



**Bio-Education for Global Environmental Leadership**  
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**Roundtable D: Education-I: Preparing Civil Society**

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**Bio-education – assessing the past and the present to inspire the future**

Technology expands our vision and leads to a revelation of the truth. The “macrocosmos” and “microcosmos” are opened before us, and it has become possible to witness the greatness of our world in every dimension imaginable, from the vastness of the universe to the subatomic level.

Galaxy or galaxies

*are small dimensions  
not infinity*

*Neutrons are small  
very small  
not infinity*

*And what am I  
a neutron to the galaxy  
or a galaxy to the neutron?*

A. Vlavianos-Arvanitis  
Oscillations, A Collection of Poems, 1983

Despite years of research, bios – life – has only been found on our planet. Yet this most valuable possession is threatened by arrogance and oversight. We cannot stop technological progress but we have the possibility to guide it in the right direction. We have opened Pandora’s box, but unlike the ancient myth, we have the option of controlling its unintended consequences if we place respect for and appreciation of bios at the core of society.

Science and technology alone cannot cope with growing environmental challenges. To be effective in reversing destructive trends and inspiring social innovation, we need to seek wisdom in the time-spanning ideals that have defined human culture and have shaped our civilisation. Humanity can draw strength from the deeply rooted past in order to enrich the present and inspire the future with new “bios promoting” values and guidelines for the protection of all forms of life.

The evolution of life on our planet shows how fragile and precious the gift of bios is. Mass extinctions destroyed species that had existed for hundreds of millions of years, such as the dinosaurs, which disappeared because environmental pressures became too severe. Do we wish to have the same fate? Do we wish our arrogance and short-term planning to lead us to destruction? By combining the wisdom of the past with the technology of the present, society can seek to overcome patterns of over-consumerism and environmental destruction. The technology to protect the environment exists and offers countless opportunities for progress in the environmental field. Science and technology, coupled with culture and the arts, can

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encourage every individual to contribute to the harnessing of pollution and to a concerted effort to safeguard the continuity of bios.

Education is the key to a brighter future. In the digital age, the new options offered by technology are making possible what once seemed like science fiction. e-Learning is placing a wealth of educational material and resources online, making knowledge accessible to virtually every citizen on the planet. This valuable educational tool is being put to use by B.I.O. with a plethora of e-learning courses addressing environmental concerns soon to be launched.

The wisdom of every individual is a treasure we need to appreciate. An electronic “Bank of Ideas,” where any interested party may contribute information or thoughts concerning the environment, can promote an expedient transfer of know-how that will help to harness pollution and environmental deterioration and put an end to wasteful and damaging practices. Moreover, a “World Referendum” where every citizen can cast a vote electronically to affirm their willingness to save the environment, can contribute to the building of an e-democracy, for people everywhere to actively raise their voices against any form of environmental or societal harm.

The study of life can be a continuous source of joy for humanity. It is our duty to appreciate the environment and to rejoice in its beauty and in all its varied manifestations. Every living organism, from the smallest butterfly to the tallest tree, reflects perfection in its splendour. Life at the cell level is the most vivid expression of this perfection and a constant reminder that bios is an ongoing process revealed by the miracle of life. The rapid rate of scientific progress unravels an ascending ladder of knowledge and a bridge which links the present to the future. Our frontiers are expanded and we are becoming increasingly aware not only of the enormous beauty and diversity of life, but also of the fragile interdependence that governs it. Awareness of our responsibility to defend this interdependence is the essence of bio-education.

### **The International University for the Bio-Environment (I.U.B.E.)**

A major change in economic, social and educational priorities is shaping world views and ways of life and is creating new challenges for humanity. To meet these challenges, education for the new millennium requires a radical shift away from intra-disciplinary entrenchment and into creative and thoughtful action for the development of the highest potential of each individual for the benefit of the world and future generations. The purpose and responsibility of bio-education is to uplift the spirit of humanity and to reverse the crisis in values that has resulted in serious environmental deterioration. By providing interdisciplinary models with environmental considerations in every speciality, bio-education seeks to apply environmental protection to every human endeavour.

