

Plowing the Field of Dreams

A new-media specialist shows how the online video explosion forces a reconsideration of just what constitutes television. | **By John V. Pavlik**

Inspiration can be elusive and sometimes comes from the most unexpected places. With the death last May of Elma Gardner “Pem” Farnsworth, it is worth recalling the spark that once led her late husband, Philo T. Farnsworth, to his invention of television. As a 13-year-old boy, Farnsworth plowed the fields on his family’s Rigby, Idaho farm in the early 1920’s. Traveling back and forth across the fields behind a horse-drawn machine, he thought about how he plowed one row at a time and transferred this experience to solve a problem with a newly emerging machine designed to transmit pictures through the air.

Other inventors had been designing mechanical television devices with whirling discs and mirrors but struggled to produce the desired result. Farnsworth’s inspiration came when he realized he could employ electrons to transmit and scan an image far more rapidly onto a picture tube in the same fashion as he had plowed the fields, one row at a time. This inspiration laid the foundation for the development of electronic television, and Pem Farnsworth worked by her husband’s side for decades helping him advance his invention.

In some ways, television is in the midst of a new stage of inspiration and innovation. The advent of both digital technology and the Internet have led to a radical explosion in the development and distribution of television, or video, in an online environment.

This transformation of television involves at least ten dimensions. These are 1) the medium of online delivery; 2) the devices for accessing, displaying or watching video; 3) the audience or users of video; 4) the producers of video; 5) video content itself, 6) the distributors of video; 7) the financiers of video; 8) the regulators of video; 9) the digital technologies of production (and encryption) which in many ways are fueling the explosive growth in video production and protection; and 10) the inventors and innovators of the next generation of television. In this first half of a two-part article, I will deal with the first four of the above-listed dimensions and will elaborate on the others in the next issue of *Television Quarterly*.

This story begins with the ubiquitous deployment of broadband Internet access. Although many homes had dial-up access to the Internet in the 1990s, this slow

speed delivery meant a very limited form of video was possible. The first decade of the 21st century has seen wide-spread delivery of high-speed, or broadband, Internet access. The

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The Federal Communications Commission “generally defines broadband service as data transmission speeds exceeding 200 kilobits per second (Kbps), or 200,000 bits per second, in at least one direction: downstream (from the Internet to your computer) or upstream (from your computer to the Internet).” Broadband access is now at more than 70 percent of U.S. Internet users, or more than 40 millions persons. There are at least six different means of broadband delivery, including digital subscriber line (DSL), cable modem, fiber or fiber optics, wireless, satellite and broadband over powerline (BPL). DSL and cable modem are the leading providers of broadband to U.S. homes, but wireless is increasingly important in the delivery of broadband to portable devices, and therefore for video to such mobile devices as cell phones. Broadband is increasingly popular because it can deliver a variety of enhanced services, including voice over Internet protocol (VoIP), high-speed music downloading and video on demand.

A growing concern about the distribution of online video is what it may do to the actual arteries of Internet traffic, the major Internet service providers, including the telephone and cable companies. An increasing chorus of these companies is warning that TV-quality and high-definition programming could choke the Internet. The bandwidth

required to deliver such high-quality video is considerable, and although small, low-resolution video clips do not pose a problem, the increasing volume of high-quality video has carriers such

as Verizon and AT&T contemplating charging content providers to guarantee delivery of large video files. Such a toll lane poses other problems, of course, including potentially locking out smaller video providers. To compete, cable TV giant Comcast is building an on-demand video service using Internet technologies.

Devices for Accessing, Displaying or Watching Video

Viewing video distributed online requires a computer, a handheld such as a cell phone or some other digital device with access to the Internet, typically broadband, or high-speed access, either wireless or land-line. Increasingly, video providers are producing original video designed specifically for either online viewership or viewership on a small-screen mobile device, mandating special design considerations. Among these considerations are the use of only relatively large text on the screen for easy readership and usually reduced amounts of text, still images which require less bandwidth, and different types of shot selection, framing and editing of pictures. For example, long shots with small objects are almost useless when displayed on a small screen because the viewer is unable to discern what they are. Closeups are particularly important, and limited camera movements are required because excessive or rapid panning,

zooming or other camera movements may result in pixilation when delivered online, especially via wireless delivery media.

