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CONTENTS

Click on a story to jump to that page.

A FIRST LOOK AT HIGH-DEFINITION VIDEO STREAMING

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The author thanks Ali Habashi, Sanjeev Chatterjee, and Bruce Garrison for their assistance with this project.

By any technical or business standard, the short history of video streaming has been remarkably fast-paced and has contributed to opening new avenues for information technology businesses. This technology allows Internet users to view live or archived video programs without prior downloading, so it can be aptly characterized as Internet television (for introductory materials, see Austerberry, 2002; Dupagne, 2000a, 2000b; Mack, 2002; Wilkinson, 2002).

Within eight short years, the quality of video streaming has evolved from a deprecated, stamp-sized and jerky curiosity to a high-definition, full-screen and full-motion enchantment—with the right Internet connection speed. The first phase in video streaming technology began in 1995 when Xing Technologies (acquired by RealNetworks in 1999) and VDOnet introduced the first video streaming players (see Venditto, 1996). At that time, video streaming took its first steps toward recognition, but was often perceived as a technological oddity.

The second phase spanned from 1997 to 2001, with the launch of the RealSystem G2 by RealNetworks, the Windows Media Technology 7 platform by Microsoft, and QuickTime 4 by Apple. During these five formative years, the streaming technology matured and offered VHS and near-DVD video quality stimulated by significant codec (compression/decompression) improvements and the growth of broadband connections.

In August 2000, the streaming subscription model became a reality when RealNetworks introduced GoldPass, a $9.95 per month content service (Kramer, 2001). The company rebranded it as SuperPass in March 2002 (Kramer, 2002). RealNetworks also launched other subscription services, such as GamePass in July 2002 and RadioPass in August 2002 (Kerschbaumer, 2002). During the first quarter of 2003, the number of subscribers to its premium content services hit the million mark ("RealNetworks Swings to Loss," 2003).

The third and current phase ushered in yet another level of streaming sophistication with the introduction of the Helix Universal Server by RealNetworks in 2002 and the final release of the Windows Media 9 Series by Microsoft in 2003. The intense competition between the two companies has not abated. Helix Server allows streaming developers to webcast in multiple formats, such as RealMedia, Windows Media, and QuickTime. On the other hand, Windows Media Encoder 9 is touted as a professional tool to encode 720p or 1080i high-definition television (HDTV) programs into streaming files—a practice that can be called high-definition (HD) video streaming.

With this historical background in mind, this paper will introduce readers to the basics of HD video streaming technology. It has four goals: (1) to define the concept of HD video streaming; (2) to describe relatively simple procedures to encode HDTV content with RealNetworks' Helix Producer Plus; (3) to assess subjectively the video quality of encoded HD streaming clips in playback tests; (4) and to discuss some of the challenges that developers and users will face with this advanced streaming application. Though purely experimental for the time being, HD video streaming could take video streaming technology to an entirely new level within the next five years and deserves attention. For educators interested in media convergence, it also offers an opportunity to appreciate the implications of the challenging marriage between HDTV and computer technology.

What Is HD Video Streaming?

This study defines HD video streaming, or simply HD streaming, as the process of encoding high-definition video into a streaming file and making it available for viewing on a streaming or web server. This definition is purposively broad to account for future developments. It deserves some clarification, though. First, this definition does not specify that images be natively produced in an HDTV format (e.g., 720p, 1080i) because upconverters can convert analog NTSC television or digital standard-definition television (SDTV) sources to digital HDTV output. Some of these HDTV upconverters now cost less than $15,000 (Kerschbaumer, 2003b). In addition, 16 mm or 35 mm film can be easily transferred to an HDTV formatted tape and would offer high-resolution and widescreen images without qualifying as a native end-to-end digital HDTV product.

Second, this definition emphasizes the difference between high-resolution and low-resolution video. Current video streaming is technically graded as low resolution, rarely matching NTSC's 30 frames per second and often producing pixelated images during high-motion scenes (see Seel & Dupagne, 2002). HD streaming may change this perception because it can deliver high-resolution images (1920 x 1080 or 1280 x 720) in full screen with the original number of frames per second at 5 Mbps or lower.

Third, the term "HD streaming" is preferable to "HDTV streaming" to reflect the notion that a streaming encoder further compresses the HDTV source by a ratio of about 3:1. As such, the HD streaming quality is more accurately described as high-end SDTV. In fact, compression techniques take a new dimension with HD streaming. For instance, the size of the output file from the CineWave HD card (Targa format) used in the tests below totaled 2.4 GB for 25 seconds. This output was then saved as a 600 MB QuickTime Video file, that was then converted to a 15 MB RealMedia file at the 5 Mbps bit rate. So, in this example, the final compression ratio of HD streaming was 160:1. The same reasoning applies to HD streaming encoding of terrestrial HDTV programming. For manageable over-the-air transmission, the original HDTV camera pictures are typically compressed by a factor of up to 60:1, using MPEG-2 technology (Dupagne & Seel, 1998). The optimal bit rate of ATSC 8-VSB HDTV transmission is highly subjective and depends on such factors as the scanning structure, the number of frames per second, the motion of the content, and the use of concurrent SDTV channels (see Cervenka, 1998). The maximum date rate of the full 6 Mhz digital television channel is 19.4 Mbps. A full 1080i/30 stream takes about 18 Mbps, but

some broadcasters transmit this HDTV channel at 14-15 Mbps in conjunction with a 4 Mbps SDTV channel (N. Borenstein, WPBT-Channel 2, personal communication, February 24 and May 23, 2003). A 25-second 1080i clip would take about 56 MB, thath would be further compressed if converted to a streaming format.

HD Video Streaming Encoding

In 2002, the University of Miami Modern Media Collaborative began "a public education campaign about the essential role of water in our world and the urgent need to think about its conservation and restoration." This initiative was dubbed the Water Project (http://www.miami.edu/com/water). As part of this campaign, a 20-minute trailer was shot in HDTV format with a Sony HDW-F900 camera (1080p, 23.98 fps) between January and March 2003. The HDTV footage was then digitized and edited using a Sony HDW-F500 videotape recorder, a CineWave HD capture card, an Apple G4 workstation (with dual processors 1.2 Ghz, 2 GB RAM, and 1 TB Medéa VideoRaid RTRX hard drive), and Apple's Final Cut Pro 3.0. Two representative clips were selected from the HDTV output of the trailer and saved in QuickTime Video format (Best quality). The mov files were about 600 MB each. The first clip was 25 seconds long, while the second clip was 26 second long. The other QuickTime Video quality configurations (High, Medium, Low, and Least) were not considered because of visible compression artifacts.

All the encoding tests below were conducted with a Windows 2000 Dell Precision 530 with dual Xeon 2 Ghz processors, 1 GB RAM, and a 32 MB GeForce 2 GTS video card. A single 2 Ghz processor machine had maxed out on CPU usage and, therefore, had not been deemed powerful enough to encode HD streaming clips. Helix Producer Plus 9.01 was the software used to encode the 600 MB 1920 x 1080p mov files into 1280 x 720p RealMedia test clips. Typically, encoding bit rates for 720p files range from 3 to 7 Mbps (Winters, 2003). In this study, four bit rates were tested: 2, 3, 5, and 7 Mbps. The low-end 2 and 3 Mbps bit rates were used to test playback on slower 10 Mbps ethernet connections and determine how low the bit rate can be reduced without jeopardizing the video quality of HD streaming. Readers interested in replicating these clips should set the following parameters in Helix Producer Plus:

- In the Audience dialog box, select the "2-pass video encoding" box. Resize the video to 1280 by 720. Check the "Maintain aspect ratio" and "High quality resize" boxes.
- In the Encoding settings, set the Audio mode to Music, Video mode to Normal Motion Video, and Video codec to RealVideo 9. Select the "Use high quality resample for audio" box.
- Leave all the video filters blank. The deinterlace filter was not used because the original HDTV content was shot in progressive format.
- Use the standard settings for each bandwidth template created (2, 3, 5, and 7 Mbps) with the exception of the constant bit rate (e.g., 2000, 3000) and the target frame rate (23.98).

There are two types of video encoding available in Helix Producer Plus: constant bit rate (CBR) and variable bit rate (VBR). While CBR encodes all scenes, regardless of their complexity or motion, at the same bit rate, VBR uses extra bandwidth to encode complex and high-motion scenes. VBR encoding can improve substantially the video quality of a clip by allocating these extra bits when needed and is ideal for high-quality

downloadable files and DVD content (RealNetworks, 2002). On the other hand, it could have a disastrous effect on the on-line viewing experience if a 10 Mbps ethernet connection—let alone a generally slower DSL or cable modem connection—cannot sustain the occasional spike in bandwidth to ensure continuous smooth delivery. Because of this concern, all clips were encoded with the CBR method.

Three encoding issues deserve a brief mention. First, encoding was a time-consuming process, regardless of the bit rate. Each 25-second clip took about 12 minutes to encode or about 25 times the duration of actual content. Interestingly, encoding a clip at 7 Mbps did not require much more processor power than encoding it at 2 Mbps because the bit rate is not a significant contributor to CPU usage for file-to-file encoding (K. Lillevold, RealNetworks, personal communication, May 28, 2003). Second, Helix Producer Plus users should be aware that the video output window during the second pass of the encoding process will resize to 4:3, although this problem will not affect the 16:9 aspect ratio of the encoded file. RealNetworks has acknowledged this issue in the software (http://www.realnetworks.com/resources/howto/producer/readme_updates.html). Finally, although Helix Producer Plus behaved reliably during the encoding process, there were some instances when the software unexplainably crashed in the middle of a job. Restarting the computer generally solved this problem.

