordshire: Jon Carpenter Publishing, 1998).
5. Herman Daly & Joshua Farley, *Ecological Economics: Principles and Applications* (Washington, D.C: Island Press, 2004).
6. Herman Daly, *Beyond Growth: The Economics of Sustainable Development* (Boston: Beacon Press, 1997).
7. Herman Daly, *Valuing the Earth: Economics, Ecology, Ethics* (Cambridge: The MIT Press, 1993).
8. Herman Daly & John Cobb, Jr., *For The Common Good: Redirecting the Economy toward Community, the Environment, and a Sustainable Future* (Boston: Beacon Press, 1994).
9. Robert Goodland, Herman Daly & Salah El Serafy, *Population, Technology, and Lifestyle: The Transition To Sustainability* (Washington, D.C: Island Press, 1992).
10. Richard Heinberg, *The End of Growth* (Gabriola Island BC: New Society Publishers, 2011).
11. Richard Florida, *The Rise of the Creative Class* (New York: Basic Books, 2002).
12. Robert Goodland et al., eds., *Environmentally Sustainable Economic Development: Building on Brundtland* (Paris: UNESCO, 1991).
13. Donella Meadows, Dennis Meadows and Jorgen Randers, *Beyond the Limits* (Vermont: Chelsea Green Publishing Co., 1992).
14. Peter Vitousek et al., "Human Appropriation of the Products of Photosynthesis," *Bioscience* 34, no.6 (1986): 368-373.
15. World Resources Institute (WRI), *Global Biodiversity Strategy*, The World Conservation Union (IUCN), United Nations Environment Programme (UNEP) (Washington D.C.: WRI, 1992).
16. Edward Wilson, ed., *Biodiversity* (Washington D.C., National Academy Press, 1988).
17. Mario Giampietro and David Pimentel, "The Tightening Conflict: Population, Energy Use and the Ecology of Agriculture," in *Negative Population Forum* Lindsey Grant ed., (New Jersey: Negative Population Growth, Inc., 1993).
18. Henry Kendall and David Pimentel, "Constraints on the Expansion of the Global Food Supply," *Ambio* 23, no. 3 (1994): 185-205.
19. Parthasarathi Dasgupta, "Population, Resources and Poverty," *Ambio* 21, no.1 (1992): 95-101.
20. Lester Brown, *Plan B 4.0: Rescuing a Planet Under Stress and a Civilization in Trouble* (Washington D.C.: Earth Policy Institute, 2010).
21. Lester Brown, *Who Will Feed China?* (New York: W.W. Norton, 1995).
22. Lester Brown et al., *Saving the Planet. How to Shape an Environmentally Sustainable Global Economy* (New York: W.W. Norton, 1991).
23. Gail Tverberg, "Thoughts on why energy use and CO<sub>2</sub> emissions are rising as fast as GDP," *Our Finite World* www.ourfinite-world.com November 30, 2011.
24. British Petroleum Company, *B.P. Statistical Review of World Energy* (London: British Petroleum Company, 1991).

# **Gender Perspectives on Climate Change & Human Security in India:**

## **An Analysis of National Missions on Climate Change**

**Jyoti Parikh**, Executive Director of IRADe;  
Fellow, World Academy of Art & Science  
**Dinoj Kumar Upadhyay**, Research Analyst, IRADe  
**Tanu Singh**, Research Analyst, IRADe

### **Abstract**

*Women play a crucial role in many activities essential for coping with climate change. Indian women appear to be more vulnerable than men to differential impacts of climate change because they share most of the household managing responsibilities but have limited access to participation in decision making and governance. Most of the policies for climate change adaptation and mitigation do not specifically address the vulnerability of women. The National Action Plan for Climate Change (NAPCC), formulated to shape future discourse of climate change adaptation and development, recognizes the differential impacts of climate change on society, but incorporates merely a few gender specific measures. The paper suggests gender specific measures for each mission of the NAPCC to make the adaptation and development process more inclusive and sustainable in India.*

Climate change has the potential to turn into a ‘crisis for humankind’ as its potential multiple impacts can exacerbate the scarcity of natural resources, crop failure, hunger, malnutrition and disease, and can undermine economic growth and development in the long run.<sup>1</sup> The core challenge of climate change is the structural impact on the fragile and vulnerable sections of the society which have limited or the least capacity at both social and individual levels to cope with climate catastrophes. Climate change would have severe implications for the progress of mankind and well-being of individuals, which are the main planks of human security. Contrary to the conventional notion of security, human security encompasses an inclusive agenda of human development including life, livelihood, access to food and water, health, and environmental sustainability. Thus, fundamental elements of human security are explicitly and implicitly interlinked with vulnerabilities induced by climate change. Women comprise a considerable percentage of the world’s poorest and disadvantaged people, and therefore, are likely to be disproportionately affected by the adverse impacts of climate change.<sup>2</sup> They are marginalized and deprived of the basic right to a decent life in our society due to various social, cultural, political and economic constraints. They share the maximum of burdens in managing the households, but have relatively less or limited access to health care, employment, economic opportunities, political participation and role in decision making pro-

cesses. Compared to their responsibilities, better access to resources and opportunities would make them less vulnerable to climate-change-induced development challenges and natural calamities. India is one of the countries that is most vulnerable and risk prone to potential impacts of climate change. Indian women score lowest on some development indicators. Such factors could particularly have serious implications for the well-being of women.

