The Frontiers Ahead

A Dialogue on the Progress and Promise of the Internet

Lee Rainie, Director, Pew Internet & American Life Project
George Sadowsky, Executive Director, Global Internet Policy Initiative

Two authorities discuss how Internet technologies have reshaped our lives, and how they will continue to do so in the future.

Online space is a new world created by human hands, ingenuity, and imagination. It grows larger every hour of every day, and as it does, it becomes more and more a reflection of the real world of everyday life and human interaction. The traveler in online space may find it enlightening, beautiful, charitable, and wise. But the journey can also take one to places where vulgarity, ignorance, and dishonesty exist as they do in the physical world.

Global Issues Managing Editor Charlene Porter discussed these contradictions and the state of the Internet with two professionals in the field. Lee Rainie is the director of the Pew Internet & American Life Project, a research organization studying how the American public is adapting online. George Sadowsky is the executive director of the Global Internet Policy Initiative, a group working to assist foreign governments in taking advantage of the Internet's benefits.

Question: The "evolving internet" mirrors an image frequently used to illustrate the course of human evolution. The first primates come down from the trees, begin an upright stride across the plains, and progress through several stages of development to become Homo sapiens. Compare our evolution in use of the Internet to that image. Where would you place us today on that developmental path?

Sadowsky: I think we're still swinging from the trees. The metaphor is a very good one. Many people seem to think that the Internet sprang full-blown from I don't know what anatomical part of some god or goddess. In fact, the development of information technology generally has been going on for hundreds of years. The Internet, although it is only about 40 years old now, relies on a lot of technical developments that came from previous technologies.

We haven't seen anything yet, even though we've seen an enormous amount of development from the beginning of computers in the 1950s to something now which appears like magic to most people. We can get information from anywhere in the globe—almost instantaneously. We have communication with so many people almost anywhere in the world. So many services are being layered on this magical transport device. Still, I think we're going to see a lot more, we just don't know what it is yet, but it will come.

> "You can communicate with more people in more ways, form more bonds, and learn more things using the Internet."
>
> Lee Rainie

Rainie: I actually would place us in the metaphor at a different place, but endorse a lot of what George was saying. I think that we're standing erect now. We have our basic civilian clothes on, and we're sizing up the materials for the jumpsuit that we will wear in the spaceship. We haven't picked out all the material yet, and we're still experimenting with what we want, but we now are seeing the possibilities that will exist in the not very distant future—computing that will be everywhere, access that will be everywhere, communication that can take place from anywhere to anywhere.

Q: Access anywhere, anytime, but to anyone? Surveys now show about 600 million people using the Internet worldwide out of a global population of more than six billion. As users in the developed world become ever more sophisticated in their use of the technologies, billions more don't know them at all. Does that mean the digital divide is narrowing or widening?

Rainie: I think for the short term it might widen. The people who have access are privileged in a way that people who do not have access are not.

There are five basic things that you get with the Internet that make life better for you. You can take better care of yourself. You can learn more than you used to. You can become a much better economic agent, both as a consumer and a producer. You can become a better citizen, so your power in the world grows. And finally, you become a better social agent. You can communicate with more people in more ways, form more bonds, and learn more things using the Internet.

The pace is accelerating along those five dimensions. People who do not have access are going to be left behind for the short term. There are bigger problems in their lives, though, than lack of access to communications technologies. Medical conditions are poor. The basic economic conditions are poor. Once those aspects of their lives improve, then it makes sense to worry about giving them access to information technologies.

The other thing that's easy to see in the future is that we won't depend on wires nearly as much as we do now, and the devices we use to access the Internet will be simpler.

Sadowsky: All new technologies diffuse from the time when they are introduced to the time when they have essentially saturated whatever population they are going to saturate. I think if you want to compare the diffusion of the Internet in the world, you should compare it with a few other things. The fastest diffusing technology I think was the television set. We went from the first commercial networks in the early 1950s, through the 1960s and 1970s when television was widely established throughout the world. So I don't think we should take the Internet to task for not diffusing fast enough. It's going as fast as it can.

