

**Television as History:
Representations of German
Television Broadcasting,
1935–1944**

William Uricchio

Walter Benjamin's "Das Kunstwerk im Zeitalter seiner technischen Reproduzierbarkeit" ("The Work of Art in the Age of Mechanical Reproduction") appeared in the *Zeitschrift für Sozialforschung* several months after the Reich Broadcasting Company announced "the world's first regular television service."¹ The near simultaneity of the appearance of a new mass medium and an implicit critique of its cultural inscription marks a striking conjunction. Given the massive cultural role television subsequently assumed, and Benjamin's relative marginalization to a small circle of intellectuals, it seems astonishing that his essay achieved a much higher profile in cultural memory than did the considerable developments of German television broadcasting between 1935 and 1944.

Benjamin's discussion of a cultural shift to reception in a state of distraction, and with it his prescient observations regarding mass aesthetics and politics, stands as but one of a spectrum of discourses

surrounding the emergence of television. In Germany in particular, the diversified and often conflicting administrative units and personalities responsible for television broadcasting were quite articulate about their visions of the medium. Whether the socialist wing of the Nationalsozialistische Deutsche Arbeiterpartei (NSDAP) or friends of corporate capitalism in the Postal Ministry, whether through the persuasive interests of the Propaganda Ministry or the martial interests of the Air Ministry, whether governmental entities or multinational electronics corporations, all contributed to a vision of television—its organization, programming, and potential impact—which reveals as much about the state of the medium as the historical assumptions in which this vision was embedded. Internecine warfare among these interests spawned numerous debates and policy positions, some of which were publicly promoted through the press in Germany and abroad. Yet, despite abundant discourse, despite the widespread involvement of public and private institutions, somehow the very existence of German television broadcasting in this early period has slipped from popular memory. The ease with which the British and Americans lay unchallenged claim to that always tenuous position of “first” in their assertion of primacy in regular public television broadcasting stands as but one manifestation of this situation.²

This essay traces several strands of the discourse emerging from the period, using the patterns of evidence on German television together with elements of its ongoing representation as reflections of broader historical concerns. The story of television’s development appears intertwined in a complex web of determinants. Sorting them out offers the potential to reveal the medium as a site of contestation and cultural paradox, while reflecting back upon the character of the ever-changing national, technological, and economic historical paradigms through which it has been represented. Whether during the Third Reich or the Cold War, these perspectives have continued to shape public access to the events surrounding television between 1935 and 1944, accounting in large part for their curious omission from contemporary studies. This essay will thus sketch out and problematize concepts of German history as inscribed within the cultural configuration and representation of early German television in trade journals, the popular press, scholarly essays, and other texts.

German television before 1944, as a medium of representation and transmission, dealt tangibly with images of history and thus its programming might seem to provide more direct access to concepts of German history than discourse about it. Whether enveloping events such as the 1936 Olympic Games in the aura of the “world historical,” or broadcasting feature and *Kulturfilme* with explicitly historical subjects, television continually demonstrated its potential as an agent in the construction of popular memory. The transmitted sporting events, films, news, drama, and public affairs programs that made up the typical German broadcast day all would seem to resonate with the fullness of the historical moment, but two factors motivate this essay’s focus on discursive practices.

First, virtually no intact programming from 1935 through 1944 exists. The little that has been discovered—several clips and compilation films for broadcast—while useful for the pursuit of specific topics, largely precludes systemwide analysis.³ Second, while television was well publicized and while receivers were promised at reasonable prices, estimates suggest that only between two hundred and one thousand sets were actually available. Despite the steady expansion of the program day, German television fundamentally lacked an audience. For the most part, the German public had much greater exposure to the discourse about television than any direct experience of the medium.

Although textless in a traditional sense, the many contradictions pervading German television’s national and international development together with the patterns of its historical treatment suggest television’s relevance as metatext, as a lens on the broader patterns of German history. The kinds of questions that can be raised about early German television, and our evidence-based access to them, may be used to reveal the assumptions and functions of the surrounding institutional and technological discourse. Much more so than in the case of cinema with its relatively long-term international organizational and representational practices (encouraging analytic focus on individual films and reception as the site of specific historical concepts), television’s brief history prior to 1944 and its unique institutional status encourage this metatextual approach.⁴ Divided among three ministries, struggled over by national and multinational corporations, and driven on by ideologues of various

inclinations, technological visionaries, and bureaucrats. television existed at the nexus of an array of forces central to the epoch's development. Television's proximity to the agents of the state and capital that helped to define the Reich, in turn, fueled postwar interpretive strategies. More often than not, historical television found itself contextualized within a series of specific ideological discourses. Thus, critiques of the Reich as aberrant capitalism or as a deviant (totalitarian) state apparatus appeared on the level of discussions of television, in the process, invoking and inscribing Germany's ongoing history.

This essay, then, seeks to approach the discourse surrounding television, both within the Third Reich and since, as a representation of German history in its own right. To this end, the central role played by concepts such as nationalism and technology in discursive practice will be explored, providing a parallel and counterpoint to the thematic representations in film and television content discussed elsewhere in this volume. Nationalist rhetoric in particular played a significant and often overarching role in the otherwise disparate motives of the many constituencies struggling for control of pre-1944 broadcast efforts. The political interests of different factions within the NSDAP, the careerist motives of individuals in the scientific, governmental, and corporate communities, and the economic interests of multinational corporations all legitimized themselves in their embrace of broadly nationalistic goals. Moreover, although the nuances of nationalism changed in the course of the country's postwar physical bifurcation, the concept's dominant role in representations of early television remained unchallenged. Indeed, on both sides of the divide, differing configurations of nation helped to express the ideological distinction of the "other" Germany, both in the sense of the Third Reich and of opposing sides of the wall.

Yet in the postwar years, nearly a decade of television broadcasting, and with it a set of rather impressive advances, slipped from popular memory. The complexities of television's development within the Reich, the often contradictory available evidence compounded by the postwar division of archives, and the broader problem of accommodating divergent concepts of history and explanatory paradigms all contributed to the near loss of a past that laid the foundation for the soon pervasive "new" medium of the 1950s.

The Struggle for Control

The discourses and developmental patterns surrounding television's appearance in Germany chart not only a limited range of broadcast-specific interests, but reveal the interworkings among individuals, ministries, and national and multinational corporations in the perception and formation of a new mass medium. The terms in which this new medium appeared, as Benjamin suggested, fundamentally challenged the project of human agent-oriented history and the role of rational discourse within it. As we shall see, broadcasting authorities advocated group viewing of television specifically to preclude the array of audience negotiations that they felt atomized home viewing encouraged. Moreover, the discursive framing of television crystallized an equally telling shift in the conception of technology. In place of the Enlightenment principle of science as a means to the common good of humanity, technology appeared as a tool in the service of the German nation. Whether by implanting the image of the *Führer* in the hearts of his people, proclaiming the superiority of German technology, or using television guidance systems for torpedoes and missiles, a discursive tradition that had remained vital, despite nationalistic challenges to it in the nineteenth century and at the start of the twentieth century, had emphatically ended.