From the gender point of view, men and women have different roles and responsibilities, which result in differences in vulnerability and ability to cope with change.<sup>3</sup> Furthermore, vulnerabilities among women are also due to their limited adaptive capacity that stems from predominating issues like illiteracy, inequality in social rights, inadequate access to information and resources, and limited health care facilities.<sup>4</sup> India is at the 112<sup>th</sup> position in the Global Gender Gap Index that examines the gap between men and women in four fundamental categories: economic participation and opportunity, educational attainment, health and survival and political empowerment.<sup>5</sup> India figures very low on both the HDI and GDI as it ranks 134 and 114 respectively. Wages for women in India are much lower compared to those of men.<sup>6</sup> Forty-nine percent of Indian women live in poverty and only 36 percent participate in the labor force.<sup>8</sup> In terms of health and survival, according to NFHS-3, more than one-third of Indian women were suffering from Chronic Energy Deficiency during 2005-06, over half the women in the 15-49 age group suffered from Iron Deficiency Anemia. 59 percent of pregnant women are anemic.<sup>7,8</sup> As far as political empowerment is concerned, though women's participation in *panchayats* (rural local government) has increased due to the 33 percent reservation scheme in India (now Government of India has extended up to 50 percent), their representation in parliament and state assemblies of many states has not gone beyond eight and ten percent respectively.<sup>9</sup> Women's participation in decision making process is also limited.

Apart from these unfavourable indicators, various social and household responsibilities contribute to women's vulnerabilities. Women are largely responsible for household management and water and fuel collection in their communities, which are difficult, time-consuming tasks due to environmental changes. Generally women fulfill these tasks and engage in work outside their homes. Climate change can cause a rise in sea level, affecting livelihoods from fishing in which women are equally involved. Fresh water supply may also be affected due to intrusion of saline water into freshwater systems. Land inundation damages infrastructure, roads and houses. Inundation also results in large-scale migration that increases hardship for women.<sup>†</sup> Women are more likely to suffer heat stress due to biological reasons.<sup>‡</sup> Climate change will affect people's health. Generally women look after their children and elderly family members when they are sick. If such demands on them increase, women will be less able to pursue income-generating activities.<sup>§</sup>

Climate-change-induced natural disasters affect women and men differently. The cyclone and flood of 1991 in Bangladesh killed two-three times as many women as men, and in

---

\* See UNDP, UNDP in India, Empowered Lives, Resilient Nations, 2010, p-13.

† See Jyoti Parikh, Towards A Gender-Sensitive Agenda for Energy, Environment and Climate Change, Expert Group Meeting on "The impact of the implementation of the Beijing Declaration and Platform for Action on the Achievement of the Millennium Development Goals", United Nations Office at Geneva, November 2009, p-3

‡ See Jyoti Parikh, Gender and Climate Change Framework for Analysis, Policy & Action, Integrated Research and Action for Development, 2007, p-21.

§ See Yianna Lambrou and Grazia Piana, Gender: The Missing Component of the Response to Climate Change, Food and Agriculture Organisations of United Nations, Gender and Population Division, Sustainable Development Department, April 2006, p-36.

districts worst hit by tsunami, more women were killed than men.<sup>10</sup> Many other reports have focused on how women have been disadvantaged across caste, class, and occupations in the tsunami relief and recovery operations by conventional gender norms or gender-neutral/blind state policies. Moreover, women have less access to resources that are essential for disaster preparedness and mitigation, and rehabilitation. An increase in extreme events puts extra burden of devastation and destruction on women, who have to keep the family together after floods and storms, and put food on the plate.<sup>11</sup>

Gendered divisions of labor often result in overrepresentation of women in agricultural and informal sectors, which are more vulnerable to climate change. Many poor women are also actively engaged in agricultural activities, including paddy cultivation and fishing, which will be affected by changing weather patterns in India. Loss of livelihood will increase their vulnerability and marginalization.<sup>12</sup> Indian women, in general, are also responsible for tasks such as food collection and energy supply for the household as well as many caregiving tasks such as caring for the children, sick, elderly, the home and assets.<sup>13</sup> For instance, in hill and mountain regions, and in arid and semi-arid areas where forests have disappeared and agriculture remains poor, women spend between six and ten hours daily collecting the resources they need to meet their basic survival needs.<sup>14</sup>

## **1. An Analysis of India's 'National Action Plan on Climate Change'**

To deal with challenges of climate change, India's National Action Plan on Climate Change (NAPCC) was announced by the Government of India in 2008. The NAPCC includes eight national missions with separate mandate for each mission. Each national mission is formulated by its respective ministry which will also implement it for the remaining part of the current 11<sup>th</sup> Five Year Plan (2007-2012) and the 12<sup>th</sup> Five Year Plan (2012-2017).<sup>15, 16</sup> In the last three years, comprehensive documents have been prepared by the respective ministries of the Government of India. All of these missions have some relevance to gender because they all aim for adaptation and mitigation and have to work under overarching concerns for inclusive and sustainable development. The NAPCC recognizes the importance of gender in climate change and development discourse. It states *"with climate change there would be increasing scarcity of water, reductions in yields of biomass, and increased risks to human health with children, women and the elderly in a household becoming the most vulnerable. With the possibility of decline in the availability of food grains, the threat of malnutrition may also increase. All these would add to deprivations that women already encounter and so in each of the Adaptation programmes special attention should be paid to the aspects of gender"*.<sup>17</sup> But this understanding has not been translated into the NAPCC's assessment of the effects of climate change or its outlines of mechanisms that could support people to adapt. Partly, this has to do with the lack of gender/sex-disaggregated data on climate risks, and the relatively poor documentation of adaptation programmes, or the lessons they can provide, in terms of building resilient communities.<sup>18, 19</sup> Since all the eight national missions would be integrated with various flagship programmes for development, capacity building, and empowerment of central and state governments, inclusion of gender in the national missions will benefit women as well as lead to successful and efficient implementation of the missions.

