

PROMOTING LEADERSHIP IN THOUGHT THAT LEADS TO ACTION THE WEALTH OF NATIONS REVISITED



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

Volume I, Issue 2	April 2011	ISSN 2038-5242
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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.

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Via della Torretta, 10 - 34121 Trieste - Italy / 53 route de Malagnou - 1208 Geneva - Switzerland Editorial Office: 5, Puduvai Sivam St., Venkata Nagar - Pondicherry 605011 - India *Published under Open Access policy guidelines.* See Cadmus Editorial Policy for details.

Websites:

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Biopolicy – Building a Green Society

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President, Biopolitics International Organisation, Athens, Greece; President and Founder, Hellenic Chapter of the Club of Rome.

1. Biopolicy to Meet the Global Economic and Environmental Challenge

It is not only the global economy that is facing a deep recession, but also the global environment. Unavailability of credit and loss of jobs and income, coupled with climate change, energy insecurity, pollution of the air, water and soil, and the decimation of species and habitats, are creating an unprecedented world challenge and responsibility. A coordinated response to this dual challenge could build a vibrant new economy and restore the environment through initiatives for clean energy, the protection of biodiversity and decent jobs for all. The task is both enormous and urgent.¹

As also emphasised by the editorial board of *Cadmus* and analysed in great detail by all contributors in the journal's first issue, the idea of rethinking our economies has been gaining support, and it is high time to begin a fresh examination of current economic theory.² For the economy to regain momentum, it must become an instrument to protect *bios* – life, the most precious gift on our planet. This requires new ethics and new policy – biopolicy – to help implement worldwide action for environmental sustainability and security, and to build a "green society" of hope. For the past 25 years, the Biopolitics International Organisation (B.I.O.) promotes these new development paradigms by infusing environmental thinking in every human endeavour.^{3,4}

Our response to the global financial crisis should be used as an opportunity to make us mobilise our efforts to tackle growing environmental problems as well. The interdependence of interests is obvious. We need to forget the paradigms of the past where the neighbour was considered a dangerous "other" and where differences in culture or religion were a source of alienation and power games. We need to give priority to a new dimension of profit; not only in terms of money, but also in terms of values and ways of rebuilding society.⁵

Small additions to past patterns are no longer sufficient. Economic growth with concern for goods and income alone is not viable. By encouraging over-consumerism, we are running towards a cliff. It is time for health, education, natural capital, water, food, biodiversity, culture, intellectual sharing, productivity, peace and security to be quantified and to assume their rightful place in a *three-dimensional* approach (Fig 1) to economic growth. If we take into account the cost of environmental catastrophes, such as floods and earthquakes, as well as increased migration due to environmental deterioration, the integration of environmental issues into investment decisions is more urgent than ever.⁵

We cannot discard the old system within a day, but we can make big steps by introducing a new scale for evaluating "quality of life" and for encouraging an economy where the harmony and beauty of life are truly respected and appreciated. In this context, safeguarding the environment needs to become a concrete asset of every national economy. Financial success needs to be evaluated on the basis of improving living conditions on the entire planet, and contributing to the most pressing task of reversing destructive trends. Cultural wealth, the preservation of natural resources as a measurable part of a nation's prosperity, better health, and education are a "genuine" profit for society.

Today, we have the wisdom to control economic progress and we should apply it to its full extent. We can use the knowledge gained to successfully exit the current crisis and improve the world for the generations to come. The beauty and wealth of natural, cultural and historical diversity can build a positive framework for the future. Once our economies become based on long-term, life-supporting financial policies, they will be more efficient in sustaining growth in the future.⁶ Once world leaders acknowledge the urgency of protecting the environment, they will be more successful in fulfilling the needs of the community, the country and the world.