It was with considerable disappointment that this author was unable to test HD streaming with Windows Media Encoder 9 because the software did not accept the QuickTime Video files. Microsoft has admitted that the lack of support for mov input was due to a licensing issue (Workman & Gehred, n.d.). This situation is even more difficult to understand in light of the company's aggressive promotion for an HD streaming strategy.1 For the time being, Windows Media Encoder users are limited to using avi files (see Winters, 2003) even though HDTV editors who cannot afford the cost of an Avid|DS HD are increasingly attracted to Apple's Final Cut Pro. The CineWave HD card cannot directly write to an avi format. Transcoding the 600 MB QuickTime Video file into avi format using Discreet's Cleaner 6.0 for the Mac produced degraded results. Undoubtedly, there might be other conversion approaches (e.g., exporting the HDTV content as a tga sequence and then encoding it into an avi file was suggested by CineWave's technical support). However, these methods tend to involve complex and time-consuming rendering. A key purpose of this paper was to propose a set of straightforward and easy-to-replicate procedures to encode HDTV material into streaming files.

HD Video Streaming Playback

How did these HD streaming clips perform off line—that is, when played back locally from a hard drive (see http://www.miami.edu/com/hdstreaming)? The first playback tests were carried out with an XP Dell Precision 340 equipped with a Pentium 4 2 Ghz processor, 512 MB RAM, and a 32 MB Radeon VE video card. RealOne was able to play the 1280 x 720 clips on this machine, but with definite choppiness attributed to excessive CPU usage. The clips were then played back on the same computer that had been used for the encoding—a Windows 2000 Dell Precision 530 equipped with dual Xeon 2 Ghz processors, 1 GB RAM, and a 32 MB GeForce 2 GTS video card. This time, all the clips played smoothly and continuously with stunning clarity. As expected,

there were some subtle, but noticeable, video quality differences between the 2/3 Mbps clips and 5/7 Mbps clips. The 2 Mbps bit rate clearly showed the limitations of heavy compression: during the long tracking shot of the first test clip, this bit rate was not fast enough to encode the action without blurriness. Interestingly, not even this high-end workstation was capable of playing an encoded 1920 x 1080 clip continuously. This is the reason that all RealMedia encoding tests were resized to a 1280 x 720 resolution.

To test actual HD streaming activity, the Water Project clips were uploaded to a Windows 2000 streaming server running Helix Universal Server (see http://www.miami.edu/com/hdstreaming). Two 10 Mbps (10Base-T) ethernet workstations, one with a single 2 Ghz processor and another with dual 2 Ghz processors, played the 2 Mbps RealMedia clip smoothly. But this was not the case for the higher bit rate clips that experienced some or significant choppiness. When played on a 100 Mbps (100Base-T) ethernet machine with dual 2 Ghz processors, the delivery of all but the 5 Mbps HD RealMedia clips was smooth and crisp. It is unknown why the 7 Mbps clip ran smoothly, but not the 5 Mbps clip. Although RealOne was more user-friendly to play the HD streaming clips in full screen, there was no perceptible difference in playback quality between this player and the previous RealPlayer 8.0. The same observation did not hold true for the streaming server software, though. There were dramatic and substantial playback variations between Helix Server and RealServer 8.0. When the Water Project clips were uploaded to a Windows 2000 streaming server running RealServer 8.0, playback was jittery and highly pixelated.

Discussion and Conclusions

The final section of this paper addresses some of the challenges that HD streaming encoding and playback will face in the future. It also discusses applications for HD streaming technology and suggests that future streaming testing ought to focus on Dolby Digital.

Hardware Requirements

If these tests have demonstrated anything, it is the pivotal importance of processor power when developers seek to venture into the realm of HD streaming technology. The hardware configuration of the test machines was cutting-edge in 2002, but in May 2003 it almost seemed out of date to handle such a CPU-intensive application as HD streaming. It was a humble experience to discover that a single 2 Ghz processor computer could not encode or play back 720p streaming clips properly. In May 2003, the fastest Intel processor was 3 Ghz with hyperthreading technology. We would expect that new computers with single 3 Ghz processors and faster video cards could play 1280 x 720 clips smoothly.

But if playing an HD streaming clip requires a processor faster than 2 Ghz, what is the benefit of this advanced technology for the overwhelming majority of Internet users who do not own the latest computer? Assuming that Moore's Law about the exponential growth of transistors per integrated circuit continues to hold in the foreseeable future (see http://www.intel.com/research/silicon/mooreslaw.htm) and that U.S. households replace their home computers every three years, many computers will be replaced with more powerful models by 2005. Therefore, the normal cycle of repeat-purchases will eventually address the issue of processor power, although this prospect is

of little consolation to current computer owners. In addition, these new computers will probably feature DirectX VA-compliant video cards that will handle high-intensity decoding and will reduce the demand on the CPU to play HDTV content (Winters, 2003).

Processor power is not the only hardware issue that will drive the success of HD streaming. Fast broadband connections and affordable capturing methods will be equally important determinants. According to a recent study by comScore Networks, 28% of home users accessed the Internet via a broadband connection in March 2003 ("Broadband Use Increases," 2003), but speed (or more accurately bandwidth) varied from service to service and from provider to provider. A digital subscriber line (DSL) connection, that averaged 467 Kbps, was generally slower than a cable modem connection, that averaged 708 Kbps. These bandwidths are far from ideal to watch smooth HD streaming clips.

Capturing and transferring HDTV content is another hardware challenge. While serial digital interface (SDI) connectors are used to hook up professional SDTV and HDTV equipment, FireWire (IEEE 1394) connectors have the same purpose but for the less expensive consumer or "prosumer" video equipment. HD-SDI capture cards, such as the CineWave HD and the KONA-HD, cost over $10,000 and are often designed to work with Apple's Final Cut Pro editing software. These high-end cards are necessary to digitize the HDTV source that can then be encoded in high resolution with Helix Producer Plus and Windows Media Encoder 9. HD-SDI SMPTE 292M is a standard adopted to transport uncompressed HDTV content at 1.5 Gbps, but for the time being, and perhaps for the long term, this type of digital interface is only available on professional HDTV equipment. If the $3,500 JVC GR-HD1, billed as the world's first consumer high-definition camcorder, is any indication, consumers will use a FireWire (400 Mbps) or FireWire2 (800 Mbps) connection to transfer the HDTV output to their computers (see Pogue, 2003).

Uses of HD Streaming

The future of HD streaming hinges on strict hardware assumptions. Assuming that the optimal requirements for creating and viewing HD streaming clips are within reach, what uses of HD streaming can we contemplate? There are at least four possible HD streaming applications that deserve consideration: high-resolution DVD viewing, HDTV programming encoding, feature film and documentary exhibition, and medical imaging. In May 2003, Artisan Home Entertainment announced that it will release Terminator 2: Judgment Day in a digitally remastered high-definition format that will play on XP computers with Windows Media Player 9 (Marriott, 2003). The resolution of this "Extreme DVD" disc will be nearly three and a half times that of a regular DVD. This is perhaps the most promising application of HD streaming for home users in the short term.

A second and related application would be to convert terrestrial, satellite, or cable HDTV sources to a compressed format that can be more easily saved onto DVD discs. For instance, each minute of an over-the-air HDTV program decoded by the Telemann HiPix DTV-200 card and saved to a hard drive takes 137 MB (Dupagne, 2003). A 60-minute program would then take an outrageous 8.2 GB! Compressed with a streaming format at 5 Mbps, it would take less than 3 GB. This conversion is complex, time-consuming, and not for the timid. On the AVS Forum, a discussion board for HDTV

enthusiasts, Saliga (2003) released a 24-page document that explains the procedures to encode HDTV programming into Windows Media format. Among the many challenges for successful encoding is the conversion of MPEG-2 transport stream files to regular MPEG-2 program stream files that can be played smoothly outside of an HDTV PC card environment.2

Third, it is not far-fetched to envision that universities and the motion picture industry could organize on-line feature film or documentary festivals that will offer live or on-demand HD streaming presentations delivered on site or from point to point through Internet2. Of course, quality of service (QoS) issues must be addressed to guarantee that such content can be webcast smoothly and continuously at a very high bit rate.

Finally, there is the vast field of biological and medical science that places a strong emphasis on high-quality imaging. Whether it is for documenting research procedures and outcomes or educating physicians about particular surgical procedures, HD streaming could provide a new platform for using high-resolution video.

Dolby Digital Sound

Although this paper focused specifically on the video quality of HD streaming, future streaming testing and research should not ignore consumer interest in multichannel audio. The popularity of home theater systems in U.S. homes (http://www.ce.org/publications/books_references/digital_america/home_theater/default.asp) and the availability of Dolby Digital and DTS music seem to validate this point. On February 23, 2003, CBS broadcast the 45th Annual Grammy Awards in high-definition television format with Dolby Digital 5.1 sound (Kerschbaumer, 2003a). The author watched the event with some of his students on a 21-inch NEC MultiSync monitor with the Telemann HiPix DTV-200 decoding card and the Klipsch ProMedia 5.1 speakers (see Dupagne, 2003). The audio and video quality of the program was absolutely stunning. Naturally, encoding both high-definition images and Dolby Digital sound into a streaming file raises the level of complexity another notch. Finding a high-definition video source recorded with six audio channels can be a challenge on its own. Windows Media Encoder 9 allows streaming developers to encode audio in Dolby Digital; instructions are posted on the Microsoft Windows Media site (see Winters, 2002).

In conclusion, HD streaming has the potential to deliver breathtaking images that Internet users could only dream about when video streaming was introduced. It is another sign that digital HDTV-related applications such as this one are gaining ground (e.g., Pogue, 2003) and will eventually eclipse lower-resolution NTSC applications. This author also anticipates that the diffusion of digital television will serve as a catalyst for this and other high-definition applications. But it is also clear from the reported tests and the discussed challenges that HD streaming is a demanding and challenging computer activity that will take time to develop into the mainstream.

