Synopsis of
Globally Collaborative Environmental Peace Gaming (GCEPG)

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1 Problems:

Alleviating global warming and attaining global peace are most urgent and complex problems of our time. Although both cannot be solved over-night, we must have appropriate mechanism to understand their causes and prepare our youngsters to cope with them.

2 Peace Gaming Project:

2.1 Globally Collaborative Environmental Peace Gaming (GCEPG) Project:

The GCEPG (which was initiated by GLOSAS/USA in early 1970s [Utsumi, 2003]) (Figure 1) is a computerized gaming/simulation with a globally distributed computer simulation system (Figure 2) to help decision makers construct a globally distributed decision-support system for positive sum/win-win alternatives to conflict and war. The idea involves interconnecting experts in many countries via the global Internet to collaborate in the discovering of new solutions for world crises, such as the deteriorating ecology of our globe, and to explore new alternatives for a world order capable of addressing the problems and opportunities of an interdependent globe. Gaming/simulation is the best tool we have for understanding the world's problems and the solutions we propose for them. The understanding gained with scientific and rational analysis and critical thinking would be the basis of world peace, and hence ought to provide the basic principle of global education for peace.
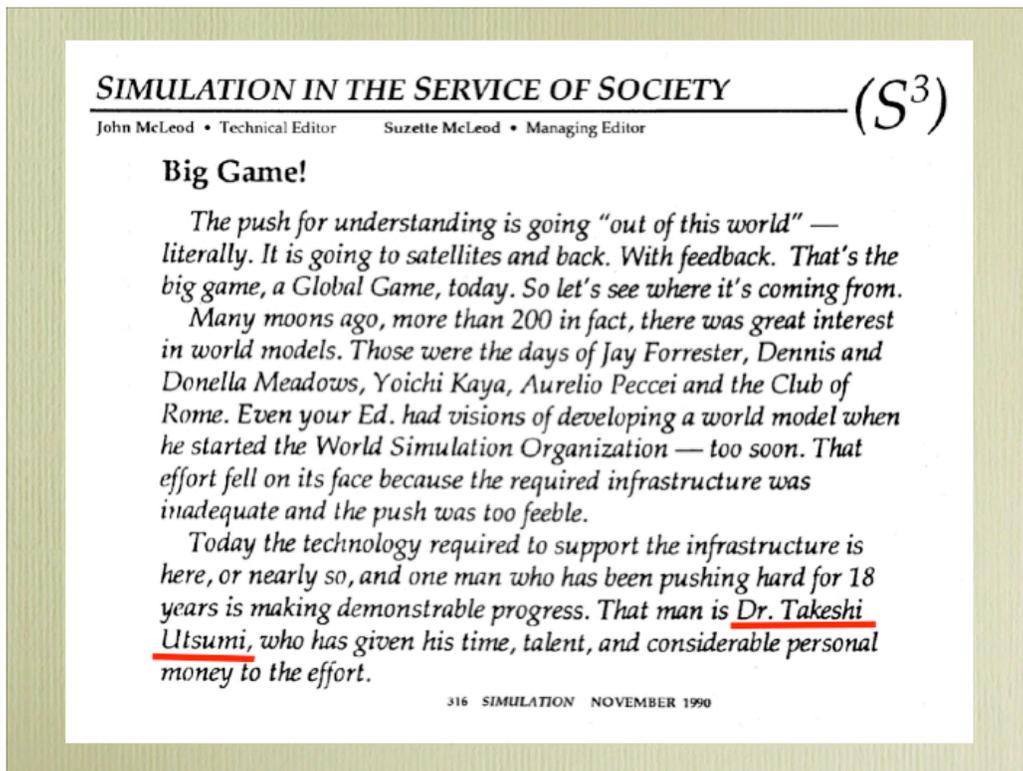

SIMULATION IN THE SERVICE OF SOCIETY ____ (S^3)

John McLeod • Technical Editor   Suzette McLeod • Managing Editor

Big Game!

The push for understanding is going "out of this world" — literally. It is going to satellites and back. With feedback. That's the big game, a Global Game, today. So let's see where it's coming from.

