INTRODUCTION

Big Problems

- Global Warming
- Global Peace

3

Ladies and Gentlemen.

It is my great honor and privilege to have this opportunity to describe our “Global University System (GUS)” project along with “Globally Collaborative Environmental Peace Gaming” project, for which I have been working in the past three decades.

Human Brain

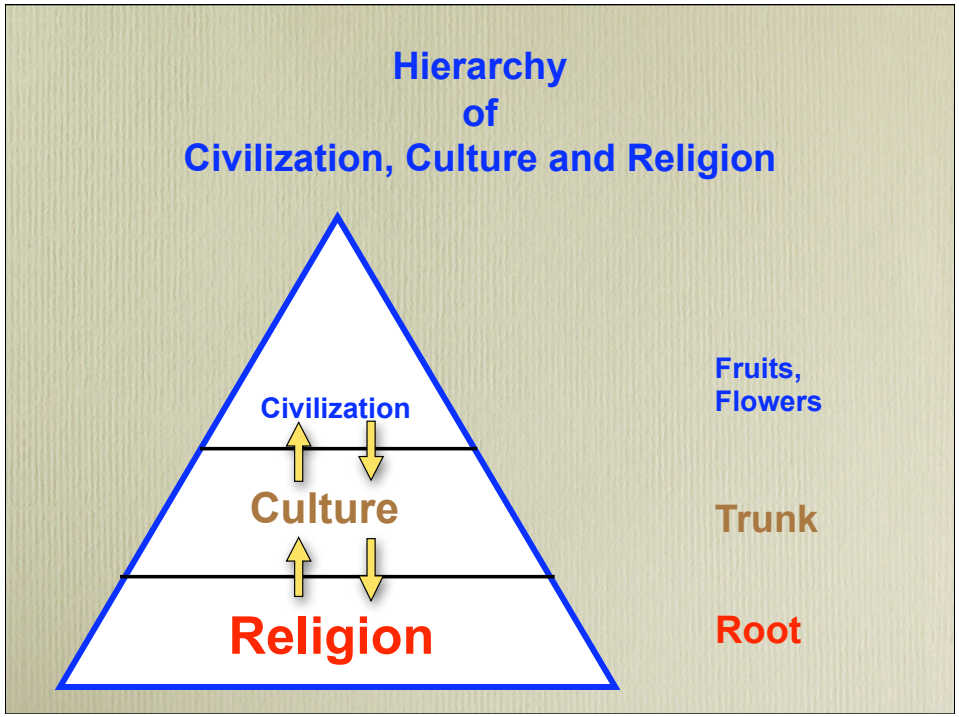
Right Hemisphere		Left Hemisphere
Intuition, passion, dream, image and qualitative analysis		Logic, language and quantitative analysis
Both are connected with a corpus callosum for communication.		

Global Brain

Oriental (or Eastern) Culture	Occidental (or Western) Culture
Polytheism with Buddhism, Confucianism, and Shintoism, i.e,, Comparison of Gods.	Monotheism with Judeo-Christianity, Islam, i.e., Absolute.
Synthesis, literature and art with a subjective and emotional thinking	Analytical, scientific, objective, rational and critical thinking
Truth, Goodness and Beauty	Justice, Equality and Freedom
Both are to be connected with "Rainbow Bridge Across the Pacific" and with 信, 望, 愛 (belief, hope and love).	

Both cannot and should not dominate other, but should have close dialogues between them.

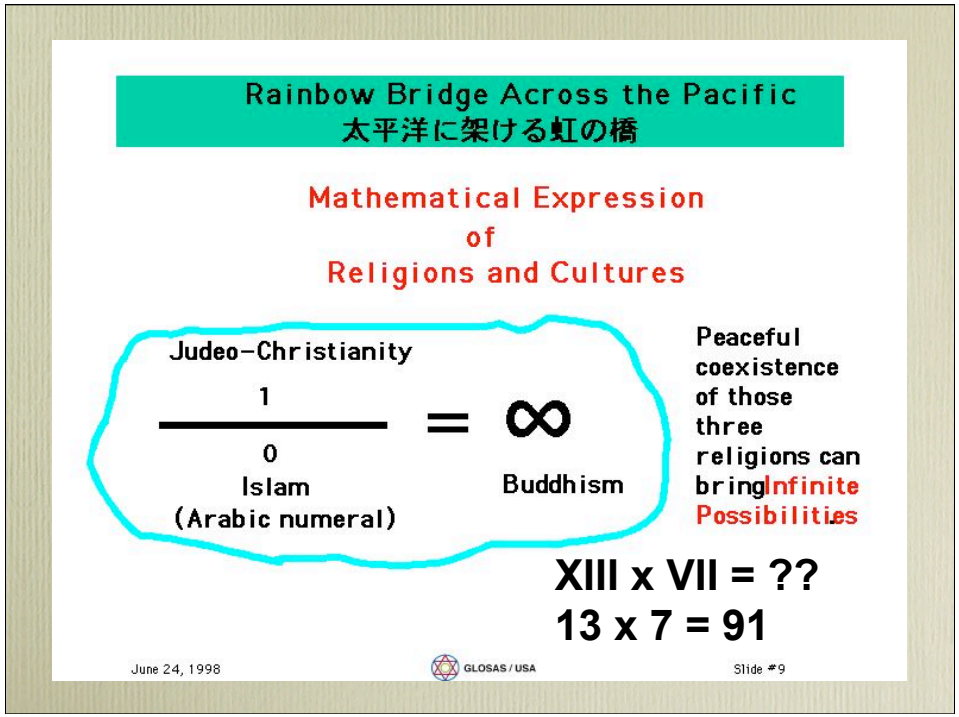
Global University System (GUS) is adopting philosophies and principles that emphasize trans-cultural and moral values rather than ideologies. The priority is in academic freedom and quality in education.



Japan = cherry,
China = peach,
the U.S. = apple, etc.

We need a cross pollination for jointly creating a new global culture and civilization of a global society in the knowledge age of the 21st century by youngsters around the world.

This is to have a similar situation as the Golden Age of Spain where Jews, Christians and Moslems mingled and coexisted to have produced Renaissance out of Dark Age.



Judeo-Christianity is Monotheism with One and Absolute God.

Arabic countries introduced the concept of Zero (0) with Arabic numeral to the western world which was invented in India. This is in contrast to Roman numeral -- which is almost impossible for multiplying, say, 14 (XIV) by 8 (VIII). Therefore, this introduction was the most significant contribution of Arabic (Islamic) countries to the scientific advancement of the western world.