Notes

[1] The Microsoft Windows Media website offers a series of 720p/24 demo clips that can be downloaded for viewing (http://windowsmedia.com/9series/DemoCenter/VideoQuality.asp?page=6&lookup=VideoQuality). These clips were encoded with Windows Media Encoder 9 at bit rates ranging from 5.5 Mbps to 8.4 Mbps. For optimal viewing

experience, Microsoft recommends using a PC with at least a 2.4 Ghz (Intel) processor and a video adapter card with at least 32 MB RAM.

[2]Playback tests of MPEG-2 transport stream (ts) and program stream (ps) files produced mixed results. The Elecard MPEG2 Player 2.1, that was installed on a dual-processor 2 Ghz workstation running Windows 2000, played the MPEG-2 ts files with occasional skips. The video playback of the MPEG-2 ts files was smooth on an XP 2 Ghz machine, but the audio stuttered uncontrollably. MPEG-2 ts files were converted to MPEG-2 ps files with Moonlight Cordless's Xmuxer 2.03, that was installed on the same dual-processor 2 Ghz workstation. To achieve this outcome, the software first demultiplexed (demux) the MPEG-2 ts file into elementary streams of audio and video and then remultiplexed (remux) these two streams into an MPEG-2 ps file. RealOne and the Elecard MPEG2 Player played the resulting MPEG-2 ps file but with noticeable skips and glitches. As the next logical step, the MPEG-2 ps file was successfully imported into Helix Producer Plus 9.01, but surprisingly not into Windows Media Encoder 9, and encoded as a RealMedia streaming file.

Postscript

On June 6, 2003, the author acquired the DVD-ROM release of Terminator 2: Judgment Day in high-definition Windows Media format with Dolby Digital sound and tested it on multiple computers. The recommended system requirements for playing the "T2: High Definition" disc are staggering: Windows XP Professional, Windows Media Player 9 Series, Microsoft DirectX 9.0, InterActual Player, 512 MB RAM, 3 Ghz processor, 128 MB video card, DVD-ROM, multichannel sound card, Internet connection to access the license to play the content, and display setting at 1600 x 1200 or higher. Only the latest computers could meet these requirements. The enclosed InterActual Player must be installed to play the high-definition feature. According to the InterActual website, the Windows Media version was encoded at 6.8 Mbps (CBR) with a resolution of 1920 x 816 (http://player.interactual.com/help/support/articles/0134.asp). The file size of the 152-minute film totaled 6.5 GB. As one could have expected, the disc did not play on a high-end Pentium III machine. But the author was surprised that he could not even test the high-definition playback on either a single 2 Ghz or a dual 2 Ghz Pentium 4 workstation. For some reason, the InterActual Player 2.0 generated an error (called CSS) that may suggest a conflict between the InterActual Player and the installed DVD player (e.g., InterVideo WinDVD). The author sent an e-mail message to InterActual's technical support for clarification.

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> go to table of contents

SHOOTING, EDITING AND ENTRY LEVEL TV REPORTERS:AN ARGUMENT FOR TEACHING ONE-PERSON-BANDING AND LINEAR EDITING

By Chris Tuohey, Syracuse University
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This paper won first place in The Broadcast Education Association Curricula and Administration Division's 2003 Paper Competition and was presented at the BEA Annual Convention in Las Vegas, Nevada on April 4, 2003. It has been edited slightly for this submission.

Hands on what?

When it comes to training broadcast journalism students, the general consensus is that they need a combination of liberal arts education and hands-on training.[1] Indeed, ACEJMC's accreditation standards stress both the importance of classes outside the communication major and the opportunity for valuable internships.[2]

As news director of WVIR-TV in Charlottesville, Virginia, Dave Cupp hires many entry-level reporters. Cupp told educators, during their 2002 RTNDF Excellence in Journalism Education Orientation, that he wants to hire people who know how to think, write and speak.[3] However, he also says, the importance of a reporter's technical skills in getting a first job can't be overlooked. He adds, "Without them, they (job seekers) will be at a severe disadvantage."[4]

The amount of practical experience versus the amount of classroom learning a student needs is, of course, an ongoing matter of debate. But an understanding of how to put pictures, sound, and words together to tell a story is the place where journalism and television production come together.

The narrow question is: Are the methods of teaching television reporting, specifically when it comes to the technical issues of shooting and editing, in step with the reality and expectations of professional TV newsrooms?

Methodology

This study reports the results of a survey of television news reporters working in markets 100 and smaller. Between the fall of 2001 and winter 2002, 560 surveys were mailed to 112 television news departments among 56 randomly selected small markets (100 and above). One large packet containing five individually sealed surveys was mailed to the attention of each station's assignment editor. A cover letter asked the assignment editor to distribute the sealed surveys to five reporters on the staff. To maximize the responses from entry-level reporters, the instructions asked that the assignment editor distribute surveys to the newest reporters first. 167 usable surveys were returned for a response rate of 30 percent.

Background

The survey explored a variety of issues but among the primary research questions was how often reporters shoot and edit their own stories (hereafter referred to as OPB, short for one-person-band). A related concern for educators is whether the traditional academic approach of having students do their field work in teams might be out of sync with the skills that will be expected from entry level reporters.

Economics and evolving technology have fueled the use of OPBs. Video gear is smaller and lighter these days, making a two or even three person crew unnecessary.[5] In a small market where resources are scarce, a news director can arguably cover twice as much news by having one person do both jobs. Or to look at it from a more cynical point of view, if videographers become expendable, you can cover the same amount of news with a smaller staff and payroll.

Meanwhile, with technology rapidly evolving, many schools find themselves trying to keep up with a world they believe may soon leave academia in digital dust. But a check of small market newsrooms to find out what kind of camera and editing gear is being used will often reveal a strange mix of modern and dated technology.

Take Butte-Bozeman, Montana for example. The stations doing news in that market use a mix of DVCpro, S-VHS and ?" videotape in the field. Other small market stations are shooting BetacamSP and Hi8 tape.[6] And these are only the formats being used in the field. Even stations that utilize digital tape in the field often use linear equipment to edit it down to analog tape for playback.[7]

It certainly impresses prospective students on campus tours to show them facilities that use Avid Express or Media 100 computerized (also known as non-linear) editors. But once students graduate, they may go several years before they see these non-linear machines again, given the number of linear (tape-to-tape)[8] machines still at work in small markets. By at least one estimate, only 3% to 5% of newsrooms had gone to digital news production by 2001.[9]

Survey Results: Shooting

More than one third (34%) of the reporters responding to the survey said that they shoot their own stories at least "half the time." Among those respondents in markets 151 and smaller, 49% said they shoot their own stories at least "half the time." More than a quarter (27%) said they "always" shoot their own stories.

You shoot the video for your own stories.

	Markets 100–150 n = 103	Markets 151+ n = 60	Total n = 163
Always	13%	27%	18%
Usually	11%	12%	11%
Half the time	2%	10%	5%
Occasionally	12%	28%	18%
Never	63%	23%	49%
Total	101%	100%	101%

X2 = 27.560, d.f. = 4, p < .001
Total percentages may not add up to 100% due to rounding.

It's clear there's a need for OPB-ready reporters in the smaller (entry-level) broadcast markets, but that's only part of the story. Though not a part of this survey, cable news operations also rely heavily on OPBs. With the success of such operations as New York's NY1 News Channel and Washington, DC's NewsChannel 8, regional cable news operations continue to spread across the country.[10]

Time Warner currently has seven 24-hour cable news operations up and running and five more planned for the near future.[11]

One of the planned additions is scheduled to launch in Syracuse, NY in 2003. Division General Manager Ron Lombard is in the process of hiring a news staff. He says, "Our reporters will need to have significant technical skills." Lombard says there will be a few videographers on staff, but he expects OPBs will do 80% of the shooting.[12]

Implications: Working in Teams

At Syracuse University, as at many other schools, students work in teams that usually follow the traditional two-person model. One is assigned the role of reporter while the other is the videographer. Though they perform separate roles in the field, each student is expected to write, voice and edit his or her own unique version of the story.

There are some very practical reasons for students to work in teams in the field. Gear and transportation might be the first to come to mind. If ten reporting students are out in the field at the same time, they can get by with five cameras by working in teams.

If students are going to cover stories that are interesting to the typical news consumer, they will usually have to travel off-campus. Because cars may be in short supply, crew pairings are often made after it is determined which students have cars and which ones don't.

Safety is another concern. Allowing students to head out with a few thousand dollars worth of gear to a story that involves crowds or perhaps a dangerous part of town raises liability issues. I'm also reminded of a former student who left an expensive camera case by the side of the road while he was off shooting. He claims he narrowly saved it from a trash collection crew.

While two bodies may keep the gear safer, two bodies also make it more difficult for an instructor to be sure who is actually doing what in the field. Two students wanting to turn in the best possible story may conspire to leave the shooting up to the more skilled videographer, despite the instructor's job assignments. Ultimately, a student's resume tape may reflect more technical skills than actually exist.

Implications: OPB Training

Students often come into a TV news reporting class with an overly glamorized view of what a reporter does. If both reporting and videography are part of the professional job description, students need to be taught how to do both at the same time.

The concept of teaching OPB reporting assumes students already have some basic understanding of news videography, such as the importance of tripods, white balancing, framing, focusing and shooting sequences, just to name a few.

One of the first issues a reporter has to confront while working by him or herself is the framing and focus of interviews and stand-ups.[13] To teach this, a former student who is working as an OPB can speak to the class. Through a combination of show-and-tell and tape examples of OPB stories, students can learn tricks of the trade before

they head out on their own OPB assignments.

KTNV-TV, Las Vegas reporter Dave Malkoff cut his teeth as a OPB in his first reporting job at WICD-TV in Champaign, Illinois. He takes the OPB reporter's need for technical skills even further. He says the reporter needs to be intimately familiar with his or her gear because if something breaks or, for example, the lens comes loose, the reporter is going to have to fix it. He adds, "It's an easy fix, but you'll need to know how it re-attaches and how to set the back-focus once you get it back on there."[14] Obviously the idea of disassembling a camera in class needs to be carefully considered. Plus, your campus equipment technicians will probably want to have a say in that.

