Anne-Katrin Weber

Television before TV

New Media and
Exhibition Culture
in Europe and the
USA, 1928-1939

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Televisual Culture

The 'televisual' names a media culture generally in which television's multiple dimensions have shaped and continue to alter the coordinates through which we understand, theorise, intervene, and challenge contemporary media culture. Televisual culture is a culture, which both encompasses and crosses all aspects of television from its experiential dimensions to its aesthetic strategies, from its technological developments to its crossmedial consequences. Concepts like liveness, media event, audiences, broadcasting need recasting as problematics around which the televisual will get interrogated within a dynamic media landscape. Rather than accept the narrative of television's obsolescence, the series aims at seriously analysing both the contemporary specificity of the televisual and the challenges thrown up by new developments in technology and theory in an age where digitalisation and convergence are redrawing the boundaries of media.

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Table of Contents

Acknowledgements

everything, and to Gustave and Camille, for loving TV and filling the room with laughter and joy.

List of Illustrations

List of Abbreviations

BArch	Das Bundesarchiv, Germany
BBC	British Broadcasting Corporation
CBS	Columbia Broadcasting System
CoP	Century of Progress Exhibition, Chicago, 1933–1934
CRT	cathode ray tube
EMI	Electrical and Musical Industries
FCC	Federal Communications Commission
FRC	Federal Radio Commission
GPO	General Post Office
NBC	National Broadcasting Company
IHE	Daily Mail Ideal Home Exhibition
RCA	Radio Corporation of America
RMA	Radio Manufacturers Association (USA) / Radio Manufacturers' Association (UK)

Figure 0.1. Dénes von Mihály presents his *Telehor* at the Berlin Funkausstellung 1928. Source: BArch, Image 102–07379 / Photographer: Georg Pahl.

Introduction: Interwar Television on Display

Abstract
From the late 1920s onwards, television display in public space became a frequent attraction that introduced the new technology to a mass audience. Constituting a mediating link between the inventors' workshop and (future) media consumers, exhibitions shaped the medium's meaning before its broad distribution. This introductory chapter discusses the methodological and historiographical frameworks necessary to grasp this entangled history of television and exhibition culture from a transnational perspective. It discusses the shift away from the canonized Bazinian formula of 'What is television?' to the question of 'Where is television?', which is necessary to analyse television on display. Drawing attention to new sources documenting the objects shown, and new questions – why and how would someone display TV? – the introduction finally argues that there is as much to be learned from television *before* than television *after* TV.

Keywords: interwar television; media history; media archaeology; transnational history; material history of television

'The greatest step in Radio since the first sound over the air... is TELEVISION which will be the main attraction at the EXPOSITION':[1] the poster of the 1929 Port of Albany Building and Industrial Exposition announced in capital letters the sensational exhibit. In no less an enthusiastic tone, the local newspaper exclaimed:

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[1] I am indebted to the staff of the Pavek Museum of Broadcasting, St. Louis Park, MN, and in particular to Jeanne Andersen, for making the material on the Port of Albany Exposition available to me. The poster is from the Museum's Boyd Phelps collection, without reference.

One of the most unique and the outstanding feature of this year's show
will be the exhibit of direct television, the transmission of pictures of
actual living actors by the outside flood-light system.[2]

Organized by inventor Boyd Phelps, the television demonstration at the
industrial fair in upstate New York comprised a 'television theater' and
showed programmes transmitted twice a day from the studio on-site to
the receiver a few metres away.[3] That same year in Berlin, the German
Reichspost (German Imperial Mail) installed a television antenna on top of
the radio broadcasting tower. This so-called Funkturm (Broadcasting Tower)
was located on the grounds of the 'exhibition city',[4] a complex dedicated
to industrial and consumer fairs. Here, the annual Funkausstellung (Radio
Fair) had already showcased television in 1928 (Figures 0.1 and 1.3).[5] The
addition of a television antenna on the broadcasting tower reflected the close
collaboration between exhibition managers and the telecommunications
industry, which further translated into (partially realized) plans to remodel
the exhibition city and to include broadcasting studios.

These two examples highlight the entangled histories of interwar televi-
sion and exhibition culture that constitute the core of this book. Although
exceptional for the Albany residents, Phelps' display was contemporary to
similar demonstrations held in small towns and big cities, department stores,
industrial fairs, and international expositions; although particularly intense
in Berlin, the collaboration between exhibition organizers and broadcasting
institutions was common practice in other countries too.

From the late 1920s onwards, television displays in public space became a
frequent attraction and introduced the new technology to a mass audience.
By offering a mediating link between the inventors' workshop and (future)
media consumers, exhibitions shaped the medium's meaning and value
before its broad distribution. They staged television as a scientific novelty
and modern wonder, as the materialization of consumer society or proof
of national achievement, and enabled interpretations of its potentialities.
Facilitating its presentation to a diverse audience and, in the late 1930s,
its introduction in domestic settings, exhibitions offered a framework

2   'Port Exposition to Open Tomorrow at Armory'.
3   'Television to Feature Post Show at Armory'.
4   Schick, 'Die wachsende Funkstadt', 15. All translations are the author's unless otherwise noted.
5   Kaltenbach, 'Architektur zwischen Tradition und Innovation'. At the 1928 Funkausstellung,
in addition to Dénes von Mihaly's Telehor (pictured in Figure 0.1), television was presented by
Telefunken (see Section 1.3).

where television's symbolic, cultural, and social definitions were debated, negotiated, and eventually stabilized.

The central premise I examine in this book is that these exhibitions were essential events to the history of television and help us to understand what happened during the period between the presentation of first television systems in the mid–1920s and the mass dissemination of the TV set after the Second World War. Television's (pre-)history in the nineteenth century has been discussed by scholars attuned to media archaeological approaches; the medium's distribution in domestic space has been widely analysed; and television scholars have observed the multiple forms of today's 'Television after TV'.[6] By comparison, television in the interwar period has received considerably less attention. Where and what was television in the decades before its conquest of everyday spaces as the 'box in the corner'? Why would interwar television fall into historical oblivion? And what can media historians learn from 'Television *before* TV'? These are some of the questions I address in this book.

Since Raymond Williams's groundbreaking essay published in 1974, television has been associated with the flow of images and sounds, and the medium's audiovisual and domestic character has largely dominated theoretical and historiographical writings.[7] The taken-for-grantedness of televisual flow has marginalized moments in the medium's history in which programmes were less central or accessible, and has obscured the importance of television as a non-domestic and material object. In the 1920s and 1930s, television's content was limited in quantity and quality, and its distribution reached few spectators living in close proximity of one of the transmitter stations. Its screens were often tiny, and its image quality constricted by blurs and flickers. The introduction of all-electronic television systems and the ongoing investments by private and public actors from the mid-1930s onwards improved these and other issues without, however, solving the problem of television's sparse distribution: by August 1939, only about 800 receivers had been sold in New York, while an estimated 20,000 to 25,000 sets were in use in the London area.[8] Because interwar television seems to lack what other mass media qualifies – a programme and a mass audience – it has been largely ignored by media histories focusing on texts and publics.

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6   This is the title of Lynn Spigel and Jan Olsson's volume *Television after TV*, which, in the early 2000s, mapped out productive directions for research on television in the digital age. Spigel and Olsson, *Television after TV*.

7   Williams, *Television*, in particular Chapter 4, 'Distribution and Flow', 77–120.

8   Burns, *Television*, 562; Briggs, *Golden Age*, 620.

By shifting the attention from televisual content to the medium's display and its location in public space, my book proposes a new approach that allows us to think about interwar television without regretting its missing flows and multiple flaws.

In order to understand the meaning of exhibition spaces for the history of television, I examine the annual national radio shows in London (Radiolympia), Berlin (Funkausstellung), and New York (Radio World's Fair).[9] Launched in the early 1920s, the annual radio exhibitions constituted an important site for the display of broadcasting technologies in all three countries. The shows demonstrated television for the first time in 1928 and remained (to varying degrees) crucial for the medium's visibility until the outbreak of the Second World War. Held between August and September for at least one week, the shows presented new radio models for the following year and allowed traders and visitors to inform themselves of the latest advances in acoustic quality, set design, and handling. The regular press coverage during the events ensured that the shows were accessible to a national audience, and a vast educational and entertainment programme attracted crowds to the exhibition grounds. Similar to international exhibitions and world's fairs, the radio shows furthermore offered a platform for political propaganda. In Britain and the United States, governmental bodies held exhibition booths and attended opening and closing ceremonies, while the use of the Funkausstellung for National Socialist propaganda from 1933 onwards transformed the German fair into an overtly political event.[10]

The study's temporal horizon is determined by the year in which the first public presentation of television at a radio fair took place in all three countries – 1928 – and the beginning of the Second World War in 1939, which interrupted the annual showcasing of television, as well as the regular broadcasts that had started in the mid-1930s. While trade shows and international exhibitions would remain important sites for the promotion and legitimization of television in the post-war period,[11] it was pre-war events that constituted the historical moment in which the contours of later developments would be laid out. As this book demonstrates, interwar television was

9   In my sources, the expression 'radio show' is used analogously to, for instance, 'automobile show' and should not be confused with radio programming.

10   I further discuss three international expositions (the A Century of Progress International Exposition world's fair held in Chicago from 1933 to 1934; the Exposition Internationale des Arts et Techniques dans la Vie Moderne held in Paris between May and November 1937; the 1939–1940 New York World's Fair), the Olympic Games of 1936, exhibitions in department stores, and other events belonging to the interwar exhibition culture.

11   See Wheatley, *Spectacular Television.*

characterized by technical, institutional, and aesthetic explorations that encompassed numerous televisual assemblages, for which public displays created a mediating platform between private and public actors and the mass audience.

The radio exhibitions I discuss here were located in urban centres and attracted audiences with spectacles of technology and mechanization. They offered a place where producers and buyers, scientists and laymen, corporations and families could meet: one of their main functions was to negotiate between these spheres and communities, and to facilitate the passage of consumer electronics from the laboratory to the domestic realm. Broadly speaking, they were symptoms and symbols of modern consumer culture characterized by the promise of goods allegedly accessible to different social classes, by a 'culture of showing',[12] as well as by an emphasis of leisure over work, and consumption over production. Whereas the interwar years were characterized by important economic inequalities partly due to the Great Depression, the industrial fairs fostered representations of technological and commercial modernity as available to all.[13] They provided ways of seeing and interpreting new rituals of consumption for a mass audience, created multisensory experiences that were out of the ordinary, and constituted efficient communication tools for industries and governmental agencies seeking to relate to their customers and to the electorate in order to promote their products and messages. As political and economic tensions intensified in the 1930s, their role as a platform for political propaganda increased and complemented their function as an advertising medium. Finally, the fairs were themselves 'media events', existing in and through extensive press coverage both before and during the shows.

As an experimental technology whose mass distribution began after the end of the period I am examining, television seemed to fit only partially into this universe of 'industrial mass culture'.[14] Too 'technological' to be integrated into the market for electronic consumer goods, too 'unreliable' to be promoted for everyday use, too 'new' to offer regular broadcasts and home entertainment – the emerging medium of television lacked most of the attributes that seemed to constitute the success of radio and other

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12   The expression is Gudrun M. König's. See König, *Konsumkultur*, 29.

13   The definition of consumer culture is a much-discussed topic among historians. I follow here Hannes Siegrist's overview, 'Konsum, Kultur und Gesellschaft im modernen Europa'. For a discussion of the complex periodization of consumer cultures, see Stearns, 'Stages of Consumerism'. See also the other essays in Siegrist, Kaelble, and Kocka, eds., *Europäische Konsumgeschichte*; Berghoff and Spiekermann, eds., *Decoding Modern Consumer Societies*.

14   Ruppert, 'Plädoyer für den Begriff der industriellen Massenkultur'.

electrical appliances at these events. Indeed, although retrospectively the interwar period may seem to be rhythmed by slow but steady progress including first demonstrations of televisual images in the mid-1920s, the introduction of all-electronic systems in the mid-1930s, or the opening of television services in Germany (1935), Great Britain (1936), and the USA (1939), interwar television's emergence was mainly characterized by multiple constraints of a technical and economic nature. Why was television nevertheless put on display? What constituted its attraction as an exhibit and what do the frequent televisual exhibitions signify for the medium's history and historiography?

The main thesis I develop in this study is that the German, British, and American exhibitions did not simply host the medium, but through elaborated scenographies and multiple visual and textual discourses categorized, classified, and defined televisual devices and their practices, and communicated this meaning to visitors. In other words, the public display gave television its first definitions and its first audiences. Attracting large numbers of visitors, the fairs made television available to a mass audience at a moment when no regular programme was aired. They announced, projected, and drafted uses and modes of address and, towards the late 1930s, sought to prepare visitors for their future role as television consumers. Displaying often similar or identical technologies, they also propelled divergent conceptions about the medium reflecting the broader political, social, and national contexts. They crystallized and fostered debates concerning television's identity as a live and domestic means of mass entertainment and information, but also continually displayed television in its multiple forms and uses. Inversely, television affected the exhibition space, be it because it required particular scenographic settings or because it introduced models of absorbed spectatorship in conflict with the mobile fairgoer addressed at fairs.[15]

Unearthing multiple case studies of television on display in three national contexts, my study ultimately provides a strong argument for a historiographical perspective that frames the medium's history as one of constant transformations.[16] The multiplicity of televisions shown at the

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15   My analysis of the entanglement of media and exhibition history is indebted to Olivier Lugon's research at the intersection of exhibition studies and the history of photography. Without his work and our ongoing discussions, I would not have been able to see the richness of the story I aim to tell: Lugon, 'La photographie mise en espace'; Lugon, *Exposition et Médias*; Debluë and Lugon, 'Photographie et Exposition'.

16   I build my reflection on those scholars who stress television's historical adaptability. See in particular Uricchio, 'Television's Next Generation'; Keilbach and Stauff, 'When Old Media Never Stopped Being New'.

fairs would not vanish with the introduction of domestic TV, but would be more or less decidedly pushed out of the exhibition's spotlight. One task of my historical enquiry is to unveil this normalization of a certain televisual form – the domestic mass media – via its display, and to recall the other, marginalized technologies and cultural forms. These alternative televisions provide food for thought regarding the medium's longstanding adaptability to multiple spaces, which is salient in our own digital age, but characterizes TV's history overall.

Where Instead of *What* is Television? From Texts to Sites

Due to the absence of regular programming and given the impossibility of approaching interwar television through textual analysis, television historians have traditionally adopted a techno-institutional approach that privileges three interdependent strands of historiographical writing. First, stories of inventors and 'geniuses' are based on a linear narrative glorifying 'great' men (women are rarely part of these heroic tales). Among the outstanding personas in television history are figures such as John Logie Baird, one of the 'fathers' of television; Vladimir Zworykin, inventor of electronic transmitters and receivers; and David Sarnoff, president of Radio Corporation of America (RCA) and acclaimed television 'visionary'.[17] Second, historiography focusing on industrial and institutional development considers television's emergence within its economic and regulatory frameworks, without paying attention to cultural and social history. Third, almost all studies contribute to a media history that defines inventions and institutions in terms of national affiliation and that omits international exchanges and cultural flows in favour of a national framework.[18]

17   See Fickers and Kessler, 'Techno-Nationalist Tales'. Delivered at the conference 'Media in Transition 4: The Work of Stories' at MIT Boston in May 2005, the paper was published in German as Fickers and Kessler, 'Narrative topoi in Erfindermythen und technonationalistische Legendenbildung'. See also Fickers, 'Television'.

18   As a consequence of these historiographical preferences, standard works such as Albert Abramson's *The History of Television*, Joseph Udelson's *The Great Television Race*, Asa Briggs's *The History of Broadcasting in the United Kingdom*, Russell W. Burns's *British Television*, *The Formative Years*, as well as *Television: An International History of the Formative Years* by the same author, and Gerhard Goebel's *Das Fernsehen in Deutschland*, albeit providing rich factual information about industrial research and technological development during the interwar period, remain dependent upon linear technological histories that lack more diversified theoretical and critical perspectives. More recent national histories include Aldridge, *The Birth of British Television*; Hickethier and Hoff, *Geschichte des deutschen Fernsehens*; Edgerton, *Columbia History of American Television*.

More recent scholarship has revised such standard narratives by integrating methodological and theoretical approaches anchored in media studies and related fields. In particular the question of 'shaping the medium' has become a central focus of inquiry for historians examining how new media were introduced in society, how they evolved from scientific artefacts to widely distributed means of communication, how the relation between manufacturers and the public was formed, or how consumer choices influenced the definition of a given product.[19] As writes Philip Sewell in his *Television in the Age of Radio*, the concern is not to propose theories about media specificities and ontology, but to recognize the 'ways in which culture shaped the understandings of and aspirations for' the new medium.[20] Common to this recent scholarship on emerging media is the refusal to understand media history as a predestined evolution and, simultaneously, the emphasis on alternative pasts, on institutional and cultural power, and on ongoing negotiations concerning the medium's meanings and its practices. Because of its slow emergence and many 'false dawns',[21] television offers a particularly interesting case study to understand the social shaping of new media.

For the history of television, one question is crucial if we want to understand the medium's emergence and social formations, namely its intermedia links with radio, telegraphy, telephony, and cinema. In this regard pioneering work has been done by the media historian William Uricchio, who has published seminal research on interwar television from 1990 onwards.[22] With a background in film history, and especially early cinema, Uricchio has been attentive to questions of intermediality, as well as television's political and economic contexts, in particular concerning National Socialist television in the 1930s and 1940s.[23] More

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19   Marvin, *When Old Technologies Were New*. A non-exhaustive list would further include Boddy, *New Media and Popular Imagination*; Gitelman, *Always Already New*; Sterne, *The Audible Past*; Wurtzler, *Electric Sounds*.

20   Sewell, *Television in the Age of Radio*, 2.

21   The expression is from Stern, 'Regulatory Influences', 359. See also Elsner, Müller, and Spangenberg, 'Early History'.

22   Uricchio, *Die Anfänge des Deutschen Fernsehens*; Uricchio, 'Introduction to the History of German Television'.

23   See Uricchio, 'Television, Film and the Struggle for Media Identity'. On the history of National Socialist television, see also Klaus Winker's exhaustive study, *Fernsehen unterm Hakenkreuz*. Other important contributions to the history of interwar television include the non-published dissertation by Jennifer Bannister, *From Laboratory to Living Room*; the edited volume *Télévision: le moment expérimental* by Delavaud and Maréchal, which contains many interventions into the field of early television history. Thomas Steinmaurer's study

recently, Doron Galili has examined the medium's long durée from the nineteenth century to the outbreak of WWII. Taking into account a variety of sources from magazines and amateur journals, to film and literature, Galili traces television's emergence in relation to cinema and carves out an entangled history, which impacts not only television's but very much also cinema's historiography.[24] His study is attuned to a media archaeological approach, which shifts the focus from media content to technology, and brings to the fore imaginary, forgotten, and 'dead media'.[25] Subverting historiographical narratives of 'evolution' and 'progress', media archaeology investigates the margins of 'traditional' mass media and explores lesser-known territories of media history and historiography. Interested in drawing loose 'family relations' rather than a well-painted 'family tree',[26] and thus in highlighting continuities as much as ruptures and 'grey zones', the media archaeological lens is helpful to conceive of a fluid definition of television that embraces, but is not limited to, television in domestic space.

This book hopes to contribute to television's media archaeology through its focus on fairs and exhibitions and through its transnational approach. Both of these perspectives imply a crucial shift away from the canonized Bazinian formula of '*What is* television?' to the question of '*Where is*

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focuses on televisual reception from nineteenth-century imaginaries to the digital age (Steinmaurer, *Tele-Visionen*); Susan Murray dedicates parts of her discussion on the history of colour TV to interwar television in Murray, *Bright Signals*. Jamie Medhurst's history of British interwar television sheds important light on institutional developments (Medhurst, *Early Years*); Sarah Arnold has recently analysed early television from a gender perspective (Arnold, *Gender and Early Television*). Last, but not least, some scholarship explores the intersection of television's history and exhibitions: Helen Wheatley as well as Deborah Chambers both analyse the British Ideal Home Exhibition (see Chapter 6). Wheatley, 'Television in the Ideal Home'; Chambers, 'Designing Early Television for the Ideal Home'. Kilian Steiner and Peter Morris have analysed television exhibitions in science museums in the interwar years. (See Steiner, 'Die Sonderschau "Fernsehen" im Deutschen Museum'; Morris, '"An effective Organ"'.)

24   Galili, *Seeing by Electricity;* also Galili, 'Tom Swift's Three Inventions'. In a similar vein, Ivy Roberts offers a television archaeology attuned to intermediality in Roberts, *Visions of Electric Media*. Siegfried Zielinski has described interwar television together with cinema and presented both histories within a broader genealogy of 'audiovisions' (Zielinski, *Audiovisions*). Weber, 'Television as New Media' studies the archaeology of French television.

25   A stimulating introduction to media archaeology can be found in Parikka, *What is Media Archaeology?* See also Huhtamo and Parikka, eds., *Media Archaeology*. On television history as media archaeology, see Fickers and Weber 'Introduction' in the *VIEW* journal special issue on 'Archaeologies of Tele-Visions and -Realities'.