On 22 March 1935, *Reichssendeleiter* (Director of Broadcasting) Eugen Hadamovsky declared, "Today National Socialist broadcasting, working together with the Postal Ministry and German industry, begins as the first broadcasting system in the world with regular television programming. One of man's boldest dreams has been realized."⁵ By pointing to the shared mission of government and national industry, Hadamovsky's address accurately located the dynamic that propelled German broadcasting into the forefront of international activity. While some very real benefits emerged from this conjunction, it also resulted in fundamental contradictions particularly for the German electronics industry.

Rapid advances in cable technology, in the live transmission of images (used in the 1936 Olympics), and in receiver technology were promoted and heavily marketed in the annual public broadcast exhibitions to both domestic and foreign markets. Each of the major electronics

companies developed a wide variety of home receivers and displayed them with appropriate hype to a market ready for the future. Despite initial intercorporate competition, the government extended its coordinating function, evident in new politico-economic formulations of socially sanitized monopoly-capitalist production such as the *Volkswagen* and *Volksempfänger*, to television, and in so doing, mapped the route to prosperity for the major electronics concerns. Nationalism was good for business.

The electronics industry fully expected purchases of home television receivers to parallel the levels already experienced by radio. In 1937 Germans held over eight million radios—by far the heaviest concentration on the continent—and this was merely the midpoint of a campaign to place “a radio in every German house.”⁶ Yet by 1939, only two hundred home television sets had been sold.

Extrapolating from its experience with radio, the German electronics industry had every reason to believe that it would experience massive television sales. Although it became increasingly clear that Germany’s industrywide standardization (the down side of the government’s coordination [*Gleichschaltung*]) would limit profit margins and the competitive distribution of capital, most large industries already had experienced the benefits of state regulation and consequent reduction of intercorporate competition during the First World War. Moreover, at least within the electronics industry, stock ownership patterns and board of director memberships demonstrated widespread integration of ownership and control, facilitating intercorporate cooperation and financing.⁷ But while the government encouraged this development, its role was not without contradiction.

Government regulation and coordination facilitated technological development and norms, but they quickly ran counter to industry expectations. Elements within the government, and particularly those with NSDAP affiliations, appeared to have had a very distinct concept of television’s form and social function. Tensions between the two dominant plans for television, i.e., industry’s and the party’s, both garbed in the protective cloak of national interest, played themselves out most explicitly in ministerial disputes. The government regulated television, like radio, through several channels including the Postal Ministry (*Reichs-*

postministerium [RPM]), the Reich Broadcasting Company (*Reichsrundfunkgesellschaft* [RRG]), the Propaganda Ministry controlled Broadcasting Chamber (*Reichsrundfunkammer*), and ultimately Goebbels's Ministry for Enlightenment and Propaganda (*Reichsministerium für Volksaufklärung und Propaganda*). The Postal Ministry, long allied with the electronics industry, acted in a manner consistent with its counterparts in Britain and the United States and mandated television's technical standardization.

But the Propaganda Ministry, with its much closer affiliation to the NSDAP, asserted a distinct development plan, suggesting audience homologies somewhat closer to film (centralized, public screening) than radio (decentralized, private listening). The propaganda theory then in vogue, strongly supported by Hadamovsky and Goebbels, favored the efficacy of group reception as a means to ensure consistent interpretation and minimize aberrant negotiations of meaning. And so initially, to the dismay of the corporate community, public television halls seating between forty and four hundred people emerged as the primary reception forum (an approach not dissimilar to that used in the Soviet Union at the time).

The development of this conflicting strategy—preparation for a strong home receiver market on the part of industry versus the government's push for a mass viewing environment—emerges from a number of changing factors. These include the aforementioned propaganda theories; the early “socialist” tendencies of National Socialism (supporting public viewing until receiver cost was affordable to the masses); changing technical standards (180 lines through 1937 and 441 lines in 1938 and after); and the shifting role of multinational corporations in political policy throughout the National Socialist period; together with the initiating mission of German television broadcasting. Again, Hadamovsky, “Now, in this hour, broadcasting is called upon to fulfill its greatest and most sacred mission: to plant the image of the *Führer* indelibly in all German hearts.”⁸ While the business community apparently had no reservations about this mission, its implementation posed substantial problems. By the late 1930s, as the technical situation finally stabilized around a 441 line norm, industry together with the Postal Ministry moved ahead with plans for consumer sector receivers. Ironically, just as mass production

orders for television receivers were issued, the shift to a war economy together with the restrictive broadcast laws of 1939 precluded the mass production and marketing plans so evident in the corporate record and at the Berlin television exhibitions.⁹

As previously suggested, Hadamovsky's inaugurating speech accurately located the dynamic that propelled German television broadcasting by pointing to the "shared mission" of the government and national industry. The exact nature of that mission, however, remained unclear. Expressions of solidarity, protection, and mutual support bound governmental and corporate interests together. However, equally distinct tensions between the government and the private sector, apparent in the national coloration of multinational trade concerns, interministerial policy struggles, and the perception of and lobbying for various models of television's organization, also pervade the period.

As a result of the Postal Ministry's and particularly Hans Bredow's interest between 1926 and 1934, the government provided heavy subsidies for television's technical development (together with related technologies of cable, telephone, wired and wireless image transmission, and amplifier development).¹⁰ These subsidies reflected the ministry's long-standing concern with and structural involvement in communications technologies, a level of involvement evident before the turn of the century and one frequently articulated in terms of potential military applications. Patents such as Paul Nipkow's 1884 electronic telescope and Dieckmann's 1906 facsimile transmission device—both directly related to early television systems—manifested a dimension of televisual communication consistent with and of relevance to supravening national concerns.¹¹ The Enlightenment project of science and technology for the common good fell under siege well before the formation of the party that would eventually epitomize its collapse.

Based on Postal Ministry correspondence with the Finance Ministry (*Reichsfinanzministerium*) during the Weimar Republic, national security seems to have been a motivating factor in the government's expenditures on the development of related technologies. Among the assertions that emerged, two dominate subsequent discourse. First, assumptions regarding hard information transfer fundamentally unify the sense of these technologies, their national security potential, and their

consequent character, coordination, and control through governmental agencies (ultimately the RPM). Second, governmental subsidy of the massive research and development costs for these technologies in domestic firms, and the subsequent privatization of the results at the point of commercial application suggest the special nature of the government's relationship to private corporations.¹² This type of supportive integration for the mutual benefit of industry and the state set the pace for subsequent developments, including continued governmental subsidies, regulations, and ultimately, coordination with the NSDAP agenda.

The intrusion of a set of somewhat more economically autonomous players complicated the Postal Ministry's inroads into selected portions of the domestic electronics industry. From 1921 through the early 1930s (with a particular flurry of activity brought on by the stabilizing of the mark through the Dawes Plan in 1924), U.S.-based multinational corporations played an important role in the German economy. German businesses floated over \$826 million in bonds in the United States, and many American firms invested heavily in German companies, entering into partnerships or establishing subsidiaries, including Dow Chemical, Ford, General Motors, I. E. DuPont, and General Electric.¹³ The multinational patent base of many technologies also encouraged a broad pattern of license and patent-sharing agreements, evident in television technology with companies such as Baird, RCA, Farnsworth, and International Telephone and Telegraph.¹⁴ Fernseh A.G., one of Germany's two largest television companies, was founded in part by Baird International Television (in partnership with Robert Bosch, Zeiss Ikon, and D. S. Loewe) and shared patents with Farnsworth.¹⁵ Other television companies had equally complicated relations: Lorenz (and its related conglomerate, Standard Elektrizitäts Gesellschaft [SEG]) was a wholly owned IT&T subsidiary, and Telefunken (with its parent companies, Siemens and AEG) was tied to RCA's license system.