The online video explosion is about more than just television. In fact, it forces a reconsideration of just what constitutes television. Listening to satellite radio on May 3, 2006, the author heard a decades-old but still funny comedy routine by Bill Cosby about the stupidity of watching golf on television. What made it especially amusing to the author (an avid golfer who likes watching golf on television) was Cosby's reference to the plethora of television channels available at the time: a whopping seven. Today, with satellite and cable television systems, most U.S. homes have access to hundreds of channels of scheduled, premium and on-demand video programming delivered to their "television set." But, the same homes, typically equipped with broadband Internet access, oftentimes through the same digital network delivering their "television," have access to potentially millions of "channels," if that is the right word for it, of video programming, whether scheduled, on-demand, free or for purchase, delivered to their computer or another digital device such as a personal digital appliance or cell phone. In terms of video volume, the online video or television is in the millions of hours, and growing dramatically each day. The biggest challenge for many users or audience members is finding the video they want or might enjoy watching.

Watching video on any digital device requires a software player. Usually, these players are available for free, although

sometimes there are fee-based advanced players with more features or capable of playing video at higher quality of resolution, frame-rate or size or additional premium content. Sometimes video software players come pre-installed on digital devices or computers, but occasionally downloading, installing and upgrading is needed or recommended. Upgrades sometimes add features for the viewer, but sometimes they include hidden features that allow distributors to better track viewing or restrict viewing based on copyright restrictions.

In September, 2005, the British Broadcasting Corporation (BBC) provided some 5,000 of its viewers with a computer program called the interactive media player (iMP), which allows them to download most of the BBC's television programs for up to seven days. Among the programs available for online viewing are the long-running soap opera *EastEnders*, nightly newscasts and major sporting events. Cell phones typically require additional technology (hardware and software) to view video programs downloaded from the Internet. One such device is the Sling box, which attaches to a high-speed Internet access device such as a home computer and then uses wireless technology to deliver the video content to a cell phone.

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Consumer-electronics giant Sharp reports that it will soon introduce an LCD-screen TV for the Japanese market enabling viewers to watch high-definition television, use a remote control to access

the Internet, and store TV shows on an internal hard drive.

In the days of terrestrial broadcast television, and even the early days of cable TV, the viewers of television were typically called the audience. This term is increasingly becoming antiquated. In today's digital, online age, video is not just something people watch. The audience is no longer passive or a couch potato, at least not much of the time. A more appropriate term for many consumers of video is a user, or even a producer. The video user is becoming far more active or interactive. Video is downloaded, accessed on demand, stored or saved for later viewing, fast-forwarded through, searched, sorted, edited, redistributed, uploaded, clicked on or otherwise manipulated in video games, and subject to a host of rapidly evolving interactive features.

Only occasionally is it just watched. Users are often highly mobile, and watch short video segments, sometimes serialized and viewed on demand, often for a fee. Users equipped with video capable cell phones or other mobile digital devices shoot their own video and transmit it to friends or family. Although slow to develop in the U.S., in many other parts of the world where advanced digital cellular networks are already in place, users are engaging in high-quality video phone calls from one mobile device to another. The author tested one such system while visiting Stockholm, Sweden in November, 2005, and found the video more than satisfactory in terms of resolution, frame-rate and audio quality.

While writing this article, I noticed my 13-year-old daughter, Tristan, sitting in front of a computer. I asked her what she was doing, and she replied, "Watching the news." Taking a closer look, I saw

that she was watching a video produced by *The New York Times* and available on the nytimes.com home page. "What's the story about?" I inquired. "It's about a candidate for mayor of Newark," she replied. The video was seamlessly playing, in nearly full-screen mode, with high-quality audio, and what a professional might call broadcast-quality production values.

