

# Global Issues and Integrative Education

## KEYNOTE LECTURE

by

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### Abstract

Globalization of commerce and industry is a fact. Multinational companies have long recognized that expansion over developed and developing countries is the key to economic power and prosperity. Unfortunately, uncontrolled expansion has brought about numerous problems of global proportions that are still with us despite efforts by organizations such as The Club of Rome who promote understanding of the causes and effects of globalization and suggest possible solutions of global problems. The short-sighted thinking and short-term planning of political leaders all over this Earth pay very little attention to the ever increasing negative effects of such expansive globalization.

On one hand, globalization in science and education is rapidly taking place on account of the World Wide Web and the Internet. On the other hand, such high technology-based education is still in its infancy and mostly concerned with run-of-the-mill subjects that lack focus on urgent global problems.

At GSU we developed a new curriculum in Integrative Studies where our undergraduate students are learning to research world-wide issues that have arisen from globalization. Specifically, most urgent problems such as resource depletion, environmental pollution, over-population, deforestation, the Greenhouse Effect, unchecked militarism, and rampant nuclear proliferation are studied to provide our students with a better understanding of the complexity of these interrelated issues.

This keynote lecture will discuss how integrative learning about global problems can be a key element in creating an environment where our students recognize the urgency of these problems and search for possible solutions.

The following themes as suggested for our curriculum on integrative studies are, on purpose, provocative to entice the students into critical and global thinking. They should learn how to analyze problems of global importance and find creative solutions. After all, they are the generation of the future which they have to shape through knowledge and state-of-the-arts skills.

### Prologue: Global Issues and the Human Dilemma

Humanity is at the crossroad to extinction or to survival. **For good or for bad, we are bound together.** We live in traditional and not so traditional societal structures that show signs of increasing decay. From the day of our birth until the day we die, we are destined (or condemned?) to live together.

Like ant colonies, human societies have evolved into living super-organisms that are defined by ideological diversity. Such diversity expresses itself in different religious and political beliefs and indoctrination. Societies develop their culture-specific conscience and intelligence dictated by their beliefs and are subject to manipulation by those in power.

Within the super-structures of nations there are subsystems of manipulative dynamics. Bureaucracies, legalistic systems, political structures, large religious and other organizations tend to become domineering over our lives for the power and the glory of manipulating individuals.

Through our language we are able to communicate with each other that is the most difficult of our endeavors. Understanding human interactions, the positive and the negative, is the foundation of living in harmony together. This part of the curriculum should develop a critical assessment of humans as social animals who need interaction with each other for survival and enhancement of their quality of life. An analysis of hu-

man organizations should evolve into a positive approach to solving problems of human togetherness.

Themes of human interaction should focus our attention on problematic concepts such as:

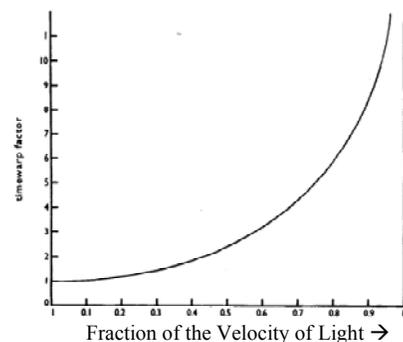
- The rat-pack phenomenon of over-population: Psychology of the masses
- Ethics and diversity of human societies: Moral and ethical codes; common threads among the major religious institutions
- Race, gender, and religion in global perspective
- World languages in global communication: Esperanto versus English as a matter-of-fact world language
- Conflict resolution in a global society: Is there progress without destruction?
- Identification, use and defense of resources such as food, property, group or national boundaries, etc.
- The dynamics of a world economy and Global politics
- Democratization of knowledge: The danger of mind control by fundamentalist and fanatic trends against democracy. Is return to basis democracy if there ever was one, possible?
- Organizations and the bureaucratic cancer: Can we ever recover from it?
- The future legal system: Stagnation, reform or revolution?
- The dynamics of human distrust: Can we ever arrive from a culture of war to a culture of peace?