26   Elsaesser, 'Film History', 87.

(interwar) television?'[27] Indeed, thinking about the *what* question leads quickly to a position from which interwar television can only be grasped in its negation: interwar television was *not* a mass medium; it did *not* offer daily broadcasts for a national audience; its identity was *not* yet fixed; and so on. Asking instead, *where* was television – where was it debated, where was it shown, where was it seen? – opens up space for an alternative history that is less burdened with verdicts about television's identity but instead attempts to understand the medium in its context of consumer and industrial culture. The *where* question draws attention to new sources – the displays and the objects on display – and new questions – why and how would someone display television? By contrast with the *what* question, it thus allows us to make sense of the televisual artefacts beyond their comparison with post-war TV, which would lead us to describe them as 'failed' projects. In short, the exhibition not only informed television's various meanings as an object; it also offers a most productive entry point for a historical study of television in the 1920s and 1930s.

Material Histories of Televisual Dispositifs

The usefulness of a displacement from television's texts to television's sites has been demonstrated by Anna McCarthy in her work on television in non-domestic spaces, in which she underscores television's materiality and the medium's 'site-specificity'.[28] While television in the home and its relation to and effects on family, gender, and the nation, among other things, has been documented,[29] McCarthy asks what television 'does' outside the living room. Arguing that 'there is as much rich material for analysis in the technological and positional forms TV assumes in a space as there is in the images it displays',[30] she discusses phenomena such as television in bars and department stores, at airports, in hospitals, or in the shopping mall. Being particularly interested in television's complex spatial operations between the global flow of content and the locality of the TV set, McCarthy

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27   Bazin, *What Is Cinema?*. Analogously, Francesco Casetti has suggested analysing contemporary cinema's 'relocations' in order to understand the medium's transformations and persistence in the digital age. Casetti, *Lumière Galaxy*.

28   McCarthy, *Ambient Television*, 4. See also McCarthy, 'From Screen to Site'. For a recent, innovative analysis of television in public, especially corporate, spaces and its role in shaping the workplace, see Kit Hughes' 2020 publication, *Television at Work*.

29   The most important study in this regard remains Spigel, *Make Room for TV*.

30   McCarthy, *Ambient Television*, 9.

explores how 'the standardized "elsewhere" of the image takes material form in a particular place'.[31] Bringing to the fore an alternative history of television after the Second World War, she highlights television's role in shaping commercial and communal environments and, in particular, its function to negotiate between private and public, consumption, work, and leisure. As an 'elastic'[32] medium adapting to a variety of public spaces and existing on more than one scale, television materializes social relations and power structures in play in non-domestic places.

Together with other (feminist) television scholarship, McCarthy's work thus emphasizes the importance of television's material culture and spatial arrangements as co-determinants of social hierarchies and cultural formations. The focus on the material, architectural, and design-related aspects of the televisual medium allows us to better understand its 'objectness' and, in particular, to evaluate its role in the construction of social class and gender identities.[33] For interwar television, addressing the question of the medium's places and materialities is a way to make meaning of artefacts not considered by approaches focused on texts, audiences, or the domestic realm. While McCarthy's work opens up new perspectives on a familiar medium, my book looks at a moment of television's unavailability: instead of understanding TV's omnipresence in the public space, I explore the (virtually) only sites at which television was visible.

In order to think through interwar television's material and historically situated specificities from a media archaeological perspective, one notion has in particularly proved useful, namely the dispositif concept. This notion was developed within French film studies in the 1970s but has received renewed attention since the early 2000s.[34] While Jean-Louis Baudry's initial proposition of the dispositif concept is based on the idea of an ahistorical and metapsychological ensemble determining the relationship between spectator and film,[35] the notion used today in historical research fosters fine-tuned studies of assemblages of machines,

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31   McCarthy, *Ambient Television*, 11.

32   McCarthy, *Ambient Television*, 5.

33   Recent work on the material history of television includes Chambers, 'Material Form'; Wheatley, 'Television in the Ideal Home'; Miggelbrink, *Fernsehen und Wohnkultur*; Kleinecke-Bates, ed. 'Material Cultures of Television'; Ellis and Mustata, ed. 'Material Histories of Television; Benson-Allott, *The Stufff of Spectatorship*'.

34   See Albera and Tortajada, *Cinema beyond Film;* Berton and Weber, 'Télé-Visions'. Recent discussions of the dispositif concept include Aasman, Fickers, and Wachelder, *Materializing Memories*; Rogers, *On the Screen*; Turquety, *Inventing Cinema*; Zimmermann, 'Advertising and the Apparatus'.

35   Baudry, 'Ideological Effects'.

users, and institutions. That is, instead of describing a universal principle of the cinematic apparatus, the dispositif approach allows us to comment on media objects in their material and discursive existence from a diachronic perspective.[36] The notion stresses the fact that media have a physical and an imaginary existence; it invites us to comprehend a singular machine or a group of machines, whether concrete or fictional, in their various modes of existence. Embedded within a larger 'network of notions, theories, beliefs and practices',[37] the dynamic ensemble of the dispositif furthermore may be apprehended as producers of knowledge by giving form to ideas and practices. For my study of interwar television, the notion is useful with regard to a close-range analysis of particular scenographies and spatial presentations, as well as of the medium's discursive co-construction in public debate. Television as a telecommunicational project generated a plurality of (technophile and technophobic) reactions, anticipations, and discussions: the televisual dispositifs displayed at fairs echoed these expectations of a new medium, while producing new knowledge about it.

Transnational History

If histories of televisual dispositifs link users, machines, and discourses, the transnational approach seeks to understand media history beyond national narratives by paying attention to the trajectories of media technologies and contents across national boundaries. At first glance, a transnational approach to the history of television in Germany, Britain, and the United States during the interwar period seems a near impossible undertaking. In his authoritative study of the British Broadcasting Corporation (BBC), Asa Briggs indeed asserts that 'these three broadcasting systems were diverging – not converging – during the 1930s',[38] implying essential differences that transform any analysis into an inventory of non-correspondences. Indeed, the institutional models prevalent in the three countries – the centralized state model (in Germany), public service (in Great Britain), and a commercial system (in the USA) – not only reflect the different choices made by the

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36   See Frank Kessler's *Notes on Dispositifs* for an overview of the history of the concept: http://frankkessler.nl/wp-content/uploads/2010/05/Dispositif-Notes.pdf (accessed 25 July 2021). Also Berton and Weber, 'Télé-Visions'.

37   Albera and Tortajada, 'Viewing and Listening Dispositifs', 11.

38   Briggs, *Golden Age*, 9.

broadcasting elites but suggest fundamentally different conceptions of modern society, the state, and the national economy. Similarly, one could argue that the integration of the Berlin Funkausstellung into National Socialist bureaucracy and its ensuing transformation into a Nazi spectacle prevents a transnational approach. Having shifted from commercial advertisement to political propaganda, the fair's goals would no longer be comparable to British and American events.

Drawing upon scholarship on transnational media history, my work argues, on the contrary, that such a perspective is not only possible but necessary insofar as the explanatory framework of the nation-state is not sufficient to understand the history of interwar television. Developed by international corporations, imagined across frontiers, and travelling – mostly via photographs and in press reports – around the world, television existed already between regional, national, and global communication spaces decades before programme and format exchanges would define the medium. Its absorption into National Socialist society, although aligning television's definition to the regime's ideology, did not cut off German television from the world's map. During the 1930s, British, German, and American actors continued their mutual observation as well as their industrial collaboration and, in at least one case, directly adopted a successful German exhibit into their own exhibition space.

Indeed, more than being a recently 'discovered' approach to television history, the transnational perspective is actually called for by the sources themselves. Michele Hilmes has shown how British and American broadcasting authorities relied on each other to design their respective radio policies (the BBC's public monopoly and the privatized commercial system in the USA), relegating the other nation as a negative example, or, less frequently, as a model to be followed.[39] Radio's role within the processes of nation-building, Hilmes shows, was thus negotiated and shaped *trans*nationally. Similarly, in his study on *Technology and the Culture of Modernity in Britain and Germany* historian Bernhard Rieger notes that these two countries conceived of each other as competitors who were constantly observing each other.[40] Their national histories are thus not separable from a transnational one.[41] Furthermore, for Germany and Britain, the United States, at the 'vanguard

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39   Hilmes, *Network Nations*.

40   Rieger, *Technology*, 12.

41   A similar argument is made by Ulrich Marsch who states that the comparison between Germany and Great Britain is productive because 'they constantly compared themselves to each other'. The two countries' rivalry had several historical and political origins, linked respectively, among other things, to their trajectories as a colonial emporium in decline (Britain) and a defeated

of a consumer-modernity',[42] formed an additional point of reference, whose commercial mass culture represented a simultaneously conflicting and inspiring model.[43] A transnational approach to interwar television allows us to understand the importance of these issues to the shaping of television as a cultural and social object. Television, a new 'modern wonder', offered an additional platform for technological vying between competing nation-states; it also enabled the exchange of knowledge, technologies, and patents in an otherwise fraught political atmosphere.

Recognizing the historiographical value of a transnational approach does not make it any less a challenging task. Historian Andreas Fickers advocates that one way to stage the transnational analysis is to 'downscale' the enquiry to 'specific places of media production or consumption' such as the broadcasting studio or the living room.[44] My study of 'television fairs' follows this suggestion by taking particular, limited, and spatially confined events as entry points. Locating television at German, British, and American exhibitions allows me to unearth the medium's internationally shared definitions and modes of presentation in the light of the economic, social, and political differences between the three countries. The exhibitions testified to the 'patterns of continuity and connection' that, as radio historian Kate Lacey argues, existed besides and along fundamental divergences between the three different broadcasting and political systems.[45]

Consequently, studied separately, the German, British, and American television fairs would arguably produce narratives other than the one I am presenting here, if only because the respective displays and devices would appear as *particular* manifestations of a given industrial, political, or institutional context. The transnational perspective connects threads and objects, which a national historiography would interpret as national specificity. As a result, the transnational approach enables in particular an understanding of the 'scandalous normality' [46] *and* fundamental dis-similarity of Nazi television. Developed in an authoritarian regime, it was

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nation 'punished' by the Treaty of Versailles (Germany). Marsch, *Zwischen Wissenschaft und Wirtschaft*, 19.

42   De Grazia, 'Amerikanisierung und wechselnde Leitbilder', 113.

43   This ambiguity in US–European relations is often subsumed by the notion of Americaniza-tion. For a discussion of this notion as a historiographical tool, see Gassert, 'Amerikanismus, Antiamerikanismus, Amerikanisierung'; de Grazia, 'Amerikanisierung und wechselnde Leitbilder'.

44   Fickers, 'Seeing the Familiar Strange', 21. See also Fickers and Johnson, *Transnational Television History*; Bourdon, 'Comment écrire une histoire transnationale'.

45   Lacey, 'Radio in the Great Depression', 22.

46   Schütz, 'Zur Modernität des "Dritten Reiches"', 121.

comparable to American and British television and yet essentially different. Its dispositifs and programmes were largely identical and embedded within a same framework of popular mass culture, consumerism, and domesticity. The meaning of these keywords – and by extension of television – however, was determined by the political and ideological context and institutional formations specific to National Socialism that appropriated seemingly apolitical spaces of private and collective media consumption so as to reinforce social and racial divisions and political support. Transnational history is therefore more than the compilation of national stories, as it reveals analogous media uses across frontiers, highlights global circulations of artefacts and ideas, and discloses unexpected political and industrial connections.

Notes on Sources and Chapter Breakdown

This book is ultimately a study of television as 'new media'. It looks at the moment when television was not yet 'always there' [47] but already widely received at exhibitions and discussed in the general and specialized press. It describes how exhibitions and other public spaces shaped the medium in multiple ways, eventually presenting it in a domestic form. Doing so, it does not pretend to offer an exhaustive history of interwar television as its focus brings to the fore certain actors and events, while moving others to the fringes, which might receive more attention in an institutional history. *Television before TV* seeks to write an 'expanded history',[48] and to analyse the entanglement of two media – television and exhibitions – that are seldomly analysed in their interdependence: it is also an invitation to pursue further media archaeological research into television's interwar years.

Working on exhibition scenographies and design requires the use of visual sources or, alternatively, detailed descriptions of the exhibition space. Such sources are abundant for world's fairs and the bigger industrial exhibitions but scarcer for exhibitions organized in smaller venues and department stores. My research was thus contingent on access to archives and availability of photographs, and required a juggling between exhibitions that are less documented and those that could be easily reconstructed. Overall, however, the impressive volume of archival material, and in particular the exceptional number of photographs, suggest that interwar television was, after all, a

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47   Buonanno, *The Age of Television*, 36.
48   Vallotton and Weber, *Expanded History*.

visual medium. Or, in other words, interwar television was a medium with plentiful pictures. To be clear, these images were not images *on* TV, but *of* TV. Published in newspapers and journals or found in archival collections, the photographs show machines with or without their inventors; drawings depict the televisual infrastructure or explain the devices' technical design. Most relevant for my study are pictures that disclose the display of television in public space; they yield insights about particular scenographies rarely supplied by textual discourses and illustrate the arrangements of devices, their size, the place accorded to visitors, and the presence or absence of labels and other written information, among other things.

Across all three countries, the photographs I will discuss fall into three categories that reveal recurrent themes. First, pictures of television exhibitions often exclude the visitor-spectator. With the visitors expelled from the frame, the pictures offer an unobstructed view of exhibits and their arrangement. Probably taken before the exhibition's opening, these photographs show the ideal layout as prearranged by the exhibition organizers, but they do not disclose the transformations of the space resulting from the passing crowd. Second, exhibitions were photographed at the peak of their audience attendance and immortalized as a mass event. Such images, in which the various booths are almost invisible, served as testimonies of their public success. Taken from above, the photographs show densely crowded exhibition halls and reveal only little information about the individual exhibits themselves. A third category of images depicts technological artefacts accompanied by female visitors or models. Circulating in the general and specialized press, these images reinforce the link between domestic technologies, femininity, and consumption, and thus contribute to television's gendering.

The quantity of television images resulting from their presence at the fairs disseminated interwar television far beyond the exhibition halls: while the televisual signal's range was still limited, the apparatus' appearance reached a national and often international public. Adopting Beatriz Colomina's argument about the transformation of modern architecture by its photographic multiplication 'into an article of consumption, making it circulate around the world as if it had suddenly lost mass and volume',[49] it can be argued that thanks to the diffusion of images of television, the experimental technology was turned into a mechanically reproduced article of consumption. The visual multiplication of television annulled its material scarcity and transformed it into a sign of progress and technology, entertainment and

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49   Colomina, *Privacy and Publicity*, 43.

spectacle, accessible to a mass audience. This circulation of photographs indicates that interwar television was *not* a medium without an audience but shows that interwar television *was* seen – in the press, at exhibitions, in department stores – and that it had a visibility of its own.

The first chapter of this book, 'Television Display in Context', sets the stage for the following analysis through a threefold movement. It outlines the principal frameworks and scales of this study by looking at the fairs, their main exhibits including radio sets as well as giant loudspeakers and robots, and the showcasing of interwar television, shifting thus from the institutions to the artefact on display. It emphasizes in particular the importance of such events for the transformation of mass-produced industrial goods into a 'commodity-experience'[50]: visitors paying the entrance fee acquired the right to be entertained, distracted, and thrilled. Although still in the rough and producing small, flickery images, interwar television was made part of this celebration of technological modernity and consumer culture, even before it broadcast regular programmes. On display, the medium also testified to increasing intermedial links and industrial convergence, responsible for its heterogeneous identity. Television's versatility, adapting to multiple communication projects and industrial models, fuelled its attraction as an exhibit.

The five chapters that follow form the core of my analysis of television before TV. Chapters 2 and 3 analyse television's reception on the exhibition floor by building upon the dispositif concept. They uncover recurrent scenographic arrangements of televisual devices throughout the period and across all three countries, and examine television's encounter with its first audience. Chapters 4, 5, and 6 focus on the second half of the 1930s and the inauguration of television services in Berlin, London, and New York. Putting to use the transnational approach, these chapters elaborate on the similarities and differences with regard to television's institutionalization in the three countries and show that, despite fundamental political and ideological divergences, a national television history is always also a transnational one.

The second chapter, 'Spectacularizing Television, or Making Sense of Novelty', opens by asking why television sets and transmitters – experimental devices with tiny screens and limited picture quality – became a major attraction as early as 1928. To answer this question, it draws upon a notion developed for early cinema, namely the 'spectacular dispositif'.[51] At fairs and in the press, television's materiality and 'newness' was sold as its most

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50 Friedberg, *Window Shopping*.
51 Kessler, 'La cinématographie'.

central characteristic. The medium's attractiveness as an exhibit relied not on its visual content but on its presence as a modern technological object. This spectacularity, the chapter illustrates, was a product of discourse *and* of the interaction between spectators and the television sets. The fairs indeed offered an experience of mass media modernity that included embodied stimulations and corporeal involvement for visitors paying the entrance fee to the fair. Such pleasurable encounters with televisual technology for a broad public constituted the core of the televisual spectacular dispositif.

Chapter 3 on 'Locating Television Between Imaginaries and Materialities' expands upon the dispositif concept and describes three additional dispositifs that disclose the tensions emerging between televisual objects' site-specificity and a televisual ideal promising simultaneity, ubiquity, and intimacy. Contrary to the discursive construction of television as a 'window onto the world', the exhibitions revealed a medium turned towards itself, and instead of showing faraway places, the devices reflexively highlighted their own materiality. The *reflexive dispositif*, the chapter argues, can be understood as a result of the exhibition gesture. On display, each exhibit highlighted this very gesture of displaying, which in turn put the spotlight on the object shown. Simultaneously, from the earliest demonstrations on, the displays invited visitors to experience audiovisual immediacy and to explore the idea of televisual togetherness. Rather than stressing the medium's objectness, the *dispositif of liveness* emphasized instant communication. The reflexive and live dispositifs appear here as two recurrent expositional arrangements for television that, mediating between 'seeing at a distance' and the sets' physical presence, both defined the medium's identity. The third part of this chapter studies the transition that took place in the mid-1930s, when television sets were relocated from separated darkened booths into the main exhibition halls. The new *daylight dispositif* presented television alongside other electronic consumer durables and symbolically integrated the medium within the contemporary commercial mediascape. Before television's mass distribution, it was thus associated with the mass media market on the exhibition floor. The chapter closes with an 'intermission'; a short intermediate conclusion, which emphasizes the importance of locating television in public space to understand how exhibition sites co-constructed the medium's identity through scenography and discourse.

Building upon this first part, the next three chapters adopt a transnational approach and consider the political and cultural framings of televisual technology. Organized roughly chronologically, they mainly focus on events presenting television after the introduction of regular broadcast services from the mid-1930s onwards. Chapter 4, 'Nationalizing Television in a

Transnational Context', examines how television's meaning as a national broadcast medium was negotiated within a transnational context, and unearths the important role played by fairs for the construction of television's national identity. The chapter's core is articulated around three case studies: the exhibition of television at the Century of Progress world's fair in Chicago in 1933–1934, the Funkausstellung in 1935 that followed the opening of the Berlin public service in March of the same year, and the Radiolympia 1936 edition which preceded the opening of the BBC's public service in November. Comparing these three events brings to the fore the ways radio fairs functioned as platforms for national politics, and the role television played in it. The chapter closes with the second 'intermission', which emphasizes the benefits of a transnational approach to interwar television.

Chapter 5, 'Domesticating Television Outside the Home', is similarly organized around singular exhibitions and discusses how, towards the end of the 1930s, the medium was fit into domestic space. Taking into account a variety of events in addition to the radio fairs – the 1936 Olympic Games in Berlin, the 1937 Exposition Internationale in Paris, the television displays at Selfridges in London, and the RCA's pavilion at the 1939-1940 New York World's Fair – it illustrates how television was projected as a private medium, whose promotion nevertheless relied on public events. The tension between the medium's ideal spectator, sitting attentively in his chair at home, and the actual visitor at fairs, discovering the new medium thanks to crowded showcasings, gave way to normative discourses on the right spectatorial behaviour and the correct location of television sets at home, which were amplified by ambitious exhibition designs. Even in National Socialist Germany, where collective viewing rooms were meant to compensate for the absence of commercially available television sets, a prominent public-private venture consisted in the launching of a standardized domestic receiver.

The final chapter, 'Gendering Television On and Off Screen' addresses the medium's construction as a 'feminine' object and family entertainment. As the chapter shows, the fairs prepared the medium's transition from the laboratory into an allegedly 'female' space – the home. This transition included renewed cabinet designs fitting into the modern living room, as well as new representations of women on and off screen. While the gendering of television would become particularly evident in the post-war years, the medium's definition as 'female' entertainment began at the end of the 1930s at fairs and in the press. The chapter closes with the third 'intermission', in which I stress the role of fairs for the normalization of television as a domestic medium.

Spectacularizing, locating, nationalizing, domesticating, and gendering television thus represent the five analytical nodes around which the book is organized, and simultaneously designate the ongoing processes that shaped the medium at the fairs. Looking at *where* television was, the chapters ultimately offer a response to *what* television was before TV.

The book's epilogue extends the question of television's identity. It argues that although the domestication at fairs constituted an important impetus to normalize one particular media formation, it should not veil alternative strands of televisual development outside the home, which were often pushed forward by the same corporations promoting domestic TV. If we recognize television's fundamental adaptability and malleability, the interwar experiments as well as the recent transformations in the digital era are less exceptions or disruptions than continuous reconfigurations of a medium always already 'in flow'.

