

CHAPTER 9

TELEVISION'S FIRST
SEVENTY-FIVE YEARS:
THE INTERPRETIVE
FLEXIBILITY
OF A MEDIUM IN
TRANSITION

WILLIAM URICCHIO

Television's early history has tended to be overwritten by two factors: assumptions regarding the primacy of film as a moving-image medium, and thus the notion of television as a mix of film and radio; and the coordinated efforts of the electronics industry and governments in the late 1940s and early 1950s, each with their own agendas, to stabilize the medium. The result has been a certain "taken-for-grantedness" regarding television's history that is strikingly at odds with the complicated and reasonably well-documented developmental histories of other media ranging from the book to film. But more than simply impoverishing our notion of television as a medium, this view has also had an impact on our understandings of sister media such as the telephone and film, and it has deprived us of a potentially useful model through which to consider aspects of media development and

convergence. If we look back to television's first decades, before it achieved its conceptual and institutional stability and its culturally dominant definitions, we might better assess the medium's potentials and thus be in a position to learn from, to paraphrase Carolyn Marvin, an old medium when it was new.¹ Among the benefits of such an approach, this essay argues, are the opportunities it affords to reflect on the horizon of expectations facing the film medium's early developers, and to rethink of some of our historiographic assumptions regarding media genealogies.

TELEVISION'S ORIGINS

Locating an appropriate entry point to a medium's history is a task complicated by the problem of determinacy.² If we work backward from a fully baked concept of television as we know it today to its point of origin, we risk replicating a dominant and frequently told success story and, in the process, missing the many alternatives and dead ends from which the winning construction emerged. However, if we begin with a wide spectrum of approaches to a particular concept of a medium (in television's case, something as loose as "seeing at a distance"), then our framing of the medium becomes determining. Scholars of early film history have been concerned with these issues for some time, framing and reframing the genealogy of their medium and the processes by which a bundle of possibilities gave way to a dominant cultural construction.³ In the case of television, notwithstanding the important contributions of scholars such as R.W. Burns, Brian Winston, Siegfried Zielinski, George Shiers, Albert Abramson, and others, historical efforts have been considerably less energetic, providing only the weakest of orthodoxies, and an even weaker set of alternative constructions.⁴ Fortunately, there seems to be a relatively clear moment at which something like the *televisual* entered both the popular imagination and the patent record, giving us at least a plausible starting place. To locate this moment, we must reach back considerably further than the birth of commercial or national broadcasting efforts in the years immediately following the Second World War. Television, long seen as something of a fusion of film (the visual component) and radio (the broadcasting component), might profitably be repositioned within a trajectory of technologies that sought to connect two distant points in real time, that is, with technologies such as the camera obscura, telescope, telephone, and telegraph before it.⁵ But such a view assumes a clear definition of the object under scrutiny—something that in television's case is complicated.

WHAT IS TELEVISION?

André Bazin asked a similar question regarding cinema, discussing the ontology of the photographic image and employing the metaphor of a death mask as part of his attempt to understand film's (and photography's) physical relationship to the visible world. Bazin's reference is at odds with a far more appropriate metaphor for television, the telescope, and offers an apt reminder of the film medium's embalmed character. Television, at least as it was originally imagined and for most of its first seventy-five years, was about the ephemeral act of seeing, of extension and instantaneity, of visually connecting disparate locations in real time. Indeed, we can find the lingering traces of this meaning in the German word for television, *Fernseher* (literally "far-seer" like its English counterpart, "tele-vision"), a term that during the nineteenth century and earlier referred to the telescope. Of course, our contemporary notions of television are complicated by temporal disjunctions, whether in the form of storage media such as videotape and DVDs, or government-mandated delays in live broadcasting (just as contemporary notions of film are complicated by digital production, distribution, and exhibition technologies). One can go back at least to the invention of the telephone to see well-developed conceptions of the medium that would later bear the name "television." One might even argue that a conception of the medium took hold in the last quarter of the nineteenth century that would in crucial ways determine the distinctions among moving-image media. Inspired by the telephone, early notions of the televisual assumed that moving pictures would be seen simultaneously with their production, that is, that the medium would serve as something like an *electronic camera obscura*, or telescope, bringing spatially distant scenes into direct visual proximity with the viewer.

From 1876 onward, a well-developed notion of television as a "live" moving-picture medium offered a counterpart to the "stored" moving images seen, for example, with Reynaud's projecting praxinoscope, Edison's kinoscope, and eventually, in 1895, with what we today celebrate as projected moving pictures. The difference between these two basic approaches to moving-picture technology was in some senses the same as that between the telephone and the gramophone. Both mediated the grain of the voice from sender or recorder to receiver, and both created an illusion of presence and even liveness. But only the telephone, like the period's sense of television, linked subject and object in real time; the gramophone, like the film medium, was by definition temporally disjunctive. Although we have since lost sight of the period's distinctions, the period itself elaborated upon the differences between these two approaches to moving imagery. Indeed, the range of evidence is such that one could argue that film, when it finally emerged, appeared as something of a disappointment (or at best a compromise) to those expecting simultaneity with their moving images—a view with serious implications for our understanding of early screen practice.