To further this vision, B.I.O. launched the International University for the Bio-Environment (I.U.B.E.) in 1990. The I.U.B.E. urges scholars, decision-makers, diplomats, business leaders, teachers and students to actively contribute to the development of a biocentric society. Bearing in mind that universities should be, by definition, “universal,” the International University for the Bio-Environment (I.U.B.E.), launched by B.I.O. in 1990, promotes a model bio-education by introducing interdisciplinary educational reforms on a world-wide basis. Rather than focusing on the award of degrees, the I.U.B.E. acts as a catalyst to accelerate environmental awareness and impart a biocentric message to students and training professionals around the world. Leading educators and decision-makers infuse existing educational institutions with bios promoting values. The aim is for the I.U.B.E. to become a world-calibre initiative for the development of multidisciplinary environmental concepts, beyond the confines of conventional environmental science, leading to a revised educational system for the entire planet. Major goals of the I.U.B.E. include:

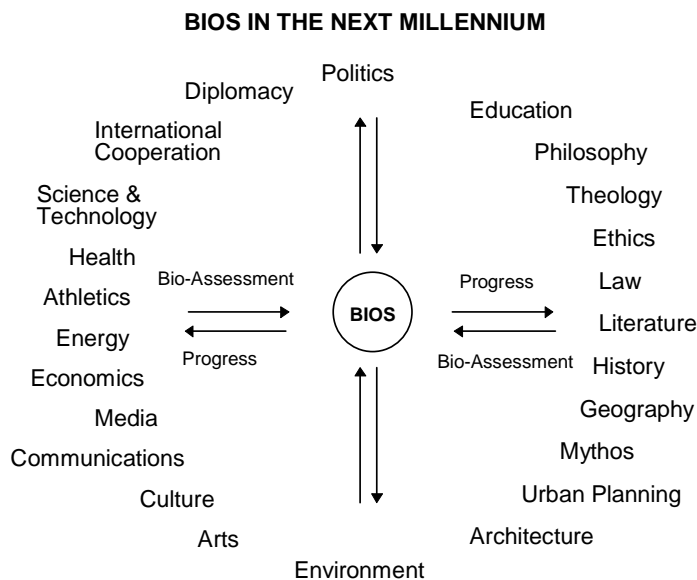
- international educational reforms and the promotion of an efficient global bio-education through the internet and the use of satellites and other media channels

- the development of a comprehensive *Bio-Syllabus* for every educational level demonstrating how environmental concepts apply to all academic areas
- international cooperation in environmental protection leading to a new era of bio-diplomacy
- international legislation on bios rights and human obligations towards the environment
- the re-evaluation of business and management concepts and the development of new economic strategies compatible with environmental preservation
- raising public awareness of the ramification of the biological sciences
- an international campaign for *Environmental Olympics* and the award of *Bios Prizes* to individuals or institutions that have contributed to the preservation and appreciation of the environment
- a global *bio-assessment of technology*, to ensure technological and economic progress that support the bio-environment, and to help bridge the gap between technological progress and societal values.

### e-Learning – placing bio-education at the fingertips of every concerned citizen

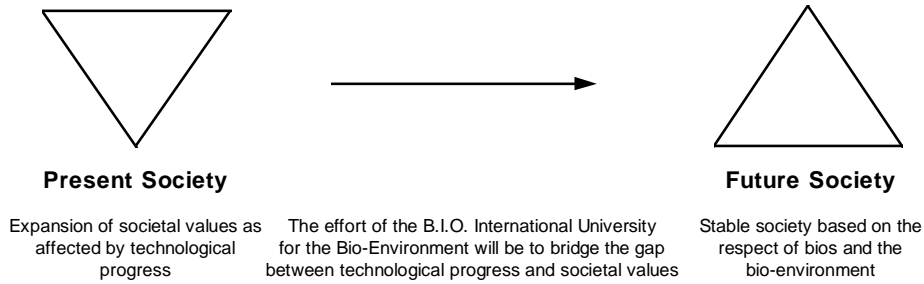
Education is evolving. More than ever, educators and trainers are seeking innovative ways to achieve quality teaching and motivate students. In the digital age, the tools provided by technology can promote higher order thinking and make knowledge accessible to virtually every citizen on the planet. B.I.O. is working harder than ever to place a wealth of educational material and resources online and to prepare a broad range of e-learning courses promoting pioneering dimensions in bio-education.