Works Cited

Aasman, Susan, Andreas Fickers, and Joseph Wachelder, eds. *Materializing Memories: Dispositifs, Generations, Amateurs* (New York; London; Oxford: Bloomsbury, 2018).

Abramson, Albert. *The History of Television, 1880 to 1941* (Jefferson NC: McFarland & Co., 1987).

Albera, François, and Maria Tortajada, eds. *Cinema beyond Film: Media Epistemology in the Modern Era* (Amsterdam: Amsterdam University Press, 2010).

Albera, François, and Maria Tortajada, 'Introduction to an Epistemology of Viewing and Listening Dispositifs'. In *Cinema Beyond Film: Media Epistemology in the Modern Era*, edited by François Albera and Maria Tortajada (Amsterdam: Amsterdam University Press, 2010), 9–22.

Aldridge, Mark. *The Birth of British Television* (New York: Palgrave Macmillan, 2012).

Anon. 'Port Exposition to Open Tomorrow at Armory'. *The Times-Union Albany*, 5 April , 1929.

Anon. 'Television to Feature Post Show at Armory'. *The Albany Citizen,* 5 April, 1929.

Arnold, Sarah. *Gender and Early Television: Mapping Women's Role in Emerging US and British Media, 1850–1950* (London: Bloomsbury Academic, 2021).

Bannister, Jennifer. 'From Laboratory to Living Room: The Development of Television in the United States, 1920–1960' PhD thesis, Carnegie Mellon University, 2001.

Baudry, Jean-Louis. 'Ideological Effects of the Basic Cinematographic Apparatus'. *Film Quarterly* 28, no. 2 (1974): 39–47.

Bazin, André. *What Is Cinema?* (Berkeley; Los Angeles; London: University Press Group, 2005).

Benson-Allott, Caetlin. *The Stuff of Spectatorship: Material Cultures of Film and Television* (Berkeley: University of California Press, 2021).

Berghoff, Hartmut, and Uwe Spiekermann, eds. *Decoding Modern Consumer Societies* (New York: Palgrave Macmillan, 2012).

Berton, Mireille, and Anne-Katrin Weber. 'Télé-Visions: une introduction à l'histoire des dispositifs télévisuels'. In *La télévision du téléphonoscope à Youtube: pour une archéologie de l'audiovision*, edited by Mireille Berton and Anne-Katrin Weber (Lausanne: Editions Antipodes, 2009),. 13–32.

Boddy, William. *New Media and Popular Imagination: Launching Radio, Television, and Digital Media in the United States*. (Oxford: Oxford University Press, 2004).

Bourdon, Jérôme. 'Comment écrire une histoire transnationale des médias ?' *Le Temps des medias* 2, no. 11 (2008): 164–181.

Briggs, Asa. *The History of Broadcasting in the United Kingdom. Volume II: The Golden Age of Wireless* (Oxford: Oxford University Press, 1995).

Buonanno, Milly. *The Age of Television: Experiences and Theories* (Bristol; Chicago, IL: Intellect Books, 2008).

Burns, Russell W. *British Television: The Formative Years* (London: Peregrinus, 1986).

Burns, Russell W. *Television: An International History of the Formative Years* (London: Institution of Electrical Engineers, 1998).

Casetti, Francesco. *The Lumière Galaxy: Seven Key Words for the Cinema to Come* (New York: Columbia University Press, 2015).

Chambers, Deborah. 'The Material Form of the Television Set'. *Media History* 17, no. 4 (2011): 359–75.

Chambers, Deborah. 'Designing Early Television for the Ideal Home: The Roles of Industrial Designers and Exhibitions, 1930s–50s'. *The Journal of Popular Television* 7, no. 2 (2019): 145–159.

Colomina, Beatriz. *Privacy and Publicity: Modern Architecture as Mass Media* (Cambridge, MA: MIT Press, 1996).

Deblüë, Claire-Lise, and Olivier Lugon, eds. 'Photographie et Exposition'. Special issue of *Transbordeur: Photographie, Histoire, Société* (Paris: Macula, 2018).

De Grazia, Victoria. 'Amerikanisierung und wechselnde Leitbilder der Konsum-Moderne (consumer-modernity) in Europa'. In *Europäische Konsumgeschichte. Zur Gesellschafts- und Kulturgeschichte des Konsums, 18. bis 20. Jahrhundert*, edited by Hannes Siegrist, Hartmut Kaelble, and Jürgen Kocka (Frankfurt a.M.; New York: Campus, 1997), 109–137.

Delavaud, Gilles, and Denis Maréchal, eds. *Télévision: le moment expérimental* (Paris: Apogée, 2011).

Edgerton, Gary R. *The Columbia History of American Television* (New York: Columbia University Press, 2007).

Ellis, John, and Dana Mustata, eds. 'Material Histories of Television'. Special Issue
    of *VIEW. Journal of European Television History and Culture* 8, no. 15 (2019).

Elsaesser, Thomas. 'Film History as Media Archaeology'. In *Film History as Media
    Archaeology* (Amsterdam: Amsterdam University Press, 2016), 71–100.

Elsner, Monika, Thomas Müller, and Peter M. Spangenberg. 'The Early History of
    German Television: The Slow Development of a Fast Medium'. *Historical Journal
    of Film, Radio and Television* 10, no. 2 (1990): 193–219.

Fickers, Andreas. 'Seeing the Familiar Strange: Some Reflections about Actants,
    Actors and Arenas of Transnational Media History'. *Medien & Zeit: Kommunika-
    tion in Vergangenheit und Gegenwart* 26, no. 4 (2011): 16–24.

Fickers, Andreas. 'Television: Histories from Scarcity to Abundance'. In *Handbook
    of Communication History*, edited by Peter Simonson, Janice Peck, Robert T.
    Craig, and John P. Jackson (London and New York: Routledge, 2013), 239–256.

Fickers, Andreas, and Anne-Katrin Weber. 'Editorial: Towards an Archaeology of
    Television'. *VIEW: Journal of European Television History and Culture* 4, no. 7
    (2015): 1–7.

Fickers, Andreas, and Anne-Katrin Weber, eds. 'Archaeologies of Tele-Visions and
    -Realities'. Special Issue of *VIEW: Journal of European Television History and
    Culture* 4, no. 7 (2015).

Fickers, Andreas, and Catherine Johnson, eds. *Transnational Television History: A
    Comparative Approach* (London: Routledge, 2012).

Fickers, Andreas, and Frank Kessler. 'Techno-Nationalist Tales of Glory and Failure:
    Writing the History of Inventions in Early Film and Television', paper delivered
    at the Fourth Media in Transition Conference, MIT, 2005, online http://web.
    mit.edu/comm-forum/legacy/mit4/papers/fickers%20kessler.pdf (accessed
    25 July 2021).

Fickers, Andreas, and Frank Kessler. 'Narrative topoi in Erfindermythen und
    technonationalistische Legendenbildung: Zur Historiographie der Erfindung
    von Film und Fernsehen'. In *Mythos–Helden–Symbole: Legitimation, Selbst- und
    Fremdwahrnehmung in der Geschichte der Naturwissenschaften, der Medizin und
    der Technik*, edited by Siegfried Bodenmann (Munich: Meidenbauer, 2009), 71–86.

Friedberg, Anne. *Window Shopping: Cinema and the Postmodern* (Berkeley: Uni-
    versity of California Press, 1994).

Galili, Doron. 'Tom Swift's Three Inventions of Television: Media History and the
    Technological Imaginary'. *VIEW: Journal of European Television History and
    Culture* 4, no. 7 (2015): 54–67.

Galili, Doron. *Seeing by Electricity: The Emergence of Television, 1878–1939* (Durham,
    NC: Duke University Press, 2020).

Gassert, Philipp. 'Amerikanismus, Antiamerikanismus, Amerikanisierung. Neue
    Literatur zur Sozial-, Wirtschafts- und Kulturgeschichte des Amerikanischen

Einflusses in Deutschland und Europa'. *Archiv für Sozialgeschichte* 39 (1999): 531–561.

Gitelman, Lisa. *Always Already New: Media, History and the Data of Culture.* (Cambridge, MA; London: MIT Press, 2008).

Goebel, Gerhart. 'Das Fernsehen in Deutschland bis zum Jahre 1945'. *Archiv für Post- und Fernmeldewesen* 5, no. 5 (1953): 259–340.

Hickethier, Knut, with the collaboration of Peter Hoff. *Geschichte des deutschen Fernsehens* (Stuttgart: Verlag J.B. Metzler, 1998).

Hilmes, Michele. *Network Nations: A Transnational History of British and American Broadcasting* (London; New York: Routledge, 2011).

Hughes, Kit. *Television at Work: Industrial Media and American Labor* (Oxford and New York: Oxford University Press, 2020).

Huhtamo, Erkki, and Jussi Parikka, eds. *Media Archaeology: Approaches, Applications, and Implications* (Berkeley: University of California Press, 2011).

Kaltenbach, Angelika. 'Architektur zwischen Tradition und Innovation'. In *Heinrich Straumer*, Heinrich Straumer, reprint from the 1927 edition, with an introduction by Fritz Stahl (Berlin: Gebrüder Mann, 1997), i-xvi.

Keilbach, Judith, and Markus Stauff. 'When Old Media Never Stopped Being New: Television's History as an Ongoing Experiment'. In *After the Break. Television Theory Today*, edited by Marijke de Valck and Jan Teurlings (Amsterdam: Amsterdam University Press, 2013), 79–98.

Kessler, Frank. 'La cinématographie comme dispositif (du) spectaculaire'. *Cinémas* 14, no. 1 (2003): 21–34.

Kleinecke-Bates, Iris, ed. 'Material Cultures of Television'. Special Issue of *Journal of Popular Television* 7, no. 2 (2019).

König, Gudrun M. *Konsumkultur: inszenierte Warenwelt um 1900* (Vienna: Böhlau Verlag, 2009).

Lacey, Kate. 'Radio in the Great Depression. Promotional Culture, Public Service, and Propaganda'. In *Radio Reader: Essays in the Cultural History of Radio*, edited by Michele Hilmes and Jason Loviglio (New York: Routledge, 2001), 21–40.

Lugon, Olivier. 'La photographie mise en espace. Les expositions didactiques allemandes, 1925–1945'. *Études photographiques*, no. 5 (1998): 97–118.

Lugon, Olivier, ed. *Exposition et médias: photographie, cinéma, télévision* (Lausanne: L'Âge d'homme, 2012).

McCarthy, Anna. *Ambient Television: Visual Culture and Public Space* (Durham, NC: Duke University Press, 2001).

McCarthy, Anna. 'From Screen to Site: Television's Material Culture, and Its Place'. *October* 98 (2001): 93–111.

Marsch, Ulrich. *Zwischen Wissenschaft und Wirtschaft: Industrieforschung in Deutschland und Grossbritannien 1880–1936* (Paderborn: F. Schöningh, 2000).

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

Medhurst, Jamie. *The Early Years of Television and the BBC* (Edinburgh: Edinburgh University Press, 2022).

Miggelbrink, Monique. *Fernsehen und Wohnkultur: Zur Vermöbelung von Fernsehgeräten in der BRD der 1950er- und 1960er-Jahre* (Bielefeld: transcript, 2018).

Morris, Peter J. T. '"An Effective Organ of Public Enlightenment": The Role of Temporary Exhibitions in the Science Museum'. In *Science for the Nation: Perspectives on the History of the Science Museum*, edited by Peter J. T. Morris (Basingstoke: Palgrave Macmillan, 2010), 212–250.

Murray, Susan. *Bright Signals: A History of Color Television* (Durham, NC: Duke University Press, 2018).

Norman, Bruce. *Here's Looking at You: The Story of British Television, 1908–1939* (London: The Royal Television Society, 2004).

Parikka, Jussi. *What Is Media Archaeology?* (Cambridge; Malden: Polity, 2012).

Rieger, Bernhard. *Technology and the Culture of Modernity in Britain and Germany, 1890–1945* (Cambridge; New York: Cambridge University Press, 2005).

Roberts, Ivy. *Visions of Electric Media: Television in the Victorian and Machine Ages* (Amsterdam: Amsterdam University Press, 2019).

Rogers, Ariel. *On the Screen: Displaying the Moving Image, 1926–1942* (New York: Columbia University Press, 2019).

Ruppert, Wolfgang. 'Plädoyer für den Begriff der industriellen Massenkultur'. In *Europäische Konsumgeschichte. Zur Gesellschafts- und Kulturgeschichte des Konsums (18.–20. Jahrhundert)* edited by Hannes Siegrist, Hartmut Kaelble, and Jürgen Kocka (Frankfurt/Main; New York: Campus 1997), 563–582.

Schick, Adolf. 'Die wachsende Funkstadt am Kaiserdamm'. In *Funkalmanach. Offizieller Ausstellungskatalog zur Grossen Deutschen Funkausstellung Berlin 1930* (Berlin: Rothgiesser & Diesing AG, 1930), 15–16.

Schütz, Erhard. 'Zur Modernität des "'Dritten Reiches"'. *Internationales Archiv für Sozialgeschichte der Literatur (IASL)* 20, no. 1 (1995): 116–136.

Sewell, Philip W. *Television in the Age of Radio: Modernity, Imagination, and the Making of a Medium* (New Brunswick, NJ: Rutgers University Press, 2014).

Siegrist, Hannes. 'Konsum, Kultur und Gesellschaft im modernen Europa'. In *Europäische Konsumgeschichte. Zur Gesellschafts- und Kulturgeschichte des Konsums, 18. bis 20. Jahrhundert*, edited by Hannes Siegrist, Hartmut Kaelble, and Jürgen Kocka (Frankfurt a.M.; New York: Campus, 1997), 13–48.

Siegrist, Hannes, Hartmut Kaelble, and Jürgen Kocka, eds. *Europäische Konsumgeschichte. Zur Gesellschafts- und Kulturgeschichte des Konsums, 18. bis 20. Jahrhundert.* (Frankfurt/Main; New York: Campus, 1997).

Spigel, Lynn. *Make Room for TV: Television and the Family Ideal in Postwar America* (Chicago: University of Chicago Press, 1992).

Spigel, Lynn, and Jan Olsson, eds. *Television after TV: Essays on a Medium in Transition* (Durham, NC; London: Duke University Press, 2004).

Stearns, Peter N. 'Stages of Consumerism: Recent Work on the Issues of Periodization'. *The Journal of Modern History* 69, no. 1 (1997): 102–117.

Steiner, Kilian J. L. 'Die Sonderschau "Fernsehen" im Deutschen Museum'. In *Das Deutsche Museum im Nationalsozialismus: eine Bestandsaufnahme*, edited by Elisabeth Vaupel and Stefan L. Wolff (Göttingen: Wallstein Verlag, 2010), 581–616.

Steinmaurer, Thomas. *Tele-Visionen: zur Theorie und Geschichte des Fernsehempfangs* (Innsbruck; Vienna: Studienverlag GmbH, 1999).

Stern, Robert H. 'Regulatory Influences upon Television's Development: Early Years under the Federal Radio Commission'. *American Journal of Economics and Sociology* 22, no. 3 (1963): 347–362.

Sterne, Jonathan. *The Audible Past: Cultural Origins of Sound Reproduction* (Durham, NC: Duke University Press, 2003).

Turquety, Benoît. *Inventing Cinema: Machines, Gestures and Media History* (Amsterdam: Amsterdam University Press, 2019).

Udelson, Joseph H. *The Great Television Race: A History of the American Television Industry, 1925–1941* (Tuscaloosa: University of Alabama Press, 1982).

Uricchio, William. 'Introduction to the History of German Television, 1935–1944'. *Historical Journal of Film, Radio and Television* 10, no. 2 (1990): 115–122.

Uricchio, William. *Die Anfänge des Deutschen Fernsehens: Kritische Annäherungen an die Entwicklung bis 1945* (Berlin: Walter de Gruyter, 1991).

Uricchio, William. 'Television, Film and the Struggle for Media Identity'. *Film History* 10, no. 2 (1998): 118–127.

Uricchio, William. 'Television's Next Generation: Technology / Interface / Flow'. In *Television after TV: Essays on a Medium in Transition*, edited by Lynn Spigel and Jan Olsson (Durham, NC, and London: Duke University Press, 2004), 163–182.

Vallotton, François, and Anne-Katrin Weber, eds. *Towards an Expanded History of Television* (infoclio, 2021) https://livingbooksabouthistory.ch/en/book/towards-an-expanded-history-of-television.

Weber, Anne-Katrin. 'Television as New Media: Raymond-Millet's *Télévision: Oeil de Demain* (1947) and the Politics of French Experimental TV'. *NECSUS: Journal of European Media Studies* (Spring 2019), https://necsus-ejms.org/television-as-new-media-raymond-millets-television-oeil-de-demain-1947-and-the-politics-of-french-experimental-tv/ (accessed 25 July 2021).

Wheatley, Helen. *Spectacular Television: Exploring Televisual Pleasure* (New York: I.B. Tauris, 2016).

Wheatley, Helen. 'Television in the Ideal Home'. In *Television for Women: New Directions*, edited by Rachel Moseley, Helen Wheatley, and Helen Wood (Abingdon, Oxon; New York, NY: Routledge, 2016), 205–222.

Williams, Raymond. *Television: Technology and Cultural Forms* (London: Fontana, 1974).

Winker, Klaus. *Fernsehen unterm Hakenkreuz: Organisation, Programm, Personal* (Cologne: Böhlau, 1994).

Wurtzler, Steve J. *Electric Sounds: Technological Change and the Rise of Corporate Mass Media* (New York: Columbia University Press, 2007).

Zielinski, Siegfried, *Audiovisions: Cinema and Television as Entr'actes in History* (Amsterdam: Amsterdam University Press, [1989] 1999).

Zimmermann, Yvonne. 'Advertising and the Apparatus: Cinema, Television, and Out-of Home Screens'. In *Advertising and the Transformation of Screen Cultures*, edited by Bo Florin, Patrick Vonderau, and Yvonne Zimmermann (Amsterdam: Amsterdam University Press, 2021), 155–194.

Figure 1.1. Mobile advertisement for the 1932 Funkausstellung. Source: Copyright ullstein bild – Imagno.

1. Television Display in Context

Abstract

Industrial fairs and international exhibitions were central for the emergence of interwar television. This chapter sets the stage for the following discussions of television displays by outlining their institutional contexts and explaining their *raisons d'être*. It starts with a brief presentation of the Berlin Funkausstellung, London's Radiolympia, and the New York Radio World's Fair. The chapter's second part shifts the attention from the *exhibition* to the *exhibits*. It stresses the role of radio fairs in publicizing technological consumer goods and their signification as commodity-experiences. Doing so, the chapter describes facets of industrial and consumer culture that would determine television's presentation from 1928 onwards. In conclusion, it discusses television's fundamental hybridity and flexibility, which contributed to the medium's attractiveness as an exhibit.

Keywords: exhibition studies; industrial fairs; material history of broadcasting; convergence; consumer culture

In March 1925, John Logie Baird[1] put together a demonstration of his experimental system, acclaimed by the press as the first public exhibition of a working television. Baird, who had started his television experiments in the early 1920s, had been invited to the London department store Selfridges as part of the celebrations for the store's birthday week, and had signed a contract

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1   John Logie Baird's (1888–1946) versatility in developing multiple television devices from domestic sets to theater television to Noctovision, as well as his persistence to popularize the medium during the interwar period confirm his important role for the history of (British) television, and reflect the medium's heterogeneity discussed in section 2.2. In historiographical accounts, Baird incarnates the model of the 'lone inventor' who was soon to be ousted by major research corporations. He indeed lost the race against Electrical and Musical Industries (EMI) with regard to the transmitter system adopted by the British Broadcasting Corporation (See Section 4.3). Several biographies of Baird exist, see for instance Burns, *John Logie Baird.*
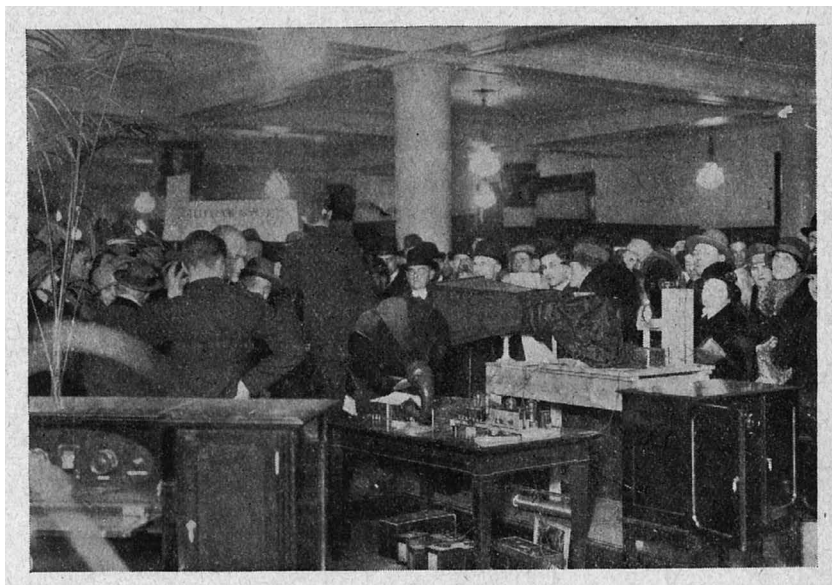
Figure 1.2. Crowds at the television demonstration organized by Baird at Selfridges in 1925.
Source: *Television* 1, no. 2 (April 1928): 43.

to demonstrate three times a day the devices for 'seeing by electricity'.[2] For the department store, the display of electrical and technological innovation had been part of the advertising strategy since its opening in 1909,[3] and Harry Gordon Selfridge, the owner of the store, wrote enthusiastically and obviously not without a sense for self-promotion in *The Times*:

> For the first time in the world's history Television was publicly and successfully demonstrated [...] at Selfridges' last week. A good deal has been written about Television, but here, for the first time, this new wonder was shown in a form which proves scientifically that 'it can be done'.