In many countries, although not all, the private sector is the fundamental motivating force that helps that diffusion go as fast as possible.

Q: The digital divide will be a major issue on the table at the upcoming World Summit on the Information Society (WSIS) to be held in December in Geneva under the sanction of the U.N. General Assembly. What are your expectations for the summit?

Sadowsky: I think it will end with substantial agreement on platitudes, and very little actual

results. That observation would apply to both the Geneva summit this year and the Tunis summit in April of 2005.

Everybody expects a lot from information technology, and information technology can bring a lot to the table, but the summit has strayed very much into the socio-political dimension, and it's trying to use information technology as a focus to solve many, many different problems.

There are also some fundamental disagreements among the countries. I read some of the accounts of the latest PrepCom (Preparatory Committee of the WSIS, held September 15-26), and the disagreements are in the area of who is going to pay for it, who is going to control it, and what kind of information is going to be allowed to circulate. Those are very fundamental divisions that exist today among the cultures.

The money issue isn't much of a division, there just isn't enough of it, and people have different priorities.

So I think the initial results will be euphoria followed by not very much of anything.

Rainie: One of the big tensions that will emerge in Geneva centers on whether access to this technology is an entitlement—an essential privilege of the human condition. No other technology has ever been discussed in that way. This speaks to the power of the Internet. We know that access to information, and better access to people, can make life better. The question is: To what degree is access to the Internet a right? That leads to discussion about who pays for it, and who gets to control the product.

It would be nice if there could be some consensus in Geneva about where we're going, the essential conditions under which the Internet is going to function. Then, we could leave it to each individual culture to decide how much government control there should be, how much should be left to the private sector, to what degree educators should be involved, to what degree there should be credibility screeners for information, etc.

Q: Let's turn to e-government, the effort by governmental entities large and small to interact with their publics online and to offer information and services to them. Some experts say that governmental entities will only truly progress in this endeavor if they are able to transcend the problems that citizens have typically complained about – slowness, inefficiency, excessive bureaucracy. How do you gentlemen assess the rate of progress in this arena of online activity?

Rainie: Clearly, a lot of people who run government agencies are having new kinds of conversations about what business they are in, whom they are trying to serve, and who are their masters? Those are good questions to be asking. In many respects, the issue isn't whether we should move government information and services online, but how we should do it that best suits the needs of our citizens.

One of the biggest arguments in information policy in the United States is to what degree should government disseminate information in an environment where bad guys might learn useful things. Americans are all for transparency and all for maximum disclosure until the word "terrorist" enters the conversation. Then they are ready to pull back and say, "No, I'm ready to leave questions about what information to release to the people who run my government. Let them determine what seems safest."

Sadowsky: I agree with that. I tend to work more in developing countries, and what I see are the initial steps—sometimes timid, sometimes brash, sometimes knowing what's happening, and sometimes not—toward implementing initial e-government functions. One of the problems we have in many governments—and to some extent in the U.S. government too—is that there are vested interests opposed to transparency. That's terribly important to try to understand and work around. One of the hopes for improving the democratic climate in developing-country governments is that e-government functions can be instituted and can lead to greater understanding among people about how their governments work, and greater interaction between citizens and members of their government.

I understand in Britain there is a service that allows any person in the country to e-mail their parliamentarian and have a pretty good chance of getting a response. That happens in the United

States when people write the President and the letters are shuffled around and finally a response is given. But the immediacy that the Internet creates, the ability to have direct contact with people in government, is terribly important, I think, for opening up governments and making people feel they have a part in the governmental process.

Q: Everything you've said is premised in the notion that government wants to respond to citizens. There are certainly any number of governments in the world that don't care to be responsive. Can these technologies force them toward greater responsiveness?

Rainie: I think that's inevitable. It won't be the case that every ministry will produce all the information all the citizens want. But the Internet gives new power and new voice to gadflies, whistleblowers, and people inside the agencies who are anxious to disclose what they know.