Many moons ago, more than 200 in fact, there was great interest in world models. Those were the days of Jay Forrester, Dennis and Donella Meadows, Yoichi Kaya, Aurelio Peccei and the Club of Rome. Even your Ed. had visions of developing a world model when he started the World Simulation Organization — too soon. That effort fell on its face because the required infrastructure was inadequate and the push was too feeble.

Today the technology required to support the infrastructure is here, or nearly so, and one man who has been pushing hard for 18 years is making demonstrable progress. That man is Dr. Takeshi Utsumi, who has given his time, talent, and considerable personal money to the effort.

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Figure 1

Figure 2

With global GRID computer networking technology (which concept Dr. Utsumi initiated [McLeod, 2000], an application of the "trimtab principle" – see the end note for its definition) 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 through broadband Internet in global scale (Figure 3).
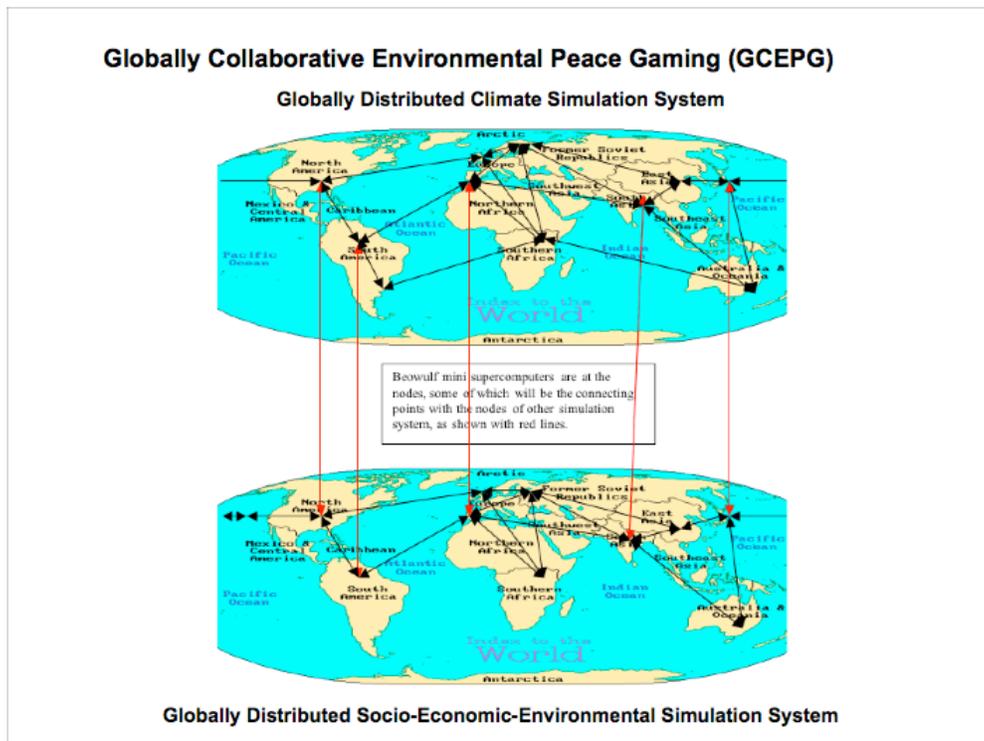

Figure 3

2.2   Global Socio-Economic-Energy-Environment Development (GSEEED) Project:

The GSEEED Project is a variation of and the initiation of the GCEPG. The quantitative policy analysis of globally collaborative GSEEED Project will focus on the sustainable development in Japan, the US, China, Russia, Kazakhstan, and many other relevant countries.

The initial focus on energy security will be on the global interrelations and interdependencies among those countries with the deployment of gas pipeline from Tomsk, Siberia to China, and the construction of hydroelectric dam in the Republic of Altai, Siberia where there are five UNESCO World Heritage sites which draw increasing number of tourists (400,000) into small town of Gorno-Altaisk with only 9,000 residents. This gas pipeline will certainly affect socio-economic developments of Siberia, China, and hence the ones of Japan, the US, Europe and others. Japan will also increasingly depend on the energy (oil and gas) supply from Russia and uranium from Kazakhstan.