At the time when Julian calendar was set by Julian, Emperor of Rome (361-363), there was no zero (0) so that the new millennium was started with one (I). This was corrected by Gregorian calendar by Pope Gregory XIII in 1582 which starts a new millennium with zero (0). As you may recall, some countries celebrated the start of the Third Millennium at the new year's day of 2000, and others of 2001. If you divide one by zero, you will get infinity which is the symbol of Buddhism.

This may be said as Utsumi's equation in comparison with Einstein's E=MC2 -- my big joke?!

What is peace through culture?

The word "culture" is deriven from the two words "cult" and "ur." "Cult," of course, means cultivation. "Ur" is an ancient Chaldean term meaning "light" -- the creative aspect of the universe. Hence, culture is literally the cultivation of creativity.

Peace is more than just the absence of war. Just as it takes acts of war to make war, it takes acts of peace to make peace. Peace, then, is a structure of positive acts of creativeness that are carried out in a spirit of high idealism.

> **"Genuine peace must be the product of many nations, the sum of many acts. It must be dynamic, not static, changing to meet the challenge of each new generation. For peace is a process -- a way of solving problems."**
>
> John F. Kennedy

On Peace

Peace is a never-ending process, the work of many decisions by many people in many countries.

It is an attitude, a way of life, a way of solving problems and resolving conflicts... It requires us to work and live together.

Learning together and working together are the first steps toward global peace. Senator Fulbright

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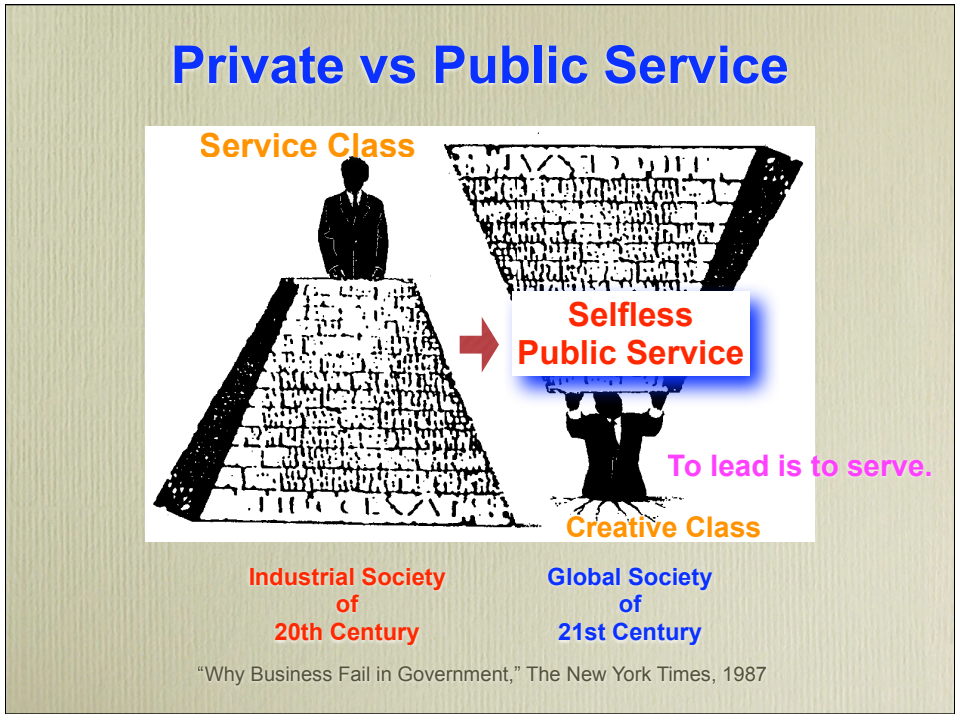
Economic interdependence among nations and cultures is spawning a global economy. Globalization also highlights clashes of divergent cultures and belief systems, both political and religious. If global peace is ever to be achieved, global-scale education, with the use of the modern digital telecommunications, will be needed to create mutual understanding among nations, cultures, ethnic groups, and religions. The Internet is the future of telecommunications and can be a medium for building peace.

Slide rule to digital computer; Circuit switching telephony to packet switching digital telecom -- necessary to have “mind-change,” particularly of bureaucrats as Machiavelli once said almost a half millennium ago.

* Raw material of industrial age was tangible, the raw material of knowledge age in the 21st century is IN-tangible.
* There is NO economic theories for the New Economy -- incidence of Nobel economic laureate of Columbia University.
* Dr. Kaisa Kautto-Koivula of Nokia said in her paper in our recent book that “The biggest barrier for new development of Human-Centric Knowledge Society is our Industrial Age mindset!”
* Creativity is the province of Homo sapiens. We live for future, not in past. Science and technology open the future. However, the application of new technology often meets with “Creative Destruction” -- the famous words by Joseph Schumpeter.
* Here needs good understanding of traditions and culture, and strong belief in scientific and moral principles. This is because the interchange of creativity makes possible an international understanding and mutual appreciation that can lead to global peace.



The Challenge seemed impossible. The performance was superhuman.
(The New York Times, April 17, 2005)

On the day of his first inauguration, March 4th 1933, Franklin Delano Roosevelt lifted America onto his shoulders, and never set it down again.
He carried it through 4 consecutive presidential elections, for over 12 years.
He carried it through a Great Depression that laid America low.
He carried it in a World War against both Germany and Japan.
He carried this crushing burden with such great flair, that most Americans were unaware that an earlier battle with polio left him unable to walk.
To call his performance superhuman is not unreasonable.

Global Leader

“The great leaders of tomorrow will be the ones who understand how to get everyone to participate.”

FORTUNE, January 25, 1993, Page 69

Moral of Civilization

"Civilization consists not in the multiplication of wants but in the deliberate and voluntary reduction of wants."

Mahatma Gandhi (1869-1948)