National Solar Mission (NSM) notes that as a tropical country, India has immense potential for solar energy.<sup>20</sup> Therefore, the mission aims to tap the potential of solar power



and envisions routes for conversion of solar radiation into heat and electricity, namely solar thermal energy and solar photovoltaic system. Women can not only be beneficiaries but can also be involved in production, decision making and management of the energy cycle. Many gender issues can be associated with the mission by providing women access to energy and electricity, lighting for their households, and livelihoods. Street lighting can help to provide them a sense of security, and solar appliances – solar water heater, solar cookers, solar pumps and solar dryers – could reduce their workload. Access to adequate energy will ease the process of supplying water and help in irrigation, enhance food security through better crop productivity and income from agro-food processing and pollution-free fuel, for prevention of heart and lung diseases. It also helps to generate extra income from agri-waste processing and storage, diversification of crop production, or higher yields via modern farming tools/techniques, ability to process materials locally, storage, diversification of off-farm activities like dairy products, and other small scale businesses.

National Mission for Enhanced Energy Efficiency (NMEEE) has a mandate to adopt a market-based mechanism to enhance cost effectiveness of improvements in energy efficiency in energy-intensive large industries and facilities, accelerating the shift to energy-efficient appliances to make them more affordable, providing energy-efficient financing platform and developing fiscal instruments to promote energy efficiency.<sup>21, 22</sup> The NMEEE should also consider gender measures for attaining its goals of energy efficiency. The household and residential sectors consume significant percentage of fossil fuel energy as well as electricity. Women empowered with knowledge and training of energy utilization can save energy in this sector. Capacity of women should be enhanced to optimize energy efficiency and the usage of domestic appliances.

The National Mission on Sustainable Habitat (NMSH) intends to make habitat sustainable through improvements in basic infrastructure and by providing basic services such as transportation, modern energy services, waste management, etc.<sup>23</sup> Such initiatives would definitely empower women and contribute to their development. The mission can emphasize on gender issues by making special provisions for women for sustainable energy access; robust public health and transportation system, and increase women's participation in urban planning at the local level. In addition, there should be measures for building material for ensuring safety.

Water is linked to the crises of climate change, energy and food supplies and prices, and troubled financial markets.<sup>24</sup> The National Water Mission focuses on conservation, preservation, efficiency, integrated water resources management and equitable distribution. India's per capita availability of water, on the basis of the 2011 population census, has fallen below the global threshold. The access to potable water is the primary concern of every household and mainly managed by women. In rural areas they travel far from their habitat to fetch water. Gender issues are related to this mission in multiple ways: to provide women easy access to potable water in their locality, a role in water management, in planning on the principle of integrated water resources development and management, in water conservation and water resource project management. Women can be the primary agent for promoting usage of water in a sustainable manner.

Himalayan ecosystem is fragile and diverse and includes over 51 million people who practice hill agriculture, and remains vulnerable to climate change. Sustainability of the

Himalayan ecosystem is crucial for the livelihood of about 1.3 billion people in Asia. Particularly, Himalayan ecosystem is critical for the Indian landmass for environmental sustainability and economic development.<sup>25</sup> The National Mission for Sustaining the Himalayan Ecosystem focuses on national and institutional capacities, strengthening of existing institutions, standardization of observational systems, decoupling of changes from natural and anthropogenic causes, prediction/projection of future trends and assessment of possible impacts, governance for sustaining Himalayan ecosystem and building a state of the art institution in glaciology.<sup>26</sup> The Mission is quite comprehensive and covers almost every aspect of Himalayan ecosystem, and therefore, there is a need to include a concrete gender-oriented policy framework for women's empowerment and a greater role of women in the adaptation strategies. Specific programmes should be formulated for knowledge and capacity building of women. Women should be allowed greater participation in the decision making process of institutions, and in planning and implementation of developmental programmes. Since the National Mission talks about community participation in adaptation, mitigation and coping mechanisms inclusive of farming and traditional health care systems, it should be ensured that women get their due representation. Women can be more useful in increasing the growth of flora and fauna.

National Mission for a Green India aims to increase forest/tree cover on 5 mha of forest/non-forest lands and improve quality of forest cover on another 5 mha (a total of 10 mha), and improve ecosystem services including biodiversity, hydrological services, carbon sequestration as a result of treatment of 10 mha and increase forest-based livelihood income of about 3 million households living in and around the forests and also enhance annual CO<sub>2</sub> sequestration by 50 to 60 million tonnes in the year 2020.<sup>27</sup>

The key innovations of the mission include focusing on the quality of forests, ecosystem services biodiversity, water and improved biomass, carbon sequestration, and addressing ecosystems like grasslands, wetlands, urban and peri-urban, and implementation aspects as well.<sup>28</sup> Women's role is crucial in forest management, food security, livelihood through non-timber forest products, and in preserving the entire ecosystem and biodiversity. Particularly in the context of energy, women manage the entire energy chain from collecting, transporting and managing cooking fuel in the rural and remote areas. Integrated Energy Policy (IEP, 2006) states to provide fuel within one kilometer of their habitat. Their role in social forestry and communities is also crucial. Unless women are factored in explicitly at all levels, the intended outcome may not materialize.