TELEVISION'S HISTORIES

That the media landscape has been in constant upheaval is a given, but the interactions of media and publics can be apprehended only if we can sort out differences among media forms. A look back at media's history as well as at their present state shows that even this basic issue has its difficulties. Technological convergence has posed a great challenge, as evidenced by 1920s recording technologies (film-based sound systems; Baird's television on wax disks) or contemporary digital technologies (film and video special effects, editing, sound work, exhibition). In these cases, the materiality of a particular medium has been displaced to a material base associated with another medium. Depending upon how media definitions are constructed, such twists as the replacement of film's photochemical base by an electromagnetic or digital-optical base may be seen as having little bearing on film as a cultural practice, or may be seen as threatening the very ontological underpinnings of film and video media. Tracing the cultural reception of these transformations, however, at least offers a clue to the conceptual impact of shifting technological forms and the manner by which (new) media identities take form. This is particularly clear in the case of television, a medium, even before its institutional consolidation around 1950, that was related to telephone, radio, and film technologies; that drew upon journalistic, theatrical, and (documentary) film-making practices; that was variously understood as domestic like radio, public like film, or person-to-person like the telephone; that was live and recorded, high definition (more than two thousand lines) and low, large screen and small. Television, before its midcentury governmental and industrial takeover, took many forms and promised even more. Indeed, the medium's undulations today, with interactive and on-demand services, large flat screen, small cell phone and iPod displays, and a variety of storage platforms and live video services, are not so much new as reminders of the medium's long-term flexibility.

Although one can track the idea of live moving-image transmissions back to the distant past (early claimants range from the ancient Egyptians to Saint Claire of Assisi), we can speak about the televisual in a specific sense with the coming of Bell's telephone in 1876. The telephone sparked an anticipatory interest in visual systems that could share the instrument's ability to link distant locations point to point in real time. This consensus took the form of verbal and graphic descriptions in both the scientific and popular press, as well as technological invention and patenting. For their inspiration, the authors of these reports and inventors of these new devices drew not only upon the telephone, but also upon the telegraph, especially the picture-telegraph that had been in service since the 1850s, the magic lantern, photography, and, after its introduction in 1878, the gramophone. Endowed as the devices were with names such as the "electronic camera obscura," the "telectroscope," "telephonoscope," "electrical telescope," and so on, their explicitly

intermedia character was apparent. Although a wide range of possibilities were described, most shared several characteristics: an explicit integration of the liveness and point-to-point links offered by the telephone; a projected two-dimensional visual display (in a rectilinear or oval frame) informed by the magic lantern and photography; and an interface through which spectators could interact with “live” moving-picture images of their interlocutors in real time. As we shall see, this vision was additionally enlivened by a clear sense of genre and a full-blown taxonomy of applications.

The supporting evidence for this imagined television apparatus can be found in many domains. In June 1877, *L'année scientifique et industrielle* included a description of a telephone-like device attributed to Alexander Graham Bell that supposedly sent images over a distance. Within two years of Bell's invention, a now famous cartoon appeared in *Punch* that showed a girl in Ceylon speaking on the telephone with her parents in the United Kingdom by way of a wide-screen “telephonoscope” attributed to Edison and Bell.⁶ By 1883, Albert Robida would provide his full-blown science fiction description of the “telephonoscope” (a description to which we will return), an audiovisual technology that could bring distant entertainment into the living room, serve as a means of surveillance, and function as a real-time face-to-face communication medium.⁷ Robida's “prediction” of television, like the prognostications of some of his contemporaries, offers a striking instance of technological anticipation, but it also speaks to the long history of ideas, urges, and attempts that infuse our most recent understanding of “new” media.⁸ Thanks to these inaccurate reports and science fiction fantasies, simultaneity, a quality the popular imagination already defined by and experienced in the telephone, was understood as an attribute that a visual medium could possess as well.

What can we learn from these early visions of the new medium of television? Robida's text offers a good example. As already suggested, it elaborates on a variety of scenarios for the telephonoscope, a display device that uses a large, oval-shaped (and sometimes rectangular) flat glass screen to show (distant) live events. A cousin of the telephone both nominally and mechanically (for it can facilitate two-way communications together with the telephone, in addition to offering one-way audiovisual access), the telephonoscope, in one scenario, permits a colonist posted in Indochina to talk with and see his family back home (a function that Robida entitled “*la suppression de l'absence*”). In another scenario, we read of the difficulties of attending the theater (from coach hiring, to inclement weather, to the poor sight lines of nineteenth-century theater boxes). The telephonoscope permits theater lovers to stay at home, and, from the comfort of their living rooms, have front-row access to the stage action as it unfolds. Robida also elaborated on the informational function of the device (world news, shown live as it happens); its role in the public sphere (billboard-sized public television displaying the day's events); and its potential for surveillance and voyeurism (as a telephonoscope “mistake” offers a group of men visual access to a woman as she undresses).

Robida's description includes an array of televisual functionalities that we have either seen deployed (live entertainment and CNN-style live global news coverage, surveillance) or have long been promised (television-telephone service, now finally available in our cell phones and Webcams). He understood the medium both as a one-to-one communication system and as a broadcasting system, and he situated reception both in the privacy of the home and in public settings. The defining elements of his imagined audiovisual medium are liveness, movement, and the capacities for interaction and (apparently) immersion. Many of these notions would be drawn upon by the following waves of new media. In articulating his ideas, Robida made use of existing media—the then six-year-old telephone, of course, but also a notion of visual display partially derived from the magic lantern (or perhaps more appropriately, the camera obscura).

The year following the publication of Robida's book (1884), Paul Nipkow, working in Germany, patented the disk that would be the heart of mechanical-optical television systems into the late 1930s—the *elektrisches Teleskop*. Although the name for Nipkow's device is also intermedially referenced to an existing technology (the telescope that provided the metaphor for the early television medium)—this time visual instead of the more familiar reference to the audio technology of the telephone—in fact his mechanical reference is to an audio technology. Nipkow's disk is remarkably similar to the polyphone system developed in Leipzig in the 1880s, a mechanical contemporary of the gramophone in the form of a music box system in which the software consisted of a perforated metal disk. Nipkow created his image dissector by perforating a similar metal disk in a spiral pattern, standing it on end, and giving it a spin, in the process effectively transforming the polyphone's digital musical software into analog (scanned) television hardware. Like Robida, Nipkow situated his new medium in terms of existing technologies—a reference to visual extension in real time (the telescope) and a mechanical homage to an audio medium (the polyphone) linked to a telephone or telegraph line. In his later years, Nipkow circulated a creation myth, recalling his student days, when far from home and wanting to be with his family for the Christmas holidays, he came up with the idea for "television." Like the 1877 *Punch* cartoon, Nipkow sought to develop a medium capable of live extension, interaction, virtual presence, and communication.