A quick perusal of the nytimes.com site reveals a variety of well-done video reports on a variety of topics, ranging from breaking news to technology reports. If the author's experience with his daughter is any indication, the video-news habits of the elusive next generation "audience" is undergoing a dramatic transformation. comScore/Media Metrix estimates that more than half (56 percent) of the U.S. online audience has viewed streaming videos in the past year. Consumers viewed 3.7 billion video streams in March 2006 and about 100 minutes of video content per viewer per month, compared to an average of 85 minutes in October. Video viewing on phones is expected to rise in the coming years, as the number of video enabled cell phones rises from 3 million in the U.S. in 2006 to an estimated 15 million by 2009.

The Producers of Online Video

Online video comes from an explosion of sources. Television was traditionally produced by a select group of companies and distributed by a finite number of broadcasters who tightly controlled what went on air. Cable has public access, but this is a drop in the bucket of total television programming.

Since the introduction and development of digital technologies, video production and distribution has grown exponentially. At the same time,

the diversity of sources of video has grown dramatically wide and varied, from high-end professional producers to literally mom and pop producers, son and daughter, and just about everyone else.

Much of this video is of very limited quality or interest. Some online video is produced by young, independent videographers looking for an alternative vehicle to reach an audience. Original fan productions such as those created by devotees of the popular television series *Star Trek* are among the best produced and most widely viewed programming on the web. Austin, Texas-based StarShipExeter.com is among the best examples. Sometimes the video it is produced by average citizens who may have home video they want to share with friends and family, or they may simply have exhibitionist tendencies, and much of this video is not worth watching.

In some cases, non-traditional providers can bring diversity to the television mix. One example is Barrio 305, an independently produced online video magazine about Latino culture. Much of the coverage has focused on the rise of urban Latino youth in South Beach, Miami, FL. Produced in English and Spanish, the production values are not quite at the level of much commercial television, but it is still a useful alternative voice.

In other cases, online video is of somewhat less value, at least as independent journalism. A case in point is an online video produced by the American Institute of Certified Public Accountants (<http://feeds.feedburner.com/AICPAMultimedia>). Essentially a video news release, the video podcast titled "Pillars of Success" profiles the story of four African American CPAs.

If there is a one problem facing

consumers of online video, it is sorting through all this video trash for the occasional nugget of interest or quality. There is no comprehensive programming guide for online television and video. Real Network's Real Guide offers a useful guide to online audio and video programming, but is not complete. What is needed is a comprehensive and continuously updated web portal and search engine for online TV and video that encompasses all online video formats from MPEG 1 to 4, AVI, Quicktime, Real Player, Windows Media Player and the various other video formats online. The current situation essentially requires users to know all the locations of online TV and video and regularly visit them for updates.

A considerable amount of video comes from established, familiar or traditional sources, such as news and entertainment companies, television networks and stations, public television, sports teams and leagues, arts organizations and the government (for more on the topic of government-produced video, see the author's article about video news releases in the Spring/Summer 2006 issue of *Television Quarterly*).

One significant change in video news production from just a few years ago is that many news providers who had specialized in print, like *The New York Times* and *The Washington Post*, as well as news agencies such as the Reuters and the Associated Press, now produce extensive video for online and other distribution. The AP makes its news video available through member newspaper web sites, such as that of the *New York Daily News*.

An example of quality journalism being produced exclusively for an online audience comes in the form of a video report titled "A Shifting Bolivia," produced for *The New York Times* on the web by

Times' reporter Juan Forero. Forero reported from Bolivia on Evo Morales, who in January 2005 assumed the office of President of Bolivia. Morales is an Aymara Indian and former coca grower who is decriminalizing the growing of coca and making other fundamental changes to his country's struggling economy, but with significant social and political implications. The 13-minute multi-part web-exclusive video report features an interesting combination of video and stills, in English but with Spanish actualities either subtitled or dubbed in English.

Washingtonpost.com also produces quality original online video journalism, such as its October 4, 2005 report, *Fueling Azerbaijan's Future* (<http://www.washingtonpost.com/wp-dyn/content/video/2005/10/04/VI2005100400654.html>). The ten-minute documentary style report provided a detailed examination of the former Soviet-republic's economic development through its oil resources.