Acknowledging the experimental nature of Baird's apparatus ('the apparatus here demonstrated is, of course, absolutely "in the rough"'), Selfridge celebrated the feasibility of television as the transmission of an 'instantaneous picture' (Figure 1.2).[4]

2   Callisthenes, 'Television'; Burns, *Television*, 158. Callisthenes was the pen name used by Harry Gordon Selfridge, owner of the homonymous department store, in his regular column for *The Times.*

3   Honeycombe, *Selfridges,* 44.

4   Callisthenes, 'Television'. On Baird's 1925 and 1926 demonstrations, see Medhurst, *Early Years,* 19–25.

Similar smaller or larger television displays flourished from the late 1920s to the outbreak of the war, putting almost each and every step of television's development on display. Amateur clubs, official organizations, department stores, movie theatres and fairs staged exhibitions for inventors and television enthusiasts, for shoppers and mass audiences. In the USA, the research team around Dr. Herbert Ives from AT&T staged in 1927 a semi-public demonstration for journalists, scientists and officials, which combined television and the telephone. Televisual pictures were sent from Washington, D.C. and from Whippany, New Jersey, to the Bell Labs in New York, and included a brief appearance by then Secretary of Commerce Herbert Hoover, who spoke over the phone.[5] The British Television Society founded in 1927 annually organized a technical show at which society members presented their machines, catering to experimenters and amateurs. In 1933, the Television Society exhibited devices from John Logie Baird, Marconi, General Electric, Edison-Swan and the British Thomson Houston, all of which would in later years present television receivers at the London radio show.[6] In 1932, an unnamed department store in Brooklyn showed a television system in its shop window and made news in a publication destined for the amateur market.[7] RCA's annual report for 1938 boasted that the firm had organized '134 television demonstrations' during this year, 'for audiences largely made up of important representatives of industry, advertising, engineering and the press.'[8] The television shows not only took place in Western metropolises but also travelled to colonies and other far-away places. At the occasion of the 1936 Empire Exhibition in Johannesburg, two-way television was brought from England to South Africa.[9] At the end of the decade, the German Reichspost planned television demonstrations in South America with stops in Buenos Aires, Santiago de Chile and other major cities. The declared goal of the tour was to 'advertise German technology, and in particular the German Reich.'[10]

The radio fairs in Berlin, London, and New York were part of this broader history of televisual displays. Contrasting with occasional initiatives

5   For a detailed description of this presentation, see Stadel, *Television,* 65–78; Roberts, *Visions of Electric Media,* 191–228.

6   Beauchamp, *Exhibiting Electricity,* 216–217.

7   'Television Demonstrated in Store Window'.

8   Sarnoff, 'The Promise of Intercity Networks'.

9   Reyner, 'Television at the Empire Exhibition'.

10   Das Bundesarchiv (hereafter BArch), R4701/13065, Fernsehen auf Ausstellungen und Sonderveranstaltungen, Volume 1, 1937–1939. Präsident des Reichspostzentralamt, 'Fernsehen in Südamerika', 22 December 1939.

launched by individual inventors or research labs, they were organized in regular frequency by umbrella organizations with close ties to the broadcasting industry and, in the case of Germany, with public institutions. They represented a major networking hub for the telecommunications sector, as well as governmental actors, and attracted large audiences thanks to their important fringe programmes and the display of technological spectacle, including television.

Proposing an exploration of the history of the radio fairs, this chapter sets the stage for the following discussions of television displays by outlining their institutional contexts and explaining their *raisons d'être*. It starts with a brief presentation of the Berlin Funkausstellung, London's Radiolympia, and the New York Radio World's Fair (Section 1.1). Revealing the significance of these events as industrial showcases and political actors, it introduces the broader context necessary to grasp television's emergence in public space within the three national contexts here considered. In its second part (Section 1.2), the chapter shifts the attention from the *exhibition* to the *exhibits*. It stresses in particular the role of radio fairs in publicizing technological consumer goods and their signification as commodity-experiences. Doing so, this section describes facets of industrial and consumer culture shaped at and through radio fairs that would determine television's presentation from 1928 onwards. In conclusion, the chapter discusses television's fundamental hybridity and flexibility resulting from a wave of media convergence that associated previously distinct industries and enterprises (Section 1.3). The exhibition floors displayed small-screen receivers and large-screen television projectors as well as bidirectional systems, and thus served as a place where consumers were initiated to the medium's various uses. In its threefold movement – travelling from the fair to the main exhibits to the television sets on display – this first chapter outlines the principal frameworks and scales within which the study will take place.

1.1   Brief History of Radio Fairs in Berlin, London, and New York

Numerous scholars from different disciplines who have contributed to the field of exhibition studies have recognized the crucial role of fairs as processes of economic and social modernization and of nation-state building. Approached from myriad perspectives such as art history, architecture, anthropology, or cultural and visual history, exhibitions represent today a complex field of scholarly investigations whose multitude reflects social scientist Werner Sombart's diagnosis in 1908 that 'as a cultural phenomenon,

the exhibition is exceptionally interesting, for it appears in entirely different meanings, can be judged by very different criteria and classified in quite different contexts'.[11] Not surprisingly then, exhibition studies today represent an international and interdisciplinary field whose outlines are difficult to trace.[12]

The appeal of exhibitions for cultural historians resides in their force as a particular moment in time and space in which industrial, cultural, and governmental actors have the opportunity to solidify or to (re)invent their own narrative concerning social, political, and economic issues. The presenting, ordering, classifying, and hierarchizing of material culture through its display are at the core of any exhibition, and link it to other sites of visual consumption. For historian Thomas Grossbölting, the fairs 'provide access to the representations and communication processes through which a society negotiated its own structures'.[13] Within the confined spaces of exhibition halls and with the help of multimedia displays, the industrial and governmental actors sought to consolidate their vision of national identity, industrial production, and consumer culture.[14] Exhibitions were mass media shaping a world *en miniature.*

The radio fairs that constitute the core of my research are fully part of this history of exhibitions as showcases of industrial and cultural change. Conceived to represent the recently established radio industry, which had experienced a 'meteoric growth' in the 1920s, and to respond to the seasonal nature of radio production and consumption, the radio shows integrated all the elements of a successful fair.[15] Held in large exhibition venues, they presented the newest radio sets and other telecommunication technologies and offered broad fringe programmes and popular attractions. They functioned as a mediator between the industrial research laboratory and

11   Sombart, 'Die Ausstellung', 249. Translation in Geppert, *Fleeting Cities,* 6.

12   Geppert, 'Welttheater', 10. Historical overviews of exhibitions offer Luckhurst, *The Story of Exhibitions* and Greenhalgh, *Ephemeral Vistas.* Robert Rydell has extensively written on the history of the American World's Fairs: Rydell, *All the World's a Fair;* Rydell*, World of Fairs.* Alexander C. T. Geppert has provided a valuable research overview: Geppert, 'Welttheater'; together with Jean Coffey and Tammy Lau he has further gathered a broad bibliography on world's fairs: Alexander C.T Geppert, Jean Coffey and Tammy Lau, *International Exhibitions.* Shifting the attention away from international mega-events to national industrial exhibitions, Thomas Grossbölting's publication is innovative and very helpful for my own study: Grossbölting, *'Im Reich der Arbeit'*; also Debluë, *Exposer pour Exporter.* On the history of the Funkausstellungen, see Bressler, *Von der Experimentierbühne zum Propagandainstrument.*

13   Grossbölting, *'Im Reich der Arbeit'*, 14.

14   Grossbölting, *'Im Reich der Arbeit'*, 11.

15   Scott, 'Determinants of Competitive Success'.

the marketplace, and, promoting national production, helped the industry to position itself in the international arena.

Funkausstellung, Berlin

In Germany, the first radio fair was organized in December 1924 on the fairgrounds of Witzleben (in the Charlottenburg neighbourhood) one year after the opening of the public broadcast service. The initiative to hold a radio show had been launched by the Verband der Funkindustrie (Federation of the Broadcasting Industry). The federation had been formed in 1923 by manufacturers afraid of losing their market shares to the four major corporations (Telefunken, AEG, Siemens, and Lorenz). The federation wished to invest in one official exhibition in order to prevent 'wild' participations at multiple, smaller events.[16] A single official radio show would allow for the official message to be tuned to the needs of the industry as a whole and would assure a certain level of infrastructural quality for the presentation of new radio sets.

Still in use today, the exhibition site in Berlin-Witzleben had been chosen in 1914 for the German automobile exhibition, whose opening was delayed until 1921 due to the outbreak of the war. Situated in the vicinity of the newly constructed Witzleben train station and thus offering ideal connections to the capital's centre, the site was spacious enough to provide sufficient capacity for the expansion of exhibition buildings and infrastructure.[17] From 1923 onwards, the Berliner Messe-Amt (Berlin Exhibition Bureau) administered the fairgrounds and oversaw such diverse events as textile industry fairs or the Reichs-Reklame-Messe (Advertising Fair). In prospect of the first edition of the Funkausstellung in 1924, the Exhibition Bureau, financially supported by the city, constructed the Haus der Funkindustrie (House of the Broadcasting Industry), underscoring the importance of a radio fair not only for the radio industry but for the exhibition business more broadly (Figure 1.3).[18] Similarly, the Funkturm (Broadcasting Tower) on the fairgrounds designed by Heinrich Straumer – the same architect responsible for the Haus der Funkindustrie – signalled the affinity of radio broadcasting with modern exhibition culture. A metallic structure resembling the Eiffel Tower, the radio tower figured henceforth on the cover of catalogues and as souvenir models and became the most iconic emblem not only of the

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16   Bressler, *Von der Experimentierbühne zum Propagandainstrument*, 48–49.
17   Schick, 'Funkausstellung und Berliner Messegedanke', 19; Bressler, *Von der Experimentier-bühne zum Propagandainstrument*, 43.
18   Bressler, *Von der Experimentierbühne zum Propagandainstrument*, 43–46.

Figure 1.3. Haus der Funkindustrie with the broadcasting antenna in the background (1925). Source: ullstein bild.

Funkausstellung but of Berlin's 'exhibition city' more broadly. An actual antenna *and* a symbol of the radio fair, the Funkturm doubly broadcast (the idea of) radio (Figures 1.1 and 1.4).

The interdependence of the two mass media – exhibition and radio – became even more pronounced in Hans Poelzig's draft for a new Funkzentrum (Broadcasting Centre).[19] Between 1928 and 1931, Poelzig worked on a complete new design of the exhibition grounds and adjacent radio studios, in which the two media would geographically converge and form a harmonious ensemble uniting the administration and production of broadcasting and industrial fairs.[20] Poelzig's ideas were not realized in their totality, but the new Haus des Rundfunks (Broadcasting House) opened in 1931. Thanks to additional exhibition halls built for the 1939 Funkausstellung, the Haus des Rundfunks and the exhibition grounds eventually formed a coherent building complex separated only by a large avenue, the Masurenallee. In Berlin, the history of broadcasting and of industrial exhibitions was thus strongly intertwined, both media mutually benefitting from each other.

19   Schick, 'Die wachsende Funkstadt', 15.
20   For more information on Poelzig's plans, see Wagner, 'Eine Studie'; Posener, *Hans Poelzig*, 221–229.

Figure 1.4. Cover *Funk-Almanach 1931 – Offizieller Katalog zur 8. Grossen Deutschen Funk-Ausstellung Berlin*, 1931. Source: Stiftung Deutsches Rundfunkarchiv, Berliner Ausstellungs-, Messe- und Fremdenverkehrs-Amt.

Figure 1.5. Cover *Offizieller Katalog der 10. Funk-Ausstellung Berlin 1933*. Source: Stiftung Deutsches Rundfunkarchiv, Berliner Ausstellungs-, Messe- und Fremdenverkehrs-Amt.

The National Socialist takeover in 1933 and the subsequent reorganization of political, social, and cultural spheres also affected the Berlin radio fairs (Figure 1.5). Transforming the Funkausstellung 'from a stage for experiments to a propaganda tool',[21] Hitler's rise to power led to the integration of exhibitions into the non-transparent bureaucracy of the regime, and more precisely into the propaganda apparatus overseen by Joseph Goebbels and his Reichsministerium für Volksaufklärung und Propaganda (Reich Ministry of Public Enlightenment and Propaganda). The implicit assumption that exhibitions had to serve the goals of the Nazi rule became official in 1934 when a new decree requested that all exhibition organizers had to account for the political and cultural significance of their event.[22] As a consequence of the enhanced surveillance of exhibitions, the number of expositions decreased in Germany from 634 in 1934 to 117 in 1939.[23] However, with radio as one of the central instruments for the internal consolidation of the National Socialist power structure,[24] the Funkausstellung became a regular fixture in the calendar of Nazi celebrations and promotional events. Goebbels himself became the patron of the radio exhibition, personally opening the event from 1933 until 1939.[25]

The party not only affirmed itself as leader behind the scenes of the radio show but took visible control of the premises (Figure 1.6). A British journalist observed in 1933: 'The new political regime has had a very marked influence on the show in general, as well as on the television section. One may well speak of Television in the sign of Swastika.'[26] During this period, the admission numbers skyrocketed and peaked at 500,000 in 1935. This success was a result of the prolongation of the fairs' duration, which, between 1933 and 1935, was raised from ten to thirteen days. In 1938, the Funkausstellung even lasted for seventeen days. Simultaneously, the opening hours were extended and the entrance fee reduced; in the run-up to the show, the organizers advertised various possibilities to travel cheaply to Berlin, and even reduced the price of train fares.[27]

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21   This is the title of Eva Susanne Bressler's study, *Von der Experimentierbühne zum Propagandainstrument,* which offers a detailed study of the Funkausstellung's institutional history.
22   Bressler, *Von der Experimentierbühne zum Propagandainstrument*, 138–139. See also Schäffer, *Wesenswandel der Ausstellung.*
23   Bressler, *Von der Experimentierbühne zum Propagandainstrument*, 140.
24   Herbst, *Das nationalsozialistische Deutschland*, 85; Diller, *Die Rundfunkpolitik im Dritten Reich.*
25   Bressler, *Von der Experimentierbühne zum Propagandainstrument*, 148.
26   Traub, '1933 Berlin Radio Exhibition', 237.
27   Bressler, *Von der Experimentierbühne zum Propagandainstrument*, 153–167.

Figure 1.6. Funkausstellung under the Swastika. Source: ullstein bild.

The organizational and financial involvement of the Nazi elite in the Funkausstellung demonstrated the event's importance and underscored radio's role as a means of mass communication. Furthermore, it evidences radio's function for securing and consolidating the National Socialist imaginary community, the *Volksgemeinschaft* ('people's community', sometimes referred to as racial or national community).[28] Historians have explained that the *Volksgemeinschaft* depended on the perpetual performance of racist mechanisms of inclusion and exclusion staged at mass gatherings, among other events. Simultaneously a discursive practice and an experienced reality, the *Volksgemeinschaft* intertwined a mythical community unharmed by the disruptions of industrialization and urbanization but fully benefitting from modernization processes, with the actual experience of crowds discursively shaped as German Volk.[29]

In the mid-1930s, two displays at the Funkausstellung helped very explicitly to shape the imaginary community, namely the *Rundfunksprecherwettbewerb* ('competition of radio broadcast announcers') held between 1934 and 1936, and the *Volkssender* ('people's station') organized in 1935 and 1936. The participants of the *Rundfunksprecherwettbewerb* had won regional contests and would arrive before the opening of the Funkausstellung to be trained in radio broadcasting and journalism. They then had to report on a political topic and write a radio essay about the radio exhibition. Their various radio pieces were transmitted on the fairgrounds and over the radio network; the audience would act as their jury. On the closing day of the exhibition, the winner of the competition was announced.[30] The *Volkssender* opened up participation in broadcasting to all fairgoers of 'Aryan origins' who wished

28   Marssolek, '"Aus dem Volke für das Volk"', 122. Media were fundamental for the consolidation of the Nazi *Volksgemeinschaft* and were skilfully employed by the party. See Marssolek and von Saldern, *Radiozeiten*; Lacey, *Feminine Frequencies*; Ross, *Media and the Making of Modern Germany*.
29   The notion *Volksgemeinschaft* preexisted the Nazi regime and is not a Nazi invention. It however gained new strength after 1933, as it fit National-socialist ideology. Wildt, *Hitler's Volksgemeinschaft*; Welch, 'Nazi Propaganda'; Welch, *Third Reich*, 60–82. See Michael Tymkiw's work for an excellent analysis of how the *Volksgemeinschaft* was constructed through the expositional gesture. Tymkiw, *Nazi Exhibition Design*. Detlev Peukert analyses the contradictions within and resistances to the *Volksgemeinschaft*, in Peukert, *Alltag*.
30   Bressler, *Von der Experimentierbühne zum Propagandainstrument*, 160. At least two challengers made a career in radio: Günter Schwermer and Rolf Wernicke. In 1934, Schwermer came third and went on to become a well-known radio journalist after the war (see Christoph Hilgert, 'Zu Wasser, zu Lande und in der Luft für die Hörer – Der 'Allround' – Reporter Günter Schwermer', August 2006, http://www.hans-bredow-institut.de/webfm_send/245 (accessed 25 July 2021)). Wernicke worked for the Olympic Games in 1936 and also continued his career after the war. See the Deutsches Rundfunkarchive (German Broadcasting Archive) online at http://1936.dra. de/?id=90 (accessed 25 July 2021).

to present short songs and musical pieces and send their greetings to absent parents over the airwaves.[31] The speakers, often travelling from afar to participate,[32] had to get their act approved by the broadcasting cadres.[33] The *Volkssender* and the *Rundfunksprecherwettbewerb* both pursued the double articulation of the *Volksgemeinschaft* as a myth and a concrete experience: by fostering the relation between listener and medium, between centre and provinces, and between individual citizens and the party, these participative manifestations formed the Nazi community – here understood as a community of listeners – through broadcasting programmes and through the interaction with the radio apparatus itself.[34]

Performing the *Volksgemeinschaft* at the radio fair further helped to suppress distinctions between entertainment, consumption, politics, and propaganda. The *Hitlergruss* ('Nazi salute') – arguably the most powerful ritual in representing the imaginary community by engaging each and every individual's corporeality – was performed at opening and closing ceremonies and other mass gatherings. Explicit political speeches were frequent and emanated not only from Goebbels and other officials, but also from 'volunteers' in the audience.[35] At the radio fair, these political acts blended into fringe programmes such as the *Volkssender*, themselves part of the broader ideological apparatus of Nazi Germany.

With regard to television displays, the Funkausstellung was the most prolific fair during the interwar period, with annual displays organized from 1928 onwards. The Hungarian inventor Dénes von Mihály[36] and the

31   Bressler, *Von der Experimentierbühne zum Propagandainstrument*, 161–163.

32   Participants in the *Volkssender* experienced a degree of fame in the local press covering the events in Berlin, which contributed to the further dissemination of the idea of radio 'for all'. See 'Am Pavillion unter dem Volkssender'.

33   Marssolek, '"Aus dem Volke für das Volk"', 132.

34   Marssolek, '"Aus dem Volke für das Volk"'. The success of the *Volkssender*, however, was limited and impeded by resistance from listeners and professional journalists to the dilettantish programming. Its dismissal in 1937 marked a return to more professional entertainment programmes. Bressler, *Von der Experimentierbühne zum Propagandainstrument*, 163.

35   For example, one photograph taken at the 1934 Funkausstellung shows audience members holding banners with National Socialist slogans.

36   Dénes von Mihály (1894–1953), engineer and inventor, published in 1926 *Das elektrische Fernsehen und das Telehor,* which received international attention. With the financial support of the Reichspost, he developed in 1928 the first working devices, shown at the Funkausstellung (see Figure 0.1.); at the same time, he invested in the development of sound film. In the 1930s, Mihály launched several firms with international branches to capitalize on his television and sound film research. See Heinz Zemanek, 'Mihály, Dénes von' in: Neue Deutsche Biographie 17 (1994), https://www.deutsche-biographie.de/pnd140120602.html#ndbcontent (accessed 25 July 2021).

internationally active firm Telefunken oversaw this first edition. From the following year onwards, the Reichspost (German Imperial Mail) took over responsibility for running the television display. The governmental agency henceforth managed the distribution of the exhibition space and presided over scenography and architectural arrangements. Together with radio industry leaders – Telefunken, Fernseh AG, Lorenz AG, Loewe, TeKaDe – it presented annually its own work in television research and guaranteed that television display would be a feature at every Berlin radio show until 1939. The postal service's implication in televisual research mirrored its early interest in the new technology, starting with its issuing the first licence for televisual transmissions to Mihály in May 1928, shortly before the Reichspostzentralamt, the research branch of the Reichspost, established its own television laboratory and opened an experimental service on 8 March 1929.[37] Already in July 1929, the Reichspost fixed the first standard for the television image on 30 lines per image per second. In 1931, a new standard of 48 lines per image was introduced, and from October 1932 on, experimental transmissions were extended to three one-hour programmes a day on ultra-short waves.[38]

Under National Socialism, the responsibilities for television were not immediately clarified and became the setting of bureaucratic competitions between the Propaganda Ministry, the Reichspost, and the Aviation Ministry.[39] Eugen Hadamovsky took the initiative to integrate television within the structures of Goebbels's propaganda bureaucracy, and from 1934 onwards, the Reichsrundfunkgesellschaft (Reich Broadcasting Corporation, under the Propaganda Ministry) collaborated with the Post Ministry and the industry to organize the annual exhibitions at the radio show. The opening of a regular television service on March 22, 1935, constituted a symbolically significant moment leading to completely revised television displays at the Berlin fair, which I will discuss in Chapter 4.