Despite this fabric of multinational interconnections, the inauguration of regular public broadcasting in March 1935 appeared in a nationalistic light. Although receivers remained generally unavailable and although service began on an already obsolete standard (180 lines), the government initiated broadcasting specifically to beat the British for reasons of both national interest and German exports.¹⁶ The commercial-

ization potential of a new technology brought with it the possibility for rapid expansion absent in more traditional sectors, and an established interest group eagerly awaited an opportunity to profit by it. As international trade and popular press reception indicate, not only Germany but other countries as well tended to nationalize fully multinational technology and therefore profits. But this nationalistic discourse also masked the ownership and licensing patterns of multinational corporations such as IT&T and RCA, which were able to sustain profits in diverse markets despite increasing international hostilities.

The apparent tension between multinational developments (the necessity of patent sharing, attempts to integrate new markets, and so on) and national interest emerged in several ways. The world economic crisis of the late 1920s certainly encouraged multinational investment, as did an awareness of the international realities of technologies such as the telephone and telegraph.¹⁷ Moreover, growing evidence indicates that early National Socialist economic policy was receptive to development, driven more by attempts to restore business confidence with promises of modernization and financial security than by threats of foreign war. Like autobahn construction and car production, developments in television provided a propaganda coup for the government while bolstering the confidence of the domestic business community (electronics in particular).¹⁸ The state saw exports as critical to economic survival and thus structurally encouraged national expressions (and sales) of the new technology through subsidies and tax incentives, even when dependent upon others' patents.¹⁹

The Postal Ministry sponsored elaborate marketing opportunities through the annual broadcast exhibitions and the heavily publicized televising of the 1936 Olympics.²⁰ Foreign press received special consideration, and great care went into providing state of the art communications facilities. Perhaps more importantly, the Postal Ministry encouraged competition among the various electronics firms and multinational licensing affiliates, effectively holding out the prize of national conversion to the winner's standard. Thus, the Olympics served as a battleground for Fernseh/Farnsworth and Telefunken/RCA, all the while demonstrating "German" television to the world.²¹ In sharp contrast to the policy of secrecy that veiled parallel British and sometimes American develop-

ments, Germany seemed to take the initiative, positioning itself to leap ahead into the international market.

The start of war in 1939 substantially complicated the picture, enhancing the protective coloration of multinationals. Structural constraints such as the British, German, and American trading-with-the-enemy acts, the American freezing acts, and the roles played by various offices of alien property custodians resulted in curious contradictions.²² Licensing agreements and patent exchanges between German electronics corporations and American firms such as IT&T continued after 1941, and IT&T retained control of its subsidiaries (including 28.3 percent of the Focke-Wulf military aircraft company) and even expanded its operations in Germany during the war.²³

The explicit shift to military applications of television technology after 1939 might seem to have inhibited multinational corporate activities. But, given the previously mentioned long-standing and close relationship of the electronics and telecommunications industries to national security interests, such developments came as no surprise to the multinationals. The contradictions that emerged in this period constitute a repressed chapter in the history of multinationals, helping to account for the complexity and sensitivity of the situation in the postwar period.²⁴

Within Germany, a complex set of overlapping jurisdictional claims and disputes characterized the government's involvement with television after 1933. The Postal Ministry, for example, encountered television through its own matrix of intraministerial agencies including the *Deutsche Reichspost*, the *Reichspostzentramt* (RPZ), the *Forschungsanstalt der DRP*, and through its role in the Reich Broadcasting Company. Interministry relations held more potential for serious conflict. From its inception in 1933, the Propaganda Ministry was embroiled in a chronic fight with the Postal Ministry over shares of radio license income and ultimately control over the Reich Broadcasting Company (a struggle that ultimately caused the collapse of the Reich Chamber Broadcasting).²⁵ Even on the petty level of rent payments for the television halls, disputes emerged between the Postal Ministry and the NSDAP, the latter refusing to pay for the few halls it controlled. An extreme, though telling, eruption among several ministries followed Hitler's awarding of overall control of television to Reich Air Minister

Goering in July 1935 (a transfer of power carefully kept from the press).²⁶ The Postal Ministry and Propaganda Ministry both protested vigorously,²⁷ and despite Goebbels's attempts to strike a side-deal with War Minister Blomberg, by December a new directive divided responsibility among all the players.²⁸ The Postal Ministry was given responsibility for technical development and transmission; the Propaganda Ministry, programming; and the Air Ministry, defense applications.²⁹ Additional parallel and often overlapping jurisdictions were established by the Nazi party through the *Gau* system, and the division of power was further complicated by the organizational affiliations of various labor groups.

One of the clearest tensions to emerge in this matrix of overlapping jurisdictions and interests regarded the exhibition of television and involved the Postal and Propaganda Ministries. Although involved in an ongoing series of disputes over income and cost sharing, their struggle masked a deeper division. Staffed by career specialists who had longstanding relationships with the industrial sector, the postal authorities coordinated technical developments and, until 1933, controlled broadcast fees. By contrast, recently empowered party members dominated the Propaganda Ministry and cut into the Post's turf and fees with their party-specific agenda. Goebbels and Hadamovsky typified the latter.³⁰ Moreover, as Germany's leading propaganda theorists, both concurred that mass reception of propaganda was most effective, and Hadamovsky consequently encouraged the public character of television's reception. The electronics industry, and with it the Post (ever dependent on license fee revenues), pressed for the widespread proliferation of individual home receivers, consistent with that of radio's development.

The widely divergent interests and strategies of the various constituencies among and within the ministries, together with the complications fostered by the different factions of the NSDAP, point to the inadequacy of unified national interest as an explanatory paradigm for the historical development of television. "Führer" and "Vaterland" were certainly invoked at any given opportunity, but the record suggests that politicians and industrialists were motivated by self-interest rather than any commitment to the nation or the common good. Nationalistic discourse about television deviated from the Enlightenment principles of

the common good by providing protective coloration to the narrow interests of bureaucracies and individuals.

In terms of the medium's physical development, many of these same factors—national and multinational industrial interests, governmental agencies, and rapidly shifting technical standards, together with the pressures of the world economy—suggest a number of possible causal factors. Serious disputes on any one of these levels might have been sufficient to delay television's standardization and deployment. Conversely, appropriate pressures from one or another sector may have been able to consolidate interests.