---

*“A strong and strategic knowledge system is essential for identifying, formulating, planning and implementing policy-driven actions while maintaining the necessary economic growth rate.”*

---

National Mission for Sustainable Agriculture (NMSA) has devised strategies to make Indian agriculture more resilient to climate change, and therefore, intends to identify and develop new varieties of crops, especially climate resistant ones, and alternative cropping patterns capable of withstanding extremes of weather, long dry spells, flooding, and variable moisture availability. The Mission, therefore, seeks to transform Indian agriculture into a climate resilient production system through suitable adaptation and mitigation measures in the domain of crops and animal husbandry. The implementation of NMSA up to the end

of the twelfth Five Year Plan would require additional budgetary support of INR 1080 billion.<sup>29</sup> The Mission should have provisions for enhancing food and nutrition security for women and for providing them rights in land tenure, food processing and storage and post-harvest management. Information and knowledge dissemination are also crucial for reducing vulnerability of women in the agriculture sector.

National Mission on Strategic Knowledge for Climate Change aims to identify the challenges of, and the responses to climate change. A strong and strategic knowledge system is essential for identifying, formulating, planning and implementing policy-driven actions while maintaining the necessary economic growth rate.<sup>30</sup> The Mission should boost up applied research into various aspects of climate change as well as collect gender-specific data for formulating specific measures for the policies and programmes for women, particularly vulnerability assessments, health problems, energy and socio-economic implications.

To sum up, it has been shown that there is gender differentiation regarding the impact of climate change due to different roles that gender plays and its different capabilities and situations. To ensure well-being of women and promote their development, National Missions on climate change should address the concerns of women and incorporate gender-sensitive measures to make adaptation strategy more robust.

#### *Author Contact Information*

**Jyoti Parikh** - Email : [jparikh@irade.org](mailto:jparikh@irade.org)

**Dinoj Kumar Upadhyay** - Email: [dkupadhyay@irade.org](mailto:dkupadhyay@irade.org)

**Tanu Singh** - Email : [tanusingh@irade.org](mailto:tanusingh@irade.org)

Website : [www.irade.org](http://www.irade.org)

#### **Notes**

1. German Advisory Council on Global Change (WBGU), *World in Transition: A Social Contract for Sustainability* (Berlin: WBGU, 2011), 33.
2. Alyson Broody, Justina Demetriades and Emily Esplen, *Gender and Climate Change: Mapping the Linkages: A Scoping Study on Knowledge and Gaps* (Sussex: Institute of Development Studies, 2008).
3. "Policy Brief: People-Centred Climate Change Adaptation: Integrating gender issues," *Food and Agriculture Organization*, 2010 [ftp://ftp.fao.org/docrep/fao/010/a1395e/a1395e00.pdf](http://ftp.fao.org/docrep/fao/010/a1395e/a1395e00.pdf)
4. Jyoti Parikh, "Is Climate Change a Gender Issue?" *UNDP* 2010 [http://data.undp.org/in/Gndr\\_CC.pdf](http://data.undp.org/in/Gndr_CC.pdf)
5. World Economic Forum, *The Corporate Gender Gap Report 2010* (Geneva: World Economic Forum, 2010), 4 <https://members.weforum.org/pdf/gendergap/report2010.pdf>
6. Govind Kelkar, "Development Effectiveness through Gender Mainstreaming," *Economic and Political Weekly* 40, no. 44 (2005): 4690-4699.
7. Naresh Saxena, "Hunger, Under-Nutrition and Food Security in India," Working Paper 44, *CPRC-IIPA* 2010 [http://www.dfid.gov.uk/r4d/PDF/Out puts ChronicPoverty\\_RC/CPRC-IIPA44.pdf](http://www.dfid.gov.uk/r4d/PDF/Out%20puts/ChronicPoverty_RC/CPRC-IIPA44.pdf)
8. T. Nandakumar et al., *Food and Nutrition Security Status in India: Opportunities for Investment Partnerships* (Manila: Asian Development Bank, 2010) <http://www.adb.org/Documents/Papers/ADB-Working-Paper-Series/ADB-WP16-Food-and-Nutrition-Security-Status-India.pdf>
9. Planning Commission, Government of India, "Gender empowerment," in *State Development Report: Himachal Pradesh 2011* [http://planningcommission.nic.in/plans/stateplan/sdr\\_hp/sdr\\_hpch10.pdf](http://planningcommission.nic.in/plans/stateplan/sdr_hp/sdr_hpch10.pdf)
10. Kenneth Hewitt, "The Social Nature of Exposure, Vulnerability and Responses to Disaster" *MRI International Workshop*, Vienna, 2009.
11. Jyoti Parikh and Fatma Denton, "Gender and Climate Change," *Tiempo* no. 47 (2003).
12. United Nations Development Programme, *Fighting Climate Change: Human Solidarity in a Divided World* (New York: UNDP, 2007/08).