The logistics of working by oneself can also impact the newsgathering process and the content. Obviously these are critical areas for classroom discussion. For example, a reporter has to concentrate on what's being said during an interview while also making sure there's usable video and audio.[15]

While danger sometimes comes with the territory for a news reporter, it intensifies when there is no second person there to watch the reporter's back.[16] Ex-OPB reporter Alexa Lee talks about "being chased by people using their vehicles as weapons."[17]

Whether or not it is a politically correct question to ask, some students may wonder how a woman can be expected to haul around some of the bulkier and heavier ENG gear still in use in some markets. The fact is, nine out of ten videographers are men.[18] Also, a higher percentage of male reporters responding to the survey indicated that they shoot their own stories compared to female reporters. 36% percent of the males say they "never" shoot while more than half of the females (56%) say they "never" shoot.

You shoot the video for your own stories.

	Male n = 59	Female n = 105	Total n = 164
Always	24%	14%	18%
Usually	12%	11%	11%
Half the time	10%	2%	5%
Occasionally	19%	17%	18%
Never	36%	56%	49%
Total	101%	100%	101%

X2 = 10.594, d.f. = 4, p < .05
Total percentages may not add up to 100% due to rounding.

Women now occupy the majority of reporter positions in local TV news[19] (and in this survey, female respondents outnumber males almost two to one), so the continued growth of OPBs would seem to hinge on female participation. It would certainly be interesting for future study to find out why OPB assignments are (by design or by accident) more likely to be given to male reporters.

Reporter Michelle Kosinski now works at WTVJ-TV in Miami. Before that, she was an OPB bureau reporter for WSOC-TV, in Charlotte, North Carolina. She lists this gem among her favorite quotes: "Don't you have some man to help you with that?"[20]

There can be an upside to working as an OPB, and students should hear about that as well. Even though he works with videographers now, Malkoff says being on his own

made him a better storyteller. Not only is he better able to visualize his stories in the field, he still picks up a camera and shoots from time to time.[21] Other OPB reporters say they enjoy having the creative control that shooting their own stories gives them.[22]

Even though he employs videographers, KESQ-TV Vice-President of News Tony Ballew says he likes to see OPB experience when he's hiring reporters. If nothing else, he says, that experience prevents the reporter from making unrealistic requests of the videographers.[23]

In a recent Broadcast Education Association panel discussion, Randall King of Point Loma Nazarene University and Jon Smith of Southern Utah University both said they stress the OPB approach to reporting in their classes.[24] King said that in his own background as a OPB reporter, he saw it as a means to an end but as a teacher he embraces it for its value in teaching how words and pictures go together. King believes educators tend to reinforce the separation between words and pictures in the way they teach reporting and shooting as two separate jobs. He feels that OPB training is a way to correct that.[25]

Obviously reporting students need to learn to walk before they run, and team assignments can make it easier for them to learn the basics in the field. But clearly, at least some exposure to OPB reporting is desirable. It may also be a big advantage in a tough job market for a reporter to have a resume tape that includes quality OPB stories.

Survey Results: Editing

More than half (52%) of the reporters responding said they "always" edit their own stories. In markets 151 and smaller, 63% percent of the respondents say they edit their own stories.

You edit the video for your own stories.

	Markets 100-150 n = 103	Markets 151+ n = 60	Total n = 163
Always	45%	63%	52%
Usually	17%	13%	15%
Half the time	10%	3%	7%
Occasionally	15%	12%	14%
Never	15%	8%	12%
Total	102%	99%	101%

X2 = 6.342, d.f. = 4, p = n.s.
Total percentages may not add up to 100% due to rounding.

It's no surprise that the vast majority of reporters in small markets edit their own pieces. And it's unlikely that many academic programs have reporting students hand off their tapes to separate editors to put together their packages.

The question is: digital or analog? Or, more to the pedagogical point, are students better off learning how to digitize tape and be taught non-linear editing or is there still a place in the curriculum for lost control tracks and servo errors? Close to 80% of the reporters responding said they "mostly" use linear gear for daily news coverage and there's no significant difference between markets 100-150 and 151+.

What type of editing equipment does your station use for daily news coverage?

	Markets 100-150 n = 102	Markets 151+ n = 57	Total n = 159
Mostly Linear	78%	87%	79%
Mostly Non-Linear	23%	19%	21%
Total	101%	100%	100%

X2 = .230, d.f. = 1, p = n.s.
Total percentages may not add up to 100% due to rounding.

Implications: Editing

Susana Schuler is the Corporate News Director for the Nexstar Broadcasting Group, that owns several small and medium market stations. She says none of Nexstar's stations in entry-level markets do any non-linear news editing. She suggests students spend 80% of their time learning linear editing and 20% on non-linear editing, just to become familiar with it.[26]

Randy Wenner, Broadcast Journalism Lab Manager and Lecturer at Syracuse University, observes that today's computer literate students may actually have a harder time grasping the concepts and limitations of linear editing than they do non-linear editing. He says that is especially true if the students already have some experience with editing digital audio.[27]

Following that reasoning, a student with linear editing experience might have an easier time adjusting to a newsroom with non-linear gear than would a student who has non-linear experience who finds him or herself in a newsroom with linear gear.

One Final Thought

While some broadcast journalism instructors may come from videography or other technical backgrounds, most are more likely to have worked as reporters, producers or managers. The prospect of having to get more heavily involved in the technical side of TV news reporting may be intimidating.

One rationale for avoiding some of the issues discussed here might be the belief that as long as reporters are trained in the basics of information gathering, writing and ethics, they'll learn all the "technical stuff" via on-the-job training.

But consider this: 71% of the reporters responding to the survey say their initial training and orientation on their present reporting jobs was "fair" or "poor."

Thinking back to the first few days in your present reporting job, how would you describe the training and/or orientation you got from the news managers?

	Markets 100-150 n = 103	Markets 151+ n = 59	Total n = 162
Excellent	4%	5%	4%
Good	18%	27%	22%
Fair	36%	29%	33%
Poor	38%	39%	38%
No Opinion	4%	0%	3%
Total	100%	100%	100%

X2 = 4.303, d.f. = 4, p = n.s.

While that question did not specifically address camera and editing equipment, it is probably a good indication that many news directors expect new recruits to have all the skills they need to hit the ground running.

Brian Bracco is a news executive who oversees the news operations at several Hearst-Argyle stations. He describes typical newsroom training this way: "This is a microphone, hold it at this end and go out the door and figure it out yourself."[28]

As multi-platform distribution and economic forces continue to add to the demands made on news professionals, the job description of a television news reporter may soon become equal parts journalist and technician. Comprehensive broadcast journalism instruction needs to keep pace with that reality.

Notes

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6. "Market Format List," b-roll.net, <http://www.b-roll.net/> (June 7, 2002).

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8. Editing digital tape doesn't necessarily mean "non-linear." Both digital and analog tape can be edited in a linear fashion. For example, at Syracuse University, several linear edit suites utilize DVCpro (digital tape) tape decks for both playback and record.

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11. Ron Lombard, June 10, 2002, personal email (June 10, 2002).

12. Ron Lombard, May 30, 2002, personal email (June 10, 2002).

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20. Coffman, "Going Solo," 35.

21. Dave Malkoff, "Working By Yourself: Training Reporting in 'One-Person-Banding'," Panel discussion at the Broadcast Education Association 2002 Convention, Las Vegas, NV, April 5, 2002.

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23. Tony Ballew, May 28, 2002, personal email (June 10, 2002).

24. Randall E. King and Jon Smith, "Working By Yourself: Training Reporters in 'One-Person-Banding'," Panel discussion at the Broadcast Education Association 2002 Convention, Las Vegas, NV, April 5, 2002.

25. Randall King, March 27, 2002, personal email (March 27, 2002).

26. Susana Schuler, August 28, 2001, personal email (August 29, 2001). Note: Schuler made her suggestion of teaching 80% linear and 20% non-linear editing before the survey data was collected. It is purely coincidental that her suggestion mirrors the linear/non-linear split in the survey data.

27. Randy Wenner, June 18, 2002, personal email (July 1, 2002).

28. Brian Bracco, personal communication, May 21, 2002.

> go to table of contents

PICTURES OF THE WAR

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Abstract

One of the many difficulties TV-journalists encounter when reporting about war, in addition to censorship and fighting, is the emotional effects of their pictures on the audience at home. On the one hand, viewers might give in to the fascination of horror emanating from these pictures; on the other hand, it is highly probable that the audience will feel repulsed at the sight of mutilated bodies and switch off the TV. The documentary *Nur leichte Kämpfe im Raum Da Nangh* presents a solution to this dilemma. Produced in 1970 by the German TV reporter Hans-Dieter Grabe, this feature-length report about the Vietnam War serves as a model for the way war victims can be shown on TV without turning them into objects of entertainment or voyeurism.

War Victims

On the evening of 13 October 1970, the German public broadcasting company ZDF aired pictures that went far beyond the scope of what TV makers had usually considered to be suitable for public display. Germans watched as surgeons were trying to repair the bodies of children whose arms and legs had been torn off by mine explosions, saw faces whose mouths and noses had been ripped off by bullets, and the close-up of a thigh amputation.

In spite of the shocking nature of these pictures, TV critics agreed unanimously that it had been right to broadcast Hans-Dieter Grabe's documentary *Nur leichte Kämpfe im Raum Da Nangh* in prime time. They argued that this feature portrays the essence of war—a man-made senseless destruction and indescribable suffering—in a matter-of-fact and comprehensive way. As a child, Grabe had witnessed the bombing of Dresden. His documentary is a stunning condemnation of war.