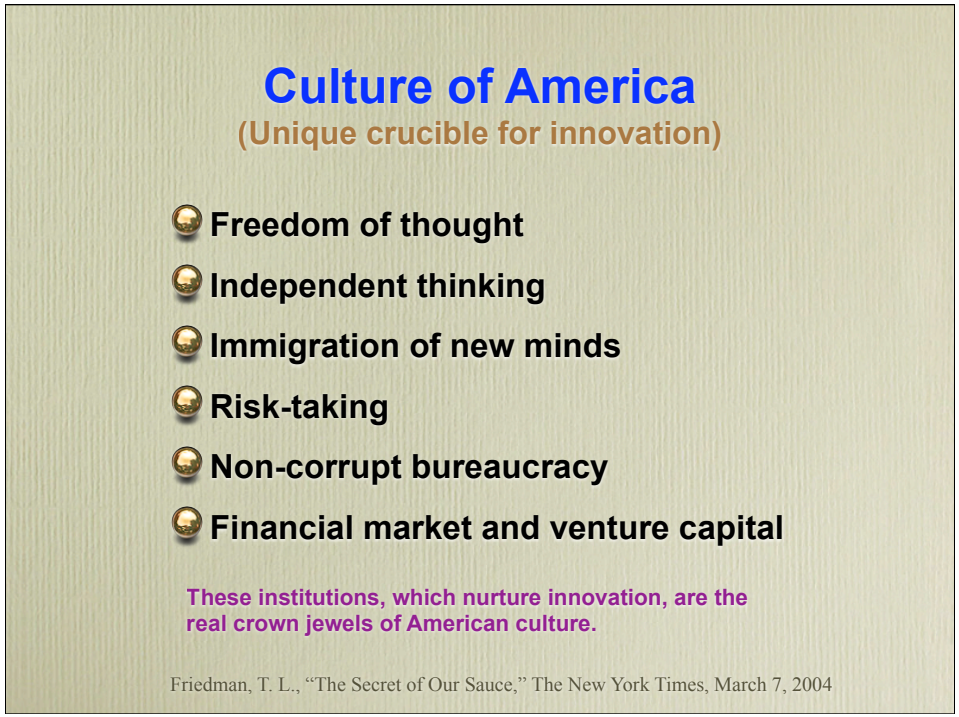
忘己利他

(Forget Self and Benefit Others)

瀬戸内 晴美 (Harumi Setouchi)

2006年11月 文化勲章を受賞 (Laureate of the Order of Cultural Merit)


CREATIVITY



America is so much more innovative a place than any other country. America allows you to explore your mind. America is the greatest engine of innovation that has ever existed, and it can't be duplicated anytime soon, because it is the product of a multitude of factors:
*** Extreme freedom of thought,**
*** An emphasis on independent thinking,**
*** A steady immigration of new minds,**
*** A risk-taking culture with no stigma attached to trying and failing,**
*** A non-corrupt bureaucracy, and**
*** Financial markets and a venture capital system that are unrivaled at taking new ideas and turning them into global products.**
These institutions, which nurture innovation, are the real crown jewels of American culture. The whole process where people get an idea and put together a team, raise the capital, create a product and main-stream it -- that can only be done in the U.S.
The U.S. tech workers must keep creating leading edge technologies that make their companies more productive -- especially innovations that spark entirely new markets.
This is America's real edge.

How to Fire Up The Innovation Machine

BusinessWeek, October 11, 2004, Page 240

At a time of intense division, with deep political and religious fault lines splitting the world, innovation stands out as a powerful integrative force.

It ties countries, companies, and consumers together in creating value, solving problems, and generating wealth.

An innovation economy demands that society be open, dynamic, educated, international, and risk-taking. Given a chance, innovation can improve all our lives.

Financial risk-taking is the fuel that powers the process of change.

Worldwide innovation networks are the new keys to R&D vitality -- and competitiveness.

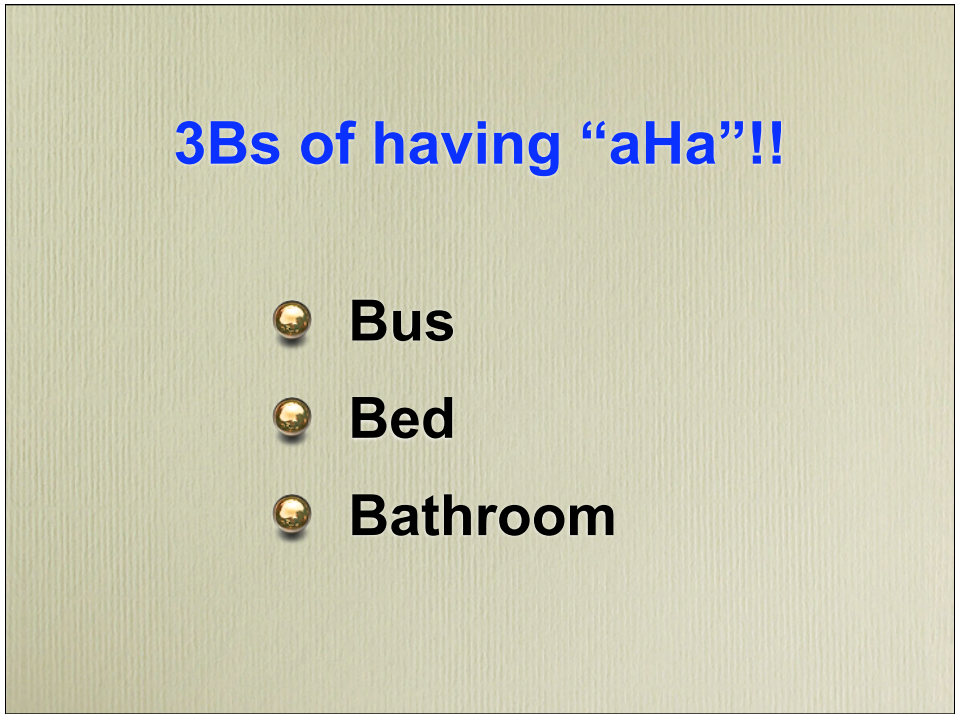
On Creativity

There is nothing higher than creativeness, and there is no greater joy. Therefore – create and rejoice! Be daring in creative flight. "Create courageously!"

Let thought undistorted and unrestricted be impressed in your being. Let it be free from the shadow of the censor's scalpel.

Be true to yourself because there is nothing higher than creativeness.