13. Elaine Enarson, *Gender and Natural Disasters* (Geneva: International Labour Organization, 2000).
14. Centre for Science and Environment (CSE), *State of India's Environment: The Citizen's Fifth Report* (New Delhi: CSE, 1999).
15. The Government of India, *National Action Plan on Climate Change, Prime Minister's Council on Climate Change*, 2008 <http://pmindia.nic.in/Pg01-52.pdf>
16. Aditi Kapoor, *Engendering the Climate for Change: Policies and Practices for Gender-just Adaptation* (New Delhi: Alternative Futures, 2011) [http://www.boell.org/downloads/Engendering\\_the\\_Climate\\_for\\_Change.pdf](http://www.boell.org/downloads/Engendering_the_Climate_for_Change.pdf)
17. The Government of India, *National Action Plan*, 12.
18. Sara Ahmed, and Elizabeth Fajber, "Engendering Adaptation to Climate Variability in Gujarat, India," *Gender & Development* 17, no. (2009): 33-50.
19. Gupta, *Engendering the Climate for Change*, 28.
20. "Towards Building Solar India," *Jawaharlal Nehru National Solar Mission 2009* <http://india.gov.in/allimpfrms/alldocs/15657.pdf>
21. S.P. Garnaik, "National Mission for Enhanced Energy Efficiency," *Bureau of Energy Efficiency, Government of India* <http://moef.nic.in/downloads/others/Mission-SAPCC-NMEEE.pdf>
22. Aarti Dhar, "National Mission on Enhanced Energy Efficiency approved" *The Hindu* August 25<sup>th</sup> 2009.
23. "National Action Plan on Climate Change," *Prime Minister's Council on Climate Change, Government of India* 2008 <http://www.pmindia.nic.in/Climate%20Change.doc>
24. *Water in a changing world* (London: UNESCO, 2009), 3.
25. "National Mission for Sustaining the Himalayan Eco-System Under National Action Plan on Climate Change," *Department of Science & Technology, Ministry of Science and Technology, Government of India* 2010 [http://www.dst.gov.in/scientific-programme/NMSHE\\_June\\_2010.pdf](http://www.dst.gov.in/scientific-programme/NMSHE_June_2010.pdf)
26. Akhilesh Gupta, "National Initiatives for Building Capacity and Knowledge System for Climate Change," 2010. [http://www.sustainabledevelopment.in/events/Business-Action-on-Climate-Change/akhilesh\\_CII\\_jaipur\\_4june2010.pdf](http://www.sustainabledevelopment.in/events/Business-Action-on-Climate-Change/akhilesh_CII_jaipur_4june2010.pdf)
27. "National Mission for a Green India," *Ministry of Environment and Forests, Government of India* 2010 <http://moef.nic.in/downloads/public-information/GIM-Report-PMCCC.pdf>
28. "National Mission for a Green India," *Ministry of Environment and Forests, Government of India* 2011 <http://moef.nic.in/downloads/public-information/GIM%20presentation%20Feb%2022%202011.pdf>
29. "National Mission For Sustainable Agriculture Strategies for Meeting the Challenges of Climate Change," *Department of Agriculture and Cooperation, Ministry of Agriculture* 2010.
30. "National Mission on Strategic Knowledge for Climate Change Under National Action Plan on Climate Change," *Department of Science & Technology, Ministry of Science and Technology, Government of India* 2010 [http://www.dst.gov.in/scientific-programme/NMSKCC\\_July\\_2010.pdf](http://www.dst.gov.in/scientific-programme/NMSKCC_July_2010.pdf)

### Report on Activities of WAAS & Club of Rome

#### WAAS Project on the Emerging Individual

The central importance of Human Capital was emphasized during a live webcast discussion on “The Emerging Individual”, which involved presentations by Janani Harish, Garry Jacobs, Winston Nagan & Ivo Šlaus. A video recording of the seminar, papers & the extensive discussion which followed the session can be found on the Academy’s website.

Individuality will feature as a prominent theme of the international conference WAAS is co-organizing on “Humanities and the Contemporary World”, which is hosted by the Montenegrin Academy of Sciences & Arts in Podgorica, Montenegro on June 7-9, 2012.

Individuality will also form the subject matter of the Academy’s new e-journal *Eruditio* edited by Winston Nagan, which will be launched in late Spring 2012.

#### Celebration of the 40th Anniversary of the Launching of Limits to Growth

On March 1, 2012, a symposium entitled “Perspectives on Limits to Growth: Challenges to Building a Sustainable Planet” was hosted in Washington, D.C., by the Club of Rome and the Smithsonian Institution’s Consortium for Understanding and Sustaining a Biodiverse Planet. *The Limits to Growth*, which sold over 10 million copies in various languages, was one of the earliest scholarly works to recognize that the world was fast approaching its sustainable limits. 40 years later, the planet continues to face many of the same economic, social, & environmental challenges.

#### Upcoming Events

The Academy will be associated with the following events to be hosted later this year.