## The Vector of Time: From the Past through the Present into the Future

**We should learn from the past to shape our future:** This part of the curriculum themes is aimed at understanding world history in relation to present-day politics, economics, and other human enterprises. The present is a point on a vector originating in the past and pointing to the future. However, ignoring the lessons of the past may become a boomerang that returns us into oblivion.

Einstein planted the seeds of doubt in our minds that time is absolute (P. Davies, 1995): “The distinction between past, present, and future is only an Illusion, even if a stubborn one”. And, of course: “Time is relative”. Or to quote St. Augustine: “How can the past and future be when the past no longer exists and the future is not yet? As for the present, if it were always present and never moves on to become the past, it would not be time but eternity.” As we see, the definition of time is elusive. Davies quotes an anonymous source: “Time is just one damn thing after another”.

There is cosmic time as measured in light years, and, how confusing, we are determining distances in terms of such time. A light second spans about 300,000 km or a light year equates to 9.46 trillion km! And then there is the time warp, where time is di-



**Figure 1: The Time Warp**  
(Adapted from P. Davies, 1995)

luted as we are accelerating our rocket ship relative to planet Earth close to the velocity of light (Figure 1). Life is eternal as we approach the velocity of light; or is it?

There is global time that the British have claimed to be universal. They call it Greenwich Mean Time, we refer to it as Universal Time (UTC). Here again we are confused by having time zones with standard and daylight local time. As if in summer only daylight counts! There are a few topics that relate to the complex issue of time and how it may affect our lives and that of future generations:

- Cosmological times which is measured in billions of light years.
- Global times: The confusion of local times; why not UTC all over the globe?
- Time and the essence of life: Life is eternal through our genes? Is life a controlled form of cancer? Cancer is certainly uncontrolled cell division.
- Humankind on Earth: A thousand years of human life is but a microsecond in the existence of the world.
- The ages: The pre-historic; the antique; the middle ages; modern and post-modern times; the time of the industrial revolution; the high-tech time. How are they interconnected?
- What can we learn from the mistakes of the past?
- Human history is a function of time: Have our politicians learned from it?

## **The Problem of Space**

As far as we know, humankind evolved in an environment that is unique in our galaxy. This environment is very sensitive to man-invoked changes as our recent studies of the ozone layer, and more generally, our biosphere has shown. Desertification of our arable lands is progressing at an alarming rate.

This part of the core curriculum is designed to make the students aware of the potential of an avalanche effect that may flip-flop our environment into a global catastrophe if we continue to destroy our biosphere with unchecked growth and exploitation of our resources. Our students should be trained to think globally but act locally to shape the future of our children. Here are again some intriguing themes:

- Humanity's impact on the environment: What have we done to mother Earth!
- Are we polluting our lives away: Poisons in the atmosphere, in our waters and our grounds.
- Overpopulation, expansion of arid lands through unplanned deforestation. Is world starvation at hand?
- Our resources are finite: Recycling as one solution against waste and the squandering of our resources.
- The Club of Rome and world models of the future (Meadows, D. H. et al., 1972; Mesarovich, M. & Pestel, E., 1974; Tietenberg, T., 1992)
- The chance effect of galactic destruction: Can life on Earth again be destroyed by a collision with a heavenly body? What can we learn from the recent asteroid collision with planet Jupiter?
- The ecological balance (or imbalance). Let's keep it intact.
- Resources from the seas: Mining the bottom of the oceans; aquatic biology & chemistry.

## **Minds and Memories of Men and Machines: How will high-tech influence our lives?**

The world is understood through the human mind. **The brain is the seat of our intelligence and the senses are the interfaces to our environment** through which we communicate with each other and the cosmos. Is artificial intelligence possible or is it just wishful thinking? During this portion of the curriculum we will explore the last human frontiers; the frontiers of our human existence as it is reflected in our memories, our thoughts, our behavior, and our neural systems. Emulating the brain with "smart" machines may, perhaps, help us to understand better the evolution of our intelligence and our behavior (Rudloff, W. K., 1996):

- The brain and the human mind. Is there intelligence without matter?
- The learning process as exhibited by natural and artificial neural networks.
- Language and intelligence: The chicken and egg question.
- Artificial Intelligence: The computer as an extension of our brains or can computers become smarter than we are?
- Multimedia and the educational process.
- Telecommunication as a vehicle for global understanding or an outlet for demented minds?
- The information inflation: Garbage in, garbage out; what can we do about it?
- Are we becoming robots and can robots develop humanity?
- The danger of mind control: Education as behavior modification for good or for bad?
- Can natural and/or artificial super-intelligence save the world?