A principle of ancient rhetoric states that in order to convince people of an opinion, one has to touch their whole being, to engage both their emotions and their intellect. Grabe adopted this principle by showing the unmitigated brutality of war. This is the central element of his argumentation. According to Grabe, scenes in which "shells are whizzing past the cameraman's ears" cannot render "the true nature of a war". This is only possible by presenting the victims.

The Subject

In his documentary about the Vietnam War, Grabe did not show any military operations. Instead, he portrayed everyday life aboard the *Helgoland*, a German hospital ship that had been stationed in the port of the Vietnamese city of Da Nangh in order

to provide medical care to the civilian population. By choosing this location, Grabe avoided the main pitfall of documentaries about the war: the fascination of horror and the ensuing glorification. War is never glorious. “I have always imagined war to be soldiers fighting against soldiers”, a surgeon on the Helgoland says in the film. “Yet, what I see here are children mutilated, maimed children on the verge of dying, lying in the mud, children whose legs we had to amputate.”

However, this location caused another problem: How could Grabe show these pictures without triggering the repulsion of his audience? How could he avoid having his viewers switch off the TV because they could not stand to see the pictures any longer? His answer was the development of a narrative that prevented such reactions and at the same time countered effectively the impression of voyeurism because voyeurism, too, would have been detrimental to his undertaking.

The Form

Grabe’s film belongs to the genre of reportage, or narrative journalism, because it enables viewers to share an experience thtat they would have been excluded from otherwise: the medical treatment of civilian war victims. For the audience, the *Helgoland* serves as an example of what was going on in Vietnam at that time.

Reportage is a genre that can turn important issues into “interesting” issues. Consequently, it was the ideal form for Grabe’s plan to report about a war that no longer made the headlines. Yet, for this report, Grabe could not rely on reportage’s typical methods of arousing the audience’s emotions and interest, e.g. the creation of suspense. On the contrary, he had to structure his film in a way that would enable the audience to deal with its reactions and go on watching.

The Beginning

Grabe’s film does not start in medias res. It approaches its central subject rather slowly by showing the “once idyllic colonial town of Da Nangh” from an airplane. The *Helgoland*, a white ship with a huge red cross, figures prominently in the picture. A short montage presents the town, that has now been turned into a fortress. The streets are packed with troops and members of the military—a familiar scene from TV reports at the time.

Eventually, the camera boards the ship as it prepares to leave the port. The crew fears that there is going to be a rocket attack after sunset. The voice-over narrator states that right before the ship cast off a woman had been brought aboard who had been shot in the abdomen. This is when the film starts for real: “We witness the first operation on the Helgoland.”

In the operation theater, everything is immaculate and clean. The patient has been covered with a blanket; we do not see any blood. Instead, the surgeon explains in the voice-over what he is going to do and expresses his worry regarding his patient’s serious condition. The off-camera narrator reassures us though: “The woman will get through.” This scene reveals the strategy Grabe chose for the entire feature: he prepares his audience carefully for each emotional climax and then immediately offers a moment of relief.

The following scene is an interview with the surgeon, Dr. Alfred Jahn, who is the subject of two more documentaries by Grabe. The reporter asks him why he went to

Vietnam. “This work makes a lot of sense to me”, Jahn says. “Each day we get injured people who would be lost without our help.”

The Interviews

Observation, interview, observation—this is the underlying structure of Grabe’s documentary. During the interviews, the audience recovers a certain distance from the oppressive pictures they have just seen. At the same time, the interviews prepare them for what is still to come.

Grabe did the interviews in a separate session because he did not want his interview partners to be still under the immediate impression of the situation in the operation theater. He refrained from doing spontaneous interviews, a typical feature of TV reportage. Instead, his interview partners have the distance they need to ponder their motives, attitudes, and experience in front of the camera. The static composition of the pictures and the framing—Grabe, himself, can only be seen sporadically on the edge of the screen—stresses just how much these interviews serve as a moment of reflection.

The interviews assist the audience in developing a technique that enables them to cope with the pictures of mutilated and maimed children. To be sure: the crew of the *Helgoland* was also shocked at first. Yet, in order to help the injured people of Da Nangh they could not give in to this shock.

“It was terrible”, a middle-aged, experienced nurse remembers. “These were not sick people. They had been deliberately destroyed. At first, we just stood around the stretchers and cried.” A seaman adds: “I have become used to the situation though. Now, I can help at once when something happens.” The next take shows him and a nurse supporting the victim of a Napalm attack in his first attempts at walking again.

War victims need help. Yet, in order to help, one must pay attention to detail. “We must examine the bowels bit by bit”, the surgeon explains during the operation. “All other organs of the abdomen must be carefully scrutinized, too. Not to notice a wound could mean the death of the patient.” With this explanation, Grabe justifies his decision to include these shocking pictures in his documentary. Yet, the surgeon’s words are more than just a justification: they are instructions to the viewer on how to deal with these pictures.

This use of appropriate interview passages is a method that Grabe relies on to a great extent. Only rarely does he give explicit instructions in the voice-over. This stresses the importance of the message and guarantees the credibility and authenticity of the documentary because viewers can see the consequences of the surgeon’s statement. He can save his patient only because he does not let his disgust at her blood and pain win over his determination to help her.

Language and Picture

The surgeon’s professional and detached attitude solves the film’s most difficult problem: the showing of the victims. Grabe does not present them suddenly. Instead, the surgeon introduces each patient to the audience – like in a doctor’s round – while the camera records everything in great detail.

“This is a 13-year-old boy who has been with us for one week now”, Dr. Jahn says facing the camera. Then the camera pans along the boy’s body up to his head and the stumps of his arms. “A mine explosion tore his hands to pieces”, the surgeon explains

off-camera. “We had to amputate both hands upon admission.”

One by one, the victims are presented in this fashion: people wounded by bullets and mines. Napalmed people. “Do Sanh is nine years old. He has been in our care for more than a year now. A bullet hit him, destroying his entire rectum. Both testicles were ripped to pieces, too.” During all this time, the camera never pauses but continues scrutinizing the deformed bodies, showing a close-up of crippled arms, and zooming in on the disfigured abdomen of a boy while the physician explains the lesions off-camera.

It is the diagnosis that makes these pictures bearable. The injuries are categorized and assessed to enable viewers to understand them. Moreover, diagnosis leads to therapy and therapy helps people, as far as that is still possible. Instead of simply confronting his audience with pictures of intolerable suffering, Grabe uses language in his documentary as a guideline for a bearable reception.

The camera also records the patients’ behavior, their looks and gestures, to confirm the surgeon’s role as a healer. The patients trust him. Little Do Sanh uncovers his body himself to enable Dr. Jahn to show his wounds. Then he looks into the camera and the surgeon takes his hand. The camera focuses steadily on this symbol of mutual understanding.

Seemingly negligible gestures like these provide moments of relief from the dismay caused by other scenes. Grabe does not need music or false emotionalism for his film. On the contrary, he achieves its extraordinary atmospheric density by simply contemplating people. The camera is always at the center of action, recording the looks of those depicted. Well thought-out visual and sound editing adds to this impression.

The Last Scene

Nur Leichte Kämpfe im Raum Da Nangh is a condemnation of war. Like a classic indictment, it ends with an excitare, which means spurring the emotions to reinforce the judgment. This excitare is the amputation shown in the last scene. The patient is a victim of a mine explosion whose leg must be fitted to a prosthesis because treatment on admission had been insufficient.

An interview about the sense of war prepares the audience for what is about to come. “I can only see the women, the children.” The man struggles for words to describe his feelings. “They don’t know what’s happening to them. Their legs got torn off somewhere. They don’t understand why. And I understand it – I don’t know. I can’t understand it… I cannot conceive an ideology or a political doctrine that could somehow justify these victims.”

“This boy will go on living until the war gets him a second time. Till then, he will go on. What else could he do?” With this statement, Grabe ends his documentary. “Will his life be a blessing or a punishment? Those who have saved his life have neither the right nor the time to ponder this question. The assembly line that transports the mutilated to their operation theaters never stops – even though we begin to forget this war.”

War on TV

Pictures trigger an emotional response in their beholders. Viewers react to the depicted situation, share the empathy and the feelings of the people whose looks and gestures have been recorded in the pictures. Reporters in the visual media must take this fact

into account, especially when covering a war. In a democratic society, TV must present all aspects of war. It can not be allowed to delete the shocking and horrible sides. Yet, broadcasting companies must also ensure that the medium's capacity to arouse the emotions is never abused for propaganda purposes.

The reactions to Grabe's documentary prove that there are, apart from legal restrictions, no limits to what TV can show. However, Grabe also demonstrated that reports like his require an excellent form. Good intentions alone are not enough to make a good movie.

TV producers assume a great responsibility when airing shocking pictures. They can only live up to this responsibility by embedding such pictures in a form that makes them tolerable for viewers. Such a form needs time. It must evolve slowly and then be maintained throughout the film to provide moments of relief for the audience. This, in turn, is only possible in a program structure that includes enough time for long documentaries.

Short movies or news magazines do not have sufficient time for developing a comparable narrative. In their context, shocking pictures can easily traumatize the audience. Various studies have proven this effect. In long features, it can be avoided though. To be sure: there is no journalistic obligation to broadcast shocking pictures just because they are new. Yet, there is an obligation to plan programs in a way that shocking pictures can be shown without traumatizing TV viewers.