Radiolympia, London

Given the ideological framing of radio and television in Germany as a result of the rise of National Socialism, a comparison of the German and British broadcasting systems in the interwar period may seem questionable. While the German mediascape was forced into serving the new regime and its

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37   Winker, *Fernsehen unterm Hakenkreuz*, 12–24.
38   Kniestedt, 'Die historische Entwicklung', 193–194.
39   Winker, *Fernsehen unterm Hakenkreuz*, 76–82.

propaganda goals, the British public service was conceived as being independent of direct governmental control, defending the values of cultural and moral uplift, and aiming at fostering the ideal of an enlightened democracy.[40] Political differences notwithstanding, the transnational perspective is important insofar as it calls attention to similarities between or shared histories among the two nations. Among the different strands of this entangled history I will develop throughout the book, the main observations are, first, the fierce competition between Britain and Germany in the field of televisual research: for both, the other nation represented the sparring partner in a technological race towards the realization of the first television service in the world. Second, in both countries, the institutionalization of television depended upon the interplay and cooperation of government, government-approved bodies, and the broadcasting industry, with little to no participation from amateurs and the broader public. Lastly, in both countries, the radio fairs represented a mediating link between these stakeholders and media consumers, and projected future uses of television to its future audience.

In Britain, as in Germany, the radio fair accompanied radio's development from early on. The first London radio fair, the All British Wireless Exhibition and Convention, was organized by the Wireless Society in September 1922, shortly before the official founding of the BBC, and held at the Royal Horticultural Hall in Westminster.[41] In 1924, it was moved to the Royal Albert Hall which offered more space, before eventually transferring to the exhibition

40   Scannell and Cardiff, *Social History of British Broadcasting.*

41   Pegg, *Broadcasting and Society.* After the First World War, the urge to regulate the airwaves incited the General Post Office (GPO) to enter into negotiations with the most powerful actors of the telecommunications industry. In May 1922, the GPO started meetings with various firms, appointing soon afterwards a committee comprising representatives from six major companies and one minor one – including Western Electric, partially owned by American Telephone & Telegraph Company (AT&T) but under British management and ownership, Marconi's Wireless Telegraph Company, the General Electric Company (GEC), and others. As a result of negotiations between the 'big six', the British Broadcasting Company was founded, a publicly initiated but privately owned monopoly that controlled radio broadcasting and set manufacturing on a national level. Instead of relying on advertising, the system was sustained by a licence fee, which was a way to protect the market from foreign products, in particular from US manufacturers, since only licensed sets with a BBC stamp were allowed to be sold. As a consequence of a governmental investigation in 1926 (known as the Crawford Committee), the BBC was transformed from a private monopoly into a public one, with a slight name change to British Broadcasting *Corporation.* The BBC was neither directly controlled by the government nor by industry but depended on a board of governors appointed by the prime minister and the Postmaster General. These governors had to guarantee the independence of BBC's daily business. The BBC's licence continued to be controlled by the GPO.

grounds at Olympia (West Kensington) from which the name Radiolympia would derive.[42] The official catalogues of the radio show testified to the organizers' good standing with the BBC. Besides the usual welcome addresses by members of the exhibition committee, the catalogue regularly featured a short text by the BBC Director General, John Reith.[43] Given the BBC's centrality in all matters of broadcasting in Britain, the institution's involvement and presence at Radiolympia was crucial to credit the event with the necessary authority and legitimacy as the national, official radio fair.

The 'National Radio Exhibition' was judged to be the 'annual event of ever-increasing interest and importance to the General Public as well as to the Trade'.[44] It was held in September until 1931, and then moved to the second half of August from 1932. Its success was reflected by an increased duration from eight to ten days in 1933 and by relatively stable attendance figures of around 200,000 visitors each year.[45] In addition to radio manufacturers and component-makers, other industry-related businesses such as trade papers were among the exhibitors, together with the BBC and the General Post Office (GPO) (Figure 1.7). In order to contribute to an unbiased competition among exhibitors, the locations of stands were drawn by lot.[46] From 1933 onwards, one of the main attractions at Radiolympia was the BBC's ephemeral broadcasting theatre. In 1935, the theatre counted 2,500 seats and held 'revues' three times a day.[47]

In the early days of Radiolympia, and contrary to the Berlin show, the exhibitors in London were not allowed to demonstrate working radio sets. The visitor could examine the new models and discuss with representatives of radio manufacturers[48] but 'one [was] inevitably denied any chance to judge the performance, and one is therefore driven to compare sets in terms of appearance'.[49] In 1929 and 1930, the policy changed and demonstration

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42   'Die grosse Londoner Radio-Ausstellung'.

43   John Reith (1889–1971) was elected Managing Director of the BBC in 1922 and Director General in 1927; he remained at the head of the corporation until 1938. Reith considered public service as an educational and cultural force, as well as a moral safeguard in the service of national unity. He is generally considered to lead the 'anti-television' fraction at the BBC: Jamie Medhurst has nuanced this idea and shown that Reith did, in fact, critically engage with early television's multiple dimensions, without however developing particular enthusiasm for the new medium. Medhurst, 'Mea Maxima Culpa'. See also Scannell and Cardiff, *History of British Broadcasting.*

44   Bull, 'A Message', 13.

45   Bressler, *Von der Experimentierbühne zum Propagandainstrument*, 333.

46   'Londoner National Radio Exhibition 1930'.

47   'Special Exhibits' (1936), 154.

48   Geddes and Bussey, *The Setmakers*, 204.

49   Eckersley, 'What I Thought of the Show', 153.

Figure 1.7. View into the 1933 Radiolympia exhibition hall. Source: © BBC Photo Library.

rooms were installed in the galleries of the main hall. In later years, one single music channel transmitted programmes directly to the exhibition booths, a solution which continued to displease vendors:

> Garages, restaurants and hotels in the vicinity have been commandeered by various manufacturers for use as showrooms and demonstration purposes: particularly the latter. The system of feeding all speakers on the stands inside Olympia from on common input, and the fact that there are scores of speakers emitting the same tunes precludes any possibility for anyone to judge the merits of any particular product.[50]

The difficulty – or even the impossibility – of testing the radio devices made the press question the functionality of exhibitions for the promotion of radio sets and other acoustic technologies, and increased the importance of live attractions at the fair. As the official catalogue for Radiolympia 1934 discussed, the particularity of programmes transmitted from an exhibition ground in comparison to regular programmes was that they should 'aim to be

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50   T.S., 'In and Around Radiolympia', 165.

effective both visually, in the house, and aurally, over the ether', representing 'first-class eye-fare for visitors to the Exhibition' as well as 'good ear-fare for the home listener'.[51] The possibility to *see* the radio stars one usually heard over the air was an important crowd-pleaser and underlines the importance of visual culture to these events and to the history of radio broadcasting more broadly.[52]

With regard to television displays, the difference with the German context was particularly obvious during the first years. Contrary to the Funkausstellung, and in line with the no-testing policy, no demonstrations were held in Radiolympia's halls. Non-working television sets were shown at the stand of the British journal *Television*, which regularly published manuals for self-construction television sets. In 1933, a total of three exhibitors presented (non-working) television sets, and in 1934 the British manufacturer Plew Television was eventually allowed to connect a transmitter 'placed some distance away in the gallery' to their exhibition stand.[53] Seeking to demonstrate operating systems, John Logie Baird managed to organize shows in premises adjacent to Radiolympia between 1928 and 1931 (see Section 3.1).

Throughout the late 1920s Baird and his company vigorously promoted television by means of demonstrations and newspaper stories, encouraging the expectation that a broadcast service was just about to begin.[54] In 1928, those attending another demonstration mounted by Baird at the Selfridges department store in London were invited to place orders for television sets or could directly purchase do-it-yourself kits.[55] However, the BBC was not immediately favourable to television and opposed the use of radio stations for experimental broadcasts. Critics from within the institution were concerned with the problem of picture quality and size, and the concomitant lack of programme quality.[56] In 1929, the Postmaster General, milder in his evaluations of televisual technology and more interested in innovation, granted a licence to Baird, and on 30 September 1929, the BBC agreed to share the transmitter for an experimental broadcast with Baird's engineers.[57] In the meantime, the press and also engineers within the

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51   'Special Exhibits' (1934), 160.
52   The radio publications and programme bulletins accompanying broadcasts included numerous photographs and images, depicting everything from the construction plan of a do-it-yourself radio set to the latest 'Miss Radio', from the radio studio to the announcer behind the microphone.
53   Walters, 'Radio Show Television'.
54   See Aldridge, *Birth of British Television*, 112–121.
55   Norman, *Here's Looking at You*. Also 'Television Sets for Sale'.
56   Burns, *John Logie Baird*, 163.
57   Burns, *British Television*, Chapters 6–7, 132–175.

Figure 1.8. BBC stand at Radiolympia 1938. Source: © BBC Photo Library.

BBC started to underline the lack of official support for television and for Baird. Whereas American authorities provided licences to developers, and the German postal service was directly engaged in televisual research, BBC officials were comparatively slow to support innovation in this field. In 1932, nevertheless, the BBC started its own experimental service with equipment supplied by Baird. Towards the mid-1930s, finally, due to enhanced national and international activities, the need to organize television's development became urgent. The Selsdon Committee, a governmentally mandated body of experts, started investigating the available television systems in Britain in order to determine the most suitable technology for a public service. The committee's report was published in January 1935, with the official launching of the broadcast service planned for November 1936.[58] In prospect of the launch, a television showroom was inaugurated at Radiolympia, eventually introducing official television transmissions to the fairgrounds.[59] From 1936 to 1939, Radiolympia henceforth annually presented television sets and, in 1938 and 1939, included a BBC television studio, while the BBC exhibit prominently displayed the corporations' role in the shaping of a television service (Figure 1.8, see also Section 4.3).

58   For an in-depth study of interwar television at the BBC, see Medhurst, *Early Years*.
59   See Burns, *British Television*, 410–441.

Radio World's Fair, New York

In the USA, the history of radio fairs is comparatively dispersed, insofar as no event similar in scope and reach as the Berlin and London fairs has ever been organized. Several organizers succeeded each other, and the fair changed its location several times. The television displays, although off to a good start, rapidly lost traction, and whereas the European Fairs intensified their promotion of television from the mid-1930s on, the medium vanished from the exhibition floor at the New York Radio Show. Rather, more crucial to the history of television at fairs in interwar America will be the 1939 RCA pavilion at the New York World's Fair, one entirely dedicated to the new medium.[60] This difference between European and American interwar television exhibitions is related to the differing institutional contexts that determined the development and regulation of radio and television in the three countries. Indeed, while the European broadcasting institutions were overseen by governmental agencies and conceived in the spirit of a public service, the history of broadcasting in the United States is one of corporate control.

In New York, the first industrial fair dedicated to the radio industry was held in December 1922 at Grand Central Palace, an exhibition building located next to Grand Central Station. Called the American Radio Exposition and, from 1924, the National Radio Exposition, this event was soon rivalled by the Radio World's Fair, held for the first time in September 1924 at Madison Square Garden. The existence of two shows, however, led to criticism from journalists and manufacturers who complained about reduced audiences and increased expenses.[61] Consequently, the two exhibitions were merged in 1926.[62]

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60   The RCA had been founded in 1919 in response to attempts by the British Marconi's Wireless Telegraph Company to purchase powerful radio transmitters on American soil in order to insure a monopoly on transatlantic communications. Concerns expressed within public and political spheres about a foreign takeover of domestic communication systems resulted in the creation of a government-sanctioned monopoly in RCA, organized as a subsidiary of General Electric, rapidly joined by AT&T, Westinghouse and other smaller companies. Until 1930, RCA functioned as the sole sales arm for its parent companies. Through acquisition and legal battles, RCA became a fully independent corporation in 1932, unifying research, manufacturing, and sales. At this time, television research was transferred from the other corporations to RCA, which became the leader in the field. Bannister, *From Laboratory to Living Room*, 76–132; Sterling and Kittross, *Stay Tuned*, 57–63.

61   Dunlap, 'Varied News'; 'Seek to Consolidate Two Fall Radio Shows'.

62   'Only One Radio Show'.

In the same year, the Radio Manufacturers Association (RMA) in Chicago started to officially back the Radio World's Fair. Founded in 1924 and 'born in a short-lived period of relative national prosperity',[63] the RMA aimed first and foremost at structuring the flourishing and somewhat chaotic radio business, debating standards, and intervening in the processes of government regulation. The RMA's board of directors and show committee had originally lobbied to reduce the high number of radio shows held in smaller and bigger cities to 'one annually in both Chicago and New York'.[64] However, multiple radio shows continued to exist and RMA decided to designate two shows – the Radio World's Fair in New York and the Chicago Radio Show – as their own, official radio fairs.[65] The events were organized a few weeks apart and functioned as identical showcases for the industry in two of the country's major economic centres. Their attendance figures reached around 200,000 visitors in a good year.[66]

The economic crisis following the stock market crash in 1929 together with the decreasing importance of radio fairs as a promoter of wireless and radio had several consequences for the events' organization. From 1930 onwards, the Radio World's Fair included not only radio exhibits but also presentations of 'domestic devices such as electric refrigerators, vacuum cleaners, a/c'.[67] Including these modern domestic appliances was seen as a way to 'broadening sales activities'.[68] (Figure 1.9) In particular the refrigeration business promised to be very useful for radio traders since its peak season coincided with the seasonal slump in radio sales, that is during the summer months. The industry's convergence towards an 'all-electric' business embracing domestic appliances was eventually mirrored by a new appellation: in 1931 the fair's name changed to the Radio-Electrical World's Fair, and became the National Electrical and Radio Exposition in 1933.[69] The economic turndown had further direct consequences on the radio shows' organizational oversight by the RMA, which struggled with the loss of members and directors who had left the radio business after the crisis.[70]

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63   Secrest, *EIA 50*, 2.

64   Secrest, *EIA 50*, 5.

65   Secrest, *EIA 50*, 5.

66   'Radio Show Ends: New Records Set'.

67   'Facts about the Radio World's Fair'.

68   Hirosé, 'What the Wise Dealer Will Sell'.

69   'Radio Exposition Opens at Garden'. The use of these various designations was not standardized in the press, and the *New York Times* continued to call the fair the (National) Radio Electrical Exposition.

70   The RMA's show committee anticipated at the end of 1929 a drop of 25 per cent in the sale of exhibition space at the public radio shows in New York and Chicago. Accordingly, the decision

Figure 1.9. View into the hall of the National Electrical and Radio Exposition, New York, 1934. Source: AVD_2015289_014. National Electrical and Radio Exposition album (Accession 2015.289), Audiovisual Collections and Digital Initiatives Department, Hagley Museum and Library.

The 1931 edition would be the last fair sponsored by the organization, which henceforth limited its exhibition activities to trade shows for the business branch. This withdrawal on the RMA's side would bring the radio show to a temporary halt, before it would be relaunched in 1934 in Madison Square Garden.

Contrary to the European fairs, where television would be shown (almost) annually either on the fairgrounds or next to them, the New York radio show presented televisual devices only between 1928 and 1931, before the launching of a public broadcast system by RCA at the New York World's Fair in 1939 would result in the biggest television display of the interwar period. This situation reflected the economic and institutional status of television, which – as in the two other countries – had been primarily shaped by parallel developments in radio regulation and policies.

AT&T's television demonstration in 1927 had shown that the big research laboratories were interested in the new technology. Simultaneously, numerous smaller firms and individual engineers had begun investing in television;

was made to open the exhibition space to home appliances and other electrical consumer goods. The show committee also predicted that 'the whole show setup might have to be changed within the coming year', a forecast that proved to be true from 1932 on. Secrest, *EIA 50*, 21–23.

in 1929, already 22 stations were licensed by the Federal Radio Commission (FRC) to transmit experimental programmes.[71] Due to its growth, television was understood as constituting 'a serious problem'[72] for the regulatory bodies, and a threat to the previously established radio order.[73] Its emergence allegedly endangered the airwave space and the proliferation of television stations was said to produce the same 'chaos' in the air that prevailed for radio broadcasting before the 1927 Radio Act. Through favourable decisions for the big corporations, and in particular for RCA, subsequent regulations of television maintained the status quo of corporate power in the media sphere.[74] The telecommunication industry, seeking to extend its power into the field of televisual transmissions, presented television as an economic, technological and social extension of radio, so that the private industry's control appeared to be the 'natural' next step in the consolidation of telecommunication empires.[75] From FRC's side, the same assumption was maintained and 'evidence is lacking that any serious legislative discussion occurred regarding the possibility of making' a difference between radio and television regulations.[76] According to Garth Jowett, the corporate discourse also constantly reinforced the financial reality that television's development laid in enormous investments by large corporations.[77] RCA and other companies further insisted on the necessity to have a completely operative system at hand, including high-resolution cameras, studio sets and high quality receivers, before a public service would become possible, a position that distinguished the American industry from the German and British efforts to introduce television as soon as possible.[78]

The history of television's public presentation reflected this power grip by big corporations. In 1928, three firms displayed television at the New York Radio Show: General Electrics with a system developed by Ernst

71 Burns, *Television,* 283.

72 *Second Annual Report of the Federal Radio Commission to the Congress of the United States*, 1928. Online: https://www.fcc.gov/document/second-annual-report-federal-radio-commission-congress-1928 (accessed 28 February 2021).

73 Stern, 'Regulatory Influences', 347. See also Slotten, *Radio and Television Regulations,* Chapter 3, 'Competing for Standards: Television Broadcasting, Commercialization, and Technical Expertise, 1928–1941', 68–112.

74 Sewell, *Television in the Age of Radio,* 62–66.

75 See H. Stern, 'Regulatory Influences'; Stern, 'Television in the Thirties'; Garth Jowett, 'Dangling the Dream?'.

76 Stern, 'Regulatory Influences', 299.

77 Jowett, 'Dangling the Dream?'.

78 Udelson, *The Great Television Race*, 90–100. For a discussion of the discursive construction of 'quality' television in the interwar period, see Sewell, *Television in the Age of Radio*, 93–127.

Figure 1.10 General Electric's television exhibit at the 5th Annual Radio World's Fair, 1928. Source: George Rinhart / Corbis Historical via Getty.

Alexanderson,[79] a Swedish migrant who started his long and successful career as an electrical engineer at GE in 1902, the Daven Corporation of Newark, NY, and the Carter Radio Co. of Chicago, both forgotten today (Figure 1.10). Alexanderson's apparatus was again exhibited the following year, in a demonstration realized by RCA.[80] In 1930, the big corporations left the stage definitely to independent inventors such as Charles Francis Jenkins. When Jenkins published his first book *Vision by Radio, Radio Photographs, Radio Photograms* in 1925, he had already been president of the Society of Motion Picture Engineers for almost a decade. Next to his flourishing and diverse undertakings as an inventor in the field of motion pictures, he started work on radiotelegraphy and television in the early 1920s, presenting his first television in a laboratory test in July 1925.[81] Until his firm's dissolution in 1932,

79   Ernst F. W. Alexanderson (1878–1975) was a Swedish-American engineer with a major track record in early broadcasting technologies. His first television demonstration was held in 1927; around 1930, and due to the reorganization of GE and RCA, the funding for his television research was almost entirely cut in favour of Vladimir Zworykin's research team. Burns, *Television,* 407.
80   According to David A. Hollenback, Jenkins also presented television. My sources do not show any trace of this display. Hollenback, *Contributions*, 182.
81   Hollenback, *Contributions.* Udelson, *The Great Television Race,* 24–26.

Jenkins targeted the amateur market by organizing television construction contests, advertisement in magazines, and by his publishing business.[82] His participation at the Radio Show in 1930 was an extension of these activities allowing the company to promote its television kits and sets. At the radio show in 1931, the last fair with television demonstrations, Ulises A. Sanabria, an inventor from Chicago, organized large screen television projections.[83] The disappearance of television from the New York exhibition floor was thus mainly due to the disappearance of small television manufacturers and inventors, which, as I will discuss in relation to the Chicago World's Fair of 1933, coincided with the big corporation's takeover of the field (see Section 4.1).

1.2 Of Radio and Robots: Radio Fairs and Consumer Culture

From the early 1920s, radio fairs put on display new sound and communication technologies. The expositional gesture made devices available for mass audiences and provided an interpretative framework for apprehending technological change, particularly palpable during the 1920s and 1930s. The film industry's conversion to the talkies, the rise of national radio networks, and the development of powerful conglomerates pursuing research and commercial activities in the radio and recording industries as well as in the film and television sector, accelerated and mirrored the profound transformations in the way sound and images were produced and consumed.[84] Launched to publicize radio broadcasting and its industry, the radio shows informed, educated, and entertained visitors about these transformations, and constituted a central place where media consumers could apprehend new media, test their (projected) uses, and negotiate their relationship with audiovisual means of communication.[85] More often than not, this experience of technological artefacts was mediated by spectacle and entertainment, which highlighted the links between radio, exhibition, and consumer culture. Zooming in from the fairs' institutional history to the exhibition halls, this section focuses on the exhibits and their place in industrial consumer culture.