Closure, when it came, was marked by the emergence of a technical standard and the convergence of the major electronics firms. As in Britain with the competing Baird and EMI/Marconi systems, Germany initially faced the Fernseh (Farnsworth/Baird patents) and Telefunken (RCA) systems, the technical grounds for the delay in receiver production. The situation was complicated by a nationalistic tenacity regarding mechanical systems (the Nipkow disk), given both the high state of refinement it reached as a result of exacting engineering and manufacture (high vacuum technology) and its status as "purely German."³¹ Nevertheless, Zworykin's iconoscope emerged as the superior technology, and in 1937, 441 lines formally appeared as the German standard.³² Through the coordinating function of the RPZ and the RRG, all of the competing electronics manufacturers, despite their previous and ongoing corporate and license agreements, converted, thus clearing the way for the cooperative mass production of receivers. Approval of designs for the low-cost *Fernseh-Volksempfänger* [the "people's television receiver"] were held up until late in 1938, a delay that would seem to have cost the electronics industry dearly. As noted, soon after the RPM issued its first large order, the war began, and production of consumer receivers slowed to a near stop. Despite apparent stasis, research, planning, and programming continued to develop rapidly. Work on a nationwide cable system continued, and the program day, which had averaged 3 hours a day until 1938 (excluding the Olympics) reached 6.5 hours in the early 1940s (including 1.5 hours live).³³ Access to receivers remained limited largely to functionaries, with many of the available private sets being diverted to use

in military hospitals and recreation centers. Television viewing rooms remained the predominant public venue, and research continued in the area of large beam video projectors and high-definition systems of 1,029 and even 2,000 lines.³⁴

Significantly, post-1939 research and development stressed explicit military application. Reconnaissance (hence, the interest in high definition), television-guided missiles, bombs and torpedoes, as well as spin-offs such as heat-seeking missiles and related technologies underwent rapid development paralleling developments in the United States. Based on a preliminary analysis, both the production levels and profit margins of the German electronics industry's involvement with the military greatly exceeded their efforts (and perhaps potentials) in the civilian sector.

Television as History

Even a gloss of television's development in Germany reveals a matrix of contradictions complicating the roles and relationships of technological research, national and multinational industrial development, and state economic coordination. In some senses a testament to the remarkably diverse and often conflicting appeals and interests encompassed by the Third Reich, television stands as but one of many instances whose very development inscribes and reifies the complexity of a historical moment. While useful as a comparative model to alternative and better documented media systems, the extremity of the German situation also serves to highlight relationships and tensions present in the broader scheme of modern German history.

German television appears distinctive both because of the NSDAP's attempts to dominate the medium as a mode of party-specific agitation (most evident in the activities of the Propaganda Ministry) and because of the explicit coordination of private and public sector efforts in the introduction and promotion of television (through the Postal Ministry). As such, it might appear that the social production of German television, together with television as a means of production within that social framework, share a highly specific and nationally circumscribed

set of referents. Certainly this perspective offers useful possibilities, particularly in the light of a reconsideration of Germany's pre-1939 economic policy. The idiosyncratic particularity of the German case, in turn, could be seen as motivating the marginalization of this moment of broadcast history in subsequent discourse.

In contrast to these positions, however, closer investigation of the underlying structural unities binding the German experience to parallel developments in other national markets—the United States and Great Britain for instance—permits the contours of a broader technological-economic system to appear. The multinational character of television's research and development, the patterns of its technological transmission (patent sharing and licensing agreements), its place in the fabric of early twentieth-century economic growth, coupled with the explicit industrial involvement of RCA, IT&T, AEG, and so on, all suggest a set of common denominators that call into question concepts of historical process that focus almost exclusively on the nation state and national loyalties. Moreover, in the shift to the far more profitable military application of television technology and in the maintenance of at least some explicit multinational corporate connections involving weapons systems throughout the war substantial contradictions to the received view emerge.

Although a wide range of factors appear to account for Germany's development of television, cultural configurations further complicate the nation's status in broadcast history. The relationship between period reception and consequent historical representation provides valuable insight into the shifting history of mentalities in the postwar period. The diversity of the available record and the selection process whereby historical questions and methods frame particular strands of that record as relevant reveal the broadly ideological role played by television as a cultural entity and as an object of study.

Of the many possible expressions through which the process of German television's concrete historical representation can be traced, a start can be made by examining the public reception of several constituencies as distinguished by their relationship to the medium. An account of the approaches taken by the domestic and foreign popular press, the trade press, and the industry through their published reports and

circulated opinions throws one dimension of the basic contours and nuances of the situation into comparative light. Of course, such an approach at best suggests the general public orientation of the institution making the utterance and of necessity misses the fuller range of social forces and the consequent plurality of discourses (many of which have already been mentioned).³⁵ But as an indication of public positioning, this approach provides at least the broad contours of reception while constituting the type of evidence to which subsequent generations of historians have had ready access. Thus I will sketch the view of television presented to the general public through newspapers, to the electronics trade and professionals through their journals, and to the corporations through reports in order to reveal one set of television's public contours. For reasons of expediency, German and American reception during 1935 will be used to map out the spectrum of responses.

The heavily publicized start of public broadcasting in 1935 may have lacked a viewing public, but it nonetheless appealed to mass audiences through extensive and intensive press campaigns. A spectrum of attitudes emerged in the popular press, and 1935—the year Germany introduced its public television service—provides a nodal point in the representation and configuration of perceptions.³⁶ Within Germany, with its already centralized press service, Reich Broadcasting Company press releases and hyperbolized commentaries heralded the nation's technical achievement as proof of a new direction in both industrial and consumer sectors and as evidence of the fruitful collaboration of state and industrial interests. Television as evidence of Germany's technological superiority, as a vindication of its new economic order, as tangible proof of the benefits of the Reich permeated domestic press coverage. Multinational affiliations, relatively prominent in the trade press, rarely appeared in popular reports, although the visits of American and British scientists sometimes received attention as further proof of Germany's lead in the field. The public nature of exhibition often appeared as evidence of an egalitarian policy by which free television service was provided to all until receivers reached a sufficiently affordable level (the latter proposition always posited in imminent terms).

The popular press in Britain and the United States often exhibited a similarly nationalistic tone in television discussions. The *New*

York Times repeatedly mentioned German attempts to attain parity with American standards rather than British, despite the absence of formal or even licensed experimental American broadcasting. Nevertheless, the centrality of United States patents and the assertions of its technological superiority appeared regularly.³⁷ In addition, a recurrent tendency to privilege British over German developments dominated the popular press, despite the fact that in some cases the British technology at issue had not actually been seen by the reporter (and the reviewed German systems were acknowledged to be both varied and available).³⁸

An awareness of competition and its dangers also entered the discourse. The importance and rapid growth of radio in Germany was regularly noted and used to forecast projected developments in television.³⁹ Often, German developments were cast in what might be described as motivational terms, as a headline from the *New York Times* emphasized, “Germany rushes work on TV system: Berlin doesn’t intend to be outdone by London in the matter of television.”⁴⁰ J. Royal, vice president of the National Broadcasting Company, exaggerated the medium’s impact in Germany relative to the United States market as part of a broader attempt to stimulate federal licensing agreements, saying, “Television is rapidly becoming a national pastime in Germany.”⁴¹

In contrast to this nationalized and competitive discourse about the historical development of television in Germany, both the German and international professional trade press—at least until declarations of war—dutifully reported technical innovations both from the perspective of patent and license sharing agreements and from that of new manufacturing techniques. The *Journal of the Royal Television Society*, for example, devoted substantial space to detailed descriptions of and debate about the annual broadcasting exhibitions in Germany, carefully comparing available receiver models and studio technique and frequently lamenting the British penchant for secrecy. Visiting delegations of engineers reported on their findings, and generally the trade literature reveals a pattern of respect for German engineering and technological craft but dismay about their (initial) retention of mechanical systems and programming.⁴²

For its part, the German trade press—and particularly Telefunken and Fernseh A.G.’s technical journals—disseminated the details of

the latest patent acquisitions from their American or British affiliates while addressing their own progress. A revealing source for the close cooperation among multinationals, the German professional trades provide a rich evidence base until their termination with the start of total war in 1941. The German trades differed from their British and American counterparts only in the specificity of their occasionally nationalized discourse particularly evident in the historical grounding of developmental issues. Thus, for example, discussions of the prominent place of Paul Nipkow and Manfred von Ardenne in television's evolution and their continuing role in the medium's development appeared only in the German context.