Slide taken from World Island Project



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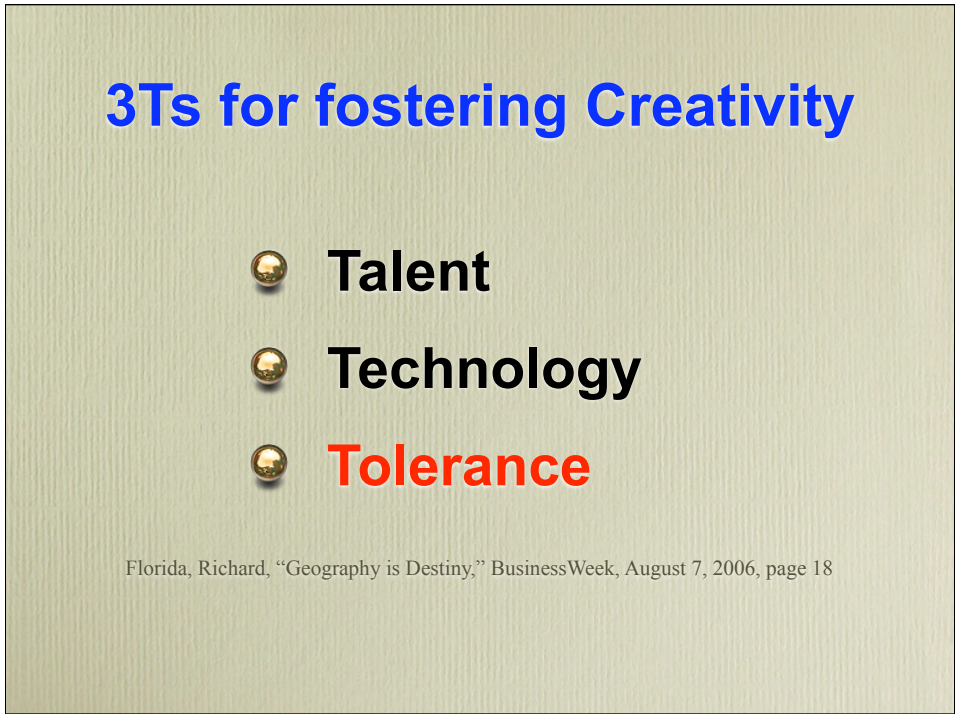
Archimedes have discovered the principles of density and buoyancy, also known as Archimedes' principle, while taking a bath. The story goes that he then took to the streets naked, being so elated with his discovery that he forgot to dress, crying "Eureka!" ("I have found it!").

Story about William Vickerey, Columbia University, 1996 Nobel Laureate in Economics

When I find the economic principle based on intangible commodity, such as “creativity,” I may do the same running around the street in Manhattan, New York!!



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Entrepreneurs, musicians, scientists, designers, and engineers, made up 10% of the workforce in 1900. Today they account for almost 30%, produce nearly half the country's yearly wages and salaries, and are far more mobile than ever before.

It's not the machines or the technology that matter, but "the knowledge, intelligence, and creativity of the people."

Change the World

"Never doubt that a small group of dedicated individuals can change the world. In fact, it is the only thing that ever has."

American anthropologist, Margaret Mead (1901-1978)

Principles of Information and Knowledge Societies

- **Information Society**
  - Packet-switching technology
    - Sharing
- **Knowlege Society**
  - GRID technology
    - Collaboration
- **Global Peace**
  - Sharing and Collaboration


GUS

Principle of Global E-Learning

- Collaborative Learning
- Experiential Learning
- Objective Learning
- Autonomous Learning

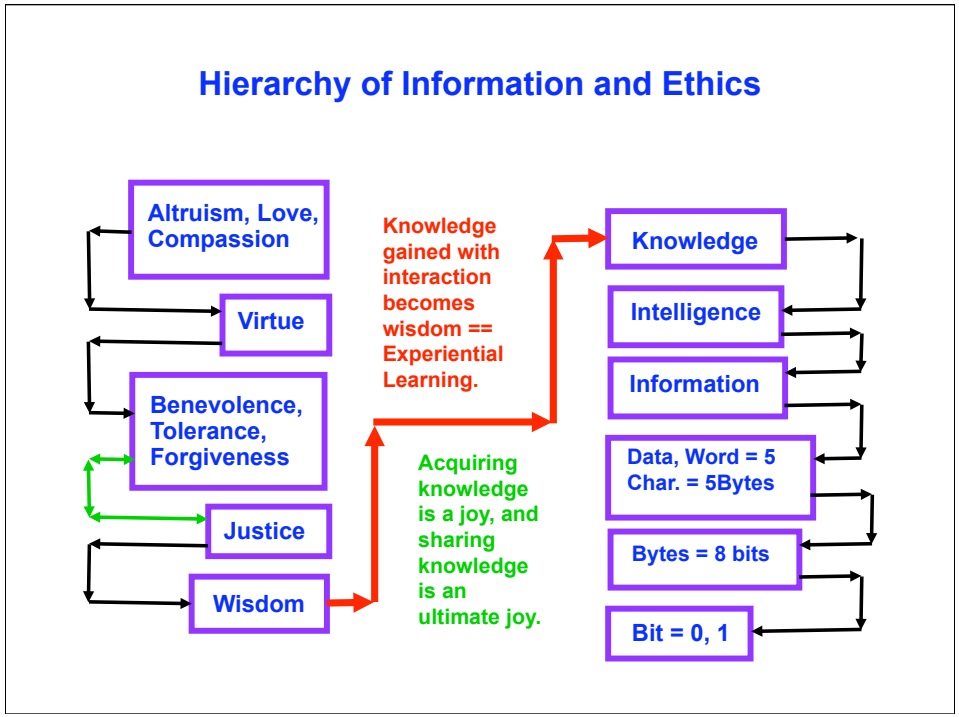
Chinese Proverb

When I hear, I forget.

When I see, I remember.

When I do, I know.

Knowledge applies with interaction becomes wisdom.

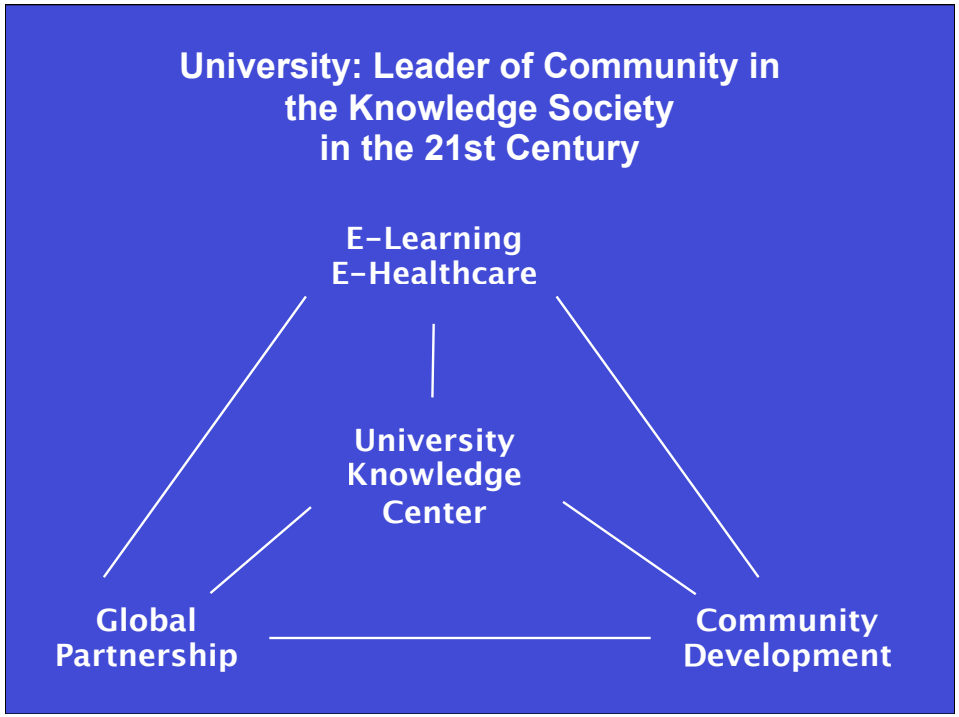


Dr. Hallan Cleveland, former president of the University of Hawaii and former US Ambassador to NATO, once wrote that 8 bits become one byte, 5 bytes become one word or data, which becomes information. Information selected with intelligence becomes knowledge.

