

Brinkley, J. (1997). *Defining vision: The battle for the future of television*. New York: Harcourt Brace.

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In 1967 Mel Brooks wrote *The Producers*, a motion picture about an ingenious Broadway promoter who set out to profit from a musical that could never possibly succeed, except that it did. In 1987 John Abel and the National Association of Broadcasters undertook a similar ploy to preserve broadcasters' precious spectrum by promising an innovation that was never expected to develop, except that it did. That innovation was high-definition television (HDTV).

This 1997 book by *New York Times* political editor Joel Brinkley arrived just a few weeks before the FCC decision to authorize a second channel for digital television (McConnell, 1996). *Defining Vision* details the nearly decade-long race to develop high-definition digital television. It retells a saga borne of personal sacrifice on one hand and outright dishonesty on the other. With large, accompanying doses of intrigue and hubris, the book documents the squabbling of the contestants against the backdrop of duplicitous officials and leaders. Nevertheless, the serendipitous end result became a true innovation that will make every present TV set obsolete by 2006.

Brinkley has chosen to focus *Defining Vision* on people and events. The primary antagonist is the NAB's John Abel, who was faced in the mid-1980s with the problem of land mobile operators like Motorola laying claim to broadcasters' unused spectrum. His answer: "Why don't we tell them we need all that extra spectrum for high-definition television?" After initial success at staving off the foes, Abel and the NAB next began to worry that the expensive HDTV would threaten profit margins. By the early 1990s, they were making threats to lobby against HDTV, in favor of the watered-down Advanced Compatible TV that offered low-definition, wide-screen video. NAB President Eddie Fritts argued that "government should not require HDTV. It should allow HDTV" (p. 310).

The heroic protagonist in this saga is former FCC chairman Richard Wiley. Ironically his role was supported by the NAB, which was convinced that he was one of them. Charged with finding a standard for HDTV, it was Wiley who conceived a plan that fostered a race. Throughout the ensuing years, he supervised the competition, and toward the end, Wiley was pivotal in holding together the rag-tag Grand Alliance with compromises (e.g., the "migration" from interlace to progressive scan).

The author is not particularly kind to the FCC. Early on, the commissioners are portrayed as overly expedient, hoping to get HDTV off their plate. By 1995, Chairman Reed Hundt is accorded special obstructionist status with his ill-timed indifference to high-definition TV and blind allegiance to digital computers, which was likely linked to the Clinton administration's push for an information superhigh-

way. Hundt declared that "advanced television is not about pretty pictures anymore" (p. 327). He ultimately left the decision to Congress, which had been a major force in the saga. Al Gore served as an important proponent in 1990. Subsequent years witnessed an endless parade of HDTV demonstrations on Capitol Hill. But neither the legislature nor the FCC seemed to have the influence wielded by the actual contestants in the race.

The unanticipated winner of the digital design for HDTV was General Instruments, largely through the efforts of its engineer Woo Paik. Amazingly, he seemed unaware that what he was inventing was thought by others to be contrary to the laws of physics. Previously, Paik had impressed his bosses with the development of the VideoCipher scrambling chip for cable boxes. But as the first creator of digital television, he earned a place alongside the names of Marconi, Zworykin, Armstrong, and Farnsworth. Ironically, General Instruments was widely distrusted by broadcasters because of its association with what Brinkley calls the "Cable Mongols."

In contrast, *Defining Vision* documents the other more-prominent contestants and their tireless pursuit of the ultimate HDTV system. At best, they portrayed the genius of America's most intelligent minds. At worst, they represented greed, petty bickering, and trickery. Joel Brinkley captures their failing efforts with anecdotes of the many "implementation errors" and the politicking of the order of their test slots.

Specifically, the reader learns of RCA's failure to rise from the ashes of its ill-fated VideoDisc player. Other companies fared no better. Zenith (which had hoped that HDTV would be a financial savior) and AT&T met with a similar fate. Bell Labs outmatched the Sarnoff Research Center's arrogance, but neither could exceed the lack of humility shown by the team from MIT. Beyond MIT's technical prowess (which had once produced the likes of Woo Paik), the band of weary "Wiley" contestants had to deal with Russell Neuman's dire predictions that consumers did not want HDTV, as if survey respondents had ever been valid predictors of the future. And author Brinkley gives us insight into the mind of MIT's digital-TV engineer Jae Lim, a Korean-born super-patriot for America who opposed foreign-controlled contestants because he wanted to "save America!"

