

Reference and User Services Association, American Library Association  
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“Public Policy and the Future of the Internet”

I want to highlight three major areas of policy ferment that will play out in the coming decade.

The **first policy debate involves what kind of internet we have** -- from an architectural and deployment standpoint.

The **second involves what kind of information policies we have** – basically I am referring to the kind of rules we develop about information property such as copyright, patents, and trademarks.

And **the third involves what kind of policies and norms we develop about our online identities** – that is, the policies we construct about online privacy, anonymity, and surveillance.

These are the areas where there are critical uncertainties about what the internet will become. It strikes me that librarians will be useful contributors in each of them.

Now ... some things about the future are a given: In 10 years, the computing power at our disposal will likely be 20-30 times greater than it is now and considerably cheaper if Moore's law continues hold – and the wizards at Intel and other processor makers seem determined to innovate in ways that even Gordon Moore might not have envisioned.

Furthermore, our ability to pack lots more data into hard drives will keep pace. This will bring more people AND MORE THINGS into the networked world. We'll be wearing devices on our bodies that will “talk” to devices in the environment. Chips embedded in our cars, our household furnishings, even the soil, will feed data to each other and help us figure out how to skirt traffic jams, when to water our flowerbeds, and even when the pizza delivery van has pulled up to our house.

It strikes me that public policy will likely leave these kinds of things to markets and technologists.

In addition, technologists will continue to make major advances in how quickly and efficiently digital material can be moved around wires and wirelessly. There will be a “broadband tsunami,” but there are two public policy disputes in the realm of internet architecture where the outcome will determine how quickly and how widely that tsunami forms and washes over things.

The first and most immediate issue relates to broadband deployment: This has already come up in the presidential campaign, tied at least in part to reports that the United States ranks somewhere between 15<sup>th</sup> and 25<sup>th</sup> among advanced nations in broadband penetration. There is particular concern in the United States about the best way to bring broadband connections to rural areas and to those with relatively low household

incomes and if policies should be created to encourage more adoption in those communities.

A related broadband policy dispute centers on net neutrality – whether providers can offer premium media content over their networks ... and give that content preference over other digital material in return for charging higher prices to recoup their investments .... or whether all digital material from emails to high-resolution movies should be treated equally by the network as it currently is.

The American Library Association has already endorsed Net Neutrality legislation and the issue is sure to continue to have a notable level of grassroots agitation in the technology community and in some other segments of the population – if for no other reason than it tied so directly to the issue of how best to expand broadband availability.

It appears for now that the most interesting battles over net neutrality will play out at the regulatory level – for instance as the FCC and FTC pass judgment on proposed mergers among various internet providers. And the way those disputes are resolved will have an impact on the quality of service on the internet and the innovation that takes place.

The second public policy issue on internet architecture relates to the longterm problems tied to the innards of the internet itself. A goodly number of the creators and builders of the internet are beginning to work on a new architecture that is less vulnerable and more efficient as a way to facilitate communication and information flows.

Those at the center of the “start over” internet say they are trying to solve four key problems with the current internet:

**Security:** No one expected that the level of malevolence online to be what it is, so the “start over” crowd would love to build a new system that would do a better job of authenticating people and their computers in a way that would keep hazards like viruses far away so that you wouldn’t have to buy special software for protection.

**Mobility:** The internet was invented with fixed and stationary computers in mind and the fact that wireless connectivity has exploded the way it has ... has caught many by surprise. The “start over” folks want to create a new system to assign internet addresses to small and mobile devices such as sensors, phones, and embedded processors in cars would allow them to connect to the internet securely.

**Instrumentation:** When we asked experts three years ago what had surprised them most their first answer was the growth of the Web itself. Their second answer was the way file-sharing through peer-to-peer networks had emerged. Basically no one foresaw the level of traffic the internet would bear and there are all sorts of hassles in the way data moves on the internet these days. So, the “start over” folks would like to build something allowing all pieces of the network to have the ability to detect and report emerging problems such as technical breakdowns, traffic jams, or replicating worms to network administrators.

**Protocols:** These traffic flow concerns also prompt “start over” architects to want to structure better traffic routing agreements between internet service providers that would allow them to collaborate on advance services without compromising their businesses.<sup>1</sup>

So, internet architecture issues are the first realm where I argue that public policy-makers are very active and where the decisions will shape the internet.