While reflecting the interests of the multinational electronics and telecommunications industry, corporate discourse presents serious research difficulties because of the generally private nature of its expressions. Nevertheless, selected elements of the record appear in government files, corporate officers' memoirs, reports to stockholders, and postwar litigation records.⁴³ Remaining within the sample year, 1935–36, American industry generally focused on Germany's technical achievements. British efforts received much closer attention because their programming developments and receiver marketing strategies more closely paralleled American plans.⁴⁴ German programming, in addition to the differences emerging from its avowed political function, was also linguistically marginalized.

David Sarnoff's 1936 report to the Federal Communications Commission, *The Future of Radio*, noted that "other nations are accepting the standards and methods of RCA engineers and are applying them to the solution of their own television problems."⁴⁵ Sarnoff's reports to RCA's stockholders, however, were more explicit, with statements of annual patent income reaching levels of \$20,166,545.06 (minus reserve for patents of \$11,503,333.79 or \$8,663,211.27) in 1934.⁴⁶ Within the United States, at least, television's competitive implications for radio seemed to occupy a sizeable part of the available 1935 record.

Meanwhile, industry executives and technicians carefully documented developments in England, Germany, Japan, Argentina, and the Soviet Union, pursuing market openings and remaining fully abreast of technological transformation and application. Marked by Federal Com-

munications Commissioner Sykes's wait-and-see approach, the industry seemed to monitor Germany, like England, as a testing ground for the early battles of Farnsworth and RCA technology.

Even from this brief sketch of television's popular, trade, and industrial reception during 1935, television's cultural configuration, complicated by the matrix of intersecting structural reasons previously suggested, appears in often conflicting terms. Yet if nothing else, discussion of Germany's developments at least penetrated the populations addressed by these various journals. Given this sort of public presence, how can we account for the postwar marginalization of developments in pre-1945 German television? What range of interpretations have been made of this record (together with the much fuller available evidence base) and to what extent do they inscribe concepts of German history? A glance at the postwar reconfiguration of discourse suggests the broad contours of a response. The process of television's cultural reconfiguration implicitly problematizes the relationships among technology, industry, and politics while revealing one strand in the ongoing construction of history.

The postwar representation of German television reflects the range of material constraints, such as archival access, and perhaps more importantly, ideological assumptions upon which our current interpretations rest. Three developments exemplify the spectrum of the subject's dominant historical representations: (1) immediate postoccupation intelligence reports, (2) scholarship emerging from the Propaganda Ministry archives in the FRG, and (3) scholarship based upon the Postal Ministry archives in the GDR. The divergence among these approaches helps to throw into relief some of the assumptions evident in current research. At the same time, these approaches are bound together by a use of history that implies common interest and common historical development in opposition to a threatening other. Most often defined as fascistic, the depiction of the other often has resonated with the other Germany.

One source of information on the immediate postwar state of German television and a close overview of its brief history appears in the American FIAT (Field Intelligence Agency, Technical Division), British BIOS (British Intelligence Objectives Subcommittee), and joint American and British CIOS (Combined Intelligence Objectives Subcommittee) reports. Working largely in the service of industry, both as a source of

patent war booty and as a base for patent infringement litigation, these studies emerged from extensive interviews and investigations held as closely as possible to actual military seizure of enemy property. Employed by the United States Department of Commerce and the British Board of Trade, FIAT/BIOS/CIOS interviewers tended to be civilian specialists temporarily on leave from companies such as RCA and IT&T. In many cases the record shows that the interviewers were well acquainted with the German engineers and technicians they interrogated through prewar contact. Their interviews confirm the directions of technical activity as well as levels of production for the German television industry. Given the post-1941 termination of many German trade publications, this evidence is of vital importance. For example, BIOS Report No. 867 reported that Fernseh's Obertannwald facilities employed 750 persons and that Telefunken's factories were producing up to 300 minicameras for missile installation per month with semiskilled female laborers, thus suggesting both the scale and orientation of television-related production late in the war.

A distinct pattern of competitive investigation emerges in the BIOS, FIAT, and CIOS files. BIOS reports often note that equipment had been removed by the Americans prior to British investigation, and the function of CIOS was largely to coordinate and make sure that each knew or had access to what the other was doing. Given the competitive nature of the commercial interests both FIAT and BIOS served and the profit potentials in seized technologies, this tension appears hardly surprising. While corporate interests covered by a veneer of nationalism appear throughout the reports, all three note that their Soviet counterparts played the game more seriously. For example, the Soviets are reported not only to have dismantled and shipped east a Blaupunkt factory involved in television receiver manufacture but to have shipped the entire staff as well.⁴⁷

The reports that emerged systematically failed to address organizational issues or multinational patent sharing agreements, focusing instead primarily on technical issues. Consistent with their charge, these studies isolated technology from either politics or industrial development. But the very nature of the investigations, together with their close correlation to the efforts of corporate intelligence and job recruiters,

speak clearly to the underlying issue. Thus while explicitly providing valuable documentation of otherwise lost technological development, the FIAT/BIOS/CIOS reports implicitly testify to the continuing symbiosis of what Eisenhower called the “military industrial complex.” The sense of other that emerges from these reports is compounded by the ease with which the investigators distanced themselves from parallel (and often corporately interlocked) activities. In the process, an overriding vision of history as fundamentally self-serving appears with remarkable clarity.

Postwar German scholarship on early television reflects the ideological and physical bifurcation of the FRG and GDR. While more often than not emerging from a conscious national perspective, the published research seems remarkably free of the self-interest that marked both pre-1944 accounts and the BIOS/FIAT/CIOS reports. Yet, arguably, the project of constructing a national history, of selectively valorizing or criticizing developments in television’s brief history, inexorably intertwines broader issues of continuity and change in national identity. Thus, limited access to the archival record compounded by (and at times coincident with) broader ideological patterns of understanding the recent past reveal certain tendencies. In the light of the momentous changes now occurring in Germany’s identity, in the context of the breakdown of the structural barriers that have limited scholars from both Germanies, these patterns seem more striking than ever. Structural constraints emerge in part from the consequent division of Germany’s archives, with the Propaganda Ministry’s files for the most part located in the FRG, and the Postal Ministry’s files in the GDR. Given the previously discussed divergent interests and constituencies of both ministries, the implications of this division are profound. For heuristic purposes, the discussions that follow attempt to portray the broadest contours of the scholarship that has typified West and East block approaches to German television until the last decade. By comparing various scholars’ accounts of Germany’s failure to develop a market in consumer sector television receivers, we can quickly differentiate their perspectives. Emphasizing the common thrust of various researchers necessarily sacrifices important nuance and distinctions, but at the same time, it suggests shared responses to limited evidence bases and supravening ideological contexts, revealing larger historical patterns.