We then expanded its hierarchy as depicted above. As shown, each item is controlled by the one above. However, Justice and Forgiveness/tolerance has to be two-way interaction.

Global University System (GUS)

- GUS aims to create a worldwide consortium of educational and healthcare institutions and NGOs, particularly benefiting those in remote/rural areas of developing countries for the eradication of poverty and isolation.
- Learners in those countries will be able to take their courses, via advanced broadband Internet, from member institutions around the world to receive a GUS degree.
- Learns, instructors and reserchers of partner institutions will also form a global forum to exchange ideas and information and to collaborate in research and development with the emerging global GRID computer network technology.
- Thus, the higher education institutions will close the digital divide, act as the knowledge center of their community and lead their development.



The word "University" has a connotation of "universe." Hence, the university in remote/rural areas of developing countries ought to act as the knowledge center of their community for the eradication of poverty and isolation through the use of advanced Information and Communication Technologies (ICTs).

The university has to provide not only e-learning and e-healthcare services to their community, but also to lead their community development.

It also ought to be the gateway for globally collaborative research and development as fostering the Global Creative Economy in the borderless Knowledge Society of the 21st century.

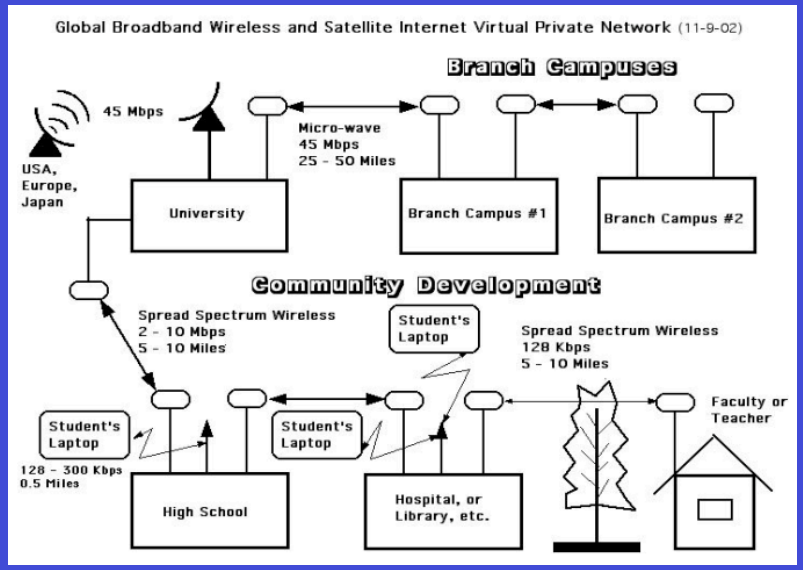
GUS aims to promote world prosperity, justice and peace through higher education, based on moral principles rather than political or ideological doctrines.

Education and job skills are the keys in determining a nation's wealth and influence.

Those institutions affiliated with GUS become members of the GUS/UNESCO/UNITWIN Networking Chair Program located at the University of Tampere in Finland.

Global Broadband Internet (GBI)

Virtual Private Network with QoS



1. Satellite linkage:
GUS will be based on regional satellite hubs, typically located at a major university, that connect via high-speed satellite (~ 45 Mbps) to educational resource cites in the E.U., U.S., and Japan. (If available, it will be connected with terrestrial optical fiber broadband Internet, as the case of Ethiopian's Multimedia Broadband Internet at 3 Gbps.) In a sense, the regional satellite hub is to be the major Internet Service Provider (ISP) for not-for-profit organizations in the region, and the gateway to the outside world.

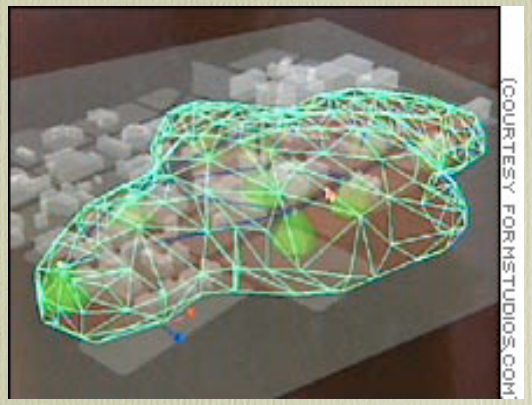
2. Microwave linkage:
Regional hubs link to branch campuses or other regional educational institutions via micro-wave (~ 45 Mbps) over relatively short distances (25-50 miles), if optical fiber network is not readily available.

3. Community Development Network:
Communication from the hub and branch campuses to local sites, over distances up to 10 miles, is to be achieved by spread-spectrum wireless (~ 2-10 Mbps) Internet networks, which do not require licenses in most countries.

4. Wi-Fi connection:
The buildings with a broadband Internet connection will then also become relay points for the low-cost "Wi-Fi (wireless fidelity)" networks at 10 Mbps that are now rapidly appearing in Japan, USA and Europe, e.g., Philadelphia, San Francisco, Taipei, etc.

This advanced wireless communication with laptop computer will make e-learning possible for anyone, anywhere, and anytime with capabilities of Internet telephony, fax, voice mail, e-mail, Web access, videoconferencing, etc. This is not only to help local community development, but also to assure close cooperation among higher, middle and lower levels of education.

WiFi Cloud



This 3-D animation shows the wireless "cloud" over downtown Athens, Georgia. The project is aimed at attracting new users and creating new content for wireless laptops and PDAs.

"Wireless 'cloud' may offer silver lining; Or is it just 'pie-in-the-sky' technology?
CNN.com/SCI-TECH; July 31, 2002
http://www.cnn.com/2002/TECH/science/07/31/coolsc.wireless.cloud/index.html

Inventor of Wireless

Ms. Hedy Lamarr

The Improbable Inventors of Frequency-Hopping Radio

She was gorgeous, glamorous and talented. And she had a mind for technology. In 1941 actress Hedy Lamarr, along with the avant-garde composer and musician George Antheil, filed for a patent to cover their "Secret Communication System," a device designed to help the U.S. military guide torpedoes by radio signals that would continually jump from one frequency to another, thus making enemy interception and jamming difficult.

