

ACADEMY STREET NETWORK

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THE MISSION:

Coming of Information Overload — The Thrilling Conclusion:

Information Propagation

At the risk of drifting away from topics more closely related to NSPRI, I'd like to add onto some of the subject matter of last month's article (**The Coming of Information Overload**, vol.1, iss.2), in particular, some ideas occurred to me during a phone conversation about how the information highway, or whatever it is eventually called, might develop.

At the moment we have numerous online services that we can connect to: Internet, pay-services such as CompuServe™ and Genie™, and a plethora of smaller BBS's run by individuals or small groups. We also have television, with its network, cable, satellite and video-rental empires, along with even other information sources. It seems unlikely that they will all grow together in peace and harmony but will have 'boundary disputes' fought by legions of lawyers whose main artillery is to confuse the issues involved. At the core of these boundary encounters will be the ability to transfer the flow of information from one medium to another. A few examples to illustrate what I mean are probably in order.

Say you take stock quotes and pipe them directly into a network (pay, of course!) and have subscribers view that on their machines at home instead of wait on the news. Or, perhaps, you do want the editorial about the news that comes with the stock quotes too but you still want it to come through an online service so that users can capture the data into a file while they watch. The ability to see a televised broadcast open on a window on the person's screen along with other windows already exists, but having a broadcast transmitted in online services is at the moment impractical. Yet given a couple of technological and logistic breakthroughs it could easily be possible, along with collateral legal breakthroughs, of course.

Or perhaps somebody in our hypothetical future has decided to make copies of songs and store them as files on a mass storage device, and then transmit them by modem to others to play on through the sound cards on their own machines. While some hold it up as the ultimate democratization of information which it would obviously be, the war of copy protection would extend to yet another battlefield. At present the only thing preventing this is the astronomically large size of sound files in relation to current mass storage device capacities and cost: getting a "single" completely encoded digitally would use up an enormous amount of memory, which would cost more than a purchased CD.

To get back to the point I was trying to make, there will doubtless be a number of situations where the ability to convert information from one medium to another creates friction. The eventual outcome of this probably won't be any kind of 'unity.' We don't tend to work that way anyway, despite the attractiveness of the idea or a philosophical basis. As the 'information highway' expands and becomes available to more and more, it is not unreasonable to assume that all of us will by necessity spend yet more time in front of CRT or videorecorder. That very fact will cause it to be used more heavily and to have more and more expected of it. — *Peter Spangler.*

BIG SCIENCE, BIG MONEY, BIG POLITICS:

DOE, NASA NEED TO FOCUS ON SMALLER PROJECTS

The American Physics Society Division of Astrophysics Newsletter (2/94) reports a subpanel of High Energy Physics Advisory Panel (HEPAP) chaired by Sid Drell has been put in charge of providing a vision for particle physics now that the Superconducting Super Collider (SSC) is dead. IT DIDN'T HAVE TO BE THIS WAY!

Fermilab, the largest particle accelerator before the SSC was proposed, was built on time and below projected costs — another successful example of the government-owned, contractor-operated (GOCO) management model. JPL, perhaps the most innovative of NASA facilities, is also a GOCO facility. Yet the same organization that was lauded in its management of Fermilab's construction was ridiculed when attempting to build the SSC. It is a shame, too, and a foreboding omen for grandiose plans for space-based solar power systems intended to supply terrestrial needs.

The rule seems clear — if a project is big enough to get the American public's attention, it is going to be overwhelmed with political overhead, cut back, run over schedule and over cost, and put egg all over the face of the science and energy research communities. The lesson for proposers of space-based solar power systems is to keep even conceptual proposals small by breaking them down into independently funded phases (as with the successful DC-X). — *Mark Ciotola.*

A quote attributed to one of Clinton's campaign spin doctors as seen in the movie *The War Room* — "the harder you work, the luckier you get."

EarthWatch Solar Oven Project

The following is a description of an EarthWatch project. This reads like advertising, but EarthWatch is a nonprofit organization in which volunteers assist research scientists with their labor and money contributions.

Based in a residence hall at the University of Nairobi and in field quarters, teams will participate in workshops in which Kenyans adapt and construct solar ovens and, in follow-up studies, to chart the impact of the ovens on household economies in several villages. The communities where EarthWatch teams worked in the past two years have gone on to develop solar oven cooperatives to build and sell the ovens at the regional level. In April 1993, Dr. Daniel Kammen, Princeton University, won a first prize in Japan's 21st Century Earth Awards. "In Kenya, Kammen wrote, "we observe reductions in household fuelwood use of up to 50 percent for families that construct and use solar ovens.

1994 teams will study Kenya June 13-25, Jul 4-16, and Jul 25-Aug 6, and Aug 15-27. Project cost per person is \$1,745, to help defray food and lodging expenses. EarthWatch also has other projects in 26 states and dozens of other countries and can be reached at 1-800-776-0188.

SOLAR ALTERNATIVES

This will be a periodic column to consider solar energy alternatives. The following concept, though not endorsed by NSPRI or our writer, starts this column off with a big bang.

VOLCANOS SEEN AS MARTIAN ENERGY SOURCE

The Shimizu Institute suggests using active, but presently dormant Martian volcanos as a source of heat and atmospheric gasses to terraform Mars. "Terraforming" means to make another planet's atmosphere more like that of the Earth's in order to support Earth-like life and possibly even humans.

Mars has some of the largest volcanos in our solar system, although NASA's **Spinoff 1991** (page 11) pictures a three-dimensional perspective of the surface of Venus that was made by superimposing radar imaging data on altimetry data. This view shows the 9,800-foot-high volcano Gula Mons at top right in the image and the neighboring Sif Mons, a 6,300-foot volcano, at top left. In the foreground are lava flows that extend more than 70 miles down the flanks of the mountains.

According to a special advertising supplement insert by the Shimizu Institute In **Final Frontier** magazine, it is suggested that "with thermonuclear detonations, it might be possible to trigger volcanic activity [on Mars]. The eruptions of hot magma would melt the ice and liberate the frozen atmosphere." — *Zillian Tang*.

REPORTS

Technical Concepts Division: The Solar Battery Charger Group is engaged in testing its Phase One battery charger for durability and utility. If it is found, using presently-known materials, that there is a clear cost-durability trade-off, which will need to be addressed in Phase II's focus on reliability factors. An initial literature search continues to be undertaken to determine the state of the technology of photovoltaic cell technology (David Lewak). A preliminary directory of solar energy-related resources available on the Internet has been compiled and will be made available next month (Peter Spangler). **Educational Programs Division:** Initial drafts of physical science term translation sheets are being reviewed by student users (Jean Wu - Chinese/English; staff - Spanish/English). The University Programs Group continues to study possible liaison activities. **Policy Division:** An initial study of domestic energy policy decision-making concerning both terrestrial and space-based solar power is continuing. (M. Ciotola). Initial information-gathering has been completed for a qualitative survey of the domestic solar energy industry and retail system and a draft report is being developed (A. To). **World Studies Division:** Initial literature studies are presently being undertaken for the following areas of the world: Africa (Abdoulaye Yansane); North America (staff); and Belize (Karla Gottlieb). Other areas will be studied later.

Volunteer of the Month

Ann Marie Cheng

for her help

with

our incorporation paperwork

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