First, Gerhard Goebel’s 1953 study, “Das Ferneshen in

Deutschland bis zum Jahre 1945," stands as a rare early and respected West German example of an attempt to synthesize the archival evidence bases of both ministries. Despite a fabric of references that overlaps with much of the GDR scholarship, however, Goebel uses the material primarily to gather technological data rather than to discern organizational implications in a manner common to many other western scholars of the period. Based upon close investigation of the patent record, trade journals, technical reports, and interviews Goebel traces the evolution of German television technology. Although his overview includes program scheduling and analysis and suggests the economic contours of the industry, his orientation generally coincides with the technical interests of the Postal Ministry (in which he served) without recourse to its archives or internal paperwork and as such remains grounded in its public reception. Thus as a measure of the Postal Ministry's legitimate realm of concerns, Goebel's influential work suggests the centrality of technological evolution—invention, modification, and refinement—as the factor primarily responsible for Germany's delay in mass producing receivers.

Heinz Pohle's 1956 study and Winfried Lerg's 1967 analysis both tend to rely on periodicals and public record, like Goebel's work, with minimal reference to archival sources.⁴⁸ Thus, for example, by relying on trade publications and newspapers, both interpret the events surrounding the 1935 jurisdictional disputes that resulted in the Air Ministry's temporary control of television from a perspective largely consistent with that of the Propaganda Ministry. Perhaps more significantly, however, by relying on German periodical literature, they replicate the perspective of the Propaganda Ministry. By combining the hyperbolic tone of the Propaganda Ministry with the realities of television's technical development, they essentially argue that the delay in home receivers emerged from the industry's premature start in 1935. By moving ahead too soon at the behest of the Propaganda Ministry, industry actually set itself back, never to recover. Both authors hint at the Propaganda Ministry's *de facto* subversion of capitalist interests, but neither cites specific evidence.

The archival record now available in the FRG tends to confirm this perspective. The Propaganda Ministry files deal tangibly with television, but given the division of responsibility for television and the evident

conflicts of interest established by 1935, this perspective provides only one piece of a complicated matrix of concerns. In correspondence with the perspectives of some western historians, the Propaganda Ministry's records indicate a concern with persuasion in programming that reinforces the notion of a seizure of power. Although evidence is certainly available in western archives to counter this position (copies of selected Postal Ministry correspondence to the finance office or chancellory, for instance), the Postal Ministry's corporate perspective and sensitivity remain only marginally represented.

By contrast, efforts emerging from the GDR as exemplified by the work of Manfred Hempel produced work based on the Postal Ministry archives, providing a critically important complement to western scholarship. Through the Postal Ministry, Hempel had access to the day-to-day workings of state and corporate interrelations, thus permitting a focus on the history of multinational investment, interindustry battles, and the process of industrial-state coordination. Hempel accounts for early German television's failure to attract a public by documenting the infighting between Telefunken and Fernseh (and their respective multinational backers), compounded by both companies' rapid abandonment of low-cost television developments for much higher profit military production. Thus the maintenance of full-scale television research and development (despite dropping the consumer market) together with the rapid technological expansion to related technologies appears in terms of corporate profit. Like his counterparts in the FRG, Hempel's access to his archival base permitted him to affirm the GDR's Marxist perceptions, in this case, the linkage of fascism with monopoly capital. The same argument would be difficult to mount with access only to the Propaganda Ministry files.

As Cold War tensions subside and reactive positions, pro and con, to corporate continuities with the National Socialist past fade, the history of television continues to reflect the changes. Since the late 1970s, shifts in focus, access, and method have partially eroded this bifurcation. Erwin Reiss's work largely popularized some of Hempel's ideas in the West.⁴⁹ And thanks to the efforts of individuals such as Friedrich Kahlenberg, Angsar Diller, Knut Hickethier, Manfred Hempel, Winfried Lerg, Siegfried Zielinski, and groups such as the Studienkreis Rundfunk und Geschichte and the media study group at Siegen, the period has

seen closer attention directed to issues such as reception, programming, relations between television and film, television genres, and close textual analysis in those few cases where texts exist.⁵⁰

Conclusion

The patterned production of evidence within the period of 1933 to 1944 remains a highly complicated affair. Competing forces within individual ministries, coupled with interministerial disputes, all overlaid by the often contradictory interests of the party and individual national and multinational corporations, have simultaneously produced a highly diversified and complex evidence base.

Several factors further skew the evidence. First, multinational involvement, often masked as national for protective reasons (particularly after the declaration of war to evade trading-with-the-enemy legislation), has clouded the evidence base. The material gathered by allied investigators in the immediate postwar period essentially served corporate interests: consolidating markets, updating patent pools, and locating new specialists. The rapid emergence of the cold war and the consequent reestablishment of old Allied-Axis corporate ties and quick rehabilitation of many Nazi collaborators in the West, together with the limited access to information or evidence in GDR archives, further complicates the picture. But more than anything else, the division of the archives along ministerial lines, particularly given television's development pattern in Germany, accounts for the character of the research effort. The division, of course, has to some seemed fortunate, given the ideological perspectives on both sides of the border, confirming visions of the National Socialist epoch as anticapitalist, overregulated, propagandistically driven dictatorship in the West, and as monopoly-capitalist, crisis-averting contradiction in the East.

Throughout the development of early German television, the role played by multinational corporate capitalism both prior to and during the war—a relationship that persists in the present—continues to be masked by a series of nationalistic discourses. As the television case demonstrates, investment, ownership, patent and license agreements, as well as the na-

ture of, for example, telecommunications technology, assured steady technological transfer, whether productive or destructive. Despite this, or perhaps because of it, analysts have on the whole chosen to work with cultural configurations of national dimensions. Only the most explicit intrusions of national-based programming into other nations seem consistently to attract attention to multinational issues. But the underlying economic-technological identity of television within its fully multinational and monopoly-capitalist framework requires much more careful address.

The discourses surrounding the development of early German television and its subsequent representation reveal as much about the emergence of a technology as about the construction of historical perceptions. The history of National Socialist television's inscription in a set of nationalistic, technological, and economic discourses, particularly considering the effective excision of this cultural moment from popular memory, raises fundamental questions about our ability to come to terms with the Third Reich and Germany's fate in the intervening years.