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82   See Jennifer Bannister Burton's discussion of Jenkins' commercial activities in Bannister *From Laboratory to Living Room,* 40–47.
83   On Sanabria and his collaboration with Western Television Corp., see Udelson, *The Great Television Race*, 69–70 and section 3.1.
84   Wurtzler, *Electric Sounds*; Crafton, *The Talkies*; Mühl-Benninghaus, *Das Ringen um den Tonfilm.*
85   Wurtzler, *Electric Sounds*, 119.

Entertaining the Crowds

Attended by Thomas A. Edison, Henry Ford, and Harvey Firestone, and musically accompanied by S.L. 'Roxy' Rothafel and his 'gang', the opening night of the 1928 New York Radio World's Fair was planned as a big party for all fairgoers.[86] Framing the display of new media devices including television, the opening evening reflected the role of the New York Radio World's Fair as a major event for radio enthusiasts and the general public alike. During the 1930s, the number of non-radio exhibitors continually increased at the New York fair, and new special days with particular focal points were introduced, from the Electrical Science Day to the Army and Navy Day, from the Ironer, Washer and Cleaner Day to the Police Day.[87] The multiple topics attracted a heterogeneous crowd consisting of housewives and curious children, future soldiers and electrical amateurs, broadcasting fans, and so forth. Large dance bands, 'Crystal Studios' for live transmissions, and the presence of prominent guests were all additional attractions securing the shows' success. With their displays of the newest wireless sets and other new technologies, the radio fairs had indeed the potential to seduce a broad target audience including the radio amateur and the expert, the family and the young couple, the listener and the buyer. The annual opening ceremonies and official dinners furthermore united industrial leaders, politicians, and the press.

This melange of celebrities and authorities, novelties and entertainment, together with the enthusiastic reports in the press, was a common feature in New York, London, and Berlin. The 1928 Berlin Funkausstellung received its visitors 'with a great flourish of trumpets'[88] and a lavishly staged opening ceremony that was attended by a large crowd of over one thousand guests.[89] Two years later, Albert Einstein was the star invitee, honouring the event with a discourse that was broadcast live and published as a transcript the next day in the press.[90] In London, BBC officials were regular guests. The event's entertainment value was highlighted in advertisements featuring singers and dancers; the 'dance

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86   Samuel 'Roxy' Rothafel was an influential film exhibitor during the silent film era and into the mid-1930s. In 1922, he further entered the radio business and became nationally known thanks to his show featuring 'Roxy and His Gang'. As Ross Melnick shows in a study of the persona, his work and life are particularly interesting for a historical analysis of media convergence (see also Section 1.3). Melnick, *American Showman*; 'World Radio Fair Will Open Monday'.

87   'A Day for Each Group'.

88   'Impressions of the Berlin Show'.

89   'Eröffnung der Funk-Ausstellung' (1928).

90   'Albert Einstein'.
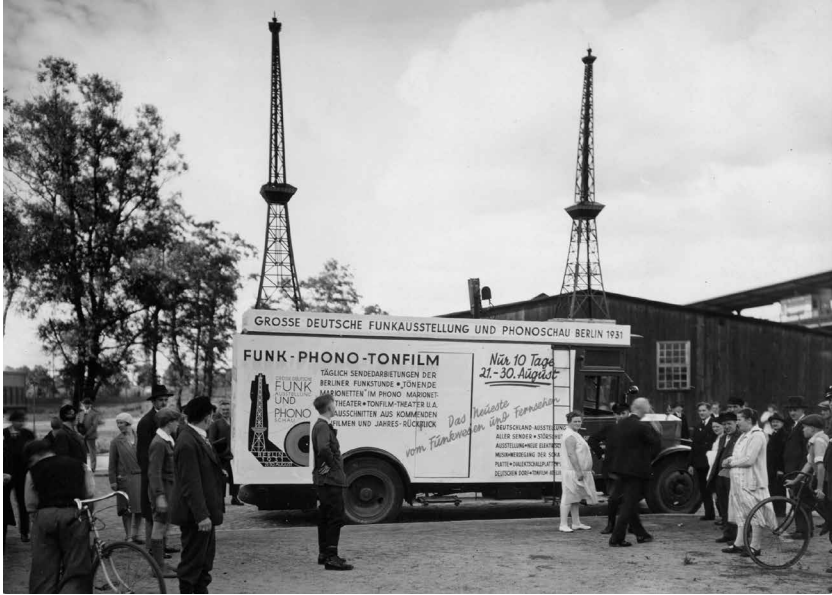
Figure 1.11. Mobile advertisement for the Berlin Funkausstellung in 1931. One of the inscriptions on the truck reads, 'The newest from radio broadcasting and television'. On the truck's roof are two models of the Berlin broadcasting tower to attract additional attention. Source: Stiftung Deutsches Rundfunkarchiv, Siemens und Halske.

floor' and, later, the 'broadcast theatre' offered live music and vaudeville acts and transformed the radio show into a temporary entertainment hub.

Promoted in the general and specialized press, the events were almost impossible to miss even for people not interested in wireless and broadcasting. The broad advertisement campaigns in the run-up to the shows and the continuous media coverage fostered public debate about the exhibits, allowing the fairs to take place not only inside but also outside the exhibition halls (Figure 1.11). The vast array of different spectacles was meant to invite a continuously growing audience and helped to build the radio fair's exceptional character as well as offering appealing programmes to listeners at home. Indeed, the collaboration between the two forms of mass media – exhibition and radio – was beneficial to both. On the one hand, the radio fairs provided the broadcasting medium with programme highlights that interrupted the everyday schedule with extraordinary broadcasts. The transmission from the fairgrounds anchored the ubiquitous medium in a 'here and now' that made immaterial broadcasts visible to the audience. On the other hand, radio supplied the fairs with stars, music, and glamour, and boosted their extraordinariness: the exhibitions displayed radio, and radio disseminated the exhibitions.

The radio fairs thus created a multimedia environment celebrating the products on display and entertaining the crowds that filled the halls. Unlike department stores or other selling venues, the fairs did not function as direct marketplaces: while the prices of goods were sometimes displayed, the radio exhibitions were mainly showcases for the new season's production where dealers could place orders and private clients could compare radio sets of every brand available. They nevertheless shared an essential quality of modern marketplaces by converting consumption into entertainment.[91] The entrance fee visitors had to pay for the fair (and occasionally for individual exhibits) enhanced the outstanding character of displays. The purchase of an admission ticket promised an experience that was more than the opportunity to window-shop for free: in charging a fee, the exhibitions resembled popular entertainment venues, such as cinemas or theatres, and were distinct from the freely accessible department stores. Frequent accounts of crowds flocking to the exhibition stands mirrored and simultaneously fostered the events' appeal to the masses. Newspaper reports with titles such as 'Television Thrills Radio Show Crowd',[92] and accounts of 'the continual jam of people who, during a spell of the hottest of hot weather, crowded into the television section of the wireless exhibition' [93] underscored the central role of the mass audience at such events.

The throngs of visitors surging into the exhibition halls often served as a visual backdrop in promotional materials circulated by exhibitors and in the press. During August and September, the covers of specialized journals colourfully illustrated people streaming into the halls of the national radio shows (Figure 1.12 and Figure 1.13). Projecting the exhibitions' success, the publications signalled the radio fairs' role in the sustainable development of a telecommunication market and enhanced the events' prestige for exhibitors and visitors alike.

Simultaneously, the crowds filling up the halls threatened the swift course of the exhibition by blocking gangways, damaging exhibits, or creating other chaotic conditions. One solution to remedy the impending chaos and to provide the visitor with some orientation was the publication of maps and schedules in official catalogues. Often, such maps were also published in the run-up to the fairs in radio magazines, allowing radio enthusiasts to prepare themselves for a most efficient visit. With the television exhibits becoming

91   Laermans, 'Learning to Consume', 92.
92   'Television Thrills Radio Show Crowd'.
93   'Television at the Berlin Exhibition' (1929).
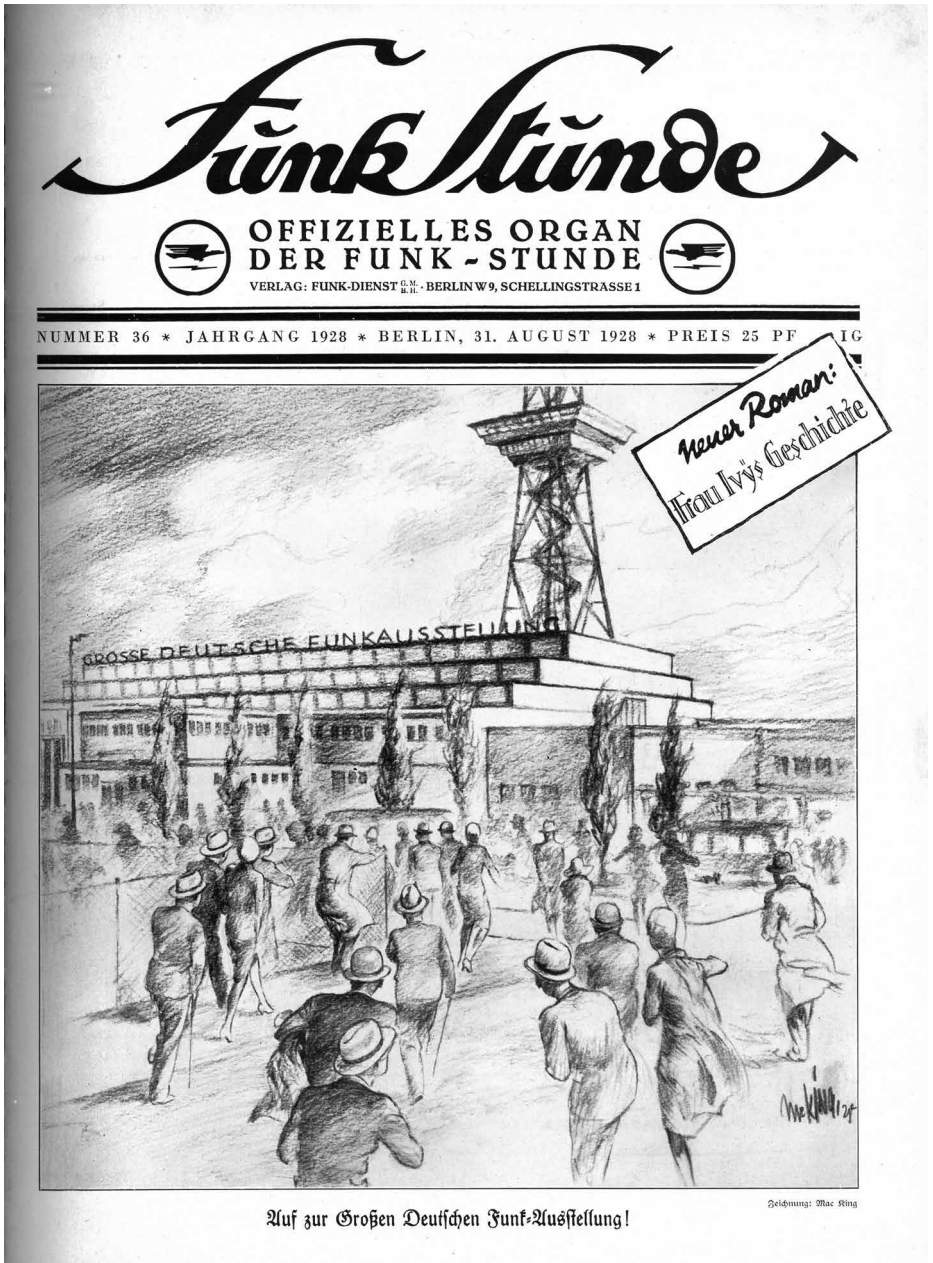
Figure 1.12. Crowds surging into the exhibition halls. Source: Cover of *Funk-Stunde* 36 (August 1928).

increasingly sophisticated in the mid-1930s, maps illustrating the 'correct' trajectory through the television hall were also made available. Such material contributed to an efficient visitor management and prevented congestion within the exhibition halls by communicating how to navigate the stands.

Figure 1.13. Crowds surging into the exhibition halls. Source: Cover of *Popular Wireless* 23 (19 August 1933).

Radio as a Consumer Durable

'Always an element of a compact mass',[94] the visitor was confronted with an equally compact mass of exhibits. Consequently, fairs were described as 'overwhelming' experiences affecting both body and mind.[95] The impression of being submerged with things to see, communicated through the description of the abundance of things shown, was a common feature of exhibition reports throughout the medium's history.[96] As a result of the profusion of exhibits, the radio fairs themselves expanded over the years, welcoming more and more goods and visitors. The growth of the exhibition mirrored the growth of radio as a broadcasting medium, whose rise in the interwar period was spectacular in all three countries here considered. Indeed, radio would become the first media technology and consumer durable to spread to middle-class as well as working-class households.[97] In England, nine million licences for radio sets were sold in 1939, which corresponded to almost one licence per five people.[98] In Germany, two million people had licences in 1928; in 1934 this number had doubled; by the end of the decade over eleven million possessed radio receivers in a population of around 65 million.[99] In the United States, finally, radio sets were available in about three-quarters of homes within about a decade after the medium's introduction.[100] Representing a new form of leisure, (virtual) mobility, and social interaction, radios brought technology into almost every living room at a moment when most homes, albeit equipped with electric light, were still not wired for electrical appliances.[101] As cinema historian Haidee Wasson has argued, radio sets were part of 'the entertainment industry's domestic

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94 Benjamin, 'Paris, Capital of the Nineteenth Century', 18.
95 'The Editor's Chat'. See also 'Die Funkausstellung zeigt' and Figure 2.4, which presents a caricature of Olympia 1928 in which the crowd tramples over a visitor trying to see the exhibit.
96 Grossbölting, *Im Reich der Arbeit*, 184.
97 Scott, 'Determinants of Competitive Success', 1303.
98 Briggs, *Golden Age*, 253.
99 Steiner, *Ortsempfänger, Volksfernseher und Optaphon*, Table 5.5, 365.
100 Bowden and Offer, 'Household Appliances and the Use of Time', 730.
101 In 1930, 68 per cent of US households were wired, but only 38 per cent in England. In 1939 the ratio was 68 per cent (USA) and 71 per cent (GB). See Bowden and Offer, 'Household Appliances and the Use of Time', 745. Electrical household appliances such as vacuum cleaners, while seeing a relatively quick diffusion in the United States, remained a luxury good in England and Germany throughout the interwar period. See Bowden and Offer, 'The Technological Revolution That Never Was'; Bowden and Offer, 'Household Appliances and the Use of Time'. On Germany, see Hessler, *"Mrs. Modern Woman"*. On the United States, see also Cowan's classical work *More Work for Mother*.

Figure 1.14. Farm family listening to radio programme, c. 1924. Source: GE Photograph Collection, by courtesy of miSci, Museum of Innovation and Science.

agenda'[102] and habituated individuals of all social classes, regardless of their gender, to the use of technological artefacts within their intimate family spaces.

Bringing technologically mediated amusement into the home, radio contributed to the blurring of private and public spheres and disrupted traditional social dynamics.[103] As much as the motor vehicle and, later, television or home cinema, radio created and symbolized connectedness, movement, and global communication,[104] and prepared the family for the simultaneously 'mobile and home-centred living' made possible by consumer technologies.[105] The introduction of radio and other means of mechanized amusement into domestic space, however, depended on their acceptance by all members of the family. While the first radio sets in the early 1920s

102 Wasson, 'Electric Homes!', 4.
103 Spigel, *Make Room for TV*, 11–35; Wasson, 'Electric Homes!'; Boddy, 'Archaeologies of Electronic Vision'.
104 Popp, 'Machine-Age Communication'. See also Fickers and Griset, *Communicating Europe,* 331–366. On home cinema and its link with radio and television, see Rogers*, On the Screen.*
105 Williams, *Television*, 19.

resembled scientific instruments and required some technical knowledge to function (Figure 1.14), by 1928 they had become part of the everyday furniture of the living room.[106] The mechanical components were hidden in well-designed cabinets whose purpose was sometimes not immediately recognizable. The headphones necessary for early radio sets were replaced by loudspeakers that enabled mobile listening and 'semi-distracted attention', which would rapidly symbolize modern listening practices.[107] Made simpler and thus more accessible to men, women, and children, the sets were meant for a mass market.[108] Furthermore, radios were among the first consumer goods to quickly and widely adopt new designs, bringing 'the modern style' into the home.[109] The radio sets' innovative aesthetics replaced technical progress as a sales argument and promoted modernity for the domestic space. Mass production required mass distribution and therefore renewed product offers for a market constantly threatened by crises and overproduction: 'stylistic obsolescence'[110] – fashion for consumer goods – became a necessity. With regard to England, historian of architecture Adrian Forty has argued that radio sets offered for many consumers an introduction to modernist styles (Figure 1.15).[111] Similarly, radio historian Ralf Ketterer observes that German receivers carried out the ideas of 'good taste' by following two main directions – the ornamental art deco style and the Bauhaus-inspired modern functionalist design,[112] proposing 'vernacular' as well as 'high' modernisms for the home.[113]

As I will discuss more extensively in Chapter 6, the introduction of radio, and later television, into domestic space called for a new gendering of media devices: the commercialization of radio as a modern mass durable partly relied on its appeal to women. The modern radio cabinet was thus much more than just a box concealing its technological core, but rather functioned as a 'mediating interface' between production and consumption spaces that reflected as well as reinforced social and cultural norms.[114]

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106 Neuburger, 'Möbel oder nicht Möbel?'. See also Lenk, *Die Erscheinung des Rundfunks*, 110–119; Ketterer, *Funken-Wellen-Radio*.

107 Boddy, 'Rhetoric and Economic Roots', 44. Concerning the use of headphones vs. loudspeakers, see also Führer, 'A Medium of Modernity?', 731–742.

108 Boddy, 'Rhetoric and Economic Roots', 41–42.

109 Forty, 'Wireless Style'.

110 Meikle, *Twentieth Century Limited*, 16.

111 Forty, 'Wireless Style', 24.

112 Ketterer, *Funken-Wellen-Radio*.

113 Hansen, 'Mass Production of the Senses'.

114 I borrow the term 'mediating interface' from Andreas Fickers. I will elaborate on it in more detail in Chapter 6.

Figure 1.15. Women with an Ekco portable radio, Radiolympia, 1935. Source: Daily Herald Archive / Science Museum Group.