The recently released “Bio-Syllabus for European Environmental Education,” a textbook reflecting 18 years of B.I.O. achievement in the environmental field, comprises 11 different volumes on environmental subjects and raises awareness of past, present and future directions in research and education. The “Bio-Syllabus” is currently available as a set of e-learning courses, placing a uniquely rich source of information and training material at the fingertips of teachers, students and professionals around the world.



### The bio-assessment of technology

Present society resembles an inverted pyramid, with human rights representing the tip and technology expanding the unstable base. This imbalance could be changed if we “re-invert” the pyramid and place bios rights as the wide base of our society. Human rights will then occupy the stable tip of the structure.



A global “bio-assessment of technology,” ensuring technological and economic progress that support the environment, can help to bridge the gap between technology and societal values. 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, so as to harness environmental deterioration, species extinction, water and atmospheric pollution, ozone layer destruction, the greenhouse effect, soil erosion, acid rain and nuclear waste. This is a crucial responsibility for humanity if we are to develop technology that respects and protects bios.

Working to sustain what already exists is not enough. With new challenges constantly arising and with an increased awareness of the urgent need to take action against destructive trends, the time is ripe to find more comprehensive, long-term solutions to protect our planet and guarantee a balanced society for the future. A new vision, beyond sustainable development, can help place the situation in perspective, and provide the necessary incentives to move ahead and explore possibilities leading to more just and safe global management.

**Bio-economics – redefining the concept of profit**

Environmental preservation is inextricably linked to economic progress. Preserving the wealth and beauty of the bio-environment, securing the health of the Earth's population, providing fair rules of trade, and guaranteeing equal educational opportunities for every country in the world can be a source of genuine profit, both monetary and social.

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

Threats to the environment can only be relieved through a fundamental change in the economy. Economic science must seriously contemplate the inclusion of concepts that are presently considered abstract and qualitative. The issue of “quality of life” needs to assume top priority, along with culture and education. These elements, which are often excluded from

conventional theory of finance, need to become the framework for the new economics of the 21st century. Moreover, the concept of profit has to be redefined, in order to include dimensions of internal wealth, preservation of natural resources as a measurable part of a nation's prosperity, better health and the protection of biodiversity, which constitute a "genuine" profit for society.

***Conventional business and national accounting are inadequate for the implementation of long-term economic policies. Economic growth is largely being measured in terms of goods and income categories only, while the effects of this on the stock and quality of resources – natural capital – are not adequately considered. The current fragmented and limited picture of economic theory needs to be replaced by a three-dimensional approach, where the value of culture, human capital, education, natural resources, and biodiversity will factor in every equation and diagram.***

Financially poorer nations may be richer in cultural values, art, tradition or biodiversity. These elements represent an enrichment for the entire planet and cannot keep being ignored by economists. Evaluations of GNP and trade potential should evolve to include all the above mentioned parameters and place special emphasis on the urgent task of safeguarding bios and the bio-environment. Policies for economic growth and employment opportunities, on a global level, have to be structured according to these new principles in order to be more effective in countering poverty, national debts, environmental deterioration and unfair trade developments.

### **Green Salary**

It is in everyone's long-term interest to build a society that enhances the potential of every citizen, based on initiatives for environmental appreciation and protection. Industrialisation and growth without concern for the environment will further marginalise disadvantaged groups in society and also seriously limit regional aspirations to prosperity, thus hindering efforts to fight poverty. Moreover, many young people are entering the labour market with few skills and even fewer opportunities for productive work. This points to the urgency of developing a knowledge base to create opportunities for sustainable livelihoods. Sustainable employment in the environmental field opens the possibilities for disadvantaged groups and youth to develop their employment potential and also creates new jobs and work opportunities. Moreover, the magnitude and urgency of addressing the global problems of unemployment and environmental degradation suggest that a mutual solution may be available.