This GSEEED Project will then demonstrate integrated and synergistic approach among grassroots, government, university, stakeholder, etc. Use of graphic info modeling/mapping and potential "peace gaming" (*) on key issues and solutions will assist each group's ability for standardized data gathering and situational analyses, projecting out possible outcomes for more informed decision making and activities. It brings together most sophisticated university-based mathematical modeling techniques and experts and regular people who can then more easily see--at a glance--how issues and outcomes can impact and interact each other.

> (*) which term Dr. Utsumi coined almost three decades ago. War gaming is to win the war once when it happened, and peace gaming is to avoid the occurrence of war (Figure 4). Avoiding war is much cheaper than waging war. Our "peace gaming" might be said to be equivalent to the scale of Pentagon's "war games.

Figure 4

This project will train local experts for leadership development, in relation to strategic use of technologies and cooperation among stakeholders for more effective advocacy, informed policy, public understanding and participation and concrete community development.

This project will have two-tier system:

a. One for training young would-be decision makers in crisis management, conflict resolution, and negotiation techniques basing on "facts and figures" and
b. The other for helping decision makers construct a globally distributed decision-support system for positive sum/win-win alternatives to conflict and war.

3　Development History:

3.1　Global Telecom:

Over the past three decades, the GLObal Systems Analysis and Simulation Association in the U.S.A. (GLOSAS/USA) played a major pioneering role in extending U.S. data communication networks to other countries and deregulating Japanese telecommunication policies for the use of e-mail (thanks to help from the Late Commerce Secretary Malcolm Baldridge) (Figure 5) [Chapter 1 of Utsumi's Proposed Book]. This triggered the de-monopolization and privatization of Japanese telecommunications industries. This movement has later been emulated in many other countries, as having more than one billion email users around the world nowadays. It might have been the application of the "trimtab principle."
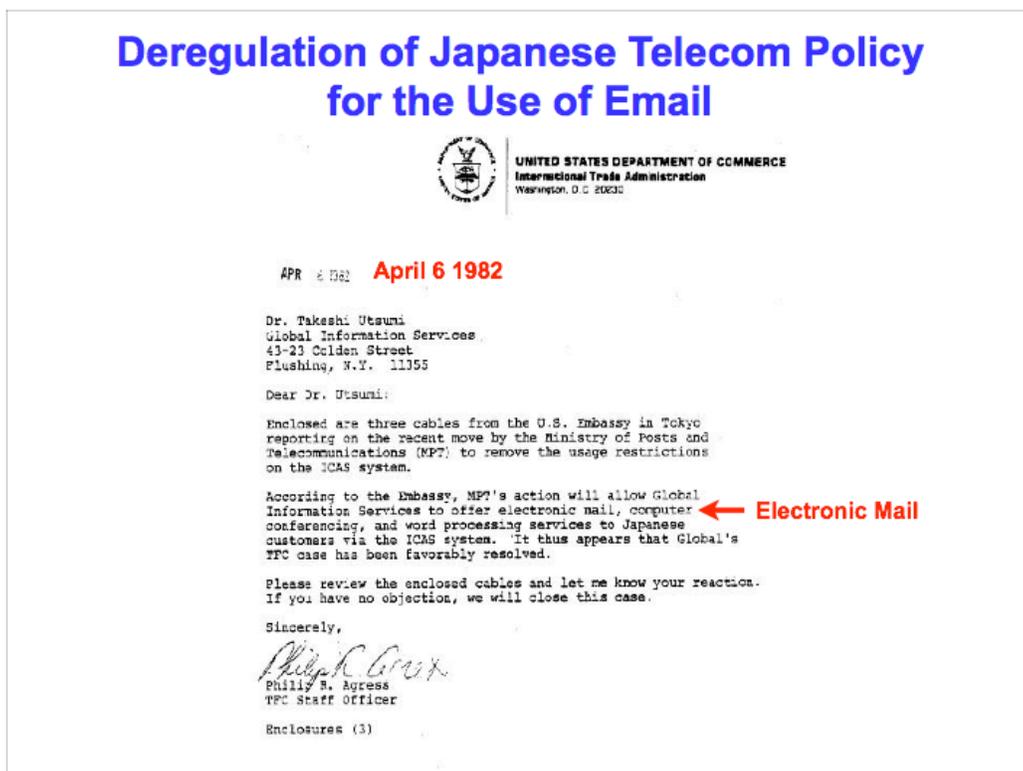

Figure 5

For over a dozen years since 1986, we conducted once or twice a year a series of innovative distance teaching trials with "Global Lecture Hall (GLH)" tm videoconferencing using hybrid delivery technologies,

which often spanned the globe [Chapter 2 of Utsumi's Proposed Book] and [Utsumi, 2003] (another application of the "trimtab principle").