All the force is toward disclosure, openness, and responsiveness, but these policy issues are going to be argued over a long period.

Sadowsky: These are very enabling and exciting technologies. In the case of governments that are not particularly friendly toward the Internet in terms of implementing e-government applications, there are other considerations. A government doesn't look at the Internet just to provide e-government. Typically what I've observed in my work in the developing world is that governments will look at the Internet as a way to get on the global e-commerce train, and that train is leaving the station. That message is being broadcast and governments are listening. To the extent that e-commerce provides the motivation, the Internet is going to invade that country, and eventually the kinds of uses that are made of it in terms of enabling business relations suggest that governments are going to make good use of it also.

Vinton Cerf, one of the fathers of the Internet, said, "The Internet has never retreated." In fact, it doesn't. Once it gets in, it's going to spread. It will play out in different ways in different countries, but the Internet is going to increase its presence and there will be pressure on government to revolutionize the way it deals with its citizens.

Q: Internet surveys show that some of the Web sites receiving the greatest traffic are involved with unsavory and mundane activities—pornography, gambling, the sale of diet pills. Do those findings temper your optimism about people using the technology to become better citizens, improve their societies, and make a better world?

Sadowsky: That is a very important issue right now. I would argue that all technologies are neutral and their value depends on what use is made of them. I was just reading a book about the development of the atomic bomb, and the hope at the time of the Second World War that the bomb could be forgotten and nuclear power plants would eliminate our dependence on fossil fuels. Well, we can see what happened with that.

With the Internet, I think there's more hope that the positive side will win, and the miscreants who are flooding our networks with spam[1] will eventually lose. I don't know how that's going to happen.

We have to separate the pornography challenge from the spam challenge. I think spam is a major challenge and we're going to have to find out how to deal with that before our technology is reduced to something that is mundane and ineffective because of what is essentially a denial-of-service attack[2] by all the spammers of the world.

Evolving Internet Facts

• 25 percent of America's e-mail users say they are using e-mail less because of the electronic junk mail known as "spam."

• 75 percent of U.S. e-mail users are bothered that they can't stop the flow of spam, no matter what they do.

• 70 percent of U.S. e-mail users say spam has made being online unpleasant or annoying.

Source: "Spam: Hurting E-mail and Degrading the Internet Environment," by the Pew Internet & American Life Project, October, 2003

Rainie: The genius of the founding fathers and mothers of the Internet was to make it a system dependent on what happens at the ends of the system, not the center of the system. That means the online environment has the same good features and bad features of all human endeavors. It's going to be chaotic and ugly sometimes, uplifting and enlightening other times.

Everything that happens in the human condition is reflected in the online world. Online and offline, you've got predators, as well as people who help cure others. Online and offline, you've got hackers, as well as people who solve other people's problems. Online and offline, you've got people who commit fraud, as well as people who are good Samaritans.

Q: You both are professionally involved in the Internet, but certainly this technology has touched your personal lives as well. Give me an anecdote about how your own life has changed because of the Internet.

Sadowsky: I have been in this business a long time. I started with the Internet in 1986, and prior to that I was doing work in developing countries for the United Nations. One of the things that has radically changed is the ability for me to have a community of friends and colleagues that spans the world.

I was in Rwanda as a technical specialist for the United Nations in 1981. I was doing a debugging session on a computer we had bought to do the census. I had to ask the manufacturer of the computer a question, so I tried to make a telephone call from Kigali to Dayton, Ohio. Two weeks later, I gave up. There was no way I could do it, the communications were so poor. The telexes didn't go through, the intermediaries to forward the telexes weren't there. The radio-telephone wasn't working sometimes; it was only open two hours a day.

Now I communicate with every one of my friends in every capital of the world, instantaneously, without a problem, knowing the message will get through. I can work in this virtual community—as large or as small, as general or as specialized, as I want—to address what I want to do, and I do it with success. That opens up all kinds of possibilities in addition to making the world a much smaller and potentially friendlier and more understanding place.