Born Hedwig Maria Eva Kiesler in Vienna, Austria, Lamarr may have gotten the idea of "frequency hopping" while she was married to Fritz Mandl, an armament manufacturer who sold munitions to Adolf Hitler. Through a marriage arranged by her parents, Lamarr was Mandl's trophy wife, and she accompanied him to the many business dinners and meetings, where, unbeknownst to the participants, she silently learned about Axis war technology. After four years with Mandl, Lamarr, a staunch anti-Nazi, fled to London, where MGM's Louis B. Mayer "discovered" her and convinced her to move to the U.S.

In Hollywood she met Antheil, who helped her figure out a way to synchronize the frequency hopping between the radio transmitter and receiver. Their invention, which they gave to the U.S. government for free, called for two paper rolls, similar to those used in player pianos, punched with an identical pattern of random holes. One of the rolls would control the transmitter on the submarine while the other would be launched with the receiver on the torpedo. Though ingenious, the device was deemed too cumbersome for use in World War II.

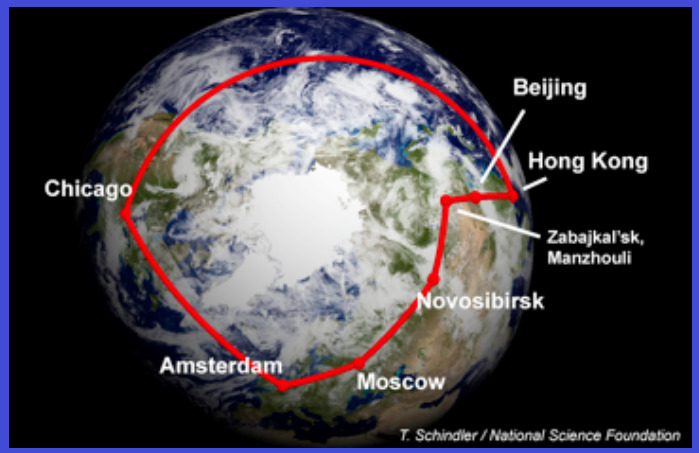
Still, the seminal idea of frequency hopping lingered. By the late 1950s U.S. Navy contractors were able to take advantage of early computer processors for controlling and synchronizing the hopping sequence. Since then, the U.S. military has deployed more sophisticated techniques with ever faster processors in costly, classified devices, including satellite communications systems. And today the technology has become widespread in cell phones and in personal communications services (PCS), among other civilian applications. —*D.R.H.*

HEDY LAMARR, the Hollywood actress, was the co-recipient of a patent (*inset*) for basic technology that is now widely used in cell phones and personal communications services (PCS).

"Spread-Spectrum Radio" by David, R. Hughes and Dewayne Hendricks, Scientific American, April 1998, p 94-96

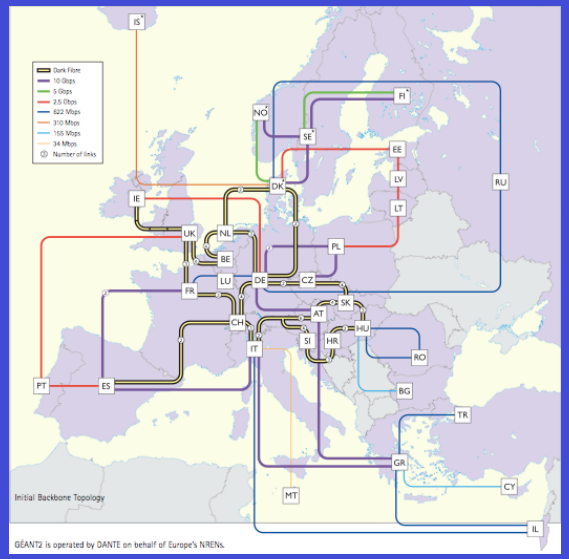
GLORIAD

(Global Ring Network for Advanced Application Development)



GEANT2

<http://www.geant2.net/upload/pdf/GEANT2_Topology_August_05.pdf>




Black Sea Ring
GLORIAD
Moscow
Ukraine
Moldova
Romania
Bilgaria
Georgia
Azerbaijan
Armenia
Black Sea
GEANT2
Istanbul
Turkey

Expected Benefits

- Support of e-learners and e-healthcare
- Freedom from geographical limitations
- Global dialogues for global peace
- Exchange of ideas, information, knowledge
- Joint colloborative Hi-Tech research and development

Consortium member universities will be able to build the network of facilitators for support of e-learners,
Learners may take one course from a university of different country to get his/her degree from the GUS, thus freeing them from being confined with one philosophy of a university and a country,
The broadband Internet will enable web-based teaching with more interaction among/between learners and instructors compared with less interaction in replicating class-room teaching via analog broadcasting satellite, -- thus stimulating global dialogues among them to attain global peace,
Learners and faculties at the member universities can promote exchange of ideas, information, knowledge and joint research and development of web-based teaching materials, community development, and many others locally, regionally and even in global scale,
Researchers in even developing countries can perform joint collaborative Hi-Tech research and development with virtual reality and virtual laboratory of various academic and engineering subjects with colleagues in developed countries.

PEACE GAMING

Globally Collaborative Environmental Peace Gaming

Globally Collaborative Environmental Peace Gaming (GCEPG) with a globally distributed computer simulation system, focusing on the issue of environment and sustainable development in developing countries, is to train would-be decision makers in crisis management, conflict resolution, and negotiation techniques basing on "facts and figures."

With global GRID computer networking technology and Beowulf mini-super computers of cluster computing technology, we plan to develop a socio-economic-environmental simulation system and a climate simulation system in parallel fashion, both of which are to be interconnected in global scale.

War and Peace Games

Peace Game is for Global Understanding

War Game vs Peace Gaming

The purpose of the War Game is to win the war once it happened, and the purpose of the Peace Gaming is to avoid the occurrence of the war.

Avoiding war is cheaper than winning war.

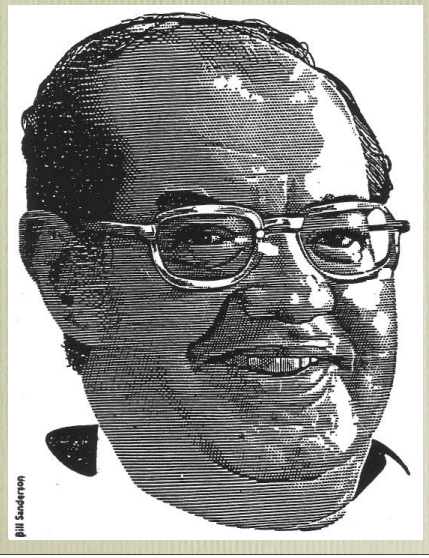
T. Utsumi coined the word “Peace Gaming” in early 1970s.