If the televisual enjoyed a period of rich development as both an imaginary and patented technology shortly after the invention of the telephone, certainly the material base that it held in common with the telephone also enjoyed a long prehistory—at least as long as the one we attribute to the film medium. For example, Daguerre's and Fox Talbot's very different 1830s photographic experiments, milestones central to cinema's development, might be paralleled to Samuel Morse's 1837 demonstrations of an electronic telegraph; Reynaud's projecting praxinoscope or Eadweard Muybridge's zoopraxiscope, both from around 1879, might be paralleled to Bell's voice telephone of 1876. Edison's and the Lumières'

earliest patents for the moving-picture camera and projector might be paralleled to the 1884 patent for Paul Nipkow's *elektrisches Teleskop*. These paired milestones in photographic and electrical technologies suggest the rough contours of two genealogical traditions that help to distinguish the very different provenances and projects of television and film. But our media histories have not always been attentive to these differences or their implications and have tended at times to blur the distinctions. In this sense, Charles Francis Jenkins's phantascope stands as an emblem of the conflation that helped to obscure these two traditions. Nearly one hundred years ago, as projected moving pictures first graced the screen, Jenkins introduced two very different devices under the same name: a moving-picture system codesigned with Thomas Armat, and a television-like system that promised, but so far as we know, failed, to transmit simple shapes. The motion-picture device had a significant impact and has been inscribed in our histories as the vitascope; the televisual device, a visionary failure, had no impact, and was long overshadowed by its twin's success and Jenkins's poor choice in naming.

This genealogical distinction renders visible the notion of simultaneity, a defining characteristic of nineteenth- and early twentieth-century television. Although much of our consideration of moving-image systems has tended to focus on visual representation (with the acoustic enjoying something of a boom at the moment as well), the temporal has been rather neglected. Yet one can trace a long-term interest in technologies of simultaneity—an interest that created television in the first place, and that remains very much alive within today's media systems (although, ironically, rarely television). Eighteenth-century optical telegraph systems, nineteenth-century wired and wireless telegraph and fax machines, and the twentieth century's radio, television, and Internet all in their various ways attempted to facilitate simultaneous communication over distant spaces, and thus extensions of the subject. Just as important, all shared certain developmental and discursive traits. The literature on these technologies usually attributes the development of technological infrastructures to military interests, and accordingly inscribes the use of simultaneity for communication, mapping, and surveillance within this offensive or defensive framework. But a less appreciated motive to stimulate technologies of simultaneity had to do with the construction of national identity and the modern state. Patrice Flichy argued, for instance, that the idea of France as unified nation in the nineteenth century owes much to a conception of instant access to its farthest corners, and thus the simultaneity of state power and knowledge over the complete geographical domain.⁹ Arguing from a transnational perspective, Stephen Kern has found that the infrastructures of simultaneity were crucial for such practices as the establishment of universal time—practices easily repositioned within Foucault's notion of the microtechnologies of discipline characteristic of the modern era.¹⁰ From the viewing subject's relation to the image, to pragmatic military concerns, to tangible articulations of the nation-state, to the Western discipline of uniform temporality, a wide range of ideological

strategies have been embedded in the various technologies of simultaneity. These projects suggest something of the specificity that the project of live television brought with it, and the implications of the temporal distinctions between our two moving-image systems, one “live” and the other “stored.”

WHO INVENTED TELEVISION?

The question of invention, often posed and sometimes answered, misses the point. As has been suggested, the conceptual modeling of the medium's *dispositif* and its technological realization is dispersed across time and national setting. That said, television's numerous histories tend to answer the question, and to do so in an emphatically nationalistic way (perhaps in keeping with the nationalist project to which communications systems have long been shackled). Although several scholars such as Abramson, Shiers, and Winston offer detailed chronicles of the complex interworkings of individuals, concepts, literature, patents, and industrial contexts that eventually resulted in what we today consider television, the majority of the medium's historians have told the tale in terms that fit national narratives. Thus, in the Soviet Union, Boris Rosing's important work in St. Petersburg provided the conceptual spark; while in France it was Barthélemy and Belin; or in Germany, Nipkow, Karolus, Ardenne, and the Hungarian Von Mihaly; or in Britain, Campbell-Swinton and Baird; or in the United States, Jenkins and Farnsworth, and so on. Depending on the precise definition of the medium, the focus on concept, prototype, or industrially sanctioned “invention,” the story of television can be (and has been) molded to fit local market demands. Those scholars advocating a “social constructivist” approach to technological development—in which the larger interactions among individuals, industries, regulatory frameworks, governmental ministries, engineers, the press, and publics give form to a culturally specific constellation of technology and its applications—offer a far more nuanced assessment of “invention.” Scholars such as Wiebe Bijker and Trevor Pinch have consolidated the theoretical frameworks for such an approach, and others such as Brian Winston, Michele Hilmes, and William Boddy have explored different facets of television's development and its intermedia positioning through this lens.¹¹