Quality of Life	-Environment
Ethical Value	 He alth - Safety- Justice - Happiness - Co-existence with all forms of life. External and Internal Wealth - Micro- Environment - Macro-Environment
Legislation	 Diachronic Values for Society - New Criteria for Business Compatible with Quality of Life
Macro and Micro	 National - Global - Bios Rights - Bio-Diversity- Global Warming - Ozone Depletion - Overpopulation - Poverty - Deprivation
Bio-Diplom	Time and Space Scale - Historical Perspective - Millennium Approach - Clearer Production
atternational	 Interdependence - International Cooperation - Third World Viewed as Partner
	 Durable Development - Internalizing External Costs - Consumer Protection
Education	 New Models of Participatory Democracy - World Referendum - Defense for Bios
Media and Communi	 Biocentric Curriculum in Economics - Satellites in Education
Communications Energy	Internet Communication Feedback - Satellite Diffusion of Information - Marketing
Employment	Protection of Resources - Study of Bios Models
Culture	 New Opportunities for Employment in Bio- Environmental Protection - Green Salary for Unemployed
	Arts, Cultural Values, Traditions

Figure 1. The environment at the core of the global economy

Three-dimensional economics – first proposed by B.I.O. in 1995 – emphasises the relevance of the environment on all economic actions. For the world economy to recover, it must become linked to long-term global environmental policy.

2. Green Salaries

The mitigation of environmental degradation is an overwhelming global mission, but it has also created new opportunities for employment and economic growth by spurring the need for innovation and skills. Environmental improvement jobs have benefitted many economies by providing the work force and their families with money to spend, which is then recycled through the economy. The environmental projects established may require equipment and materials, which must be purchased so that opportunities are created for new markets to develop. The eventual improvement of the environment is itself an economic benefit, allowing for productive use of the restored environment for resource management, wildlife habitat, parkland or tourism.

The problems of environmental degradation and unemployment may appear, at first glance, to be unrelated. However, numerous opportunities exist for linking the two through the concept of "green salaries," a proposal put forward by B.I.O. in order to promote employment that also improves the environment and curtails climate change, pollution, loss of biodiversity and resource depletion.¹ The Green Salary can also help to elicit a positive feeling among the unemployed, in addition to providing new opportunities for work and aiding the attempt to lower unemployment levels. Moreover, businesses could be granted special tax deductions and other financial privileges when providing opportunities for the unemployed to be involved in environmental projects. The creation of green jobs, particularly for youth, is an imperative for regenerating the world's economies. Sustainable employment potential and also creates new jobs and work opportunities, which is an ethical imperative in a responsible economy.⁷

Too often, people view the protection of the environment as someone else's job. They consider that industry or the government should have the responsibility for cleaning up pollution. If we are to succeed in reversing global environmental degradation, people everywhere must be imbued with a love and respect for the environment.

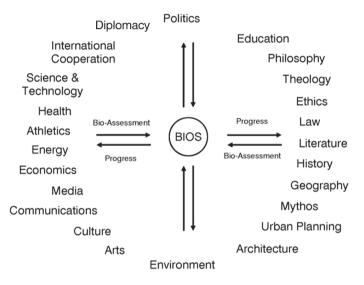
3. Bio-education for a Global Responsibility

The best way to protect bios today and for future generations is to foster an environmentally aware and motivated society that values and nurtures the environment. This is the goal and vision of bio-education, which promotes environmental protection at the core of every academic and professional initiative.⁸

The purpose and responsibility of bio-education is to uplift the spirit of humanity and to reverse the crisis in values. By providing interdisciplinary models with environmental considerations in every speciality, bio-education seeks to apply environmental protection to every human endeavour. (Fig. 2)

To advance this vision, B.I.O. launched the International University for the Bio-Environment (I.U.B.E.) in 1990. This educational initiative urges scholars, decision-makers, diplomats, business leaders, teachers and students to actively contribute to the development of an environmentally conscious society. Bearing in mind that universities should be, by definition, "universal," the I.U.B.E. promotes a model bio-education and acts as a catalyst to accelerate environmental awareness and impart a biocentric message to students and training professionals around the world.⁸ Leading educators and decision-makers infuse existing educational institutions with bios promoting values.