Notes

1. German television broadcasting service was declared public on 22 March 1935; Benjamin's article appeared in volume 5, number 1 of the 1936 issue.
2. See William Uricchio and Brian Winston, "The Anniversary Stakes," *Sight and Sound* Autumn 1986: 231–32. British broadcasting began in 1936, terminating with the start of war in 1939. Public American broadcasting, despite early technological leads, was delayed until 1939 and even then proceeded only on an experimental license.
3. Despite the paucity of available evidence, attempts have been made to examine television texts in terms of production and exhibition. Friedrich P. Kahlenberg, for example, has examined a surviving Ufa made-for-television compilation film in "Von deutschem Heldentum: Eine Film-Kompilation für das Fernsehen aus dem Jahre 1936," *Mitteilungen: Studienkreis Rundfunk und Geschichte* January 1979: 21–27, trans. and reprinted as "Von deutschem Heldentum: A 1936 Compilation Film for Television," *Historical Journal of Film, Radio and Television* 10.2 (1990): 187–92, and Knut Hickethier, on the basis of scripts and interviews, has examined the production of television dramas "The Television Play in the Third Reich," *Historical Journal of Film, Radio and Television* 10.2 (1990): 163–86.
4. This is not to suggest that television emerged without reference to longer-term cultural practices. Theater, cinema, and in particular radio provided explicit homologies to which television referred. But despite representa-

- tional and organizational communalities, the discourse surrounding television as television is relatively distinct.
5. *Mitteilungen der Reichsrundfunkgesellschaft*, 460 (30 March 1935). Unless otherwise noted, all translations are the author's.
 6. Radio audiences increased dramatically through the joint efforts of the government and industry. Between 1 May 1932 and 1 May 1939, the number of listeners increased from 4,177,000 to 12,500,000. See Heide Riedel, *60 Jahre Radio: Von der Rarität zum Massenmedium* (Berlin: Deutsches Rundfunk Museum, 1983) 61–65.
 7. Corporate directorships, then as now, relied upon pooling leading figures from banking, the government, and related corporations. In addition, informal advising circles made up of corporate leaders and government officials met regularly in order to coordinate activities. For detailed instances of both, see the Kurt von Schroeder interrogations National Archive (NI-247).
 8. *Mitteilungen*.
 9. The RPM divided its first consumer-targeted receiver production order for over 10,000 sets among the five largest television manufacturing companies: Telefunken, Fernseh, Lorenz, Loewe, and Tedake. The Post Ministry provided a 25 percent subsidy (RPM files, 9 March 1939). Declaration of hostilities effectively stopped production. Immediate postwar intelligence suggests that of this initial order, only between 600 and 1,000 sets were actually produced (British Intelligence Objectives Subcommittee, Report No. 867). Curiously, these events paralleled developments in the United States. The FCC established its VHF broadcast standard of 525 lines in 1941, finally permitting mass production of receivers. However, America's entry into the war that same year put an immediate stop to commercial production. See Brian Winston, *Misunderstanding Media* (Cambridge: Harvard UP, 1986) 13.
 10. See Bundesarchiv RPM correspondence (R48/4343, 4344); by 1934, the Post's annual television research and development expenditures reached about 500,000 RM with an additional 400,000 RM in ancillary expenses provided specifically for television's refinement (RPM correspondence to RFM, R2/4903).
 11. For a discussion of the multinational technological and conceptual origins and developmental pattern of early television technology see Winston, *Misunderstanding Media* and Gerhard Goebel, "Das Fernsehen in Deutschland bis zum Jahre 1945," *Archiv für das Post- und Fernmeldewesen* 5 (1953): 259–393.
 12. Typically, the government subsidized research and development costs and with the perfection of technologies permitted the industries involved to control the resulting patents. This level of integration accounts in part for the extraordinary cooperation both among industries and between industry and state. For a fuller study of this integration see, Manfred Hempel, *Der braune Kanal* (Leipzig: Karl Marx Universität, 1969) and Manfred Hempel "Die Entstehung und Entwicklung der Television in Deutschland bis zur Zerschlagung des Hitlerregimes," *Mitteilungen des Postmuseums Berlin* 3/4 (1970): 33–75.
 13. For an overview of these investments from the perspective of an industry apologist, see Robert Sobel, *IT&T: The Management of Opportunity* (New York: Times Books, 1982).
 14. See, for example, IT&T's corporate history by Sobel. The range of corporate interconnections covered the ideological spectrum. On 5 May 1937, the

New York Times announced that Moscow television reached an agreement regarding RCA devices—the same period in which its patents were shared with Telefunken.

15. Baird dropped out after a few years, and Loewe dropped out in the mid-1930s. This was a period of intense capital demand, with an estimated corporate expenditure of 20 million RM up to 1939 (with profits from exports and the German Post coming in at about 8 million). By contrast, Telefunken's expenditures are estimated at 15 million RM and the other companies totaling 8 million (Goebel cited in Fritjof Rudert, "Fifty Years of Fernseh, 1929–1979," *Bosch Technische Berichte* 6.5/6 [May 1979]: 28–58, here, 29). By 1938, just as profitability was showing signs of turning around, Zeiss-Ikon also dropped out, leaving Fernseh a Bosch subsidiary, which it remains today.
16. Bundesarchiv RPM/RRG correspondence to RFA R2/4903 1934–35. The British announced a proposed start-up date in fall 1935, allegedly prompting the German move in spring.
17. IT&T's investment behavior is instructive. By 1930, IT&T owned or controlled subsidiaries on every continent. See Anthony Sampson, *The Sovereign State of IT&T* (New York: Stein and Day, 1973).
18. Detailed analysis of specific industries has begun to alter the view that National Socialist economic policy was unsystematic and reactive, relying primarily on public works, rearmament, and war. See, for example, R. J. Overy, "Transport and Rearmament in the Third Reich," *Historical Journal* 16 (1973): 389–409 and R. J. Overy, *The Nazi Economic Recovery: 1932–1938* (London: Macmillan, 1982).
19. Emil Lederer points out that by September 1939, some 73 percent of Germany's trade was with the industrialized world. See his "Gegen Autarkie und Nationalismus," *Kapitalismus, Klassenstruktur und Probleme der Demokratie in Deutschland 1910–1940*, ed. Jürgen Kocka (Göttingen: Vandenhoeck & Ruprecht, 1979) 199–209. Although the economy was assisted by Schacht's public works and expenditures programs (mapped out by Strasser in 1932), growth of the export sector was critical. In April of 1933, Hitler pointed out the West's mistake in providing industrial development to previously undeveloped parts of the world together with its implications for the German economy (see Peter Krüger, "Zu Hitler's 'nationalsozialistischen Wirtschaftserkenntnissen,'" *Geschichte und Gesellschaft* 2 [1980]: 263–82; here, 274). Expansion into new areas was a key strategy (see Lotte Zumppe, "Weltwirtschaftslage und faschistische Außenwirtschaftsregulierung," *Jahrbuch für Wirtschaftsgeschichte* 4 [1978]: 201–7; here, 203ff), and television was ideal in this regard.
20. The broadcasting exhibitions reported annual admissions of over 300,000. Olympic television appeared in up to 25 television halls, including one in Potsdam and two in Leipzig (one of which seated nearly 400 people). Programming was increased from the usual 3 hours per day to over 8 hours, and attendance was put at 162,228.
21. Although the 1936 Olympics served as a public testing ground for both RCA and Farnsworth systems, the Postal Ministry apparently perceived the RCA system as superior and supported national conversion to the RCA standard before actual coverage of the games.
22. United Kingdom Trading with the Enemy Act, 1939; United States Trading with the Enemy Act, 1917, amended 1940, 1941, etc.; Executive Order No.