The question of invention is thus vexed conceptually, as the social constructivists show, and in terms of requiring a stable and moderately linear configuration of the medium, which television lacks. Television, as a concept and a technology, has positioned itself among related media (e.g., telephone, camera obscura, image telegraph), conceptual frames (e.g., communication, entertainment, journalism, surveillance), and national developments (with most Western nations and Japan

contributing important patents and technological insights). Its conceptual development seemed fully baked by the late nineteenth century, but its technological deployment as a mass medium would follow radio's (and that with a considerable lag) in the mid-1930s. This long gestation period combined with the political-economic position of the electronics industry in the 1930s, and the precedent of radio as a "mass medium," served to raise the stakes of nationalist claims for the medium's invention and encouraged both national and corporate specificity in the medium's development. The efforts of the Radio Corporation of America (RCA) in the United States, EMI-Marconi in Britain, Telefunken in Germany, and counterparts in other lands to lay claim to the medium's invention and to ally themselves with the increasingly nationalistic discourse of their governments in the late 1930s and 1940s had a profound impact on the medium's conceptualization and deployment, and seems to linger in our histories and assumptions regarding the medium. While we quite rightly celebrate the various efforts of Philo Farnsworth (electronic dissection), John Logie Baird (color, 3-D, and recording technologies in the late 1920s), René Barthélemy (1,042-line high-definition transmission), and others, television's highly controlled development from the 1930s onward has significantly compromised constructions of the medium's history and attributions.

RETHINKING MEDIA SEQUENCE: TELEVISION BEFORE FILM?

The attempt to recover the distinctive genealogical traditions behind television and film raises a number of questions having to do with their intermedia contexts and, as suggested, time. Stephen Kern has offered a compelling portrait of the competing notions of temporality vying for dominance in fields such as philosophy, psychology, and physics during the last quarter of the nineteenth and the beginning of the twentieth century. This period is widely considered to mark a significant shift in Western perception and representation, as evidenced by the period's arts and technologies and the discourses they generated. The contested nature of time as both fragmented and continuous found expression in, among other things, early notions of television and film—media that took shape within this crucible and helped to give it tangible form. For the purposes of this essay, we can simply make a quick heuristic distinction between two contrasting traditions of thinking about time: as fragmented but creating the illusion of continuity; and as a continuous and unified present, creating the illusion of progression and development.¹²

Nineteenth-century photographers such as Muybridge, Etienne-Jules Marey, and Thomas Eakins embraced the analytic potentials of fragmentation, seeking to subdivide the flow of life and submit it to scientific scrutiny. A later generation of motion analysts, epitomized by Frank Gilbreth, would use film to break down motion and analyze the logics of body movement and workflow with the goal of maximizing efficiency. This tradition of conceiving time as fragmented and atomized is heavily, but certainly not exclusively, indebted to the mechanical and analytic traditions of the eighteenth and nineteenth centuries, in which motion could be dissected and reactivated. This view, which in fact can be traced back to pre-Socratics such as Democritus and the atomists, has a metaphoric relationship to our thinking about the film medium. Although we appear to see continuous motion on the screen, in fact we are witnessing a rapid succession of still images. The twentieth-century version of this model of temporal fragmentation repositions the phenomenon in terms of modernity. Stephen Kern and David Lowe, for example, see film's ability to speed up time, to freeze it, or even to reverse it as emblematic of the modern (and the relative), as well as of twentieth-century thinking about time.¹³ The contrasting notion of time conceived as a continuous present, as flow, as seamless, is something that tends to derive from the agrarian past (cyclically flowing time and solid-state being, reaching back to pre-Socratics such as Parmenides of Elea) and is exemplified in the electrical age by technologies such as the telegraph, telephone, and television. It, too, makes a claim for the modern, not only technologically, but in the context of the international time treaties that were signed at the beginning of the twentieth century, and in relation to processes like global flows, networks, simultaneity, and indeed, the synchronicity associated with our increasingly computer-mediated present.¹⁴

These two notions of time, one fragmented and the other continuous, one admitting access to the discrete shards of time and the other bound into an eternal present, played out their long *pas de deux* with the *fin de siècle* media of television and film. Most discussions of the horizon of expectations that greeted the film medium do not include such elements as extensiveness with the lived world and the "now" of the viewing process. But if we go so far as to shift photography from the exclusive and defining condition for the moving picture, we might begin to ask very different questions about the cultural space film entered. What if the film medium had in fact entered a cultural moment that included continuity and not only fragmentation, electricity and not only photography, liveness and extension rather than simply storage and reflection? What if film appeared to a world that was prepared for moving images in the form of television?

One might expect that against this horizon of expectations, the film medium would have been deployed in ways consistent with the promise of television. There are, of course, a number of ways to understand the distinct production practices of the film medium's first decade, including its remediation of photographic, theatrical, and music hall and circus traditions, and scholars of early cinema have

explored these as explanatory possibilities. But the televisual also offers a plausible formative influence, and thus a way to read some of the distinctive attributes of period between 1895 and 1903–5. If the temporal distinctions between television and film outlined above can be accepted, and if the metaphors for television as a connector with life as it happens are to be taken seriously, then one might expect a filmic mimicking of television to take a form that emphasized liveness, presence, and a true “window on the world.”

Judging by many early humorous and probably exaggerated reports, the claim that at least for some audiences, early cinematic practices succeeded in confusing audiences as to the status of the image (live or stored? present or absent?) seems if not certain, at least well publicized. Films such as *Uncle Josh at the Picture Show* (1902) together with anecdotal (often apocryphal) reports about early audiences behaving as though screen images had the same ontological status as the viewers themselves suggest that the issue of the film medium’s convincing level of verisimilitude was open for discussion.¹⁵ What is curious is the longevity of this story for more than a decade after the first Paris screening.¹⁶ Might we read this persistent tale as evidence of the motion picture industry’s attempt to situate its products within a discourse of liveness? Might we see it as proof of the audience’s expectation of images that were co-extensive with the lived world? Such readings may be just as appropriate as the more familiar attribution of alleged audience shock to the new heights in visual realism achieved by the film medium, or the explanation that certain naive audiences could not distinguish between movement and presence.