Translated by Stefan Boltz

Appendix

1. Information about the film

Title: *Nur leichte Kämpfe im Raum Da Nangh*
Director and Author: Hans-Dieter Grabe
Camera: Carl-Franz Hutterer
Visual Editing: Elfi Harder [i.e. Elfi Kreiter]
Sound Editing: Herbert Pulch
Production: ZDF, HA Dokumentation
First aired on: ZDF, 13 October 1970 at 8.15 pm
Length: 44 minutes
Awards: Adolf Grimme-Preis in Silber; special award of the Union of Asian Radio and TV broadcasting companies; viewers' award of the "Marler Gruppe"
Literature: (to be published) Frank, Thomas: *Räume für das Nachdenken schaffen. Die dokumentarische Methode von Hans-Dieter Grabe*. [All quotations featured in this article are taken from this book unless they were taken directly from the documentary]

2. The Do Sanh and Alfred Jahn documentaries

It is a characteristic feature of Hans-Dieter Grabe's work that he portrayed certain individuals repeatedly in the course of the years. *Nur leichte Kämpfe im Raum Da Nangh* was the first documentary in two series, one about Do Sanh, the other about Alfred Jahn MD.

Sanh und seine Freunde. (1975)
This documentary describes how Sanh and other children orphaned by the war return to Vietnam after years of medical treatment in Germany.

Dien, Chinh, Chung und Tung. (1990)
Do Sanh. (1991)
These feature-length interview films deal with the fate of these children.
Tage mit Sanh. (1994)
This feature protocols the visit of a former foster mother from Germany in Vietnam.
Do Sanh – Der letzte Film. (1998)
An obituary for Do Sanh, who died of AIDS in 1996.
Dr. med. Alfred Jahn – Kinderchirurg in Landshut. (1984)
Hans-Dieter Grabe documented the work of the children's surgeon Alfred Jahn at the hospital of Landshut.
Diese Bilder verfolgen mich – Dr. med. Alfred Jahn. (2002)
Grabe presents one of Jahn's aid projects for orphans of the war in Rwanda.

> go to table of contents

TELL IT LIKE IT IS! A QUALITATIVE ANALYSIS OF HOW COLLEGE RADIO STATION MANAGERS VIEW THE PENDING INTERNET STREAMING LEGISLATION

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ABSTRACT

This study is a qualitative analysis of college radio station general managers (both full time and part time) attitudes toward Internet streaming during a period in which there were no concrete legal rulings on the activity. The attitudes were broken into three themes—indicating the need for streaming to keep alumni involved with station and university activities, a chilling effect brought on by the legal ambiguity, and anger toward the record companies and artists for being perceived as greedy for wanting to impose a fee structure on college radio stations that stream.

LITERATURE

About six years ago radio stations began the migration toward the Internet. Stations have been setting up websites ever since on the new medium in order to add value to their stations, whether that value is promotional or in some cases, monetary. Stations that have websites account for at least 33 different cyber-formats, and the College radio format alone has at least 272 stations with websites up and functioning (WMBR, 2002). Most of these sites have interactive incentives for visiting the pages like contests, email links to announcers, and event calendars that keep their audiences informed and entertained.

The legality and monetary circumstances surrounding streaming have been tenuous from the start. Copyright Protections of Recorded Music take two forms; © protects the rights of the creators of musical compositions and è protects the rights of the creators of the sounds embodied in recordings (McClung et al., 2002). It is the second copyright protection being questioned in dealing with Internet streaming. Record companies and radio stations seem to agree that the fees charged to radio stations for their terrestrial broadcasts cover the (©) musical composition copyright. However, according to the DCMA, the second copyright obligates stations to payment for all copyrighted recordings (è) streamed since October 28, 1998. A payment rate was subsequently established by Copyright Arbitration Royalty Panel (CARP). The CARP

payments were developed as additions to the terrestrial broadcast fees.

In November 2002, a ruling concerning fee structures for streaming was handed down by Congress, approving the CARP streaming payment rates of $.07 per performance for commercial stations and $.02 per performance for non-commercial public broadcast stations. The data for this study were collected before that November ruling, and represent attitudes and opinions before the November legislation. Still, that ruling arguably, hasn't done much to immediately clear up this legal issue, as negotiations between parties have yet to take place.

As study continues concerning user behavior on Internet sites, in recent years, researchers have been moving beyond examining what types of activities online users undertake during their online sessions to study user motivations for doing what they do online. The uses and gratifications approach to the study of media has been used to examine motivations for the use of different media. This approach suggests that there are many motivations for using any one medium: motivations that are both goal-directed (such as 'to obtain information') and experiential (such as 'to be entertained') (Sheehan, 2001).

Convergence moves us to a time in which characteristics of all traditional media such as text, audio and video can be found in one medium. King (1998) noted that audiences head to television station websites for uses such as "entertainment," "information/learning," and "companionship." Murphy, (1998) notes many of the same reasons for surfing Classic Rock radio station websites. Classic Rock website users also value such features as interactivity, being able to download files, and "access" to the radio station personalities in the form of bios and tidbits of information about the DJ's (Murphy, 1998). Murphy also notes anecdotally, that many users surf Classic Rock station pages to catch up on what's going on at home, or the social integration.

The college radio station website is unique in that it offers the user the opportunity to engage in many uses, both goal oriented and experiential. McClung (2001) notes that one particular use of college sites is the social integration function. Users go to college radio station websites to "check up" on the alma mater. Other people use the sites "for no particular reason," and most people value being able to go to college radio station pages to "check the music."

Research has also determined that the main reason people go to college radio station websites is to, "hear the music" (McClung, 1999). Streaming has been an important part of the development of radio station websites. While the diffusion of radio station websites seemed dependent on the ability to hear the signal, no where has that diffusion curve (Rogers, 1995) seemingly been rescinded as with streaming technology.

The one activity that audiences have seen almost vanish on radio station websites is ironically the one they may want the most — audio streaming. From its technological inception, there were radio station programmers and managers who were skeptical about the value of streaming their signals on the Internet. Most of the skepticism centered around measuring audiences, small potential audiences and of course, money. Streaming is an expensive venture for some stations because the technology alone can be costly for small stations. Then there is the issue of royalties.

Broadcast Music Incorporated (BMI, 2002) and The American Society of Composers, Authors and Publishers (ASCAP, 2002) have for years, made sure that artists who record and publish music get the money they deserve for their compositions

being played, performed or publicly displayed. Radio stations playing artists belonging to BMI or ASCAP pay yearly fees to use the recorded music on their stations and have for years. A similar group exists for people who record and produce commercials and other types of content for radio. The American Federation of Television and Radio Artists (AFTRA) has 80,000 members who are seen or heard on television, radio and sound recordings and include actors, announcers, news broadcasters, singers (including royalty artists and background singers), dancers, sportscasters, disc jockeys, talk show hosts and others. Talent payments under AFTRA contracts are over $1 billion a year (aftra.com, 2002).

The dispute centers around the additional audience who is hearing the works covered by these groups. The artists contend that since the over-the-air signal is now reaching a new bigger audience via the Internet, they should be compensated for those new listeners. Radio stations contended that since they were already paying the fees once, and since the over the-air-signal was just being re-distributed, they had done their part. For a while, radio stations still streamed because of a temporary exemption that kept them from paying two sets of fees. But it wasn't over.

Radio began battling the RIAA (2002) over performance fees after the U.S. Copyright office ruled that stations were no longer exempt from paying both sets of royalty fees, as has been tradition for U.S. broadcasters for years. Then, AFTRA joined in full force. Stations began to cease streaming in droves. It was costing the stations more money to stream music and stream commercials. The American Federation of Television & Radio Artists (AFTRA), the Association of National Advertisers (ANA), and the American Association of Advertising Agencies (AAAA) have instituted a demand to be paid up to 300 percent more than the standard fees when an on-air spot is transmitted on the web (Wyllie, 2001).

In 2001, many commercial stations streaming their signals on the Internet called it quits. "Radio stations KRTY and KARA of San Jose have stopped putting their audio on the Internet, joining more than 1,000 other U.S. radio stations dropping so-called 'streaming audio,'" (San Jose Business Journal, 2001). Potter (2002) notes, concerning streaming, that "radio has been sorely under-delivering in this area with streaming audio available on less than one third of the sites." However, not all radio stations stopped. A recent survey of college radio station managers indicated that as much as 63% of college radio stations are still streaming their signals on their sites, (McClung, Mims, and Hong, 2002).

While the commercial world has seemingly dropped out of the streaming school, college radio stations carry on. Recently, a ruling seemingly put the issue to rest, but the fine print of the legislation still leaves some ambiguity as to concrete fees to be paid, "The bill authorizes SoundExchange, the organization collecting payments on behalf of the music industry and artists, to reach rate agreements with small webcasters," (Ho, 2002). These rates still have to be established, and no doubt will take time and negotiation on every side of the issue.

This research examines college radio station managers' attitudes toward streaming, through a qualitative analysis of their responses to this issue during a time of legal uncertainty surrounding streaming.

METHODOLOGY

This study was an on-line based survey of college radio station general managers. The list of general managers was compiled from the World Wide Website, wmbr.org. The WMBR website is a comprehensive site that lists American and Canadian radio stations, their location, call letters, format and web page. The researchers accessed the portion of the site that listed college radio stations. Those American stations on the WMBR list with a web presence were visited and the name and email address of the general manager as listed on the college radio station site was compiled. The email address of the "general manager" was used in this study, whether that person was a student volunteer, a paid part-time graduate student, or a faculty member.

Invitations to participate in the study were sent out via email to 272 stations from the WMBR college radio list. In the email, the general managers were asked to participate in the study. The email contained a hyper link that took the participant directly to the World Wide Website containing the study. The on-line survey was hosted by Survey-Pro, a web based program that allows the user to take the survey on the Internet. This program collected the data and was then downloaded to a file for statistical analysis.

The questions were a combination of value-oriented, perception-oriented questions concerning streaming of the radio station signal and demographic-oriented questions about the managers and the station. The first two groups of questions were clustered together to identify perceptions of the value, both economically and for audience use, of streaming and the managers awareness of the legal activities associated with Internet streaming. There were sixteen questions in these two groups. The survey questioning techniques used several HTML strategies including radio buttons, point and click check boxes, and an open text box for open-ended, qualitative data collection.