Figure 2. Bio-education promotes environmental values in every academic discipline



BIOS IN THE NEW MILLENNIUM

The essence of bio-education is the incorporation of environmental thinking in all academic disciplines and all educational levels. Environmental issues can be applied to fields as diverse as theology, philosophy, diplomacy, economics, law and architecture, helping to assess future progress.

I.U.B.E.'s e-learning programme, a series of online environmental courses, is an essential vehicle for making bio-education available to as many individuals as possible that has so far elicited the participation of representatives from 119 countries. The goal of these courses is to address the urgent need to improve quality of life and to mobilise each individual to participate in protecting our common environment and its rich biodiversity. By using technological advances in this positive way, a uniquely rich source of information and training material can be placed at the fingertips of teachers, students and professionals around the world.

4. Bio-assessment of Technology - Securing the Continuity of Life

Technology is advancing at a breathtaking pace. What was considered groundbreaking yesterday is commonplace today and will be obsolete tomorrow. Technology expands human potential, but can also have disastrous consequences if it proceeds without concern for its social and environmental impacts. Time and again, we have witnessed the emergence of new technologies which promised positive change, but which ultimately created greater problems

than they solved. An analogy can be drawn between the current economic crisis and the risks posed by new technology that has not been thoroughly evaluated. The cause of the recent global economic meltdown has been attributed by many to the widespread acquisition of new and highly risky financial instruments. These instruments were unregulated, and when they began to collapse, they took some giants of finance and the global economy with them. Similarly, new technologies which have not met rigorous scientific scrutiny may also have severe and unintended consequences. There is an urgent need to provide international oversight of new technologies that will confirm the safety of their use to humans and the environment before they are applied to consumer, commercial or other uses.⁹

A "bio-assessment of technology," ensuring technological and economic progress that support the environment would bridge the gap between technology and societal values.^{3, 4} In a dialectic exchange of views, presenting a thesis and antithesis and then creating a synthesis of new concepts, ways of reducing negative environmental impact could be identified so as to truly benefit from the contributions of technological breakthroughs. Emphasis should be placed on the eradication of factors causing the decline of values in society, to harness environmental deterioration, species extinction, water and atmospheric pollution, climate change, soil erosion, acid rain and nuclear waste. This is a crucial responsibility for humanity if we are to develop technologies that respect and protect bios.

In our global effort to defend life, genetic diversity should not be overlooked. The true wealth of our planet is in the sheer breadth, richness and beauty of plants and animals. However, many of these species are being lost by resource plundering, and careless economic growth. B.I.O. proposes that we safeguard this wealth of life on our planet by creating *genetic banks* which preserve the genetic material of endemic plant and animal species and thereby protect biodiversity. The new technologies available in the field of genetics can be applied to preserving genetic variety in urban green spaces and stimulate wider interest and knowledge of the natural world. The preservation of genetic material can also be used in programmes relevant to human diseases and, therefore, have wide applications in medicine. In rural areas, local genetic banks can preserve genetic material from endemic crop species. This can help to restore genetic variation in agricultural crops and result in pest-resistant, high-yield varieties which do not depend on chemical fertilisers.¹⁰

5. Towards a Renewable Energy Economy

The consumption of energy drives the engine of our urbanised society. However, the impact of energy based on fossil fuels on the global environment and its contribution to climate change make it imperative that we develop more sustainable energy sources.¹¹

Clean energy is free and inexhaustible. More in-depth research will help us to overcome the hurdles that exist in order for renewable energy to be used on a larger scale. The potential of solar energy is enormous and should be deployed as the primary source of energy by most countries, especially those with abundant sunlight. Wind farms are more and more common, and many economies are benefiting from this system of generating electricity that is both very reliable and almost pollution-free. The broad range of current and prototype fuel cell and hydrogen developments taking place in the field of transportation has led to better functioning electric automobiles with no noise pollution and no exhaust gases. Soon, current modes of transportation will be replaced by electric vehicles. These developments will lead to a greater and wider use of hydrogen cells, which is quickly becoming the wave of the future.