An interesting case is the Belo Corporation, owners of some two dozen news media properties around the country, including the *Dallas Morning News*, well known for its quality local and regional journalism, as well as television stations and interactive media. Belo has now developed a converged news operation where video is often produced and distributed alongside traditional newspaper reporting (<http://www.dallasnews.com>).

Last May I conducted telephone interviews with two Belo executives, including David Duitch, Vice President of Belo, Capital Bureau, who has responsibility for managing both the print and broadcast operations of the bureau. He has been behind the Washington Bureau's drive to produce videos for *The*

Dallas Morning News website. Among the best examples of online video journalism at Belo comes from the *Dallas Morning News* Washington Bureau, where veteran newspaper reporter Jim Landers has distinguished himself in the new media age by shooting and editing his own video to accompany his newspaper reporting. Landers specializes in international reporting on how developments around the globe impact communities in North Texas. He has mastered a new form of storytelling, and has produced quality video reports on a variety of stories, including economic problems in the West Bank and oil concerns in Saudi Arabia.

I also interviewed Belo's John Granatino, Vice President of News and Operations for Belo Interactive. Granatino noted that increasing numbers of the Belo audience are broadband enabled. "Roughly 80% of our online audience has broadband Internet access," he explains. The audience, he adds, expects broadband content, especially video. "Fortunately, we have it at our TV stations. We also create original video reporting. It's a 'must do,' not a 'should we do.'"

The audience has grown considerably for Belo's online video journalism. "We're seeing a doubling, tripling of video streams over past year. We're now doing two million video streams a month across 20 sites around the country." The video segments tend to be short, but in some cases, video blog reports can actually be longer than a video report on television. "Our reporters often give behind-the-scenes looks and this might take a bit longer," Granatino notes. Video advertising is especially growing for national web sites, but also for regional ones.

Among a growing number of news

organizations with video reporting capabilities is the *St. Petersburg (FL) Times*, once exclusively a newspaper organization. Today, “We think of ourselves more as a journalism company than a newspaper company,” explains Kevin McGeever, city editor for tampabay.com, the portal site where sptimes.com resides, and whom the author interviewed by telephone on May 23, 2006. “A year ago we weren’t even thinking about video,” he notes. Now the company produces it regularly. “Some stories lend themselves better to video, or are well told in moving images rather than in words or words alone,” McGeever adds. “We’re working to change the culture of the newsroom and video is not something journalists at newspapers always think of.” Stories where they have produced original video include the recent immigration marches as well as hurricane preparation. Particularly interesting is a special report on the petting of the manatee (http://www.sptimes.com/2006/03/20/Tampabay/Manatee_petting__Just.shtml), an endangered species living in the waters of the Tampa region and increasingly approached and harassed by snorklers in the area, in violation of federal law. The site obtained unique footage showing snorklers approaching the manatee and coming in illegal and harmful physical contact with the large marine mammal. At the *Times*, the legacy newsroom is embracing a culture change. Tampabay.com, the *Times* leadership says, is the “first edition” now and “we will publish at the height of interest...” Yet, McGeever adds, “it’s nice if the video

has an evergreen quality and audience interest can last more than a few days.”

A notable development regarding even these recognized quality sources of video is the sheer volume of video being made available online, either live or on demand. Most of these sources have found the cost of quality video production to have fallen dramatically or can leverage their resources by making the video available online after it has had its premiere on conventional television. Once it has aired, video is often made available for on-demand viewing online, including for a fee (ranging from modest amounts of about a dollar to substantially greater amounts) but sometimes for free.

In some cases, major web portals such as Yahoo! are producing significant amounts of original video for the web, including journalism. One exemplar is Kevin Sites in the Hot Zone (at <http://hotzone.yahoo.com/>). A veteran war correspondent, Sites has covered global war and disaster for several national networks and now is producing original video news reporting on various conflict zones around the world for Yahoo!. His report, “Africa in the Hot Zone” involved in-depth on-location reporting from Mogadishu, Somalia and elsewhere.

In the next issue of *Television Quarterly*, I will deal with such additional dimensions of the online future of television as video content, its distributors, financers and regulators, as well as the new technologies that are fueling the explosive growth in production.

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