Three Necessary Components for Peace Gaming

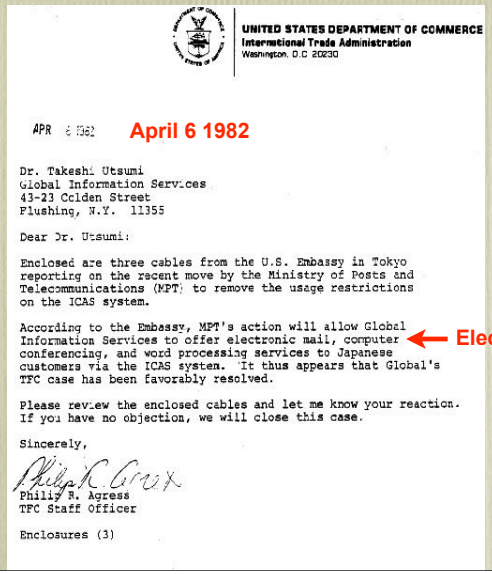
1. **Telecommunication Infrastructure**
   - Packet-Switching Telecommunication
     - Internet
2. **Communication Means**
   - E-mail
     - Multimedia
3. **Game Players**
   - Global University System

Paul Baran

Inventor of
Packet-switching Data Telecom Technology



Deregulation of Japanese Telecom Policy for the Use of Email



UNITED STATES DEPARTMENT OF COMMERCE
International Trade Administration
Washington, D.C. 20230

APR 6 1982 **April 6 1982**

Dr. Takeshi Utsumi
Global Information Services
43-23 Colden Street
Flushing, N.Y. 11355

Dear Dr. Utsumi:

Enclosed are three cables from the U.S. Embassy in Tokyo reporting on the recent move by the Ministry of Posts and Telecommunications (MPT) to remove the usage restrictions on the ICAS system.

According to the Embassy, MPT's action will allow Global Information Services to offer electronic mail, computer conferencing, and word processing services to Japanese customers via the ICAS system. It thus appears that Global's TFC case has been favorably resolved. ← **Electronic Mail**

Please review the enclosed cables and let me know your reaction. If you have no objection, we will close this case.

Sincerely,

Philip N. Agress
TFC Staff Officer

Enclosures (3)

Users of E-mail

(More than one billion as of 2006)

Business Week, June 27, 1994, page 6

Initiation of GRID Concept

Excerpt from
SIMULATION IN THE SERVICE OF SOCIETY (S3), Simulation, September 2000
John McLeod A Technical Editor **Suzette McLeod** A Managing Editor

Power (?) Grid! **Mission Earth (M/E)**

As readers may have noticed, this writer has been interested in the desirability/possibility of someone, or some agency, developing a global communication network since my first discussing the matter with **Tak Utsumi** in **1972**. At the time Tak and I were both primarily interested in the use of such a network for the **distributed simulation of "Peace Gaming,"** as contrasted with the war games so widely used by the military of all countries. However, my early enthusiasm had to be redirected from personally contributing to such an undertaking when I realized the enormity of the technical problems. But **Tak has persevered and has successfully demonstrated many components of a necessary infrastructure.**

Tak and his colleagues have had to raise funds from any sources that they could, as well as pushing back the technical frontiers. But recently several powerful publicly funded organizations have entered the picture. NASA of course has a worldwide communication network which is necessary in support of its space program. However, I understand--perhaps mistakenly--that it is to be made available commercially. More on that when I learn more.

And now we have the following article describing a communication network which it seems to me is misnamed, and I wonder how many others, think of a power grid as a network for the distribution of electrical power. Be that as it may, the description seems to be that of an information network, and the list of participants seems to indicate that it is supported largely by the National Science Foundation. -JM

Building an Information Power Grid ....

http://makeashorterlink.com/?H241159B9

E-mail and multimedia World Wide Web of Internet so far contributed significantly to the world society on the dissemination of information. The next phase of the Internet development with global neural (or GRID) computer networks should be the globally collaborative experiential learning and constructive creation of wisdom with interactive actions on virtual reality simulation models of joint global research and development projects on various subjects.

Globally Collaborative Environmental Peace Gaming
through
Global Neural Computer Network

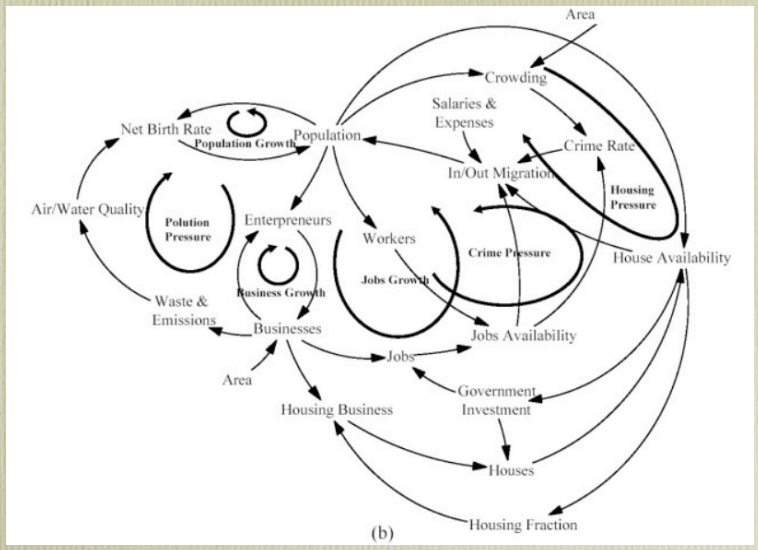
- **Need: Kyoto Protocol**
- **Computer Simulation Models**
  - **Socio-Economic-Environment Model**
  - **Climate Simulation Model**
- **Beowulf Mini Supercomputer**
  - **Maui Community College in Hawaii**
- **Global Neural (Grid) Computer Network**

This will promote trustful friendship among youngsters around the world to realize the Knowledge Society of the 21st century, and their collective creativity will enlarge the size of pie for stakeholders to reach peaceful win-win consequences. Senator Fulbright once said that learning together and working together are the first steps toward world peace.