Astonishment may also account for the preponderance of nonfiction in early film production and exhibition, a preponderance that made speaking of the screen as a “window on the world” entirely reasonable.¹⁷ As our knowledge of early cinema grows, it becomes clear that the signifying practices—particularly with regard to editing—operating in nonfiction differed from those deployed in fiction films. Nonfiction films seemed generally to have resisted the sorts of editorial fragmentation that characterized their fictional counterparts—a tendency that became more evident as the medium developed and fictional films grew ever-more fragmented. Single-shot street scenes, panoramic shots taken from the fronts of trains, and unbroken gazes at waves pounding rocks on the shore could easily have been read in their time as live; the films’ arrangements of time and space (coherent and generally unbroken; or if containing multiple shots, nonanalytic in keeping with the metaphor of a window on the world) potentially simulated a televisual viewing experience in the same manner that the panorama simulated the experience of the panopticon. We might, too, consider certain terminological markers that appear in the early years of the film medium: the use of the *actualité* for nonfiction, a term loaded with meanings, one of which is temporal; or American Mutoscope and Biograph’s 68-millimeter *Living Postcards*; or the transition, circa 1903, from the *actualité* to “canned” drama that declares the shift from the seemingly live to the emphatically stored (not to mention the insistence on Greek

and Latin invocations of liveness—bioscope, vitagraph, animatograph, *lebende Bilder*, etc.). Such nomenclature, like the dominance of the *actualité* and the persistence of the Lumière effect, can be read as claims to a quality of liveness consistent with the long-awaited moving-image medium of television that graced the popular imagination for the twenty years preceding the first film exhibitions.¹⁸

INTERPRETIVE FLEXIBILITY

Robida's musings and Nipkow's patent helped to shape early thinking about television's possibilities, with other developers contributing to the mix along the way. Although many of the components for what would emerge as working television were in place by the turn of the century, the medium remained largely a tinkerer's fantasy until the late 1920s, when technologies such as radio, capitalization from government and industry, and demand in the form of (among other things) cinema sound systems, all converged. The late 1920s and early 1930s are notable as much for the battles between individual inventors and corporations (Farnsworth vs. RCA; Baird vs. EMI) as for the struggle over technological norms (optical-mechanical; electronic scan lines) and the developmental plurality of television's very conception.

The clearest examples can be found in Germany, which first introduced daily public television service in Berlin in March 1935.¹⁹ By this point, independent British inventor John Logie Baird, finding little enthusiasm for his ideas from the BBC, formed an alliance with German partners and joined the Fernseh Company. But Baird and partners faced parallel difficulties in Germany. The 1936 Olympics were the testing grounds for the nation's two competing television systems: Fernseh's Nipkow-based mechanical interfilm system and Telefunken's electronic iconoscope system. Telefunken, part of a global RCA licensing network that included Baird's British competitor, EMI, won the standards battle in Germany just as EMI triumphed in Britain (and RCA dominated in America). There seemed to be a distinct pattern to the reduction of television's technological plurality, matching the technological need for standardization and an industrial desire for concentration.

In this period of general consolidation, television's conceptual contestation played itself out with greater variation in Germany than elsewhere, providing an excellent example of the flexibility that, despite periods of suppression, would remain a key trait of the medium. Thanks to a series of often-bitter struggles among political factions, governmental ministries, and interested corporations, television found itself pulled into at least four different directions. The electronics industry,

in the midst of a national campaign to put a radio in every German home, unsurprisingly backed a radiolike notion of television: a household appliance that could bring the events of the outside world into the living room, and that like radio would thrive on live informational and mixed-form entertainment broadcasts. To this end, a relatively inexpensive “people’s television receiver” was developed by the electronics companies, replicating the successful principle of the “people’s radio” and anticipating similar sales.

This view was contested by Joseph Goebbels and Eugen Hadamovsky of the Propaganda Ministry together with the socialist wing of the Nazi Party, all of whom felt (for very different reasons) that television should be seen outside the home in collective, public settings, serving as something of a surrogate for film with the added capacity to show live sports and political events. The Propaganda Ministry felt that collective settings were more conducive to persuasion, and the socialist wing of the NSDAP (National Socialist German Workers Party) felt that television should be free for all until receivers were so cheap that working-class families could afford them. Accordingly, television halls, most accommodating forty viewers but in some cases (equipped with large-screen interfilm display) up to eight hundred, sprang up around Berlin and, for a time, Paris as well.

A third notion of television saw it as a two-way communication medium linked to the telephone, harkening back to the earliest visions of the medium. Accordingly, a nationwide television-telephone network was established with facilities in major city post offices, with service stretching from Nuremburg to Hamburg, and Cologne to Leipzig. Finally, the Air Ministry developed television for the purposes of both reconnaissance (using high-definition prototypes of up to two thousand scan lines) and telepresence (visual guidance systems for bombs, rockets, and torpedoes in the form of mini-television cameras and remote controls). Although mini-cameras were actively produced for these “media” and testing was carried out, it seems as though this use of television did not see active deployment in the field. Each of these systems was deployed, each had corporate and governmental backers, and each gave form to a distinctive definition of television’s capacities—whether representational or functional. Moreover, each was embedded in particular technological prototypes and medial *dispositifs*—radio, film, telephone, and telepresence, in turn constructing distinctive notions of interface, audience, and notions of effects. If nothing more, this episode demonstrates that the *postwar* certainty of television’s place in the home, its status as a domestic technology, was by no means the only option for the medium before the war’s end.

The German case is interesting for many reasons, not the least, its overriding interest in radio and television broadcasting as a means of using technologies of simultaneity to construct the nation. From the late 1920s into the late 1930s, German broadcasting authorities urged both the electronics industry and consumers to put “a radio in every house” by coordinating the design and pricing of

the “people’s receiver.” The campaign was a massive success with the public, and it encouraged broadcasting journalists and engineers alike to theorize the potentials and implications of a public defined by a technology. Various media technologies were seen as part of an elaborated system that could help to extend the viewer beyond the site of his or her physical embodiment, to extend real-time participation in distant events, and in the German case, to redefine the *Volkskoerper*. This notion sought to make use of a temporal capacity lacking in the moving-image medium of film (although the period’s film-distribution practices, particularly with regard to newsreels, seem to have privileged carefully synchronized and widespread release, suggesting a high degree of coordination even if simultaneity was impossible).