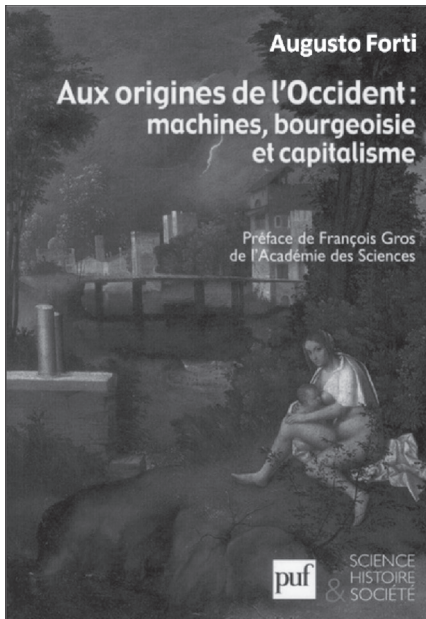
- **Apr 22-25** WAAS is co-organizing sessions at BioVision Alexandria on “Fostering Science & Technology in Middle East & Africa” & “Psychology of Climate Change”.
- **May 7-9** Club of Rome is participating in the Annual Conference of the WWF network in Rotterdam. A number of WAAS Fellows have been invited.
- **Jun 7-9** WAAS is co-organizing an international conference, “Humanities & the Contemporary World”, which is hosted by the Montenegrin Academy of Sciences & Arts in Podgorica, Montenegro.
- **Jul 12-13** WAAS is participating in The Global Roundtable conference at Split, Croatia to announce the establishment of The Earth Supreme Level Award (TESLA) for unrecognized genius.
- **Aug 16-18** Pugwash Canada is conducting a “Strategic Foresight Workshop on a Secure World Without Nuclear Weapons”.
- **Sep 6-8** WAAS is co-sponsoring an international conference, “Sustainable Development & Eco-Innovation” hosted by AGH-UST Open University, Kraków, Poland.
- **Sep 8** WAAS is participating in an international conference, “The Dream of a Global Knowledge Society”, hosted by the Inter-university Centre at Dubrovnik, Croatia.
- **Sep 27-29** WAAS is participating in “The European Forum of New Ideas”, an international conference at Sopot, Poland.

**AUX ORIGINES de l'OCCIDENT:**  
*Machines, bourgeoisie et capitalism*

**Augusto Forti**

Publisher: Presses Universitaires de France, Paris. November 2011  
ISBN:2130584810

---



The end of the Middle-Ages marks the rise of the European civilization.

The birth of the “occidental civilization” may be due to the development of the “artes mechanicae”, the geographic discoveries and the expansion of international commerce, but is mainly due to the diffusion of the “machine”.

“The machine”, the new technical processes, and the organization of labour are the fundamental elements, among others, that contributed to the creation of the new European identity.

The sudden rise of “machinism” at the end of the 14<sup>th</sup> and the 15<sup>th</sup> centuries is responsible for a dramatic mutation of the European culture and laid down the basis for the occidental civilization as we live it today.

This Book offers a new vision of the role of the machine at the end of the Middle-Ages, with the birth of capitalism and the bourgeoisie, the middle-class. More than the market as exchange (Braudel), the ethics (Weber) or the economic structure (Marx-Engels), it is the technique as an integrated system of machines and production time, which is the main element of the European Renaissance.

Augusto Forti, a Fellow of the World Academy of Art & Science, is a geologist and geophysicist by training. He has been director of research laboratories and research centers and Special Adviser to the Director General of UNESCO. He is presently writing books and articles on science and its relations with society.



Available on the website of the  
EUROPEAN PAPERS ON THE NEWWELFARE  
THE COUNTER-AGEING SOCIETY

**[www.newwelfare.org](http://www.newwelfare.org)**

*all issues and articles published  
are fully and freely available*

**In addition, you can find the following on the English version of the site:**

**VIDEO**

- *Introduction to “The Limits to Certainty” - a report to the Club of Rome, Kluwer Academic Publishers Dordrecht - International Studies in the Service Economy*

*This report is also available in French, German, Italian, Rumanian, Spanish, Japanese*

**DOCUMENTS**

- *“The Employment Dilemma and the Future of Work”, a report to the Club of Rome (also available in German - 2 editions -, French, Spanish - 2 editions -, Italian, Korean, Bulgarian)*
- *“Notes on the Service Economy: the Context for the New Welfare”, a discussion paper*
- *Abstracts from “THE LIMITS TO CERTAINTY – Facing Risks in the New Service Economy” (2nd edition, Kluwer Academic Publishers, Dordrecht / Boston, 1993)*
- *Abstract from “DIALOGUE ON WEALTH AND WELFARE” (Pergamon Press, Oxford, 1980)*

***For your library, the print version is available from:***

The Risk Institute - Istituto del Rischio

Via della Torretta, 10 - 34121 Trieste - Italy

53 route de Malagnou - 1208 Geneva - Switzerland

# The Employment Dilemma and the Future of Work

## *Report to the Club of Rome*

By Orio Giarini & Patrick M. Liedtke

Second edition • 151 pages • CHF 60

---

Modern societies are trying to develop concepts that allow them to protect their citizens and at the same time stay competitive in the globalised markets. The approach of the new welfare state is no longer to arrange for full coverage of (ideally) all risks but to replace the existing extraordinarily expensive systems with more targeted and efficient approaches. This is achieved through requiring people to assume more risks individually and to organise their adequate protection themselves. This so-called “risk shift from public to private”, unfortunately, has had as a consequence many half-hearted or partial reforms leading to ineffective working structures, inadequate employment arrangements, and ultimately an erosion of the protective systems rather than their real modernization.