If radio fostered the expansion of the consumer culture and the transformations of private space into a realm for leisure, it also was central to the political formations in the interwar period. Democratic and totalitarian regimes recognized the value of broadcasting for the political, social, and cultural life of a nation, and thus the importance of a centralized control. Radio's role for interwar societies is particularly loaded in the case of Germany. Radio undoubtedly was the National-Socialists' chosen means of propaganda,[115] and the party had started building its influence on radio organizations and institutions as early as 1930.[116] In January 1933, centralizing its power, the new regime integrated the medium into the Ministry of Propaganda.[117] It was recognized that direct indoctrination via political programmes might estrange listeners, and entertainment programming was rapidly established as an indirect means of ensuring the audience's approval.[118] Because it could

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115 Herbst, *Das nationalsozialistische Deutschland,* 85; Diller, *Die Rundfunkpolitik im Dritten Reich.*
116 König, *Volkswagen*, 26.
117 For a detailed history of National-Socialist radio institutions, see Diller, *Die Rundfunkpolitik im Dritten Reich.*
118 König, *Volkswagen,* 30; Schildt, 'Das Jahrhundert der Massenmedien', 198–199.

reach out to all Germans, broadcasting was fundamental to the political vision Joseph Goebbels conjured up at his opening speech at the 1933 Funkausstellung: 'One Volk, one Reich, one will and a better German future.'[119] Through 'the simulation of presence and participation at emotionalized stagings of NS-community', radio was meant to contribute in essential ways to the consolidation of the *Volksgemeinschaft*, the mythical community at the core of the nationalistic imagination of National Socialism.[120]

In addition to mastering control of every aspect of the radio programme, the National-Socialists instrumentalized the apparatus itself. Promising a receiver for every family, the regime incited the production of the so-called *Volksempfänger*, a people's radio set.[121] A cheap device mass-produced by German industry under governmental guidance, the *Volksempfänger* promised to bring the Führer's voice into every household. Access to consumer goods, and in particular to radio, was supported by the Nazis for strategic and sociopolitical reasons: consumption not only for the wealthy but for every member of the *Volksgemeinschaft* would foster social cohesion across class and regions. Simultaneously, excluding non-Aryans from participation, this form of consumer society segregated communities and reinforced the racist ideology at the core of the National-Socialist project. On the one hand a typical product of industrial modernity, the *Volksempfänger*, on the other hand, also symbolized the integration of seemingly nonpolitical, and private, spaces into a network of signifiers organized around the idea of the Volk and its Führer.[122]

The Unexceptionality of Exceptional Machines

Next to the presentation of actual consumer durables – the newest radio sets and their accessories – the radio fairs revealed modern science and its many prototypes and singular innovations, creating an environment filled with sensational objects and novel machines. Maybe even more than the modern, stylish radio sets, it was the display of technological novelty that

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119 "Ein Volk, ein Reich, ein Wille und eine schönere deutsche Zukunft.".
120 Marssolek, 'Radio Days', 30–31. As an example for such *mises en scène*, Inge Marssolek mentions the nationally transmitted celebrations for May Day. Marssolek also underlines that the notion *Volksgemeinschaft* was not a Nazi invention but had circulated before in conservative milieus. See von Saldern, '*Volk* and *Heimat* Culture'.
121 For a history of the people's set see König, *Volkswagen*. For a description of the people's set from the perspective of design history, see Selle, *Geschichte des Design*, 200–202.
122 Schmidt, 'Der Volksempfänger'. On the role of the Führer as the central identificatory figure, see Ross, *Media and the Making of Modern Germany*, 309–311.

assured that the radio fairs would remain the 'brightest and gayest party'[123] for the industry. The number of exceptional artefacts shown in Berlin, London, and New York grew almost annually and enhanced the impression of never-ending technological advance. The crowds filling the exhibition halls came to experience these sensational devices and paid the entrance fee to discover the 'mechanical Robots [*sic*], gimcracks, spectacular features and historical displays'.[124] The 'novelty gadgets' were as varied as the cabinets of new radio sets, and represented, seemingly 'naturally', yet another proof of the innovative potential of the telecommunications industries:

> There were numerous novelty gadgets that counted the customers who took circulars, electric signs that blinked when a flashlight was directed at a concealed light-sensitive cell, a floor lamp that obligingly went out if you told it to and lighted up again as readily if properly addressed, a bantam automobile that started, stopped or blew its horn on request, a peep-show movie of audio frequency waves, an automaton knight in full armor that addressed you pleasingly if the proper light beam was intercepted and many others of a similar nature.[125]

This celebration of newness and modernity was further stimulated by the presence of record-breaking machines:

> The world's largest radio receiver, seven feet long and fourteen tubes in power [...] The mammoth Tesla coil whose four-feet spark thrilled visitors to the show / Gigantic tuning chart used to illustrate accuracy of remote control device.[126]

Shown at the 1930 Funkausstellung, a huge loudspeaker 'disguised as a drum' was sufficiently noteworthy to appear on the pages of the British publication *Popular Wireless*.[127] In 1935 at Radiolympia, a 'wonderful robot' called Telepathovox was one of the 'outstanding features of the exhibition'.[128] Displayed at the Marconiphone stand, he was bigger than life-size, had human features, and was able to answer questions from spectators.[129] At

123 'Big Money Radio Show'.
124 'Off to a Flying Start'.
125 'Off to a Flying Start'.
126 'Show Highlights in Picture'.
127 'Seen at the Show'.
128 The "Telepathovox"'.
129 'Mystery Radio Brain'.

the end of the decade, it would be Westinghouse's 'Elektro' that would spark enthusiasm with the crowds visiting the New York World's Fair. These robots and other original artefacts were not destined for the market since they were not consumer goods per se. Their function was to demonstrate the potential of modern science and of industrial knowledge, and to accompany as entertainment the actual commodities on display. Despite the absence of any direct use value, they were a fundamental part of the radio industry's promotional strategies: they materialized the supposedly infinite potentialities of telecommunication and its various applications. They helped convert scientific objects into attractions for the masses, mirroring the affinities between science, consumption, and spectacle in the interwar period.

In his 1939 essay 'Paris, the Capital of the Nineteenth Century', Walter Benjamin argued that world's fairs 'glorify the exchange value of the commodity' over its actual use value. 'World exhibitions', he stated, 'provide access to a phantasmagoria in which a person enters in order to be distracted'.[130] Referring to Benjamin's lecture of Marx's concept of commodity fetishism, Anne Friedberg suggests the notion of 'commodity-*experience*' in order to underscore the essential immaterial characteristics that commodities take on at such celebrations of modern consumer society. Instead of selling actual goods, commodity-experiences, Friedberg pointedly states, satisfy, 'as Marx would have it, the imagination, not the stomach'.[131] Robots and gigantic loudspeakers – as well as television – stimulated the imaginations of fairgoers probably even more than did the already familiar radio sets: they offered precisely the kind of commodity-experience that constituted the core of the entertainment industry.

The radio shows thus provided meaningful interpretations of different artefacts and habituated the public further to their role as spectator-consumers. The distinction between scientific production and popular mass culture collapsed; scientific innovation was presented as synonymous with spectacular novelty and progress untouched by the economic crises that marked the end of the 1920s and the 1930s. More broadly speaking, the various exhibits at the radio fairs, as well as the events themselves, performed modernity in various ways: they testified to recent processes of industrial and media consolidation, of rationalization and standardization, and of political oversight (if not appropriation) of modern means of communication; they promoted modernist design and helped shape consumption as a multisensory experience; they gave a sense of the future by presenting avant-garde devices and designs; they

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130 Benjamin, 'Paris, Capital of the Nineteenth Century', 18.
131 Friedberg, *Window Shopping*, 55.

offered spectacles for the masses that circulated in other media such as radio and the press; and they helped mediate domesticity by creating images of modern families and households. The shaping of television as a new medium took place within this context of entertainment, consumption, and politics.

1.3   Television Between Radio and Sound Film: Media Convergence Displayed

In addition to radio and robots, the fairs presented numerous other devices for private and public media consumption. New and not so new media were displayed together, revealing to visitors their belonging to same industrial spaces. In this light, the exhibition was an important site for what Ross Melnick has described as the 'first wave of media convergence'[132] in the 1920s and 1930s. The emergence of sound film, in particular, further interconnected radio, music, and the film industry, and created a 'convergence culture'[133] that reflected the absorption of mass media within a transnational economy, where a few media corporations controlled a variety of media forms, and media content travelled among various platforms.[134]

Presenting broadcasting institutions, radio manufacturers, and music performers, the radio fairs highlighted the interdependence of these fields of commercialized acoustics; in New York, the inclusion of refrigerators and air-conditioning units connected the sound industry to the manufacturers of electrical appliances of all kinds, and emphasized radio's belonging to the domestic consumer sphere.

Domestic, Bidirectional, Large-Screen Television

While not (yet) participating in the mass distribution of content, television offered a lively illustration of this convergence context. Imagined with multiple uses and within multiple reception contexts, the medium's manifold devices pointed to its affinity with other communication technologies. Indeed, a striking particularity of interwar television was its multiple intermedia links with the broader mediascape. First, receivers for home use

132 Melnick, *American Showman*, 2.
133 Jenkins, *Convergence Culture*. The notion of 'media convergence' is mainly used by scholars working on digital 'new media'. For historical studies, see Thorburn and Jenkins, *Rethinking Media Change*; Staiger and Hake, *Convergence Media History*; Balbi, 'Deconstructing "Media Convergence"'; Rogers, *On the Screen*.
134 Wurtzler, *Electric Sounds*, in particular Chapter 1, 19–69.

Figure 1.16. Large-screen theatre television projection by RCA, 1941. Source: RCA News and Information Department photographs (Accession 2464.68). AVD04, Folder 10 Theater TV, 1941, Hagley Museum and Library..

prefigured a televisual consumption of television programmes in the private space, which was explicitly conceived as an expansion of radio reception and content. Second, combined with a telephone, television became a medium of bidirectional communication (See Figures 3.15 and 5.9). Third, television on big screen was developed from 1927 onwards by most laboratories and offered the experience of collective entertainment, in particular cinema (Figure 1.16). Lastly, alternative forms of collective television were developed in Germany and the USA, including the public address system used for the transmission of speeches to large crowds (See Figure 3.6).

A most telling example of the display of televisual convergence is offered by the Berlin Funkausstellung in the late 1920s and early 1930s, when television and sound film technologies were both introduced in the exhibition space. Of mixed origins, the apparatuses exposed convergence in their material assemblage and conceptual design. In 1928, for its first television display at the Berlin fair, Telefunken prepared two technological novelties for the visitors to its exhibition booth (Figure 1.17). Materializing

'the future' [135] of the radio industry, the two exhibits promised new ways of seeing and hearing at a distance. The 'television Karolus', named after its inventor August Karolus[136] who had developed the apparatus in collaboration with the corporation's laboratories, was praised as 'the ultimate stage in the development of picture telegraphy'.[137] Its transmitter enabled slides and film excerpts to be broadcast via wire over a short distance; on the receivers' end, visitors saw a screen of 8 cm² in size and a projector that could enlarge the televisual image up to 75 cm².[138] 'This is how pictures can be made accessible to a certain number of persons at a time',[139] a German scientific journalist wrote for the British *Television* journal. In the immediate vicinity of this technological attraction, the second technological novelty was exhibited: the *Gleichlaufkino* ('synchronized cinema') combined radio broadcasting with cinema and could 'show the same movie simultaneously in any number of places and in exact synchronicity with the acoustic component'.[140] A lecturer, standing in front of a microphone and a cinema screen, commented live on the projected silent film; his speech was transmitted wirelessly to affiliated movie theatres.

The two devices' spatial contiguity within Telefunken's exhibition booth reflected their shared roots in the scientific and industrial laboratories of the corporation (Figure 1.17). It also translated their proximity as hybrid and heterogeneous artefacts whose media identity was not characterized by specificity, but, on the contrary, by conceptual impurity and technological assemblage. The Karolus television, compared in the press to picture telegraphy and transmitting pre-recorded still or moving images, was conceived for individual and collective reception. Also called *Fernkino*[141] ('telecinema'),

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135 'Die Schau der neuen Möglichkeiten'.
136 August Karolus (1893–1972) was a German physicist and engineer who demonstrated in 1924 his first television experiments. In the following years he developed international activities with the General Electric Company, among others. In 1926, he became professor at the Institute for Applied Electronics in Leipzig, where he remained until the end of WWII, continuously working on television projects, including theater television. In 1946, he moved to Zurich working as a consulting engineer before accepting a professorship at the University of Freiburg. See Walther Gerlach, 'Karolus, August' in: Neue Deutsche Biographie 11 (1977), https://www.deutsche-biographie.de/pnd118746952.html#ndbcontent (accessed 25 July 2021).
137 Neuberger [Neuburger], 'Karolus System of Television'. The British journal misspells the author's name, writing *Neuberger* instead of *Neuburger*. The former was to become a famous medical researcher, Neuburger was a scientific writer and editor of the *Elektrochemische Zeitschrift*, among other publications. He died 1943 in Theresienstadt.
138 Jilberg, 'Ein Jahrzehnt Bildtelegrafie und Fernsehen'.
139 Neuberger [Neuburger], 'Karolus System of Television', 35.
140 Schröter, 'Versuche zur optischen Ergänzung des Rundfunks'.
141 'Was bringt die Deutsche Funkausstellung 1928?'

Figure 1.17. Telefunken at the 1928 Funkaustellung: on the right the entrance to the Gleichlaufkino; on the left the entrance to the television demonstration. Source: Stiftung Deutsches Rundfunkarchiv.

its various descriptions referred only vaguely to the commonly accepted definition of television as a domestic media for (live) transmission at a distance. Synchronized cinema, on the frontier between silent and sound film and already obsolete when displayed for the first time,[142] combined the recorded film image with the presence of a radio voice. The voice-over complementing the projected image guaranteed the immediacy of the performance and, through its broadcast to affiliated movie theatres, created a live audience participating in an event that went well beyond any single theatre's walls. Both devices thus transgressed the borders of familiar media genealogies – film, television, radio – and questioned all too simple media definitions.[143]

Television's Fundamental Hybridity

On an even broader scale, this convergence culture was explicitly staged at the 1930 and 1931 editions of the Funkausstellung dedicated to radio

142 The 1928 edition of the Berlin Funkausstellung included for the first time a projection of a sound film, namely Walter Ruttmann's lost *Tönende Welle*. See Ruttmann, 'Prinzipielles zum Tonfilm'.

143 A more successful example of the convergence of television and cinema technologies is the intermediate film system, that combines a cinematographic apparatus and a televisual device. See Weber, 'Recording by Film'.

and sound film.[144] Renamed for these occasions to Grosse Deutsche
Funkausstellung und Phonoschau Berlin (Great German Radio and Phono
Fair) the fair testified to the collaboration between the broadcasting and
recording industries and included exhibitions dedicated to the history and
contemporary development of sound recording, sound film, and radio. The
1930 edition integrated the special exhibitions, 'Voices of the people', 'Voices
of our time' and 'History of the acoustic industry',[145] presenting, among other
things, ethnological recordings[146] and recordings with 'vocal portraits of
world importance' (featuring, for example, the late President of the Weimar
Republic Friedrich Ebert as well as Thomas Edison).[147] Educating its visitors
about the past of radio broadcasting and communication technologies, the
exhibition highlighted the various media possibilities in transcending space
and time by collapsing geographical and historical distances.

In 1931 the sound film industry organized a special exhibition whose
goal was 'to develop and improve the understanding of the audience for
the talkies and for the complicated course of their production'.[148] Seeking
to attain a broad, technically interested public, the sound film industry
counted on the radio show for the introduction of a (non-broadcasting)
new medium, while simultaneously highlighting 'the close links between
the sound film industry and the electro-acoustic industry'.[149] The catalogue
explained how radio, gramophone, sound film, and eventually television
were all part of an identical industrial and commercial field:

> Through the talkies, the recording industry has experienced a very sud-
> den new boom. The sound film itself consumed records on a large scale
> for sound-on-disc movies. However, the sound film is also the biggest
> propagandist for the record industry. The birthplace of the latest hit
> is the sound film, thanks to the record it becomes broadly distributed
> [...]. The German *Reichspost* has been busy for years broadcasting films
> wirelessly. Theoretically, this problem has long been solved. Like language,
> the movie is decomposed, and the individual elements are broadcast. The
> working television sets displayed at the exhibition reveal the degree to
> which laboratory experiments are well advanced today. The simultaneous

144 For a study of the introduction of sound film in Germany and a discussion of industrial
convergence, see Mühl-Benninghaus, *Das Ringen um den Tonfilm*.
145 Bressler, *Von der Experimentierbühne zum Propagandainstrument*, 324.
146 'Was wir in Witzleben sehen und hören werden'.
147 'Was wir in Witzleben sehen und hören werden'.
148 K.M., 'Sonderschau des Tonfilms'.
149 Plugge, 'Tonfilmtheater, Tonfilmherstellung und Fernsehen'.

transmission of images and sound poses no more trouble [...]. The smooth
transmission of sound films via radio is therefore only a matter of time.[150]

Radio, gramophone, sound film, and television not only belonged to the
same industries, they mutually promoted each other's existing through
their own content and technologies. These interconnections were not veiled
but, on the contrary, explained to visitors in film screenings, in catalogues,
and to the press.[151]

From this perspective, the history of television is closely intertwined with
the history of sound technologies.[152] As I will further discuss in the third
Chapter (Section 3.2), media archaeological approaches investigating the
nineteenth-century origins of television have underlined the predominance
of non-visual media, and in particular the telephone, for the medium's early
conception. In the interwar period, this affinity between television and
non-visual media was continued and affirmed by *radio* shows introducing
television on display.

The convergence economy and convergence culture displayed at the fairs
raises historiographical questions about media identity since they highlight
interdependences and entanglement, rather than singular media forms.
Two-way television, but also large-screen devices and public address systems,
were a perfect expression of this convergence, and perhaps materialized
more than anything else this historical moment of the first wave of media
convergence. Historians of television attentive to the medium's flexibility
have revised the common definition of a domestic live medium and argued
that television's essence – if there is such a thing – would be its 'constant
transformation' [153] as a technology and a cultural form. Their research shows
that television's 'highly instable' [154] identity in the age of digitization only
reflects its fundamental and historically uninterrupted adaptability, for
which interwar television offers a particularly telling example. From this
perspective, interwar television's hybridity at both the technological and

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150 Plugge, 'Tonfilmtheater, Tonfilmherstellung und Fernsehen', 43–44.
151 Examples of this emphasis on convergence are numerous. To name but one, a *New York Times*
headline in 1935 underscored, rather than masked, intermediality and hybridity: 'Theatres, Movies
and Radio Are All Changing and Each is Borrowing Talents and Theories from the Others'. In
this double-paged article, critic Lewis Nichols laid out the various ways these media and their
makers interacted economically, socially, and textually. Instead of promoting a media-specific
approach, he highlighted the encounter between Broadway and Hollywood. Nichols, 'A White
Way Revolution'.
152 For an in-depth discussion of this argument, see Stadel, *Television.*
153 Keilbach and Stauff, 'When Old Media Never Stopped Being New', 80.
154 Uricchio, 'Television's Next Generation', 166.

conceptual levels was less the sign of its 'early' phase during which it still searched for a definitive identity, than a fundamental trait of television's specificity, characterized not by singular form but by its malleability, adaptability, and hybridity – an idea I will get back to in the book's Epilogue.

By presenting the multitude of modern mass media and media technologies and by highlighting their links, the exhibition spaces made television's 'electric affinities' visible and comprehensible to visitors. However, for fairgoers, understanding that televisual research was intrinsically linked to the emerging sound film industry did not necessarily imply understanding what to think about, what to expect from, or, eventually, how to use the televisual technology. The shaping of television as, ultimately, a domestic medium required its embedding within various discourses and practices, to which I will turn in the chapters that follow.

Works Cited

Aldridge, Mark. *The Birth of British Television: A History* (New York: Palgrave Macmillan, 2011).

Anon. 'Seek to Consolidate Two Fall Radio Shows'. *The New York Times*, 30 May 1926.

Anon. 'Only One Radio Show'. *The New York Times*, 22 June 1926.

Anon. 'Television Sets for Sale. New Department at Selfridge's'. *The Times*, 21 February 1928.

Anon. 'Was bringt die Deutsche Funkausstellung 1928?'. *Schweizerische Radiozeitung / Radio-Bern* 5, no. 35 (1928): 565.

Anon. 'Eröffnung der Funk-Ausstellung. Der Festakt am Kaiserdamm'. *B.Z. am Mittag*, 31 August 1928, cover page.

Anon. 'Die Schau der neuen Möglichkeiten. Vergangenheit, Gegenwart und Zukunft an der Funk-Ausstellung'. *B.Z. am Mittag*, 1 September 1928.

Anon. 'Impressions of the Berlin Show'. *The Wireless World* 13, no. 11 (12 September 1928): 306–310.

Anon. 'World Radio Fair Will Open Monday'. *Evening Post*, 15 September 1928.

Anon. 'Television Thrills Radio Show Crowd'. *The New York Times*, 21 September 1928.

Anon. 'Television at the Berlin Exhibition', *Television: The World's First Television Journal* 2, no. 21 (October 1929): 379–389.

Anon. 'Show Highlights in Picture'. *The New York Sun*, 28 September 1929.

Anon. 'Die grosse Londoner Radio-Ausstellung'. *Schweizerische Radiozeitung / Radio-Bern* 6, no. 41 (4 October 1929): 539.

Anon. 'Seen at the Show'. *Popular Wireless* 17, no. 432 (13 September 1930): 736.

Anon. 'Londoner National Radio Exhibition 1930'. *Radio Berlin* 8, no. 19 (1930): 914.

Anon. 'Die Funkausstellung zeigt… Eine Gebrauchsanweisung'. *B.Z. am Mittag*, 8 August 1930.

Anon. 'Albert Einstein'. *Funk-Stunde* 1930, no. 33 (15 August 1930), cover page.

Anon. 'Facts about the Radio World's Fair'. *The New York Sun*, 20 September 1930.

Anon. 'Off to A Flying Start'. *Radio Retailing* 12, no. 4 (October 1930): 44–45, 71.

Anon. 'Was wir in Witzleben sehen und hören werden'. *B.Z. am Mittag*, 21 August 1930.

Anon. 'Television Demonstrated in Store Window'. *Television News* 1, no. 6 (January- February 1932): 435.

Anon. 'A Day for Each Group'. *The New York Sun*, 16 September 1933.

Anon. 'Radio Exposition Opens at Garden'. *The New York Sun*, 20 September 1933.

Anon. 'Special Exhibits'. In *Radiolympia. National Radio Exhibition 1934: Official Catalogue* (London: Radio Manufacturers' Association, 1934): 160.

Anon. 'The "Telepathovox"'. *Popular Wireless and Television Times* 27, no. 691 (August 1935): 694.

Anon. 'Mystery Radio Brain'. *Daily Herald*, 18 August 1935.

Anon. 'The Editor's Chat'. *Wireless and Television Review*, Special Exhibition Number 2, no. 9 (August 1935): 3.

Anon. 'Special Exhibits'. In *Official Catalogue of the National Radio Exhibition, Olympia* (London: Radio Manufacturers' Association, 1936): 154.

Anon. 'Am Pavillion unter dem Volkssender: Bielefelder spielten für den Volkssender'. *Westfälische Neuste Nachrichten*, 2 September 1936.

Anon. 'Radio Show Ends: New Records Set'. *The New York Times*, 20 September 1936.

Anon. 'Big Money Radio Show'. *Daily Herald*, 25 August 1937.

Balbi, G. (2017). 'Deconstructing "Media Convergence": A Cultural History of the Buzzword, 1980s–2010s'. In *Media Convergence and Deconvergence*, edited by Sergio Sparviero, Corinna Peil, and Gabriele Balbi (London and New York: Palgrave Macmillan), 31–51.