One striking example of how television’s embrace of simultaneity would reposition if not eliminate the power of the storage medium of film—and in the process help to construct a new form of subjectivity—appeared in a top secret report produced by the German Post Ministry in 1943. The Post Ministry had long been engaged in a bitter conflict with the Propaganda Ministry, a conflict based on the culture clash between career civil servants (the Post) and NSDAP hacks (Propaganda). With the Post responsible for television’s apparatus and technology-intensive live broadcasts, and Propaganda responsible for programming, disputes were inevitable over everything from time allocation to the sharing of radio license fees. Late in the war, however, senior officials at the Post Ministry drew up a secret plan for post-victory Europe that they felt would render the Propaganda Ministry redundant. The plan called for a live cable television news network to connect “Greater Germany” and the occupied territories. Round-the-clock live television news, the Post’s domain, after all, would simply do away with the need for premeditated propaganda and filmed programming. The live connection between the leadership and its followers, the extension of nation through shared event, would constitute the new Germany’s neural network, constructing the new *Volkskoerper*. This scenario, with its rather chilling implications, clearly illustrates the perceived differences in temporality, connectivity, and presence between the media of television and film alluded to earlier in the essay with the genealogical distinctions between the two technologies.

The specificities of the German case notwithstanding, the point is that at this stage of its development, television enjoyed considerable conceptual flexibility and was highly responsive to its media environment. It was a medium that could have taken very different directions from that which we today take for granted. True, in national contexts like the United States, where corporations such as RCA (NBC) and Columbia (CBS) enjoyed a particularly influential position, television was promoted almost exclusively within the radio paradigm (and in this sense, it is indeed ironic to find such plurality in a totalitarian state); nevertheless, the medium’s potential to be configured in many different ways was explored even there. The ultimate dominance of the radio model had far-reaching consequences. On

the one hand, television was in some circles conceived of as the “completion” of radio, the next step in a teleologically driven evolution process by which the senses were extended, allowing wireless participation and a modicum of control in distant places. On the other hand, media-conceptual issues such as a (state and corporate) preference for one-way rather than two-way communication; regulatory issues such as the division and allocation of the broadcast spectrum; content issues such as program formats; and economic models (whether commercial, state, or public) were all derived from the model radio provided in the late 1920s. In nations such as the United States, the period was crucial for the suppression of the medium’s plurality and the consolidation of its modeling, and for revealing the nature of the pressures that forged this new medium as it was prepared for public consumption.

CONCLUSION: INTERMEDIALITY REVISITED

As the German case illustrates, television’s interpretive flexibility took the form of intermedia alliances. Although the telephone has, from 1877 until the present, remained its most persistent if underdeveloped partner, film has provided the most visible site of intermedia collaboration. In 1940, the Balaban and Katz Theater Corporation, a company with roots going back to 1908, when it operated nickel-odeons in Chicago, acquired a license for an experimental television station in the Windy City. By this point a subsidiary of Paramount, Balaban and Katz repositioned itself from an early adopter in the commercial film business to a forerunner in the commercial television business. Its parent company, Paramount (with Barney Balaban as president), owned several television stations outright and partnered with the Dumont network, an early commercial television company, in the ownership and development of others. Together, they would soon own four of the United States’ first nine television stations, with competitors such as Fox, Warner Bros., and Loews-MGM each attempting to purchase stations and television-based technologies of their own. If television initially provided a significant component in the horizon of expectations that greeted film in 1895, and if some early television systems relied on interfilm technologies for production and in some cases exhibition, the 1930s and 1940s witnessed a different strategy, with the film industry attempting to deploy television technology in ways that served its core business.

Michele Hilmes has provided an extremely useful overview of these interactions, two of which are of particular note in thinking about television’s ever-changing relationship with cinema.²⁰ As is evident from the German example, one model essentially brought television into the cinema theater. This model found

widespread interest as late as the early 1950s, as cinemas brought live sports, major political events, and news to the big screen. Indeed, as early as 1939, some cinemas specializing in newsreels used large-screen television projections to enhance the timeliness of reports, again, with sports serving as an important driver. By the 1940s, although RCA's technology dominated, several Hollywood companies either invested in large-screen television projection technologies such as Paramount's Scopphony system, or acquired the rights to such technologies, such as 20th Century Fox's rights to the Eidophor system. Like the timing of the large automated dance-hall organs that emerged shortly before loudspeaker technology began to find a market share, these large-screen applications of television appeared shortly before domestic television's second wave. Both technologies, the large dance-hall organ and the large television screen, found their prospects reduced to niche markets as the domestic model of television (and the dance-hall use of loudspeakers) took hold in the public's imagination and households.

The film industry, meanwhile, continued to explore ways of exploiting its products through the television medium. Subscription and pay-per-view emerged as viable alternatives, again with film companies either developing their own or partnering with existing technologies that could provide and regulate home exhibition. The Skiatron Corporation's Subscribervision, Paramount's Telemeter, and Zenith's Phonevision all offered ways of bringing films to the home through television (and revenues to Hollywood by way of tracking systems), but these technologies, too, were effectively put on hold by a combination of several factors. Despite these attempts to selectively meld television content into the cinema and cinematic content into television, in fact both efforts largely failed due to legal and regulatory reasons. In 1948, a Supreme Court decision (*United States v. Paramount Pictures, Inc.*, 334 U.S. 131) affirmed the antitrust cases brought against the major American film studios a decade earlier, triggering a reorganization and divestment of studio-owned cinemas. The film industry's attempts to use subscription television as an alternate distribution channel were stimulated by the decrees and eventually fell victim to them. The courts held that the film industry could not branch out into television distribution without violating the terms of the antitrust settlement. Similarly, the fate of television in the cinema and the joint partnership of Dumont and Paramount were undone by the broadcasting regulations of the Federal Communications Commission (FCC), which enforced rules against market dominance and effectively interpreted Paramount's cinemas as part of Dumont's broadcast network. The FCC effectively barred television from integrating with film exhibition.