The creation of new jobs, particularly for youth, is an imperative for relieving hunger and poverty and regenerating the world's economies. Rather than providing conventional benefit payments to the unemployed, they could be offered the opportunity to work in some area related to the protection or restoration of the environment and earn a "green salary" for their contribution. The opportunities abound, as many environmental problems exist today that can be ameliorated by human intervention. If we are to succeed in reversing global environmental degradation and limit poverty, people everywhere must be imbued with a love and respect for the environment.

In the new millennium, corporate environments are changing. Businesses are realising that it is essential to achieve a developmental framework that places people and the planet before profits. Managing the environmental programme in an industrial or commercial facility has become an increasingly complex and challenging assignment owing to the expanding maze of environmental laws and regulations and the growing public expectations regarding environmental protection. To be effective, programmes and policies promoting greener products, the use of fewer natural resources, and lower impacts and risks to the environment, must be based on an overall framework of bio-policy, which will help to focus every activity on the consequential task of saving the environment and life on our planet. Businesses recognise that a good profile within the community can be strengthened by displaying a strong environmental ethic, with responsible policies playing a major part in this.

### **Bio-diplomacy – investing in “defence for bios”**

As environmental deterioration is becoming a compelling issue of unprecedented importance, international cooperation in the preservation of the environment can provide the necessary unifying dimensions to face the challenges ahead. Bio-diplomacy – international co-operation in environmental protection – is a concept pioneered by B.I.O. at a time when civic leaders, international organisations and the world community as whole had not fully realised the urgency of adopting common environmental policy as a priority. It focuses on the interdependence of all forms of life and calls upon diplomats and people of influence to engage in a collective endeavour in defence of the environment. Joint efforts to protect the environment can boost international relations and act as a bridge between global impetus and decision-making at the national and local levels. At the same time, bio-diplomacy actively supports efforts to maintain biological and cultural diversity and seeks to improve human relations and to attain the goal of 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 co-operation in environmental protection enhances quality of life and strengthens efforts for freedom and peace.

Bio-diplomacy is also 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. Bio-diplomacy 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. Trees, the source of oxygen on our planet, can be considered the “lungs” of the body of bios. Damage to the lungs is not an isolated event but results in the whole body suffering. These unifying concepts are promoted as the primary consideration of bio-diplomacy which is involved in enhancing international co-operation in environmental issues and actively supports efforts to maintain biological and cultural diversity. At the same time, bio-diplomacy seeks to improve human relations and attain the goal of world peace by replacing current diplomatic attitudes with a complete international and intercultural perspective.

To encourage international co-operation the world needs to stop investing in war and start investing in the preservation of the bio-environment. Competition for ways to destroy, should become co-operation for ways to save. Without interfering with vested interests, the greatest challenge for the 21st century should become the development of new ways of channelling current defence protocols so as to adopt the principle of “defence for bios” as the primary national and international priority. Existing defence equipment can be amended and used for reforestation, water resource clean-up, soil erosion recovery, protection of the ozone layer and the de-contamination of areas affected by nuclear radiation.

### **Bio-legislation – defining “human obligations”**

Public health issues, scientific research appropriateness and human rights are becoming the pivot points of debates and legislative frameworks. In this effort, consideration should be given to the role the environment can play in determining the future of humanity, and decisions should be based on the interdependence among all forms of life. Human rights, the biomedical implications arising from the advancement of science, and concerns over pollution and dwindling natural resources cannot be treated in isolation. The environment as a common point of reference can provide a powerful link and lead to the comprehensive treatment of the challenges we face.

Bio-legislation acknowledges that in addition to “human rights” there exists a series of “human obligations” geared toward our common responsibility to preserve the environment and improve quality of life on a global level. It is therefore essential for international legislation to make explicit reference to the protection of bios on our planet and for current environmental acts to be expanded upon and re-evaluated. The interdependence between human rights and human obligations is vital in this context. Rights correspond to obligations and to secure the harmonious development of society we need to acknowledge certain important

responsibilities. The defence of human rights should not be regarded as an issue unrelated to the protection of other forms of life on our planet. Health hazards arising from environmental degradation and pollution, desertification, depletion of natural resources, water scarcity and famine are a threat to the human species. To secure our rights and to prevent disaster we need to urgently take on the responsibility of reversing negative trends and protecting our natural heritage.