In this effort, inspiration can be drawn from biological models. *Algae* are tiny biological factories that use photosynthesis to transform carbon dioxide and sunlight into energy. Algae can grow in salt water, freshwater or even contaminated water, at sea or in ponds, and on land not suitable for food production. Moreover, algae should grow even better when fed extra CO₂, the main greenhouse gas, and organic material like sewage.

A microbial fuel cell (MFC) converts the chemical energy found in a substrate directly into electricity. To achieve this, bacteria are used as a catalyst to convert substrate into electrons. The bacteria are very small (size approximately 1 μ m) organisms which can convert a huge variety of organic compounds into CO₂, water and energy. The micro-organisms use the produced energy to grow and to maintain their metabolism. However, by using an MFC, it is possible to harvest a part of this microbial energy in the form of electricity.

Hydrogen has unique potential for reducing today's dependency on fossil fuels. Hydrogen can be produced from renewable resources, such as water and agricultural products, eliminating the net production of CO_2 and helping to alleviate global warming. The transition to a hydrogen based economy begins with the commercial production of hydrogen-based fuel cells, where it is efficient and intrinsically clean, for all end-use applications. Additional research is needed in this area to reduce the cost of hydrogen production, solve hydrogen storage problems and in the longer term, integrate renewable energy sources into hydrogen fuel production.

A large-scale embrace of alternative energy would also create new jobs in the design, manufacturing, installation, servicing, and marketing of new technologies and products. Jobs also arise indirectly from the supply of raw materials, transportation, equipment, and professional services. In the transportation sector, the use of hydrogen and fuel cells are creating a new concept of car technology and new areas of research and development. Advancements in solar energy and the use of environmentally friendly construction materials have led to the creation of green buildings. Some green buildings are now completely and solely powered by solar, thermal and electric energy that operates all systems, including heating, cooling, lighting, computers, water pumps, and office equipment. As incentives, companies could be granted tax cuts or other financial privileges for engaging the unemployed in jobs that minimize greenhouse gas emissions, promote the use of clean and renewable energy, and contribute to the overall effort to combat climate change.^{1,10}

6. Bio-diplomacy – Defence for Bios

It is evident that the models of the past are not adequate to help us deal with today's environmental challenges. To overcome negative trends, it is time for citizens to set aside their differences and to proclaim their willingness to save the environment and ensure the continuity of life. Economic growth cannot be achieved on a planet ravaged by pollution, hunger and disease. The over-exploitation of environmental resources will not lead to longterm prosperity. What is urgently needed is a common strategy, a global defence protocol against climate change, the loss of biodiversity and natural resources, environmental pollution, and the deterioration of land and water ecosystems. Just as all the parts of the human body need to function together in harmonious coordination to maintain a healthy individual, modern society desperately needs a common vision to secure a harmonious and peaceful future.^{3, 4, 10, 11}

Bio-diplomacy – a concept pioneered by B.I.O. at a time when the world community had not fully realised the urgency of adopting common environmental policy – focuses on the interdependence of all forms of life. It supports efforts to maintain biological and cultural diversity and seeks to improve human relations and to attain world peace by replacing current diplomatic attitudes with a complete international and intercultural perspective. Within this framework, respect for human rights and the existence of multi-ethnic and multi-cultural societies is an undeniable principle. International cooperation in environmental protection enhances quality of life and strengthens efforts for peace and security.