Although the logics in both cases were regulatory, the results would keep "liveness" from entering the cinema, and, for a few years anyway, kept television from relying on "stored" programming. Despite the regulatory regimes that disciplined the boundaries of each medium (and that delayed the deployment of technologies that we today take for granted), the situation remained fundamentally

complicated. For example, when forced to divest its cinemas, Paramount sold its holdings to radio and television (the American Broadcasting Company) now under the direction of one of its former employees (Leonard Goldenson, former head of United Paramount Theaters), thus giving the film-television relationship yet another twist. Television would continue its *pas de deux* with the film industry, eventually emerging as a major site of exhibition (whether through direct broadcast or subscription television or video on demand), as a key means of promotion, and as an explicit corporate partner as the twentieth century grew more convergent.

Lynn Spigel opens chapter 4 of her *Make Room for Television* with a quote from television director Gary Simpson taken from a 1955 book on how to direct television. Simpson's definition speaks to the continued belief in liveness and "seeing at a distance" as defining components of the television medium: "Mr. Public views that television set in his home as a 20th Century electronic monster that can transport him to the baseball game, to Washington D.C., to the atomic blast in Nevada—and do it NOW. The viewer is inclined to accept it as his window to the world, as his reporter on what is happening now—simultaneously. The miracle of television is actually Man's ability to see at a distance while the event is happening."²¹

This definition would slowly lose its relevance as television increasingly relied on film and videotape, on reruns and the economic logics of syndication and the "rear end." On broadcast television, liveness became the stuff of Super Bowls and World Cup playoffs, of disasters and national rituals, even here (in regulatory settings such as the United States), eventually being outlawed in order to permit the censorship of unexpected events.²² Live television survives in the margins, where it can be found in the restricted sphere of surveillance and medical applications, Webcams, and cell phones. But the latest intermedia alliances between television and the mobile phone or television and the Internet suggest a continuity of the larger flexibility and responsiveness that dominated the medium's history. The question is whether—and in what form—the long-term conceptual concerns that have bound definitions of television together will rebound as the stability of the medium, imposed since the 1950s by governments and the electronics industry, gives way to new articulations of the televisual.

NOTES

1. Carolyn Marvin, *When Old Technologies Were New: Thinking About Electric Communication in the Late Nineteenth Century* (New York: Oxford University Press, 1988).

2. Hayden White has perhaps most elegantly called attention to the implications of where we choose to begin and end our historical narratives in his *Metahistory: The Historical Imagination in Nineteenth-Century Europe* (Baltimore: Johns Hopkins University Press, 1973). Television in this regard is exemplary. Seen from the perspective of the dawn

of the broadcast era in the years following World War II, the medium's history might be read as a textbook case of collaborative efforts between industry and government stabilizing a "new" technology, with a precedent medium, radio, providing the main organizational and programming parameters for its deployment. The intervening years would then be positioned as both a confirmation of the wisdom of this original model and a testament to the slow but steady refinements of media technology (tubes to chips), interface (dial to remote control), and synergetic potential (ranging from delivery and storage systems to programming sources). But if we begin our story at a different point, the historical trajectory leads to quite another set of insights.

3. Consider the post-Brighton turn in early film studies, a development that has proven remarkably productive over the past twenty years.

4. See R.W. Burns, *Television, An International History of the Formative Years* (London: Institution of Electrical Engineers, 1998); Albert Abramson, *The History of Television, 1880–1941* (London: McFarland, 1987); Herman Hecht, *Pre-Cinema History: An Encyclopaedia and Annotated Bibliography of the Moving Image Before 1896* (London: BFI/Bowker/Saur, 1993); George Shires, *Early Television: A Bibliographic Guide to 1940* (London: Garland Publishing, 1997); Brian Winston, *Misunderstanding Media* (Cambridge, MA: Harvard University Press, 1986); Siegfried Zielinski, *Audiovisions: Cinema and Television as Entr'actes in History* (1989; Amsterdam: Amsterdam University Press, 1999).

5. Conceptually, the sixteenth-century development of the camera obscura can be argued as a direct conceptual predecessor to television, but for the purposes of this essay, the televisual is deployed in a more literal sense. See William Uricchio, "Technologies of Time," in *Allegories of Communication: Intermedial Concerns from Cinema to the Digital*, ed. Jan Olsson and John Fullerton (Eastleigh: John Libbey, 2004): 123–138.

6. George du Maurier, "Edison's Telephonoscope (Transmits Light as Well as Sound)," *Almanac for 1879, Punch 75* (December 9, 1878).

7. Albert Robida, *Le vingtième siècle* (Paris: G. Decaux, 1883).

8. Erkki Huhtamo, "From Kaleidoscomaniac to Cybernerd: Notes Towards an Archaeology of Media," in *Electronic Culture: Technology and Visual Representation*, ed. Timothy Druckery (London: Aperture Press, 1996): 297–303.

9. Patrice Flichy, *Tele. Geschichte der modernen Kommunikation* (1991; Frankfurt: Campus Verlag, 1994).

10. Stephen Kern, *The Culture of Time and Space: 1880–1918* (London: Weidenfeld and Nicholson, 1983); for Michel Foucault, see especially *Discipline and Punish* (1975; New York: Vintage Books, 1979).