- 8389 of 10 April 1940, etc., Martin Domke, *Trading with the Enemy in World War II* (New York: Central Book Co., 1943).
23. Despite trading-with-the-enemy legislation, multinational corporations were uniquely positioned to maintain their investments. IT&T provides an unusually well-documented case. Its CEO, Sosthenes Behn, cultivated close relations with the Reich, and IT&T was one of the first foreign companies to be declared "German," thus exempt from the Reich Custodian of Alien Property. Although a series of investigations were begun by the Department of Justice and the FBI, by the start of the cold war, IT&T's complicity with the German state was reframed. Day-to-day control of its German operations was seen as outside IT&T's direct control. Nevertheless, testimony by IT&T's German directors Westrick and Schroeder conflicts with postwar corporate testimony on this issue. See, for example, Schroeder interrogations, National Archive, NI-234, 15 November 1945 and NI-235, 16 November 1945. Regarding patent exchanges, German trade journals regularly reported on the patent developments of and licence agreements with their American affiliates such as RCA until total war caused the suspension of their publication. Close parallels in American and German television weapon patent development after this blackout suggest that information flow continued.
 24. On the surface at least, close parallels exist between Telefunken and RCA's developments of television surveillance planes, television-guided and heat-seeking missiles, and so on. Their correspondences mark an area of ongoing research. IT&T's involvement with war-related technologies and industries is more fully documented.
 25. Documented in the Bundesarchiv RfM files, R2/4903.
 26. *Reichsgesetzblatt* T. 1 No. 88 (12 July 1935) 1059.
 27. Reich Chancellory papers, Bundesarchiv, R43II/267a.
 28. *Reichsgesetzblatt* T. 1 No. 136 (11 December 1935) 1429-30.
 29. Given the awareness of military applications evident even in the fax transmissions of the late 1920s, this latter allocation is not surprising. By the early 1940s, development of television-guided missiles, torpedoes, unmanned surveillance planes, and related technologies such as radar and heat-seeking missiles were under military directive. See Combined Intelligence Objectives Subcommittee (CIOS) Report No. 28-41, No. 31-1, No. 31-8; British Intelligence Objectives Subcommittee (BIOS) Report No. 867; Public Records Office (London) AIR MIN files 40/1656, 40/2000.
 30. See, for example, Hadamovsky's *Der Rundfunk im Dienste der Volksführung* (Leipzig: R. Noske, 1934) and *Propaganda und nationale Macht* (Oldenburg: G. Stalling, 1933), English translation, *Propaganda and National Power* (New York: Arno, 1972).
 31. This mechanical technology was occasionally judged by the British as superior to their electric systems in terms of image clarity, and the Germans were able to push it far beyond expected limits to a 729 line image, see Ernest H. Traub, "Television at the Berlin Radio Exhibition, 1937" *Journal of the Television Society*, 2d Ser. 2.11 (December 1937): 289-97.
 32. 15 July 1937.
 33. Programming consisted of *Kulturfilme* and shortened feature films, sports, news, weather, and so on. The program day for Friday, 28 July 1939 consisted of the following:

12:05	"Blitzlichter"
13:00-13:30	(Pause)

13:30	"Musikalisches Zwischenspiel"
14:00	"Das Deutsche Rote Kreuz"
15:00	"Das schöne Deutschland"
15:45	"Altwiener Bilder"
16:50	Einführung in die Veranstaltungsreihe "Sport und Mikrofon"
17:45	"Aus der Werkstatt des Rundfunks"
18:35	"Ein Traum im Puppenladen"
19:15-20:00	(Pause)
20:00	Nachrichten, Wetter
20:15	"Interessantes aus aller Welt"
20:25	Zeitdienst
21:00	"Altwiener Bilder"
22:00-22:20	Nachrichten, Wetter, Sport

34. For a fuller discussion of German technical advances, see the BIOS, CIOS, and FIAT reports.
35. Space constraints preclude a discussion of attitude formation and reception in the 1920s and early 1930s, during which, among other things, television's utopian dimension predominated. See Monika Elsner, Thomas Müller, Peter M. Spangenberg, "The Early History of German Television: The Slow Development of a Fast Medium," *Historical Journal of Film, Radio and Television* 10.2 (1990): 193-220.
36. The patterns of reception in popular, trade, and industrial discourse obviously constitutes a huge area of study which this article can only introduce.
37. Coverage regarding the start of German television service is typical. See, *New York Times* 30 June 1935, 2 February 1935, 27 April 1935.
38. *New York Times* 4 September 1935. A related set of assertions addressed the lag in U. S. television deployment relative to Germany and Britain in positive terms. Following assertions from American industry, Judge E. O. Sykes of the FCC was reported to have told the British, "If you start television over there before we do here, we'll wait and profit by your mistakes." (*New York Times*, n.d., 1934, from N. E. Kersta papers, File 2a, Pennsylvania State U.)
39. Typical of these reports is a *New York Times* assertion from May 1935: "nevertheless, the important role which radio plays in Germany's political scheme will tend to accelerate television."
40. *New York Times* 26 July 1935.
41. *New York Times* 25 August 1935.
42. See, for example, Ernest H. Traub, "Television at the Berlin Radio Exhibition," *Journal of the Television Society*, 2d Ser. 2.3 (December 1935): 53-61. Traub's detailed reports appeared as an annual feature of the journal.
43. The industry's reception of German television is the subject of my ongoing research and thus is presented in tentative terms. Compare my "Rituals of Reception, Patterns of Neglect: Nazi Television and Its Postwar Representation," *Wide Angle* 11.1 (February 1989): 48-66.
44. From its formal start in 1936, the British program day appeared substantially more developed than its German counterpart. Moreover, with sales of receivers amounting to some 10,000 sets in the same period that Germany sold between 200 and 1,000, Britain provided a better model.
45. David Sarnoff, *The Future of Radio: A Report to the FCC* (New York, 15 June 1936).
46. N. E. Kersta papers. File 1b. Pennsylvania State U.

47. The technological advantages that potentially could be gained, together with issues of staff recruitment from among German engineers and footholds for subsequent corporate reconfiguration in Germany, were huge. Corporations sent their own investigators, often through military channels. IT&T's CEO, Sosthenes Behn, arrived in France in 1944 wearing battle fatigues, and two of his vice presidents—who months earlier enjoyed corporate positions in New York—appeared as high-ranking army officers. See Sampson (an IT&T critic) and Sobel (an IT&T supporter) for essentially overlapping testimony on this point.
48. Heinz Pohle, "Wollen und Wirklichkeit des deutschen Fernsehens bis 1943," *Rundfunk und Fernsehen* 1 (1956): 59–75 and Winfried Lerg, "Zur Entstehung des Fernsehens in Deutschland," *Rundfunk und Fernsehen* 4 (1967): 349–75.
49. Erwin Reiss, "Wir senden Frohsinn": *Fernsehen unterm Faschismus* (Berlin: Elefant, 1979).
50. In this regard, see the special early German television issue of *Historical Journal of Film, Radio and Television*, 10.2 (1990), which includes an array of essays representing new work on the subject.