Bio-diplomacy is an opportunity for the aspirations of sovereign states and civil society to converge in pursuit of long-term policy and action, enhancing a spirit of solidarity among states. It recognises that cultural differentiation constitutes the wealth of the body of humanity. Humanity is part of the overall body of bios, where DNA, the genetic code for every living organism, is the link connecting all forms of life. Environmental threats are international problems. Trees, the source of oxygen on our planet, can be considered the "lungs" of the body of bios. When a person's lungs are damaged, the entire body suffers. Similarly, the widespread destruction of trees and forests that we are seeing today has drastic implications for the health of our entire planet. The required solutions must declare war on environmental destruction and abuse. Foreign policy should shift from a fragmented, competitive framework to a vision of unity and interdependence. Bio-diplomacy seeks to improve human relations and attain the goal of world peace by replacing current diplomatic attitudes with a comprehensive international and intercultural perspective.^{3,4,10,11}

6.1 Re-channelling Defence Infrastructure

B.I.O. believes that the greatest challenge for the 21^{st} century will be the permanent reconfiguration of defence infrastructure into programmes for the defence of the planet. The nations of the world must stop investing in instruments of destruction and begin investing in instruments of peace for the protection of our common environment. Competition to find better methods to destroy life should be replaced with cooperation to find ways to save it. Time is of the essence, and this new vision is urgently needed.^{3,4}

National defence is a major priority among most nations of the world. A substantial portion of national budgets is committed to the maintenance of armed forces and the acquisition of weapons, such as highly sophisticated fighter aircraft, warships, submarines and missiles. Globally, about 10% of central government budgets are devoted to defence.

The environment, as a common point of reference, can bring all peoples of the world together, in a state of harmony and the absence of war. The conversion of war regimes to programmes for the preservation of the environment would guarantee a better future. Such a programme would not have negative economic effects, but rather, it would stimulate the global economy and provide jobs, since existing defence industries would be re-tooled into "defence-for-life" industries. Existing defence manpower and equipment can be adapted for peaceful tasks such as reforestation, water resource clean up, soil erosion recovery, protection of the ozone layer and de-contamination of areas affected by nuclear radiation. These problems represent real threats to the continuation of life on our planet, and no human resource should be spared in the effort to contain them.

The military offers a disciplined and trained source of manpower, readily available equipment such as road vehicles, ships and aircraft, communications and transportation capabilities, trained medical staff and logistics like tents, food and blankets. It has engineering capabilities and can work on civil projects, such as building or repairing roads, hospitals and schools. This resource has been already used to respond to natural disasters and to provide humanitarian assistance in areas ravaged by poverty and disease. In the same way, the military can apply its resources and know-how to work on projects of environmental restoration, including reforestation, erosion control, habitat and species protection, tree-planting, bringing fish back to the oceans, and cleaning up contaminated waters and soils.¹

7. Bank of Ideas – Facilitating our Response to Environmental Challenges

To be effective in our response to environmental challenges it is essential to stop reinventing the wheel. It has been one of the main objectives of B.I.O. for many years to raise awareness of the importance of the development of an internet based "Bank of Ideas", where any interested party may contribute information and expert advice across a broad range of sectors, in order to help coordinate environmental protection efforts and harness valuable resources.^{3, 4, 9} The creation of such an electronic resource would also facilitate an expedient transfer of know-how as to how to face environmental emergencies when immediate action is of the essence before it is too late.

The Bank of Ideas can also facilitate the jobs-environment link by providing widespread access to information on training, jobs, products, industry regulations and R&D related to the environment. It can identify job-training programs which teach job skills complementary to the environmental industry across a broad range of sectors, and include a training component which would give people the skills needed to find permanent employment in the environmental industry. It could also provide a list of relevant and available positions that job seekers can access in their job search.¹