11. W. Bijker, T. Hughes, T. Pinch, eds., *The Social Construction of Technological Systems* (Cambridge, MA: MIT Press, 1989); William Boddy, *Fifties Television: The Industry and Its Critics* (Urbana: University of Illinois Press, 1990); Michele Hilmes, *Hollywood and Broadcasting: From Radio to Cable* (Urbana: University of Illinois Press, 1990).

12. In the West, we can distinguish between two broad approaches to the definition of time: one approach defines time as a structure, as either fragmented or as flow; the other defines time as an experience, as past or present. For discussion about the pre-television era, I have collapsed the two. The photographic character of film necessarily implies a temporal state of "pastness," while, for the purposes of my argument, I am taking the televisual to be "present" (ignoring the recorded nature of much contemporary television). This distinction is a crucial one with important implications for a larger discussion of the media.

13. Donald Lowe, *History of Bourgeois Perception* (Chicago: University of Chicago Press, 1983).
14. Manuel Castells, for example, defined globalization in temporal rather than spatial terms, paying particular attention to the near-simultaneity of information circulation. See Manuel Castells, *The Rise of the Network Society* (Cambridge: Blackwell, 1996).
15. This tale is a long-running trope in media history, evident from late-eighteenth-century drawings of Robertson's *Phatasmagorica* (where audience members are shown flailing the illusion-filled air with walking sticks) to cartoons about terrified "rubes" and "bumpkins" in the cinema as late as 1913.
16. See Stephen Bottomore's *I Want to See This Annie Mattygraph: A Cartoon History of the Coming of the Movies* (Gemona: Le Giornate del Cinema Muto, 1995), esp. 44–53.
17. For a compelling alternate view of this phenomenon, see Tom Gunning, "An Aesthetic of Astonishment: Early Film and the [In]Credulous Spectator," in *Viewing Positions*, ed. Linda Williams (New Brunswick, NJ: Rutgers University Press, 1995).
18. W. Uricchio, "Aktualitäten als Bilder der Zeit," *KINtop: Jahrbuch zur Erforschung des frühen Films* 6 (1997): 43–50.
19. The claim is complicated by the fact that Germany's initial efforts in fact differed little from what was being broadcast in the United States, England, and other countries on an experimental basis. Nevertheless, the Reich's broadcasting service represented a collaboration between industry and the state that continued largely unbroken until the last months of the war, and was responsible for significant innovation on both programming and technological fronts. For an overview, see William Uricchio, "Television as History: Representations of German Television Broadcasting, 1935–1944," in *Framing the Past: The Historiography of German Cinema and Television*, ed. Bruce Murray and Christopher Wickham (Carbondale: Southern Illinois University Press, 1992): 167–196.
20. Michele Hilmes, *Hollywood and Broadcasting: From Radio to Cable* (Urbana: University of Illinois Press, 1990).
21. Lynn Spigel, *Make Room for Television: Television and the Family Ideal in Postwar America* (Chicago: University of Chicago Press, 1992), 99, citing William J. Kaufman, ed., *How to Direct for Television* (New York: Hastings House, 1955), 13.
22. During the February 2004 broadcast of America's Super Bowl halftime show, the live airing of Janet Jackson's "wardrobe malfunction" caused the FCC to mandate a time delay on all future broadcasts, effectively outlawing "liveness."

BIBLIOGRAPHY

- Abramson, Albert. *The History of Television, 1880–1941*. London: McFarland, 1987.
- Bijker, W., T. Hughes, and T. Pinch, eds. *The Social Construction of Technological Systems*. Cambridge, MA: MIT Press, 1989.
- Boddy, William. *Fifties Television: The Industry and Its Critics*. Urbana: University of Illinois Press, 1990.
- Burns, R.W. *Television: An International History of the Formative Years*. London: Institution of Electrical Engineers, 1998.
- Castells, Manuel. *The Rise of the Network Society*. Cambridge: Blackwell, 1996.

- Gunning, Tom. "An Aesthetic of Astonishment: Early Film and the [In]Credulous Spectator." *Viewing Positions*. Ed. Linda Williams. New Brunswick, NJ: Rutgers University Press, 1995.
- Hecht, Herman. *Pre-Cinema History: An Encyclopaedia and Annotated Bibliography of the Moving Image Before 1896*. London: BFI/Bowker/Saur, 1993.
- Hilmes, Michele. *Hollywood and Broadcasting: From Radio to Cable*. Urbana: University of Illinois Press, 1990.
- Huhtamo, Erkki. "From Kaleidoscomaniac to Cybernerd: Notes Towards an Archaeology of Media." *Electronic Culture: Technology and Visual Representation*. Ed. Timothy Druckery. London: Aperture Press, 1996. 297–303.
- Kern, Stephen. *The Culture of Time and Space: 1880–1918*. London: Weidenfeld and Nicholson, 1983.
- Marvin, Carolyn. *When Old Technologies Were New: Thinking About Electric Communication in the Late Nineteenth Century*. New York: Oxford University Press, 1988.
- Shires, George. *Early Television: A Bibliographic Guide to 1940*. London: Garland Publishing, 1997.
- Uricchio, William. "Technologies of Time." *Allegories of Communication: Intermedial Concerns from Cinema to the Digital*. Ed. Jan Olsson and John Fullerton. Eastleigh: John Libbey, 2004. 123–138.
- White, Hayden. *Metahistory: The Historical Imagination in Nineteenth-Century Europe*. Baltimore: Johns Hopkins University Press, 1973.
- Winston, Brian. *Misunderstanding Media*. Cambridge, MA: Harvard University Press, 1986.
- Zielinski, Siegfried. *Audiovisions: Cinema and Television as Entr'actes in History*. 1989. Amsterdam: Amsterdam University Press, 1999.