In this report, the authors analyse work in all its forms in the modern service economy and propose several innovative solutions. Two of the most ambitious are: (1) Organising a basic layer of remunerated work for those who otherwise cannot find employment, keeping them active and engaged; and (2) the encouragement and empowerment of the elderly to stay in employment for many years beyond age 60 or 65 — not just as a simple prolongation of existing careers but at flexible terms (part-time work is the key component) that are more suitable to them.

### *About the Authors*

**Orio Giarini** is a Member of the Board of Trustees of World Academy of Art & Science; Director of the Risk Institute (Geneva and Trieste), a European Research Institution for the New Welfare Society, and Editor-in-Chief of *The European Papers on the New Welfare*. He was formerly Secretary General of “The Geneva Association”, Member of the Executive Board of the Club of Rome and professor at the University of Geneva, lecturing on the New Service Economy.

**Patrick M. Liedtke** is Secretary General and Managing Director of “The Geneva Association”, leading Risk and Insurance Research Organisation supported by the CEOs of the largest insurance companies in the world. He was Member of the Executive Board of the Club of Rome, Director of ASEC (Applied Services Economic Centre), Board Member of the European Group of Risk and Insurance Economists (EGRIE), and Editor-in-Chief of *The Geneva Papers on Risk and Insurance — Issues and Practice*.

---

*To order copies of the book, please contact:*

**The Geneva Association - General Secretariat**

53, route de Malagnou - CH-1208 Geneva - Tel.: +41-22-7076600 - Fax: +41-22-7367536  
secretariat@genevaassociation.org - www.genevaassociation.org



# PUBLISHER



## THE RISK INSTITUTE

On the basis of a voluntary network, partly supported by The Geneva Association, The Risk Institute was established in order to extend the studies on the issues of risk, vulnerability and uncertainties to the broader cultural, economic, social and political levels of modern society. It is now in the process of becoming established as a Foundation.

The starting point defining the programme of action was an informal meeting held in Paris in 1986. Among the participants were Raymond Barre, Fabio Padoa, Richard Piani, Edward Ploman, Alvin and Heidi Toffler and Orio Giarini.

A first report, by Orio Giarini and Walter Stahel, was published in 1989, reprinted in 1991 and revised in 1993, with the title *The Limits to Certainty — Managing Risks in the Modern Service Economy* (Kluwer Academic Publishers, Dordrecht, The Netherlands), with an introduction by Nobel Laureate Ilya Prigogine. It was also published in French, Italian, Romanian and Japanese. A completely new German version was published in 2000 with the title *Die Performance Gesellschaft* (Metropolis-Verlag, Marburg).

The book stresses the point that uncertainty is not just simply the result of inadequate or insufficient information. Every action extending into the future is by definition uncertain to varying degrees. Every ‘perfect system’ (or ideology) is a utopia, often a dangerous one: the total elimination of uncertainty in human societies implies the elimination of freedom. Learning and life are about the ability and capacity to cope, manage, face, contain and take advantage of risk and uncertainty.

In 2002, The Risk Institute published with Economica (Paris) the book *Itinéraire vers la retraite à 80 ans*. Ever since the The Risk Institute has been mainly concerned with a research programme on social and economic issues deriving from extending human life expectancy (usually and wrongly defined as the ‘ageing’ society), which is considered the most relevant social phenomenon of our times. This is particularly relevant in the context of the new service economy. The Risk Institute has contributed to the organisation of the conference on “Health, Ageing and Work” held in Trieste and Duino on 21-23 October 2004. Followed by a second conference on similar issues, in Turin, October 2007. On this basis, it has taken the initiative to publish from 2005 the EUROPEAN PAPERS ON THE THE NEW WELFARE — The Counter-Ageing Society, in two versions (one in English and one in Italian), both freely available on [www.newwelfare.org](http://www.newwelfare.org).

In 2010 the Institute has published in Italian “*Itinerario senza frontiere: dal Texas alla terza età*”. Furthermore it is now editing the CADMUS Papers.

Director: Orio Giarini

[orio.giarini@alice.it](mailto:orio.giarini@alice.it)  
[giarini.orio@gmail.com](mailto:giarini.orio@gmail.com)  
via della Torretta, 10  
34121 Trieste - Italy  
[www.newwelfare.org](http://www.newwelfare.org)

[risk\\_institute@genevaassociation.org](mailto:risk_institute@genevaassociation.org)  
route de Malagnou, 53  
1208 Geneva - Switzerland  
Tel. +41 (0) 22 7076600  
Fax +41(0) 22 7367536

# Cadmus Editorial Policy

The editors welcome submission of proposals, articles, ideas, abstracts, reviews, letters and comments by Fellows of the World Academy of Art & Science, Members of the Club of Rome and Pugwash as well as invited and unsolicited articles from the public. All proposals are reviewed by the editorial board to determine their suitability for publication in Cadmus.

The clear intention behind the founding of Cadmus is to publish fresh perspectives, original ideas, new approaches that extend beyond contemporary thinking with regard to the relationship between knowledge, public policy and society today and their impact on human wealth, welfare and well-being – human security defined in its broadest terms. It is summed up in the motto “Leadership in Thought that Leads to Action”.

Special issues will also be published from time to time devoted to specific topics.

