

Plenary Address: *The Rise and Fall of Cyberspace*

Speaker:

Alex Soojung-Kim Pang
Institute for the Future
Palo Alto, California

Reporter:

Paige Jackson
American Psychological Association
Washington, DC

At Institute for the Future, Alex Soojung-Kim Pang's work focuses not on evolving technologies themselves but rather on the implications of technologic changes for how people live and work. In his plenary address, he discussed the likely role of information technology in publishing.

What is cyberspace? Quoting John Perry Barlow, Pang characterized cyberspace as "transactions, relationships, and thought itself, arrayed like a standing wave in the web of our communications" and then went on to describe it as being somewhere else while being accessible to everyone everywhere. We first became familiar with cyberspace as a romantic notion in science fiction. Later came the more realistic human–personal-computer interaction—those early days of accessing cyberspace were often difficult and frustrating for users.

How accurate were early predictions about cyberspace? Many thought that cyberspace would evolve into something separate from and better than the real world and would ultimately transfigure the real world. Instead, some aspects of offices and laboratories—the physical layout and social interaction, for example—promote collaborative work, and cyberspace lacks those important dimensions of information.

What about emerging technologies—in particular, the evolution from personal to pervasive computing? Increasingly, the low cost of new features is making it economically feasible to put them into all kinds of

things, such as coffee mugs and appliances. Ultimately, we will have an abundance of products that interact with us and technical platforms that interact differently from computers.

The new technical platforms are causing a shift in how we interact—from episodic to persistent Web interactions, from computer-centered to people-centered technologies (Web 2.0), and from publishing media to creative media. Technologies will be flexible enough that they themselves will not determine the future.

How will these shifts affect young scientists? First, they will promote the globalization of science. Previously, talented people from third-world countries tended to migrate to developed countries. Going forward, talent and information will migrate to and from many places.

Second, the basic assumptions of young scientists about their professional futures are changing. Few intend to pursue conventional academic and industrial careers, because of the increasing prevalence of significant trustworthy alternatives to traditional jobs. Moreover, they do not look to traditional journals to obtain the newest ideas or to connect with people. The value of traditional publishing over self-publishing is uncertain, particularly as the role of traditional journals in professional advancement is called into question.

With the declining importance of traditional journals and the increasing prominence of alternative modes of publishing, what are the implications for editors? Editors contribute to the clarity of journal articles and to the rhetorical skills of authors. It is important that authors continue to take advantage of this important



Pang

source of tacit knowledge. Going forward, many editors may break with publishers and begin working directly with authors and with specialty communities.

During the question-and-answer period, Pang was asked for predictions for the next 50 years, akin to those made by Colin Humphreys in the previous day's plenary session. Pang cited the importance of solving the problem of resource use. With improved monitoring of energy expenditures and the cost of pollution emissions, we can use technologies to develop a system of load balancing. Also, the vast raw data now available in repositories could be useful for resource management—in factories, offices, and homes.

Another conference participant cited the traditional paths of disseminating the results of research projects—journal articles, encyclopedia entries, college texts, and the Discovery Channel—and asked whether, with the increasing proliferation of the Internet, scientists will tend to introduce their results directly to the public and popular culture. Pang agreed but added that a number of History Channel and Discovery Channel programs have been based on issues and information gleaned from the Internet, so research results can be disseminated by a variety of paths. 🔥