Normative regulations must take full account of these issues, both locally and globally. Bio-environmental considerations should become one of the determining – if not decisive – factors of decision-making at every possible level. It must also be realised that environmental protection is the only option for securing development in the future. International environmental legislation must include relevant provisions for public education, training and information regarding the interdependence between humanity and the environment.

### **Accessibility and social justice**

Environmental values and bio-education must be directed towards the enhancement of quality of life as defined by all the stakeholders in society. A society that is open and accessible to all should be our goal for the millennium. Barriers to the disabled need to be identified and removed. Poverty and social exclusion cannot be tolerated. Changing attitudes towards people with disabilities in the area of employment is a key issue, along with accessibility and social justice.

The environment belongs to all. It is a precious gift, a fundamental human right. Accessibility to all elements of society and the environment is a critical responsibility we have towards the present and the future. Barriers to access are not only related to physical obstacles. The concept of access is much more pervasive, encompassing information services, economic activity, job availability, education, culture, religion, and language, as well as the physical environment. In addressing the need for universal access, we must take into account conceptual, political and practical perspectives, and encourage the involvement of every citizen in the development of a truly civil society.

### **Bio-culture and mythos**

The relationship between human culture and the environment is becoming increasingly important in our times. The environment is affected by our culture, which is, in turn, shaped by the bio-environment. Bio-culture represents the conscious effort of humanity to reach this interdependence. Aesthetic values, music, science, the arts, diplomacy, politics, business and trade can all come together in the struggle for a better quality of life. In all its facets, bio-culture reflects the spirit of bios as a powerful unifying factor for the future co-evolution of humanity with the bio-environment and the harmonious co-existence of all forms of life. Furthermore, bio-culture can provide the necessary incentives for every endeavour to be governed by biocentric principles and orient toward the better understanding and preservation of bios on our planet.

But more than just a simple orientation toward biocentric principles, bio-culture is a manifestation of life. Bios, with all its intricacies and wonders – be they aesthetic, functional or spiritual – can be a source of joy and inspiration. New cultural values, for a global appreciation of bios can help the world acknowledge the importance of environmental preservation and the urgency of taking action against negative trends. Bio-culture can also provide the necessary guidelines for a reassessment of current assumptions and a critical evaluation of the future. Once the world acknowledges the importance of safeguarding bios, the most precious possession on our planet, embracing bio-cultural values will become the only viable alternative.

In all human cultures, the origins of myth pre-date written records. They relate to all aspects of human life and experience, blending the divine with the mortal, man with nature, heaven with earth. Myths convey beliefs, superstition, ritual, social ideas, philosophy and ethical values. They speak of the origin of the universe and of man, of the deluge, of epic battles among the gods, and of men who knowingly and unknowingly interact with the gods. The

wonders of nature come alive, and our interdependence with all living beings acquires more tangible dimensions. We cannot envisage a future of hope without access to culture, active and full participation, meaningful citizenship. Meeting these challenges requires new ways of stimulating creativity in politics and policy-making, in technology, industry and commerce, in education and the arts, and in social and community development. Culture, tradition and mythos can inspire this creativity and help us to optimise the cultural wealth of humanity.

### **Bio-education in agriculture, architecture and tourism**

Bio-education promotes decision making concerning a wide range of impacts on agriculture and food production. Industries, citizens, and the ecosystem are key areas of agriculture which would benefit from a “bios centred” approach, including organic farming, sustainable land management, integrated farm management with a view to the future.

Applications of plant biotechnology have been transferred to developing countries in order to address the critical need for a more sustainable agriculture that could provide sufficient food and a safer environment. However, genetically modified organisms (GMOs) are a major source of controversy and debate. The negative aspects seem to override possible options for the development of new drugs to treat disease. In the right bioethical context, defined by a true respect for and appreciation of bios, technology can seek to transcend negative paradigms and help to improve quality of life on a global level.