The primary guidelines for selection of articles are

- The article should address issues of broad social concern to the world today
- The article should not be one that naturally qualifies for publication in a more traditional journal devoted to a specialized discipline, i.e. it should be multi- or trans-disciplinary in scope and implications
- The article should present an original perspective, conception or practical approach
- The article may be in the form of an essay of ideas, an annotated theoretical discussion or fact-based scientific evaluation of evidence. We accept all three.

These guidelines are general and not rigid. Acceptance or rejection of an article does not reflect at all on its academic or intellectual merit, only on the degree of its alignment with the specific objectives of Cadmus.

Submissions may be of any length but preference will be given to articles of 5-10 pages and shorter pieces of 1-3 pages.

Style guidelines and an MS Word style sheet are available for download from the Editorial Policy section of our website.

We are also looking for articles to publish on [www.Seed-Ideas.org](http://www.Seed-Ideas.org) that may not be included in the print edition of Cadmus but can serve as a platform for projecting and discussion of ideas among Fellows. We also plan to publish highlights of those articles and discussion on them in the printed version.

We would encourage you to share any manuscript with us that you think might be what we are looking for.

## *Open Access Policy*

All articles published by Cadmus Journal are made available under an open access license worldwide immediately. Everyone has free and unlimited access to the full-text of all articles published in Cadmus Journal. All articles published by Cadmus Journal, including data, graphics and supplements, can be cited in other publications, linked electronically, crawled by search engines, re-used by text mining applications or websites, blogs, etc. free of charge under the sole condition of proper accreditation of the source and original publisher.

At the root of the current crisis are not subprime mortgages, credit rating agencies, financial institutions or central banks. It is the Great Divorce between finance and economy, which is a subset of the widening precipice between economy and human welfare.

The Great Divorce: Finance and Economy

*The Limits to Growth* proved the inherent limitations of the existing industrial model of economic growth, not any inherent limits to growth itself.

Garry Jacobs & Ivo Šlaus, From Limits to Growth to Limitless Growth

Focusing on growth of the part without reference to its impact on the whole is a formula for social disease.

Economic Crisis and the Science of Economics

The idea of nuclear deterrence is a dangerous fallacy, and that the development of military systems based on nuclear weapons has been a terrible mistake, a false step that needs to be reversed.

John Scales Avery, Flaws in the Concept of Nuclear Deterrence

The first step into the direction of a world parliament would be the establishment of a Parliamentary Assembly at the United Nations.

Andreas Bummel, Social Evolution, Global Governance & a World Parliament

The evolution from physical violence to social power to authorized competence and higher values is an affirmation of the value basis of law.

Winston P. Nagan & Garry Jacobs, New Paradigm for Global Rule of Law

We propose that a new organisation be set up, perhaps called the 'World Community for Food Reserves'.

John McClintock, From European Union to World Union

A proper and well accepted definition of (forms of) misconduct, reliable means of identification, and effective corrective actions deserve a high priority on the agenda of research institutes, universities, academies and funding organs.

Pieter J. D. Drenth, Research Integrity

The clearing house should encourage thinking ahead so that law and governance can attempt to accommodate the numerous challenges of globalization, many new technologies, and the emerging Anthropocene Era.

Michael Marien, Law in Transition Biblioessay

The economics of growth must be replaced by equilibrium economics, where considerations of ecology, carrying capacity, and sustainability are given proper weight, and where the quality of life of future generations has as much importance as present profits.

John Scales Avery, Entropy & Economics

A strong and strategic knowledge system is essential for identifying, formulating, planning and implementing policy-driven actions while maintaining the necessary economic growth rate.

Jyoti Parikh, Dinoj Kumar Upadhyay & Tanu Singh,  
Gender Perspectives on Climate Change & Human Security in India

---

# CADMUS

---

## *Inside This Issue*

---

The very possession of nuclear weapons violates the fundamental human rights of the citizens of the world and must be regarded as illegal.

*Winston P. Nagan, Simulated ICJ Judgment*

The emerging individual is less deferential to the past and more insistent on his or her rights; less willing to conform to regimentation, more insistent on freedom and more tolerant of diversity.

*Evolution from Violence to Law to Social Justice*

It is more rational to argue that developing countries cannot afford unemployment and underemployment, than to suppose that they cannot afford full employment.

*Jesus Felipe, Inclusive Growth*

The tremendously wasteful underutilization of precious human resources and productive capacity is Greece's most serious problem and also its greatest opportunity.

*Immediate Solution for the Greek Financial Crisis*

The Original thinker seeks not just ideas but original ideas which are called in Philosophy Real-Ideas. Cadmus Journal refers to them as Seed-Ideas. Ideas, sooner or later, lead to action. Pregnant ideas have the dynamism to lead to action. Real-Ideas are capable of self-effectuation, as knowledge and will are integrated in them.

*Ashok Natarajan, Original Thinking*

Given the remarkable progress of humanity over the past two centuries, the persistence of poverty might not be so alarming, were it not for the persistent poverty of new ideas and fresh thinking on how to eliminate the recurring crises, rectify the blatant injustices and replace unsustainable patterns with a new paradigm capable of addressing the deep flaws in the current paradigm.

*Great Transformations*

Our global systems can be resilient if they are based not only on efficient markets that can cope with future crises, but on principles that also allow for the projection of civic will and preference onto the global level. Stability and resilience are laudable goals but they need to be achieved in all three dimensions, the financial, the economic and the social, in a participatory fashion.

*Patrick M. Liedtke, Getting Risks Right*

*Continued . . .*

---