Another component of the Bank of Ideas initiative could be the training of individuals to respond to environmental emergencies, such as oil spills, release of toxics into the environment, or natural disasters such as floods, earthquakes and wildfires. Emergency response teams could be trained and formed which would be available to respond at the time of an accident or natural disaster, complementing the efforts of the defence infrastructure as mentioned previously. Moreover, as the Bank of Ideas would welcome the contribution of every citizen, it would offer a global platform in guiding world leaders and policy framers toward more enlightened decision-making and environmental leadership.^{3,4,9}

8. World Referendum

In the effort to create a more just and sustainable global economy, we need to forge

a partnership of purpose that involves the whole world. With the tools made available by modern technologies, governments everywhere can better focus on the true needs of their citizens. Breakthroughs in the field of telecommunications provide the opportunity for the public to be actively involved in issues concerning our daily lives and to be able to cast a vote through the internet and other communication link-ups, which can make immediate feedback possible from any corner of the globe.

It is the purpose of the B.I.O. World Referendum, first proposed in 1991, to transcend national boundaries and bring the world together in a common cause.¹² In today's complex society, nations seldom share priorities. Climate change and other environmental concerns are possibly the only issues that are relevant to all the nations of the world. Furthermore, environmental degradation and resource depletion are often the impact of extreme poverty on the planet. A simultaneous electronic ballot on saving bios is a brilliant opportunity to demonstrate that, as citizens of the world, we can all agree on safeguarding the Earth for the generations to come.

Decisions on our common future should no longer rest solely on world leaders, who can evade or even obstruct meaningful change. Every individual, whether poor, underprivileged or not, can and should be involved. By giving priority to individual voices to be heard, the World Referendum can elicit the personal involvement of every citizen in the race to save the environment and help to bridge the gap between the rich and poor.

With the first decade of the new millennium already behind us, we need to act quickly to replace the mistakes of the past with positive action for a future where world peace, health, education, and respect for bios will be a reality for every citizen. The timely support of dedicated thinkers and doers will help to implement the World Referendum and to arrest the escalating environmental and economic crises which are occurring at such a rapid pace. Both institutions and individuals are requested to participate in this global campaign. The flexible nature of the World Referendum allows for immediate changes in the attitude of people throughout the world by creating an awareness of existing threats and raising the respect and understanding of bios.

9. Building a "Green" Society

Escalating economic and environmental instability worldwide is making it clear that we need governance with a vision. Ensuring our planet's health and security is our fundamental responsibility to future generations. To rise to this global challenge, decision-makers need to avoid the mistakes of the past and find inspiration in life-supporting development models. The time to change is now. Politicians must place the environment as a priority, not because of public pressure, but because of personal commitment.

A new structure of society and governance is needed to enable us to overcome the current crises. A "green society" of security and transparency, where bios is valued over greed and where peace and harmony replace discord and destruction, can help us understand and value the multiple links between the environment, the economy and the future development of society. *Techne* and technology must join forces to help achieve a better quality of life and to provide a vision of hope and joy for present and for future generations. By giving priority to individual voices to be heard through a World Referendum and by encouraging

the participation of every individual and every profession in Environmental Olympics we can elicit the personal involvement of every citizen in the race to save the environment.

The clock is ticking. Can we hear it and act now, or will we face the continued decline in our environment and quality of life? The pursuit of narrow self-interest at both the individual and national levels has resulted in a global crisis which threatens world peace, as well as the natural environment and human prosperity. We urgently need to change these trends by building a responsible and sound economy that can lead humanity to a brighter future. A biospromoting vision that places the ethics of bios at the heart of societal structure can provide the necessary framework to achieve a world in which the gift of bios is truly appreciated.

The need for action is now. Climate change is accelerating desertification, plant and animal species are disappearing from the earth at unprecedented rates. Human populations are being displaced and driven to poverty and disease, the credit crunch is affecting consumers' environmental efforts across the globe. Humanity can no longer afford to disregard the close relationship between its actions and the environment. Meeting today's challenges requires new ways of stimulating creativity in politics and policy-making, technology, industry and commerce, in education and the arts and social and community development. The widespread adoption of environmental thinking is the only way to alleviate economic instability and create a new green society of hope.