Thanks to such efforts and for initiating global e-learning movement since early 1980s, Dr. Utsumi received the prestigious Lord Perry Award for Excellence in Distance Education in the fall of 1994 from Lord Perry, the founder of the U.K. Open University. The two-year senior recipient of the same award was Sir Arthur C. Clarke, the inventor of satellites.

3.2   Peace Gaming Demonstration:

A demonstration of global-scale peace-gaming was held at the conference on "Crisis Management and Conflict Resolution" by the World Future Society (WFS) in New York City, in July of 1986. It was one of the largest and perhaps most successful demonstrations of global gaming/simulation organized so far. The event was on a crisis scenario involving the U.S.-Japan trade and economy issues. Professor Onishi in Tokyo supplied his FUGI model, which is the world largest econometric model [Onishi, 2007].

Noted U.S. economists were panelists of this event and electronically interconnected with Japanese counterparts for three days of computer-assisted negotiations. Several hypothetical policies were examined. One question was the effect of raising military expenditures in Japan to the American level while lowering those of the U.S. to the Japanese level. Simulation predicted that the balance of trade would thus be even by the year 2000, with necessity of cooperation, rather than competition, by both countries in the future. This clearly indicated the cost and dilemma of American's nuclear umbrella protecting Japan's economic prosperity, thus threatening American's economic prosperity.

3.3   Creating Global University System (GUS):

GLOSAS/USA then initiated the project of creating Global University System (GUS) [Utsumi, et al, 2003]. The GUS is a worldwide initiative to create advanced telecom infrastructure for accessing educational resources around the world (Figure 6). The aim is to achieve "education and healthcare for all," anywhere, anytime and at any pace.
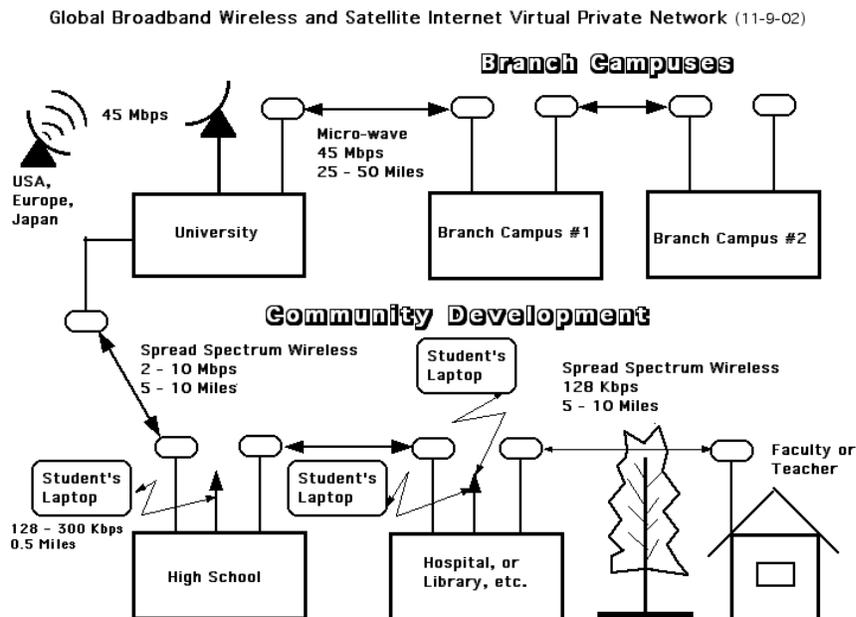

Figure 6

GUS aims to build a higher level of humanity with mutual understanding across national and cultural boundaries for global peace [Varis, et al, 2003]. The mission of GUS is to help higher educational and healthcare institutions in remote/rural areas of developing countries to deploy broadband Internet in order for them to close the digital divide. These institutions also act as the knowledge center of their community for the eradication of poverty and isolation through the use of advanced Information and Communications Technologies (ICTs). Learners may take courses from different member universities around the world, obtaining their degree from the GUS, thus freeing them from being confined to one academic culture of a single university or country. The GUS program is a comprehensive and holistic approach to building smart communities in developing countries for e-learning and e-healthcare/telemedicine.