Of all the contestants, Japan's NHK team seemed to suffer the most. Brinkley spins a poignant story of that network's ironic failure to adapt its trail-blazing HDTV "Muse" design into a scaled-down analog "Narrow Muse," despite attempted bribes and threats. When it finally became apparent that digital HDTV would supplant Japan's standard that cost \$500 million to develop over many years, NHK realized the sometimes-cruel cost of early success. Brinkley notes: "Yellow Peril jingoism had begun the process. . . . Now the Americans were munificent in victory" (p. 231).

Although some might argue that their role was inseparable from the NAB, the many network executives also represented a powerful force in the fate of HDTV. Brinkley characterizes them as spoiled by years of smiling as the profits poured in. He draws an appealing analogy when he compares the dominant networks to the descendants of heroic frontiersmen: "Their forebears . . . had tamed this spectrum, cultivated it,

and then passed it on to them" (p. 8). Nowhere was this more apparent than with NBC CEO Robert Wright's complete reversal on HDTV in 1995: The threat of television spectrum auctions (following the immense success of other spectrum bidding that year) caused Wright and others to reassess their opposition to the cost of HDTV.

The author also pays attention to many other players who got in the way: Nicholas Negroponte, Mike Leibhold, and those with a zealous regard for progressive scanning. This obstructionism also help launch a last-ditch effort to stop the "\$70 billion giveaway," even though the old spectrum has been slated to be auctioned after the switch to digital, if only to ensure an industry incentive for the costly conversion.

Defining Vision is fascinating and well written. Brinkley offers careful detail and intricate explanations: a six-inch pipe metaphor for the 6 MHz bandwidth and digital bits as soldiers. He makes understandable such concepts as digital compression and progressive (versus interlace) scanning.

The author also does a good job of enumerating the many benefits of digital TV. First, it fosters interference-free transmission. Second, he outlines its capacity to send additional data transmissions during transitory still images. Pointing us to future research, Brinkley further explains how the HDTV viewing audience can attain greater involvement because the shorter relative viewing distance makes a substantial difference in the qualitative feel of watching TV. Instead of the stereotypic passive experience, HDTV is like looking at reality out the window.

Along with the virtues, the author also notes the usual drawbacks, including initial cost for the early adopters. He predicts a shorter time span for home receiver obsolescence and he wonders about the ability to turn sex or violence up and down in a manner suggestive of a volume control.

Although the general public may deem *Defining Vision* too detailed, as a broadcast educator I found the book to be a real page-turner that was hard to lay aside. The book reads like a Tom Clancy thriller, with enough detail to satisfy the academic reader (e.g., the actual testing process at the Advanced Television Test Center). In many ways this book is similar to *Fast Forward* by James Lardner (1987) about the development of the VCR, except that this time the Japanese lose the race.

The book features a useful, detailed index and is filled with many wonderful quotes that are often used for ironic effect. For example, the author contrasts the industry's self-serving calls for and against HDTV because the outcome would be "the death of local broadcasting as we know it!" (p. 21, cf. pp. 206 and 347).

My criticisms are minor. For one, Brinkley underplays the irony of jingoistic pride: Certainly many of the key players, like Woo Paik and Jae Lim were not American-born. I think the author also falls into the same "great men of history" trap he ridicules, when he makes a hero of Woo Paik. In fact, the author's decision to personalize the story (because the exact outcome depended largely on the characters) may mask the influence of larger forces: federal deficits, nationalism, technology shifts, spectrum scarcity (and value), consumer demand, projected costs, and the unexpected explosion of the Internet during the final stretch of the race.

Defining Vision serves up several implications for broadcast educators. First, we can instill suspicion against exaggerated cost estimates for HDTV transmission and reception. When costs are phrased as being "as much as" and "up to" inflated amounts, we can bet that the translation is "a lot less than," especially over time. Second, we get a clearer picture of the government lobbying process with regard to setting broadcast standards. Third, we come to understand the personal story, the people behind the innovation. Fourth, we learn that competition is sufficient to foment an innovation, but that cooperation (e.g., the Grand Alliance) is necessary to crystallize it, especially when government agencies are reluctant to set a standard. Finally, we learn that the computer industry is not so much converging with the broadcast industry, as it is colliding with it. Neither will go away but a seamless merger is problematic.

History is full of villains and heroes. If John Abel was, as Brinkley argues, the father of HDTV in America, then perhaps Richard Wiley was the maternal influence that nurtured it from embryo to infancy. Although Wiley will likely decline the title, we can probably safely assume that "necessity" was not the mother of this invention. In any event, *Defining Vision* would make a good PBS miniseries (not unlike *The Empire of the Air*), as you can bet the commercial networks will not touch it.

References

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