Advantages of Distributed Simulation

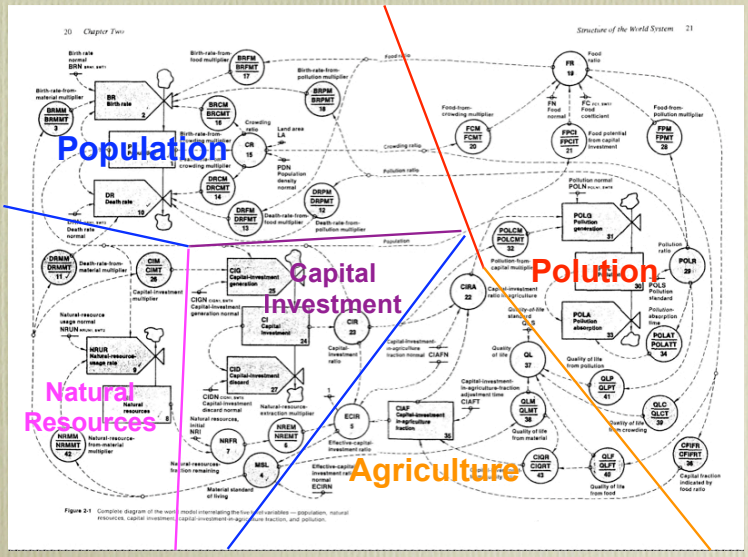
1. Increase of Credibility
2. Data Security
3. Flexibility
   a. Use of any language within local simulation
   b. Same for methodology, machine, etc.
4. Participatory Democracy with Bottom-up Decision
5. Cooperation for Better Understanding
6. Suitable for Large-scale, Confrontation-prone, Global problems

Population Growth in City Development

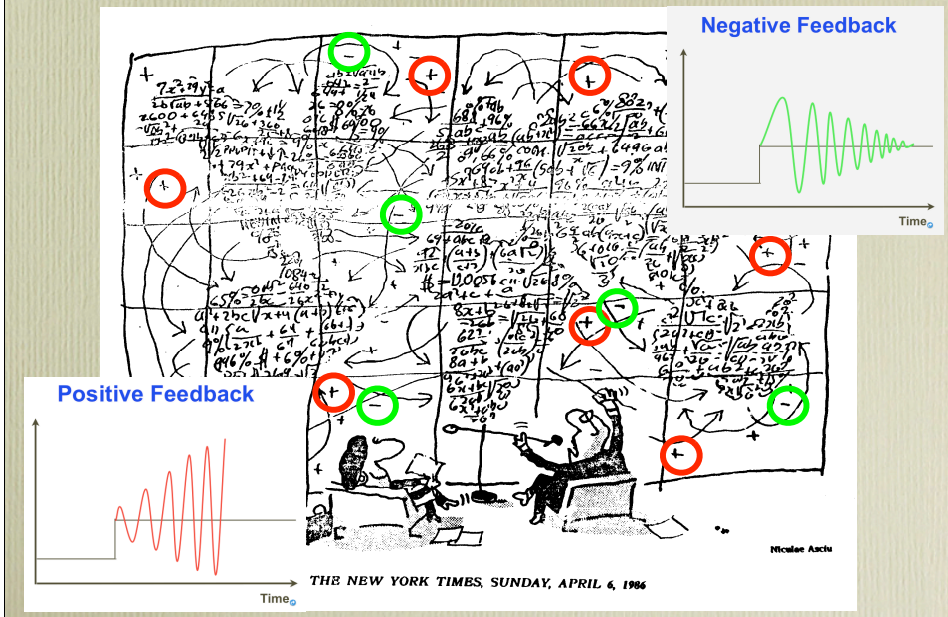


Barlas, Y., System Dynamics: Systemic Feedback Modeling for Policy Analysis

Cause-and-Effect Diagram of World Dynamics Model



Systems Analysis of the World



Funding

- GUS projects will combine (1) the Japanese government's Official Development Assistance (ODA) funds and (2) Japanese electronic equipment with
- (a) the Internet technology and (b) content development of North America and Europe,
- to help underserved people in rural and remote areas of developing countries by closing the digital divide.

GLOSAS Projects

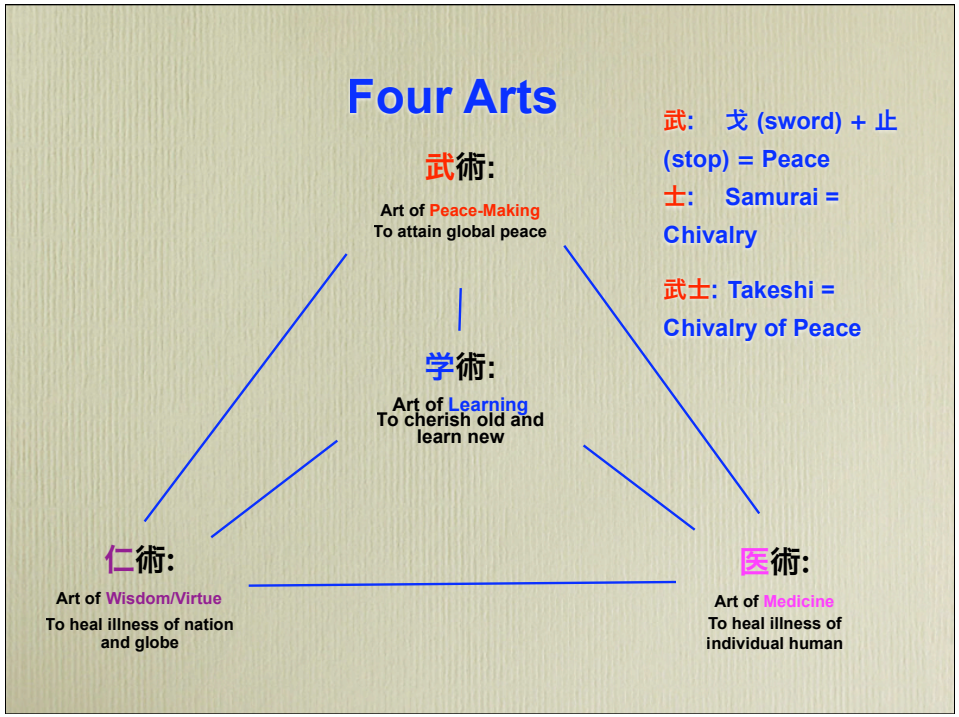
(GLObal Systems Analysis and Simulation Association in the U.S.A.)

http://www.friends-partners.org/GLOSAS/

Click "Current Reference Websites" in this home page.

Takeshi Utsumi, Ph.D., P.E.

- Chairman, GLOSAS/USA
- Laureate of Lord Perry Award for Excellence in Distance Education
- Founder and V.P. for Technology and Coordination of Global University System (GUS)


Four Arts
武術:
Art of Peace-Making
To attain global peace
学術:
Art of Learning
To cherish old and learn new
仁術:
Art of Wisdom/Virtue
To heal illness of nation and globe
医術:
Art of Medicine
To heal illness of individual human
武: 戈 (sword) + 止 (stop) = Peace
士: Samurai = Chivalry
武士: Takeshi = Chivalry of Peace