Of the 272 invitations sent out, eleven of the email addresses "bounced back" as either being inactive, or for some reason outdated or unusable. That left a total population of 261 of active, usable email addresses for the station general managers. The survey was conducted over a six-week period, beginning in mid-April, 2002 and the survey was ended on May 30, 2002. A total of 103 usable surveys were collected during the collection period. Unique participant survey submissions were confirmed by the Internet Provider identification numbers for each participant. In other words, all survey submissions were checked for duplicate I.P. numbers (a possible check against spamming). This left the study with a response rate of 39.46 percent and provides a response rate that compares favorably with many mail survey response rates (Singletary, 1994).

The last question on the survey was simply an open text box, where the user was instructed simply to add anything he or she felt about the college radio station site being used. The question, "Is there anything else you'd like to add about the issue of streaming on your website?" was an attempt to allow users to provide any additional information that he or she may have felt the survey didn't adequately cover. From the researchers perspective, it provided the opportunity for potential new and different attitudes to emerge, as the users were not restricted to the conventional question categories offered in the other parts of the survey. This text box gathered the qualitative data that is the foundation of this inquiry.

"Record companies are greedy bastards…"

"I wouldn't even know where to start. The way this legislation has been pushed through as well as its successor bill (CDBPTA) is completely wrong. Internet streaming should be reasonably priced and terrestrial broadcast stations should not be paying twice."

"Additional fees for web streaming marks the death of Internet radio. If the big hitters want it they will get it!"

"College radio provides a wonderful outlet for new artists that they would not get elsewhere. The record companies should pay us! They are already making incredible profits."

"dunno why ASCAP BMI are making such a big deal. Get rid of them!"

"Stop the RIAA."

"It is a ministry tool for us and we value it more because we are a Christian station and institution. We would be very distressed to be unable to continue web-casting because of oppressive fees."

"When we streamed we could reach 60 connections at one time. This does not balance with the fees expected to be between $7 and $10000.00"

"We only stream talk radio until the money grubbers finally come up with specific laws pertaining to college radio."

"WQKE believes that if we have paid all fees to play music over the airwaves what is stopping ANY radio station from playing the SAME signal over the Internet? If people wanted to get 'free' music then you could tape the signal over the airwaves much easier."

"Attorneys have advised us…"

"I've just returned from Washington chatting with our lawyers and the NAB on this issue. We'll continue streaming but are extremely concerned about the implications."

"I am a faculty member in charge of the station. I am also an attorney. We have never streamed our signal because of the legal issues involved. If the issue of royalities is resolved—and we can afford the fee—we will likely stream our signal. "

"It's a mess I would like to see straightened out...SOON!"

"We have tried to maintain a stream of ORIGINAL programming such as our talk shows and sports shows etc... But we found that it is too much hassle to start and stop the stream for short amounts of time..."

"University system attorneys have advised us to terminate streaming contracts ASAP if currently streaming and to NOT stream if we've not started."

"If our Internet stream is pulled our station could be shut down. "

"IRadio is an exciting idea but there should not be any more regulations on it than on air-wave broadcasting."

"I believe that if a station is only streaming over the Internet and not broadcasting a signal over the airwaves then royalties should be paid. But for those of us that broadcast the same signal over both the air and the Internet we should not have to deal with it…"

"We also would gain the support of alumni that are out of our radio range." -

"Web-streaming would be a great addition to our station. Many people could listen to the world radio network and we also would gain the support of alumni that are out of our radio range. We are not so much concerned about the revenue for advertising."

"It definitely allows our alumni to still be a part of the university especially with our sports coverage. It also allows parents and friends to hear students and give them constructive criticism to improve their broadcasts."

"Streaming has become a crucial way to reach those out of range locally and worldwide. I think it is shame that the industry is trying to control web streaming especially for non-commercial college stations."

"I would like WYBF to be able to web-stream because of the example of technology it would provide as well as for the students on campus and their parents at home who could witness and share in their own children's hard work and success at the college radio station…"

CONCLUSIONS

This issue is a sensitive one with college radio broadcast managers. On the one hand, the managers of these stations and sites see the importance and value of streaming. In many cases, value of a medium isn't always measured in terms of dollars and cents. Value can be measured in other forms like promotion, entertainment, and the social integration function of media.

Clearly, Theme Three shows the value of streaming their content to alumni who can't pick up the broadcast signal. This is the social integration function of media, an important function of college radio station websites (McClung, 2001). College radio is seen as one way universities can keep former students involved with activities on campus.

Theme Two emphasizes the chilling effect that the legal flux concerning streaming is having on college radio station managers. However, in the unorthodox spirit that has always surrounded college radio, some stations carry on. " We'll continue streaming but are extremely concerned about the implications." College radio station managers seem to be hedging bets that in the end, streaming may be worth the risk, both monetary and legal. While there seems to be some chilling effect, the legal ambiguity surrounding the issue doesn't seem to have completely frozen the activity at this level like it has on the commercial level.

Undoubtedly, the most impassioned attitude concerning this whole issue is directed toward the entities wanting money for the content being streamed—the record companies and artists. College radio has long been the proving ground for young, developing acts, artists who record on small, independent labels. Many of these artists (and labels) never make much money, some have claimed they're not even in it for the money. In any case, college radio has often been the breeding ground for these artists, and in general has prided itself as an "underground" of music.

It's that anti-establishment, underground attitude that often makes college radio interesting and a truly unique medium. So it's not surprising that there is such a heated attitude toward the record companies. However, the argument could be made that the aggression may be displaced somewhat. While it is true that the record companies make a lot of money, it also takes a lot of money to develop young, un-established artists. Artists on small independent labels have a much longer road to make the big-time than artists signed to major labels. In a way, such a vehement attitude toward the record labels could be perceived as biting the hand that feeds. Besides that, if the fee structures are ever settled, some of that money will go to the artists on the small independent labels that college radio embraces, nurtures, and cultivates.

To stream or not to stream—it's a heated issue. Hopefully, the legality surrounding this issue will be permanently settled soon. When that happens, college radio advisors are still going to have to face issues concerning the technology—mainly the monetary factors associated with it. There will be costs for college radio stations that choose to stream. Those costs won't be as high for college radio stations as commercial stations. It's doubtful that commercial stations with websites will ever go back to streaming. It's probably not worth the trouble for them. But streaming still may be a valuable option for college radio stations, although that value may not be monetary.

However, it will be a decision that will have to be made. College radio seems to want to stream. Many stations are still engaging in the activity regardless of impending consequences. Maybe that's a hopeful sign for streaming when the dust finally clears for good.

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> go to table of contents

SYLLABUS

COURSE SYLLABUS
Comm 252 "Introduction to Radio Production"
Fall Semester 2002

Mark Tolstedt, mtolsted@uwsp.edu
Office Hours T 10:00-11:00 AM
R 10:00-11:00 AM

Course Description:
This course serves as an introduction to basic concepts of radio as a communication medium with emphasis on the design and production techniques of a variety of audio programs. Students receive "hands on" training and are encouraged and expected to incorporate their own creative and aesthetic ideas with the parameters of various radio programs.

Course Objectives:
- to learn about the process and techniques of producing programs from the context of today's radio industry
- to learn and obtain hands on experience working with audio technology used in the radio industry
- to produce several different radio programs

Textbooks: Reese, S. and Gross, L. (2002) *Radio Production Worktext 4th edition*, Boston: Focal Press

Lectures, Labs & Studio Time: This course consists of one lecture period and a lab session each week. The lab sessions will be held in the audio production facilities on the first floor (Room 126) of the Communication Arts Center. Students are also required to complete productions outside of scheduled class time. In order to do so, the studio facilities will be available for "check-out." A schedule for the times available will be posted on the door to the production studios. Students are allowed to reserve either one or two-hour blocks of time. During daytime hours, the keys will be available for check out from the department office (Room 219). In the evenings, student must contact the security office to be let into the room. In both cases, your student identification card will be required before you are allowed access to the rooms.

Grading: Grades for this course are based upon student performance in two areas: examinations and assigned projects. There will be a mid-term exam worth 75 points and a final exam (course comprehensive) worth 125 points. The final exam will consist of two parts: an in-class portion and a take home portion that will be assigned during the fourth week of the semester.

The remaining points that determine the final course grade are divided among the six assigned productions: Project #1 is worth 25 points, Project 2 is worth 50 points,

Project 3 is worth 25 points Projects #4 and #5 are worth 50 points each, and Project #6 is worth 100 points.

Grading Scale:		Point Totals:
95%+	= A	475
94%	= A-	470-474
93%	= B+	465-469
87%-92%	= B	435-464
86%	= B-	430-434
85%	= C+	425-429
77%-84%	= C	385-424
76%	= C-	380-384
75%	= D+	375-379
71%-74%	= D	355-374
70%	= D-	350-354
0%-69%	= F	0-349

Point Totals:

Midterm Examination:	75
Final Examination:	125
Project 1	25
Project 2:	50
Project 3:	25
Project 4:	50
Project 5:	50
Project 6:	100

Attendance Policy: Attendance is expected. Unless otherwise noted in the course syllabus, I won't take daily attendance. If you chose not to attend, it is your responsibility to pick up any materials that you missed (lecture notes, handouts, returned assignments or exams, additional explanations of assignments, etc.)

Make-up Examinations and Late Assignments: There are only 3 circumstances under which students will be allowed to make-up a missed examination or turn in an assignment after the scheduled due date. 1) a death in the family, or 2) an illness—a note from a doctor or the campus health center is required, or 3) a UWSP-sponsored activity—a note from the event coordinator, in advance of the scheduled examination or assigned work, is required. These circumstances do not automatically grant you a make-up of an exam or extension for an assignment. You must notify me in a timely manner, and based on that contact a decision will be made whether you will be allowed a make-up an exam or be given an extension for a scheduled assignment. Unless otherwise noted, all assignments are due in class on the date scheduled.