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Notes

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Those who are engaged in building democracy in their countries and who are animated with a fresh spirit like in Egypt will have to ask themselves: What purpose does building a democratic nation have if it is embedded into an undemocratic and non-transparent international system? In a globalized world the confinement of democratic participation of citizens to the institutions of the nation-state is almost equivalent to disenfranchisement. True democratic emancipation cannot stop at national borders.

Andreas Bummel, Chair, Committee for a Democratic UN

Politics is the whole of which economics is a part and employment is a small part of the wider domain of economic life. Ushering in a global government generates the power of solving these minor problems. Government is the context that activates the politician. Politicians can cure the ills created by economists. A wider vision of economics solves the problems created by narrow inspiration.

T. Natarajan, President, The Mother's Service Society

The role of labour is crucial for the social cohesion and stability it provides. Threats to financial stability do not exclusively emanate out of capital markets. As the unrest in several Arab countries demonstrate yet again, without social stability there can be no financial stability. *Patrick Leidtke*, Director, Geneva Association

Economic thinking is still very largely related to traditional Cartesian (and Newtonian) concepts of science. The notion of equilibrium is not really a concept or an explanation, but rather a tautology, which has been given the value or status of an axiom. Understanding this notion of equilibrium, where supply is equal to demand, is essential because it explains why economic theory has from the beginning always tended to be one-sided...Once we enter real time, uncertainty and disequilibrium become the reference criteria of reality. Introducing the notion of real time into the economics of supply and demand (in modern terms, service based production and consumption) is a radical alternative to the view of the economic process as being based on timeless (instant) equilibrium.

Orio Giarini, Director, The Risk Institute

According to Roosevelt, "necessitous men are not free." The narrow conception of individual freedom founded on prisvate property rights advocated by neoliberalism neglects a much wider, more humane conception of social democracy, freedom from want and human security affirmed by the New Deal, the Atlantic Charter and the UN Charter.

Winston Nagan, Director, Inst. for Human Rights, Peace & Development

A human-centered theory of economy and employment needs to be founded on the realization that human beings – not impersonal principles, market mechanisms, money or technology – are the driving force and central determinants of economic development.

Garry Jacobs & Ivo Šlaus, World Academy of Art & Science Global Employment Project

CADMUS

Inside This Issue

Our world is headed into a Perfect Storm of an interconnected financial, ecological and social crisis. Almost all forward-looking assessments demonstrate that business as usual and incremental improvements will not be sufficient to take us to a future world blessed by equitable prosperity, safety, security and contentment.

> *lan Johnson,* Secretary General of the Club of Rome

The three organizations – WAAS, Club of Rome and the Pugwash Movement – should sincerely join forces and act together, so that we can fully utilize use our collective experience, intellectual capacity and foresight. Together, we will have a much stronger voice to get our good messages out to the world and be listened to by policy makers, parliaments, governments, academics and all societies in general, in both the industrialized and developing economies.

Heitor Gurgulino de Souza, Former Rector of United Nations University

Decisions on our common future should no longer rest solely on world leaders, who can evade or even obstruct meaningful change. A simultaneous electronic ballot on saving bios is a brilliant opportunity to demonstrate that, as citizens of the world, we can all agree on safeguarding the Earth for the generations to come. By giving priority to individual voices to be heard, the World Referendum can elicit the personal involvement of every citizen in the race to save the environment and help to bridge the gap between the rich and poor.

> Agni Vlavianos Arvanitis, President, Biopolitics International

The greatest global challenge that faces the international community today is that of the current trans-national revolution in human affairs, which in turn is triggered by the combination of three revolutions: a revolution of rising expectations, the information and communications revolution, and a broader industrial-technological revolution.

> Jasjit Singh, Director, Centre for Air Power Strategy

> > Continued . . .