## **Human Creativity: The Arts and Sciences in an Era of High Technology**

Our technological age has, on one hand, enriched our lives with instant gratification through the electronic media, yet, on the other, has impoverished us and estranged us from active creativity in the performing and visual arts. This part of our learning process will critically investigate creativity and human intuition and how they can enrich our lives through active participation in music and the visual arts. This section is designed to stimulate the students in developing concepts which go beyond our ordinary way of thinking that is often stifled by our emotions.

- Music and visual arts: Striving for a healthy balance between the left and right brain hemisphere.
- The healing of the limbic system: Is it still possible?
- The Arts in a technological environment.
- Human emotions and the intellect in a technological age.
- Is technology a curse or a blessing to our quality of life?
- *Mens sana in corpore sano*: A healthy mind in a healthy body. Religiosity and belief in our humanity will lead us to a healthy appreciation of life.
- The essence of spirituality as reflected in the visual and performing arts.

## **Beyond Technology: High Technologies and Their Social Impact.**

Scientists all over the globe are trying to find appropriate solutions to current economic, resource-related, political, social, biological, and other problems. As cases in point, **here are some themes of current urgency:**

1. Identification and promotion of economic alternatives to deforestation of the rain forest
2. Rewarding families for having fewer children or heavy fines/taxes for more than one child (China)
3. What are the issues and problems of genetic engineering?
4. Searching for alternatives to resource distribution

are a few of those problems that have to be solved on a global scale. The following topics reflect some of the concepts of future-oriented significance that can be researched by our students as part of the integrative studies curriculum:

- The study of current research in science, technology, and medicine: Beyond the Club of Rome: The Gaia Hypothesis (Lovelock, T. & Margulis, L, 1996).
- The emerging science of self-organizing, evolving, complex, adaptive systems: a brewing intellectual revolution; from chaos to order or from order to chaos?
- The Mind-Body Problem from the viewpoints of computer science, cognitive science, philosophy, and modern physics.
- Science and mysticism.
- Science and art.
- Mathematical and computer modeling in the humanities and social science
- The past, present, and projected future of science and society: Technology assessment, technological forecasting, and futurology.
- Social implications of information technology.

## **Humanity at the Edge: The Rise and Fall of Humankind?**

**We are at a decisive crossroad.** Human knowledge has reached heights never thought possible before. One should recognize that knowledge in itself is neutral. However, it is the dualism in humanity that forces us to apply our knowledge for good or for evil. In this part of the core curriculum the student will be exposed to the dualism in nature and in human behavior that are important in the assessment of humanity's future survival.

- The two faces of Janus: Atomic energy or atomic destruction.
- Programming the mind for good or evil?
- Genetic Engineering: Homunculus or a way to improve our quality of life?
- The science of destruction: Chemical warfare and high-tech terrorism or benevolent knowledge leading to a better future?
- The world: Clashing of the cultures or a melting pot of humanity's ideas?
- Is there a future for the human dinosaur?

## **Epilogue: Where do we go from here?**

A new and unconventional approach to a degree in Integrative Studies is evolving at GSU that deviates from the run-of-the-mill curricula offered in most institutions of higher learning. Specifically, the curriculum is structured such that **it stimulates the learning potential and thinking modes of our students** whereby they will have a critical look at problems of our societies and modern living, and are encouraged to search for pragmatic solutions. We are convinced that our students will graduate from GSU not necessarily as skilled specialists, but with a universal educational background that allows them to assess global problems and find solutions based on knowledge and on know-how acquired through analytical and critical thinking and creative intuition. The program should activate their creativity as it is stimulated through the visual and performing arts, through philosophical discourse, and through historical review. We, the faculty of GSU, are very enthusiastic about the potential of the new curriculum to eventually enable our students to become true leaders in society because they are cognizant of global interactions beyond provincial and narrow-minded thinking, and not because of the power of their pocket books or fraternal and partisan connections.

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