Course Schedule:

Week 1
Wednesday, September 4th: Course Introduction

Week 2
Monday, September 9th: How Stuff Works
Wednesday, September 11th: The Studio System

Week 3
Monday, September 16th: How Stuff Works
Wednesday, September 18th: The Studio System

Week 4
Monday, September 23rd: How Stuff Works
Wednesday, September 25th: Project 1 Due

Week 5
Monday, September 30th: How Stuff Works
Wednesday, October 2nd: Editing

Week 6
Monday, October 7th: Format Concerns
Wednesday, October 9th: Project 2 Due

Week 7
Monday, October 14th: roducing in the Field/Multi-tracking
Wednesday, October 16th: NO CLASS

Week 8
Monday, October 21st: Midterm Examination
Wednesday, October 23rd: Project 3 Due

Week 9
Monday, October 28th: Producing and Pre-production
Wednesday, October 30th: In-class projects

Week 10
Monday, November 4th: Producing and the Announcer
Wednesday, November 6th: Project 4 Due

Week 11
Monday, November 11th: Producing and the Microphone
Wednesday, November 13th: In-class projects

Week 12
Monday, November 18th: Producing SFX
Wednesday, November 20th: Project 5 Due

Week 13
Monday, November 25th: Producing with Talent
Wednesday, November 27th: NO CLASS

Week 14
Monday, December 2nd: Air Checks/Regulation and Radio
Wednesday, December 4th: In-class work on Projects

Week 15
Monday, December 9th: Project 6 Due
Wednesday, December 11th: NO CLASS

Week 16 EXAM Week
Monday, December 16th: Final Exam 12:30 PM

Assignments:

Project 1: **2 recorded stories.** Each 60 seconds in length. One of the stories must have a music intro and under the entire length, with an outro at the end. The other must have only a music intro and outro. Each story must have a beginning, middle, and end. Each story must be original, or an original adaptation. You must record your projects into your file on the computer and make a copy on your zip disc and a copy on audio cassette.

Project 2: **60 second spot,** with edited 30 and 15 second versions. A 60 second spot (PSA, commercial, promo), with a completely edited 30 second version and a completely edited 15 second version. You will use Cool Edit Pro to edit your work. You must record your projects into your file on the computer and make a copy on your zip disc and burn a copy to CD.

Project 3: **news feature.** Using remote equipment, you must put together a news feature story. It must not exceed 3 minutes in length and be no shorter than 1 minute 30 seconds. It must have a minimum of 3 sound bites (from 3 different sources). The idea is that you must put together a feature story of a newsworthy nature. You will record the interviews onto cassette/DAT and then transfer the sound bites you need onto cart. You will write your "wrap-around" story in news style and bring the story and your carts to lab. During the lab session, the class will rotate stories and perform a newscast.

Project 4: **public service announcements for 3 formats.** You must produce a public service announcement for an organization, for three different station formats. You must record your projects into your file on the computer and make a copy on your zip disc and burn a copy to CD.

Project 5: **community event for 3 formats.** You must choose a community event (one that really does exist) and produce a set of promos for three different formats (6 total: 2 for each format, one 60 seconds, one 30 seconds). You must record your projects into your file on the computer and make a copy on your zip disc and burn a copy to CD.

Project 6: **final project.** A radio drama, of the students' choice. Working in groups (chosen and assigned by the course instructor), you must turn in a typewritten treatment and receive instructor consent on the project before you begin work. The project should be original, but adaptations are allowed. Please note that this is a final project. It should be error free and something that you are proud of having worked on and submitted for evaluation.

> go to table of contents

Reading of the Non-Academic Genre for the Academic on a Summer Schedule "This Just In: What I Couldn't Tell You on TV," Bob Schieffer (2003) If it is true that journalism is the first draft of history, then it reasonably follows that those who witness and record it would lead interesting lives. And if you are willing to believe that, then Bob Schieffer's new autobiography is a must read for the slower summer months at hand.

Faculty and students alike can stand to be reminded that to report well is to simply (and quickly!) identify what the news is, what the lead is, and why our viewers should care. Schieffer not only reminds us of that but he also emphasizes that writing the way people talk is the clearest and best way to get a story across to an audience. Schieffer credits his earliest training in Fort Worth with teaching him these basics, skills that served him well through his years with CBS covering innumerable news conferences in the nation's capital.

Schieffer's account of his reporting tour in Vietnam during that war is of particular interest in contrast to the embedded coverage of the recent war against Iraq. Taking taxis from Saigon to various battles in the Delta region to the south and hitching rides on any available military aircraft—all in an attempt to track down Texans seems downright reckless when compared to the tightly controlled access and restricted movements of the 2003 war correspondents. Schieffer's experience however, will bring needed perspective on the evolution of war reporting when you discuss it in lectures and seminars when courses start up again in the fall.

As has been the case with other journalists taking pen to paper in the name of a hardback project (think Lesley Stahl's, Reporting Live [1999]), Schieffer tracks the second half of his illustrious reporting career administration by administration. Starting in January 1969 as President Lyndon Johnson was leaving Washington and President Richard Nixon was preparing for his first inaugural events, Schieffer weaves history and memory through the election of our current President, George W. Bush.

From that historic Election Day, Schieffer reminds himself and us that, "credibility is a news organization's most important asset," an asset shaken strongly in November 2000. The back and forth nature of the results reporting on that election night continued through to the Supreme Court decision regarding the recount in Florida, a decision handed down several weeks after Americans went to the polls. Schieffer, on assignment on the cold steps of the Supreme Court building that mid-December evening, recalls he hadn't been in the building since the arguments over the Pentagon Papers back in the 1970s. And he writes, "it would be another of those times when the viewers would be watching us figure out exactly what the news was before we reported it." Not exactly the way most of us teach our students how to do that thing we do.

But that's part of why this book is such a jewel. From a seasoned pro of more than 40 years, seven Presidents and a couple of wars, comes lessons learned and bits of broadcast reality that could bring life to any presentation or demonstration. Read to your students the following passage to recount the power and coming-of-age of our main medium of study:

> That day in Dallas would be a turning point for America. It was the first time that virtually the entire nation had come together to witness and share a national tragedy and we had shared it on television. The scenes of that week, the killing of Oswald and the hour upon hour of the live coverage of Kennedy's funeral, the cortege, the black-veiled young widow, the dead president's tiny son saluting the flag, all those sad pictures would be burned into the national psyche. No more would Americans have to see something written down in the newspaper to believe it. For the first time, Americans were seeing what the reporters saw no longer would they have to wait to read what the reporters had written about it. From then on, they would compare their own observations to those of the reporters. From that day on, it would be the imprimatur of television that made events official.

Schieffer's account of his personal connection to the assassination story in Dallas is fascinating. Students will never answer the newsroom telephone the same way again after reading about it.

Even after decades of reporting, Schieffer admits he must constantly remind himself to avoid seeing only what he wants to see and hearing only what he wants to hear. Looking for signs that confirm your own judgment is why most stories are missed he says. Throughout his memoir, Schieffer displays his ongoing passion for journalism. He makes it easy to believe that he still enjoys the satisfaction of "finding out something I didn't know and then telling people about it."

That's pretty basic and simple, and serves as a good compass for faculty refueling during the warmer months between semesters as well as for students searching for a reason to join our fifth estate. There are many pearls of wisdom in this nicely written work, points that support and shed light on systems and practices that represent broadcast news at its best, practices that should be part of every student newsroom.

Reviewed by Dana Rosengard, danar@memphis.edu

> go to table of contents

BEA 2004 Convention

Call for Papers
Deadline: November 13, 2003

BEA 49th Annual Convention & Exhibition
BEA 2nd Annual Festival of Media Arts
April 16-18, 2004 – Las Vegas, Nevada – www.beaweb.org

The Broadcast Education Association invites scholarly papers from academics, students and professionals for presentation at its annual convention, in Las Vegas, Nevada.

The BEA2004 convention theme is "Bold Vision, Fresh Thinking: Untangling Media's Gordian Knot" (http://www.beaweb.org/bea2004/theme.html). The theme is intended as a focus for the convention, but does not imply that competitive papers must reflect that theme. Papers must, however, address the goals and objectives of the interest division to which they are submitted. Please check the BEA website (http://www.beaweb.org) for each division's specifics on submitting papers.

Each division selects up to four papers for presentation. In addition, a few papers are selected by divisions for inclusion in a Scholar-to-Scholar (poster) session.

Papers are submitted directly to the relevant divisions as either "Debut" or "Open" papers. The Debut category is open only to those who have never previously presented a paper at a BEA Convention. First and second place winners in Debut categories receive $200 and $100 to help defray their costs of attending the convention.

Papers must be received by the appropriate division by November 13, 2003.

Submission Requirements:

- Length: not to exceed 30 double-spaced pages, including references and tables
- Style: use of APA style or a style suited to the discipline
- Abstract: abstract of less than 250 words to be included with submission
- Exclusivity: papers may not be submitted to more than one division during the same year
- Authorship: author's name, institution address, phone number and email to appear on the cover page only

Cover page must include:

- the title of the paper and the division to which the paper is submitted
- any A/V requirements
- whether submission is an Open or Debut entry (any papers without such designation will be considered in the open category)

· Title: to be printed on the first page of the paper and on running heads on all subsequent pages

Copies: three (3) copies of paper must be submitted

Convention Attendance: At least one (1) author of an accepted competitive paper MUST attend the convention to present the paper. Participants MUST be members of BEA and registered for the convention. Three copies (3) of paper submissions should be sent to the appropriate division. Papers MUST be received by the appropriate division by November 13, 2003. Winners will be notified by February 6, 2004. Send papers directly to the following individuals:

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For more information about BEA2004, contact the Convention Program Chair, Michael Ogden (bea2004@cwu.edu) at Central Washington University.

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