This is going to happen to people generally, and maybe 20 years from now it won't be unusual for a child in school to have a "pen pal" in half the countries of the world.

Rainie: My network has changed dramatically, too. Many more people are in it, which adds some stress to my life. Many more people have a claim on my time and attention. I'm sitting here today because of the Internet. People at the State Department found me and my work through some kind of online search. Half the calls that come into our office, half the invitations that we get to talk to people about our research, come from people who have found us online. My network is growing daily.

The other dimension of my work life that is radically different is that it has ballooned. I work at home and do "home" stuff at work. I shop at work, I book my airline tickets at work, and I occasionally play games, but I also read my e-mail before I go to bed, and the first thing when I get up in the morning. I take my laptop on vacation with me to stay on top of my e-mail. I feel like I spend much more time "on the clock" than I used to.

A third thing that has changed in my life is my Sunday nights. I have teenage children, and they have very different school lives than I had. When you had a major school project in the past, you had to go to the library a couple days ahead of time to make sure you had all the research you needed for the project. Nowadays, I can't count how many Sunday night miracles we've had in my family when assignments were due on Monday, but none of the research had been done beforehand. The library has been closed for the whole day. Yet we can go online to find all the material we need to make sure the projects get done.

Q: Some skeptics out there are fearful that your teenagers and their peers are growing up with the belief that the sum total of human knowledge is on the Web. What are your concerns that a whole body of knowledge could be lost because the Internet generation lost the habit of going to the library and looking it up?

Sadowsky: It's definitely an issue. I would argue that probably less than 5 percent of the world's knowledge is online, although it's increasing rapidly and ultimately it's all going to be there.

With both published and online material, you have the similar problems of truth and reliability. Just because information appears in 12-point type doesn't make it true. What does it represent? Just as was true with books years ago, material online may carry more authority not because of the content but because of the form in which it is presented. That's a danger we're going to get over, just as we all learn how to tell fact from fancy and how to evaluate different opinions.

We'll learn to deal with these things. This is a technology that presents new challenges, and we'll learn to develop our abilities to determine the veracity of a source and stabilize a source so that we can be certain of the reliability of online information.

Rainie: You also have to recognize that the Internet is giving a new life to endangered human knowledge. The Internet is being used in wonderfully creative ways by local cultures to preserve their languages, their artifacts, and to keep their traditions going in ways that local institutions have abandoned.

Recently I heard about a medieval scholar who put an unbelievably rich database online from sources around the world. Think of the value of that kind of scholarship and that kind of archive for other people around the world. It only takes one person to put the Dead Sea Scrolls on line, and then every other person who's interested has access to it.

To think about the new possibilities for story telling and communicating is enormous. We haven't yet found our best ways to do storytelling online, but when we do, it will combine the great powers of text with the immediacy of images and do it in ways that are wholly new.

Sadowsky: This is a tool that enables individuals to do a lot of things that they otherwise wouldn't be able to do. The ability for curiosity to thrive has been given a totally new life by the Internet. One person in a developing country can use the Internet to educate himself or herself in ways that would have been totally impossible just 10 years ago. We certainly have enough problems in this world that we need the best minds applied to them. We need all the creativity we can get. As far as I can tell, intelligence is pretty evenly distributed around the world. We're not making as good use of the capabilities in the developing world. The Internet is a really strong tool for helping people to feed on the knowledge base and contribute to solving the world's problems.

1 Spam is electronic junk mail, generally advertising. Spam can consume a significant amount of network bandwidth, and can potentially slow down or even crash network systems and even slow the World Wide Web.

2 A denial-of-service (DoS) attack is an attack on a network that is designed to bring down the network by overloading it with useless traffic.

Lee Rainie and George Sadowsky participated in this discussion at the State Department's Bureau of International Information Programs in Washington, D.C.

The opinions expressed in this article are those of the interview subjects and do not necessarily reflect the views or policies of the U.S. government.