Each GUS of various countries will maintain the sub-models of their countries autonomously – along with construction and maintenance of its databases, modification of their sub-models, and supply of game players in cooperation with their overseas counterparts through the global Internet.

3.4   Globally Collaborative Innovation Network (GCIN):

As an extension of our GCEPG/GSEEED projects, learners will also form a global knowledge forum for the exchange of ideas, information, knowledge and joint research and development, which will foster creativity of youngsters around the world. Researchers in developing countries can co-work with colleagues in advanced countries to perform joint collaborative research with use of virtual laboratories for experiential/constructive learning and creation of knowledge through the global GRID technology, thus forming GCIN [Utsumi, 2006]. Such interactions among youngsters around the world through global broadband Internet would certainly promote mutual understanding and hence global peace.

4   Officers of GUS:

The officers of the GUS are: P. Tapio Varis, Ph.D., Acting President, (University of Tampere, former rector of the United Nations University of Peace in Costa Rica); Marco Antonio Dias, T.C.D., Vice President for Administration, (former director of Higher Education of UNESCO); Takeshi Utsumi, Ph.D., Founder and Vice President for Technology and Coordination, (Chairman of GLOSAS/USA). The trustee members are: Dr. Pekka Tarjanne, (former Director-General of the ITU) and Dr. Federico Mayor, (President of the Foundation for Culture of Peace and a former Director-General of the UNESCO).

5   Financing GUS and GCEPG/GSEEED Projects:

Our 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.

Endnote:

Buckminster Fuller referred to the function of a trimtab in nautical and aeronautical design to demonstrate how small amounts of energy and resources precisely applied at the right time and place can produce maximum advantageous change.

A large ship moving through the ocean has great momentum. Turning the rudder changes the direction of the ship but with great effort. Turning the trimtab — a tiny rudder on the trailing edge of the main rudder — causes an initial momentum allowing the main rudder to turn with less effort in pulling the whole ship around.

In design science, the trimtab metaphor is used to describe an artifact, or system, specifically designed and placed in the environment at such a time, in such a place, where its effects would be maximized, thereby effecting the most advantageous change with the least resources, time and energy. Doing more with less.

References:

McLeod, J., "**Power (?) Grid!**," Simulation in the Service of Society, Simulation, September 2000
<http://preview.tinyurl.com/22bl7v>

Onishi, A, (2007), "**Alternative path of the global economy against CO2 emissions: Policy simulations of FUGI global modeling system**" <http://preview.tinyurl.com/3x75bc> and **Appendix B**
<http://preview.tinyurl.com/36ox9s>

Takeshi Utsumi,
Draft of Proposed Book
"Electronic Global University System and Services"
http://preview.tinyurl.com/27ykrf

Takeshi Utsumi, P. Tapio Varis, and W. R. Klemm, (2003)
"Creating Global University System"
http://tinyurl.com/sfgm7

Takeshi Utsumi, GLOSAS/USA (2003)
"Globally Collaborative Environmental Peace Gaming"
http://tinyurl.com/k2c7a

Takeshi Utsumi, GLOSAS/USA (2006)
"Globally Collaborative Innovation Network with Global University System"
Paper for *Learning Technology*, IEEE Computer Society, Vol. 8, Issue 3, July, 2006
http://preview.tinyurl.com/fuwg6

Tapio Varis - Takeshi Utsumi - William Klemm (Eds.), (2003)
Global Peace Through The Global University System
University of Tampere, Finland 2003
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The entire contents of this book can be retrieved at;
http://tinyurl.com/kofpf