Bio-architecture seeks to create an environment which satisfies both human needs and environmental criteria with the goal of working towards increased environmental harmony in the built environment. Every living organism on Earth represents a perfectly functioning system, well adapted to the environment as a result of the millions of years of evolution. The structures of biological systems – be they beehives, termite nests, the cell membrane or other organelles – are available to humankind. The unravelling of the “microcosmos” and “macrocosmos” can provide new dimensions in architectural models and city planning. We may avail ourselves of nature as both an inspirational model as well as a view of the progress of bio-materials and a means to break away from stagnant patterns and realise the expanded possibilities afforded by technology and biocentric thinking.

Every sector of society needs to be involved in the race to save the environment. Tourism, an industry which generates over 10% of global gross domestic product and directly employs 200 million people, is no exception. Bio-tourism can lead to environmental sustainability and reduce poverty. It is an approach to travel and recreation in which the tourist comes into intimate contact with the environment and culture of the area being visited in a manner that is not destructive, but constructive. The tourism industry and the products constructed and promoted affect both the natural and cultural environment in irreversible ways. It is therefore crucial to develop effective guidelines in tourism to prevent harmful activities to the environment and to ensure the future viability of the industry.

### **Genetic banks – saving the wealth of biodiversity**

We live in an age where the state of a nation's wealth is evaluated increasingly upon economic factors such as stockmarket performance and shrinking budget deficits. Booming industrialised economies have budget surpluses running into trillions of dollars, while under-developed nations have to fight for basic survival needs. This unprecedented spurt of misguided economic growth is seriously jeopardising the environment and threatening biodiversity on a global level.

The protection of the environment and of the life that prospers within it are low on the list of priorities of near-sighted decision-makers, demonstrating just how crucial it is to adopt a long-term vision in policy. The real wealth of our planet is in the sheer breadth, richness and beauty of the plants and animals whose species are quietly reduced every year by an insatiable hunger to feed material desires that have grown all out of proportion to our needs.

One of the ways to safeguard this wealth of life is Genetic Banks, which preserve the genetic material of endangered plant and animal species and thereby protect the enormous wealth and biodiversity of wildlife. These Genetic Banks should be established locally to preserve

genetic variety in endemic species. If we succeed in introducing a biocentric vision into a world currently subservient to the existing anthropocentric system, the extent of biodiversity will in the future be a real indicator of wealth on our planet.

### **World referendum – participatory democracy and e-governance**

Present breakthroughs in the field of communication technology can provide the opportunity for the public to be actively involved in issues concerning our daily lives and be able to cast a vote, anytime, through computer networks and communication link-ups, which can make immediate feedback possible from any corner of the globe. This can open up new pathways for a *participatory democracy*, where opinions will be actively expressed and politicians will no longer be able to evade their responsibilities. It is the purpose of the B.I.O. World Referendum to transcend national boundaries and bring the world together in a common cause. In today's complex society, nations seldom share priorities. Developing and industrialised nations are faced with entirely different challenges, and even neighbouring countries lock horns over incompatible priorities. Environmental protection is possibly the only issue that is relevant to all the nations of the world. A simultaneous 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.

A strong international environmental governance is important in preventing conflict, restoring peace, and building a society that can resist destructive tendencies. With the tools made available by communication technologies and with the expanded use of the internet and computer resources, governments everywhere can better focus on the true needs of their citizens. In their attempts to deliver better services and information, the emerging e-governments in many countries should use the resources at hand to change the way government works. By providing faster and more flexible services, e-governance can give priority to environmental issues and elicit the cooperation and personal involvement of every individual in the race to save the environment.

### **Global governance and a renaissance of values**

Our planet's health and survival is our fundamental responsibility to future generations. To succeed in this endeavour we need to influence decision-makers to avoid mistakes of the past and to build a new society of hope. The challenge is to use technology to protect and appreciate bios – life –the most precious possession on our planet and the bond that connects all living beings.