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A second debate that will powerfully affect the future of the internet involves information itself – who owns it? for how long? How much of it can legitimately be remixed or shared?

The center of the universe for much of this commotion is not policy makers in legislatures, but with rule-makers at places like the FCC and federal courts – and perhaps in law offices where newer and more flexible licensing deals are constructed.

The most heated conflicts involve peer-to-peer services and YouTube and the format has changed in the past two years from audio files – basically music files – to videos.

That has raised the stakes. Video productions are a much bigger business than audio/music productions, so the financial matters at issue are considerably greater. And video involves a lot more licensing complexity.

And even if the current disputes over information property might get settled for now, I’d predict they will reemerge repeatedly and might be re-resolved in very different ways when the members of Generation Y (those under age 25) come to power. The generation that grew up with the internet and other digital technologies has very different notions from its parents’ generation about what constitutes fair use, the power (or impotence) of copyright protections, and what it means to mashup and share content.

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That conveniently leads me to the third policy domain where enormous debates have yet to clarify – much less to be resolved – that is, issues related to identity, privacy, and surveillance online.

It is very clear that users really like the empowering aspects of the internet that permit them to be their own broadcasters, their own publishers, indeed, their own story tellers and culture creators.

About three-quarters of online teenagers have created and posted content on the internet – doing things like writing blogs, creating webpages, posting pictures and videos and creating profiles on social networking sites such as MySpace and Facebook. About half that proportion of online adults have done the same.

And in the next decade, it’s a safe bet that the volume of personally-created material will have exploded to almost unimaginable levels.

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<sup>1</sup> See [http://www.technologyreview.com/InfoTech-Networks/wtr\\_16051.258,p1.html](http://www.technologyreview.com/InfoTech-Networks/wtr_16051.258,p1.html)

The pleasure of doing this kind of thing is enhanced by making it findable, especially on Google, the playpen of the narcissistic.

As people experience the joy of a high Google ranking and second-to-second broadcasts of their doings, they also are disclosing a tremendous amount about themselves. That means prospective employers, lenders and credit-card companies, college admissions officers, romantic partners, business associates and business competitors can learn a great deal about them.

My sense is that most content creators – especially the youngest ones -- have not fully weighed the pluses and minuses of this volume of disclosure and that a day of reckoning will be coming when many people live a digital approximation of “The Truman Show.”

In ten years, when much of the environment itself is wired, when debit cards are more widely in use, when Google street-view is updated in close to real time, when your comings and goings in public buildings are recorded by any number of surveillance cameras, there will be lots of ways for others – and their preprogrammed machines -- to keep tabs on many more dimensions of each of us. And we, in turn, will have that same privilege.

At some point, I suspect there will be a reckoning. But it is hard to know how it will resolve. I suspect some of the policy suggestions will revolve around ideas about parallel transparency (if you can watch me, I should be able to watch you watching me) and some kind of opt-out mechanisms that might allow people to step off the digital grid under some circumstances.

So, that is a quick rundown of the three critical uncertainties whose resolution will affect the shape of the internet in the next decade:

- 1) There is uncertainty about the architecture of the internet itself and the direction that broadband deployment will take
- 2) There is uncertainty about how to treat intellectual property in the age where information is digitized and can easily be copied and shared
- 3) There is uncertainty about how people will evolve in an environment where many-to-many can mean many people are checking up on many other people

In each of these realms, I believe librarians can provide useful context and useful advocacy. And I've come up with 10 reasons why the future can belong to librarians

1. Nobody knows better than you the basic contours of people's information needs and how to meet them. If I wanted to know the most common human FAQs, I'd ask librarians, preachers, and 911 operators.
2. Nobody knows better than you how to manage information and track it down.
3. Nobody knows better than you the importance of information standards – the common ways to categorize, sort, and assess information.

4. Nobody's word about what's truthful and what's meaningful has more credibility than yours.
5. Nobody is in a better position than you to teach people about information and media literacy.
6. Nobody is more empowered by professional creeds and training to articulate the rationale for freedom of speech than you.
7. Nobody is in better shape to play a thoughtful, constructive role in debates about the value of information "property" and the limits of copyright.
8. Nobody is in a better position to be a watchdog on new systems of sorting information than you.
9. Few other institutional voices are as well positioned as yours to guide conversations about the new norms and even new laws we need to develop about what information is appropriately public and what is best kept private.
10. No one can get "up to speed" faster than librarians on whatever new economic and social issues the internet introduces to our society.