In order to exit inflexible thinking processes that have led to disastrous situations immediate action is crucial. Solving environmental problems requires a dynamic approach, combining past experience and present opportunities to establish enriched models for the future. To meet this challenge, we need to eliminate stereotypes of fragmentation and exclusion. The study of the intricate relationships between all the varied manifestations of our natural and cultural heritage can provide the missing elements for an integrated understanding of the future, much like the periodic table of elements in chemistry, which captured the order of the universe by classifying and describing known elements but also accurately predicting the existence and properties of elements discovered many years later. If we view the future as a periodic table, then we can begin to search for ways to enrich it and fill all the empty spaces with new values and a constructive vision. Modelling the periodicity of chemical properties in vertical and horizontal patterns, led to the discovery of the order and clarity of science. A vertical and horizontal classification of priorities in society reveals their interdependence and can lead to a harmonious future.

Humanity will never again be able to disregard the close relationship between its actions and the environment. Technology has induced the expansion of every field of human endeavour. Like a new Prometheus, with sensitivity and prophecy, it has provided light and fire and has made possible the advent of a new era – the era of knowledge. Knowledge may be viewed as the revelation of the truth and a pathway leading to a better future. A future presently at stake due to the absence of universal values in policy and governance.

In Greek mythology, misguided and destructive progress is portrayed in the story of the sun god, Helios, and his son, Phaethon. Phaethon's precarious driving of the sun chariot brought him to his own demise. Today, we have the wisdom to control progress and we should apply it to its full extent. We can use the knowledge gained to improve our quality of life and improve the world for the generations to come. We can fill all the empty spaces of our periodic table with the beauty and wealth of cultural and historical diversity and build a positive framework for the future. Once society acknowledges the urgency of re-evaluating values and priorities, it will be more efficient in answering to the challenges of the millennium.

Global governance with sensitivity and vision toward bios can inspire action-oriented programmes between governments, business and civil society. Existing structures are weak, and there is a pressing need to create stronger links between environment and development policies in view of the new realities of world politics. Bios is a gift shared by all living beings. It is a message of joy and hope, a source of inspiration and encouragement. The joy of possessing bios should infuse every aspect of our lives and lead to creativity and vision.

#### Olympic ideals and cease-fire – bio-education for peace

Greed and short-term planning have resulted in a serious crisis in values. The diachronic ideals of the Olympic spirit and cease-fire during the Olympic Games can help society to exit this crisis and move into a new Renaissance. The meaning of the term "athlos" is achievement. Therefore, guided by the Olympic spirit, athletics should evolve to include every human endeavour. The Olympiads should once again be periods of world peace and occasions for all citizens to celebrate the unifying concepts brought forth by the Olympic spirit. At the same time, the global community can be sensitised to the value of a harmonious co-existence as a vehicle for achieving freedom, opportunity, and a better quality of life.

Peace cannot be achieved in a world ravaged by pollution, starvation and disease. We need to build a sound society which can lead humanity to a brighter future. A bios-promoting vision, one that places the ethics of bios at the heart of societal structure, can provide the necessary framework to end wars and civil strife and to achieve a world in which the gift of bios is truly appreciated. We cannot envisage a future of hope without access to culture, active and full participation, meaningful citizenship. Meeting these challenges requires new ways of stimulating creativity in politics and policy-making, in technology, industry and commerce, in education and the arts, and in social and community development. Culture, tradition and mythos can inspire this creativity and help us to optimise the cultural wealth of humanity.

#### ***Millennium of Peace***

*Can you hear the gong  
resonate the dawning of the new era*

*Can you see the bright stars  
send messages of light and hope*

*Can you feel the breathing  
of every creature on our planet*

*the waves of love  
the whispers of life*

*Can you listen to the beat of your heart  
embrace us all with warmth*

*Share the new vision  
of joy, peace and harmony*

A. Vlavianos-Arvanitis, 1998

Bio-education can help us to understand the essence of the value of bios and the infinite joy and harmony of the gift of life. It can provide the sensitivity we need to be able to “see” the trillions of electrons dancing on the cell membrane, the three-dimensional folding of proteins, and to “hear” the melody of endless reactions in a living system. Can we “feel” this symphony?

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Author's Note: All of the above references are available electronically at [www.biopolitics.gr](http://www.biopolitics.gr)

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