Bannister, Jennifer Burton. 'From Laboratory to Living Room: The Development of Television in the United States, 1920–1960'. Ph.D. Carnegie Mellon University, 2001.

Beauchamp, Kenneth Georg. *Exhibiting Electricity*. (London: IET, 1997).

Benjamin, Walter. 'Paris, Capital of the Nineteenth Century' Exposé of 1939. In *The Arcades Project*, translated by Howard Eiland and Kevin McLaughlin (Cambridge; London: The Belknap Press, 1999), 14–26.

Boddy, William. 'The Rhetoric and Economic Roots of the American Broadcasting Industry'. *Cinetracts* 6, no. 2 (1979): 37–54.

Boddy, William. 'Archaeologies of Electronic Vision and the Gendered Spectator'. *Screen* 35, no. 2 (1994): 105–122.

Bowden, Sue, and Avner Offer. 'Household Appliances and the Use of Time: The United States and Britain Since the 1920s'. *Economic History Review* 47, no. 4 (1994): 725– 748.

Bowden, Sue, and Avner Offer. 'The Technological Revolution That Never Was: Gender, Class, and the Diffusion of Household Appliances in Interwar England'. In *The Sex of Things: Gender and Consumption in Historical Perspective*, edited by Victoria de Grazia and Ellen Furlough (Berkeley: University of California Press, 2008), 244–274.

Bressler, Eva Susanne. *Von der Experimentierbühne zum Propagandainstrument. Die Geschichte der Funkausstellung von 1924 bis 1939* (Cologne: Böhlau, 2009).

Briggs, Asa. *The History of Broadcasting in the United Kingdom. Volume II: The Golden Age of Wireless* (Oxford: Oxford University Press, 1995).

Bull, William. 'A Message from the Rt. Hon. Sir William Bull, Bt., F.S.A.'. In *Official Catalogue of the National Radio Exhibition, Olympia, 1929* (London: Radio Manufacturers' Association, 1929), 13.

Burns, Russell W. 'The History of Television for Public Showing in Cinemas in the United Kingdom'. *IEE Proceedings* 132, no. 8 (1985): 553–563.

Burns, Russell W. 'The Contributions of the Bell Telephone Laboratories to the Early Developments of Television'. *History of Technology* 13 (1991): 181–213.

Burns, Russell W. *British Television: The Formative Years* (London: Institution of Electrical Engineers, 1986).

Burns, Russell W. *Television: An International History of the Formative Years* (London: Institution of Electrical Engineers, 1998).

Burns, Russell W. *John Logie Baird, Television Pioneer* (London: Institution of Electrical Engineers, 2000).

Callisthenes. 'Television. First Public Demonstration'. *The Times*, 24 March 1925.

Cowan, Ruth Schwartz. *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1999).

Crafton, Donald. *The Talkies: American's Cinema Transition to Sound, 1926–1931* (Berkeley: University of California Press, 1999).

Deblüë, Claire-Lise. *Exposer pour exporter : culture visuelle et expansion commerciale en Suisse (1908–1939)*. (Neuchâtel, Switzerland: Éditions Alphil-Presses Universitaires Suisses, 2015).

Diller, Ansgar. *Rundfunkpolitik im Dritten Reich*, vol. 2 of series *Rundfunk in Deutschland*, edited by Hans Bausch (Munich: Deutscher Taschenbuch Verlag, 1980).

Dunlap, Orrin E. 'Varied News and Comment Heard at the Radio Shows'. *The New York Times*, 20 September 1925.

Eckersley, Peter P. 'What I Thought of the Show'. *Popular Wireless* 18, no. 434 (4 October 1930): 153–154.

Fickers, Andreas, and Pascal Griset. *Communicating Europe: Technologies, Information, Events*. Making Europe (London: Palgrave Macmillan UK, 2019).

Forty, Adrian. 'Wireless Style: Symbolic Design and the English Radio Cabinet 1928 1933'. *Architectural Association Quarterly* 4 (1972): 22–31.

Friedberg, Anne. *Window Shopping: Cinema and the Postmodern* (Berkeley: University of California Press, 1994).

Führer, Karl Christian. 'A Medium of Modernity? Broadcasting in Weimar Germany, 1923– 1932'. *Journal of Modern History* 69, no. 4 (1997): 722–753.

Galili, Doron. *Seeing by Electricity: The Emergence of Television, 1878–1939* (Durham, NC. Duke University Press, 2020).

Geddes, Keith, with Gordon Bussey. *The Setmakers: A History of the Radio and Television Industry* (London: British Radio & Electronic Equipment Manufacturers' Association, 1991).

Geppert, Alexander C.T., Jean Coffey and Tammy Lau. *International Exhibitions, Expositions Universelles and World's Fairs, 1851–2005: A Bibliography*. https://library.fresnostate.edu/sites/all/assets/doc/scrc/worldfairs/ExpoBibliography3ed.pdf (accessed 28 February 2021).

Geppert, Alexander C.T. 'Welttheater: Die Geschichte des europäischen Ausstellungswesens im 19. und 20. Jahrhundert. Ein Forschungsbericht'. *Neue politische Literatur* 47, no. 1 (2002): 10–61.

Geppert, Alexander C. T. *Fleeting Cities: Imperial Expositions in Fin-de-Siècle Europe* (New York: Palgrave Macmillan, 2010).

Greenhalgh, Paul. *Ephemeral Vistas: The Expositions Universelles, Great Exhibitions and World's Fairs, 1851–1939* (Manchester University Press, 1988).

Grossbölting Thomas. *'Im Reich der Arbeit': Die Repräsentation gesellschaftlicher Ordnung in den deutschen Industrie- und Gewerbeausstellungen 1790–1914* (Munich: Oldenbourg, 2008).

Hansen, Miriam. 'The Mass Production of the Senses: Classical Cinema as Vernacular Modernism'. *Modernism/modernity* 6, no. 2 (1999): 59–77.

Herbst, Ludolf. *Das nationalsozialistische Deutschland 1933–1945* (Frankfurt am Main: Suhrkamp, 2005).

Hessler, Martina. *'Mrs. Modern Woman': Zur Sozial- und Kulturgeschichte der Haushaltstechnisierung* (Frankfurt: Campus-Verlag, 2001).

Hirosé, Arthur P. 'What the Wise Dealer Will Sell this Year'. *Radio Retailing* 17, no. 2 (February 1933): 14–15.

Honeycombe, Gordon. *Selfridges: Seventy-Five Years: The Story of the Store, 1909–1984* (London: Park Lane Press, 1984).

Jenkins, Henry. *Convergence Culture: Where Old and New Media Collide* (New York: New York University Press, 2008).

Jilberg, W. 'Ein Jahrzehnt Bildtelegrafie und Fernsehen Telefunken–Karolus'. *Telefunken-Zeitung* 14, no. 65 (November 1933): 18–19.

Jowett, Garth. 'Dangling the Dream? The Presentation of Television to the American Public, 1928–1952'. *Historical Journal of Film, Radio and Television* 14, no. 2 (1994): 121–145.

Keilbach, Judith, and Markus Stauff. 'When Old Media Never Stopped Being New: Television's History as an Ongoing Experiment'. In *After the Break. Television Theory Today*, edited by Marijke de Valck and Jan Teurlings (Amsterdam: Amsterdam University Press, 2013), 79–98.

Ketterer, Ralf. *Funken-Wellen-Radio: zur Einführung eines technischen Konsumartikels durch die deutsche Rundfunkindustrie 1923–1939* (Berlin: Vistas, 2003).

K. M., 'Sonderschau des Tonfilms'. *B.Z. am Mittag*, 21 August 1931.

Kniestedt, Joachim. 'Die historische Entwicklung des Fernsehens. Zur Eröffnung des Deutschen Fernsehrundfunks vor 50 Jahren in Berlin'. *Archiv für das Post- und Fernmeldewesen* 37 (1985): 185–239.

König, Wolfgang. *Volkswagen, Volksempfänger, Volksgemeinschaft: 'Volksprodukte' im Dritten Reich, vom Scheitern einer nationalsozialistischen Konsumgesellschaft* (Paderborn: Schöningh, 2004).

Lacey, Kate. *Feminine Frequencies: Gender, German Radio, and the Public Sphere, 1923 1945* (Ann Arbor: University of Michigan Press, 1996).

Laermans, Rudi. 'Learning to Consume: Early Department Stores and the Shaping of the Modern Consumer Culture (1860–1914)'. *Theory, Culture & Society* 10, no. 4 (1993): 79–102.

Lenk, Carsten. *Die Erscheinung des Rundfunks: Einführung und Nutzung eines neuen Mediums 1923–1932* (Opladen: Westdeutscher Verlag, 1997).

Luckhurst, Kenneth W. *The Story of Exhibitions* (London; New York: Studio Publications, 1951).

Marssolek, Inge. '"Aus dem Volke für das Volk". Die Inszenierung der "Volksgemeinschaft" im und durch das Radio'. In *Radiozeiten: Herrschaft, Alltag, Gesellschaft (1924–1960)*, edited by Inge Marssolek and Adelheid von Saldern (Berlin: Verlag für Berlin- Brandenburg, 1999), 121–135.

Marssolek, Inge. 'Radio Days: Radio und Alltag in Deutschland und den USA'. In *Radio Welten: politische, soziale und kulturelle Aspekte atlantischer Mediengeschichte vor und während des Zweiten Weltkriegs*, edited by Michaela Hampf and Ursula Lehmkunl (Münster: LIT 2006), 16–42.

Marssolek, Inge, and Adelheid von Saldern eds., *Radiozeiten: Herrschaft, Alltag, Gesellschaft (1924–1960)* (Potsdam: Verlag für Berlin-Brandenburg, 1999).

Medhurst, Jamie. 'Mea Maxima Culpa: John Reith and the Advent of Television'. *Media History* 25, no. 3 (2019): 292–306.

Medhurst, Jamie. *The Early Years of Television and the BBC* (Edinburgh: Edinburgh University Press, 2022).

Meikle, Jeffrey L. *Twentieth Century Limited: Industrial Design in America, 1925–1939* (Philadelphia: Temple University Press, 2001).

Melnick, Ross. *American Showman: Samuel 'Roxy' Rothafel and the Birth of the Entertainment Industry, 1908–1935* (New York: Columbia University Press, 2012).

Mühl-Benninghaus, Wolfgang. *Das Ringen um den Tonfilm: Strategien der Elektro- und der Filmindustrie in den 20er und 30er Jahren* (Düsseldorf: Droste Verlag, 1999).

Neuburger, Albert. 'Möbel oder nicht Möbel?'. *Berliner Zeitung am Mittag*, 8 September 1928.

Neub[u]rger, Albert. 'The Karolus System of Television'. *Television: The World's First Television Journal* 1, no. 8 (1928): 35.

Nichols, Lewis. 'A White Way Revolution: Theatres, Movies and Radio Are All Changing and Each is Borrowing Talents and Theories from the Others'. *The New York Times,* 16 June 1935.

Norman, Bruce. *Here's Looking at You: The Story of British Television, 1908–1939* (London: Royal Television Society, 1984).

Pegg, Mark. *Broadcasting and Society, 1918–1939* (Beckenham: Croom Helm, 1983).

Peukert, Detlev. *Alltag unterm Nationalsozialismus* (Informationszentrum Berlin, Gedenk- und Bildungsstätte Stauffenbergstrasse, 1981).

Plugge. 'Tonfilmtheater, Tonfilmherstellung und Fernsehen auf der Funk- und Phonoschau Berlin 1931'. In *Funkalmanach. Offizieller Ausstellungskatalog zur Grossen Dt. Funkausstellung und Phonoschau Berlin 1931* (Berlin: Rothgiesser und Diesing, 1931), 43.

Popp, Richard. 'Machine-Age Communication: Media, Transportation, and Contact in the Interwar United States'. *Technology and Culture* 52, no. 3 (2011): 459–484.

Posener, Julius. *Hans Poelzig: Reflections on His Life and Work* (Cambridge, Mass: The MIT Press, 1992).

Reyner, J. H. 'Television at the Empire Exhibition: How the New Art was Introduced to South Africa'. *Wireless World* 39, no. 16 (16 October 1936): 399.

Roberts, Ivy. *Visions of Electric Media: Television in the Victorian and Machine Ages* (Amsterdam: Amsterdam University Press, 2019).

Rogers, Ariel. *On the Screen: Displaying the Moving Image, 1926–1942* (New York: Columbia University Press, 2019).

Ross, Corey. *Media and the Making of Modern Germany: Mass Communications, Society, and Politics from the Empire to the Third Reich* (Oxford; New York: Oxford University Press, 2008).

Ruttmann, Walter. 'Prinzipielles zum Tonfilm'. *Film und Volk* 2, no. 2 (December/January 1927/28): 1–2.

Rydell, Robert W. *All the World's a Fair: Visions of Empire at the American International Expositions, 1876–1916* (Chicago: University of Chicago Press, 1987).

Rydell, Robert W. *World of Fairs: The Century-of-Progress Expositions* (Chicago: University of Chicago Press, 1993).

Sarnoff, David. 'The Promise of Intercity Networks'. In *Pioneering in Television. Prophecy and Fulfillment: Excerpts from Speeches and Statements*, Sarnoff David. Second edition (Dept. of Information, Radio Corp. of America, 1946), 38.

Scannell, Paddy, and David Cardiff. *A Social History of British Broadcasting, Vol. 1, 1922- 1939* (Oxford: Basil Blackwell, 1991).

Schäffer, Immanuel. *Wesenswandel der Ausstellung: ein Überblick über das deutsche Ausstellungswesen und die Ausstellungsarbeit des Instituts für Deutsche Kultur- und Wirtschaftspropaganda* (Berlin: Daenell, 1938).

Schick, Adolf. 'Funkausstellung und Berliner Messegedanke'. In *Funk-Almanach. Offizieller Katalog 1924* (Berlin: Rothgiesser & Diesing AG, 1924), 19.

Schick, Adolf. 'Die wachsende Funkstadt am Kaiserdamm'. In *Funkalmanach. Offizieller Ausstellungskatalog zur Grossen Deutschen Funkausstellung Berlin 1930,* (Berlin: Rothgiesser & Diesing AG, 1930), 15.

Schildt, Axel. 'Das Jahrhundert der Massenmedien'. Ansichten zu einer künftigen Geschichte der Öffentlichkeit'. *Geschichte und Gesellschaft* 27, no. 2 (2001): 177–206.

Schmidt, Uta C. 'Der Volksempfänger. Tabernakel moderner Massenkultur'. In *Radiozeiten: Herrschaft, Alltag, Gesellschaft (1924–1960)*, edited by Inge Marssolek and Adelheid von Saldern (Potsdam: Verlag für Berlin-Brandenburg, 1999), 136–159.

Schröter, Fritz. 'Versuche zur optischen Ergänzung des Rundfunks'. *Telefunken-Zeitung* 8, no. 45–46, (1927): 41.

Scott, Peter. 'The Determinants of Competitive Success in the Interwar British Radio Industry'. *The Economic History Review* 65, no. 4 (2012): 1303–1325.

Secrest, James D. *EIA 50. Electronic Industries Association: The First Fifty Years, a History of the Electronic Industries Association* (Electronic Industries Association, 1974).

Sewell, Philip W. *Television in the Age of Radio: Modernity, Imagination, and the Making of a Medium* (New Brunswick, N.J.: Rutgers University Press, 2014).

Shiers, George. 'Early Schemes for Television'. *IEEE Spectrum* 7, no. 5 (1970): 24–34.

Slotten, Hugh Richard. *Radio and Television Regulation: Broadcast Technology in the United States, 1920–1960* (Baltimore: Johns Hopkins University Press, 2000).

Sombart, Werner. 'Die Ausstellung'. *Morgen: Wochenzeitschrift für deutsche Kultur* 9, no. 28 (February 1908): 249–256.

Stadel, Luke. 'Television as a Sound Medium, 1922–1994'. Ph.D., Northwestern University, 2015.

Staiger, Janet, and Sabine Hake, eds. *Convergence Media History* (New York; London: Routledge, 2009).

Steiner, Kilian J. L. *Ortsempfänger, Volksfernseher und Optaphon: die Entwicklung der deutschen Radio- und Fernsehindustrie und das Unternehmen Loewe, 1923–1962* (Essen: Klartext, 2005).

Sterling, Christopher H., and John M. Kittross, *Stay Tuned. A History of American Broadcasting*, Third Edition (Mahwah, N.J.: Lawrence Erlbaum Associates, 2002).

Stern, Robert H. 'Regulatory Influences upon Television's Development: Early Years under the Federal Radio Commission'. *American Journal of Economics and Sociology* 22, no. 3 (1963): 347–362.

Stern, Robert H. 'Television in the Thirties: Emerging Patterns of Technical Development, Industrial Control and Governmental Concern'. *American Journal of Economics and Sociology* 23, no. 3 (1964): 285–301.

Spigel, Lynn. *Make Room for TV: Television and the Family Ideal in Postwar America* (Chicago: University of Chicago Press, 1992).

Thorburn, David, and Henry Jenkins, eds. *Rethinking Media Change: The Aesthetics of Transition* (Cambridge, Mass.: MIT Press, 2004).

Traub, Ernest H. '1933 Berlin Radio Exhibition'. *Journal of the Television Society* (December 1933): 237.

T. S., 'In and Around Radiolympia'. *The Gramphone* 13, no. 148 (September 1935): 165.

Tymkiw, Michael. *Nazi Exhibition Design and Modernism* (Minneapolis: University of Minnesota Press, 2018).

Udelson, Joseph H. *The Great Television Race. A History of the American Television Industry, 1925–1941* (Tuscaloosa: University of Alabama Press, 1982).

Uricchio, William. 'Television's Next Generation: Technology / Interface / Flow'. In *Television after TV: Essays on a Medium in Transition*, edited by Lynn Spigel and Jan Olsson (Durham, NC: Duke University Press, 2004), 163–182.

Von Saldern, Adelheid. '*Volk* and *Heimat* Culture in Radio Broadcasting during the Period of Transition from Weimar to Nazi Germany'. *The Journal of Modern History* 76, no. 2 (June 2004): 312–346.

Wagner, Martin. 'Eine Studie über die Gestaltung des Berliner Ausstellungsgeländes'. *Wasmuths Monatshefte für Baukunst* 15, no. 1 (1931): 33–40.

Walters, Douglas. 'Radio Show Television. Receivers for All Visitors to See. Transmission from Gallery'. *Daily Herald,* 17 August 1934.

Wasson, Haidee. 'Electric Homes! Automatic Movies! Efficient Entertainment!: 16mm and Cinema's Domestication in the 1920s'. *Cinema Journal* 48, no. 4 (2009): 1–21.

Weber, Anne-Katrin. 'Recording on Film, Transmitting by Signals. The Intermediate Film System and Television's Hybridity in the Interwar Period'. *Grey Room* 56 (2014): 6–33.

Welch, David. *The Third Reich: Politics and Propaganda*, Second Edition (London; New York: Routledge, 2002).

Welch, David. 'Nazi Propaganda and the *Volksgemeinschaft*: Constructing a People's Community'. *Journal of Contemporary History* 39, no. 2 (2004): 213–238.

Wildt, Michael. *Hitler's* Volksgemeinschaft *and the Dynamics of Racial Exclusion: Violence against Jews in Provincial Germany, 1919–1939* (New York: Berghahn Books, 2012).

Williams, Raymond. *Television: Technology and Cultural Form* (London: Routledge, 2003).

Winker, Klaus. *Fernsehen unterm Hakenkreuz: Organisation, Programm, Personal* (Cologne: Böhlau, 1994).

Wurtzler, Steve J. *Electric Sounds: Technological Change and the Rise of Corporate Mass Media* (New York: Columbia University Press, 2007).

TELEVISION HISTORY IN THE MAKING

(Left) Getting ready to watch one of the first big events in television's debut—the Baer-Nova fight.

(Above) A group so fascinated by this new outgrowth of radio that even the photographer could not steal their attention.

(Above) Eager eyed crowds like this one stormed every television receiver to see a great event in early television history. Remember the Dempsey Carpentier fight and its place in radio history?

(Right) Dealers were forced to admit customers to private showings of television so keen has interest been in New York and vicinity.

The service the radio industry has rendered in pioneering television has not gone without recognition both on the part of the public and of the government. Encouraged by favorable comment, the industry is bending every effort and investing more millions so that television will give maximum service as quickly as possible.

Figure 2.1. Crowds eager to see RCA television in 1939. Source: 'Television History in the Making', *Broadcast News* (July 1939). Courtesy of Hagley Museum and Library

2. Spectacularizing Television, or Making Sense of Novelty

Abstract

Two closely related tropes shaped television's reception throughout the interwar years, namely the narratives of progress and magic. Underpinning most press coverage, but also present in specialized publications and technical reports, these narratives addressed the new medium's potentialities as means of seeing at a distance. They provided an explanatory framework for understanding newness, while simultaneously boosting the sense of novelty surrounding television. These tropes are discussed in the chapter's first section. The chapter's second part shifts from an analysis of these discourses surrounding televisual displays to the study of the exhibits and their *mise en scène.* Drawing on Frank Kessler's notion of the 'spectacular dispositif', it analyses the ways exhibition floors provided a visual *and* sensual spectacle constituting the first televisual experience for visitors before regular programming would become available.

Keywords: experimental television; dispositif; exhibition studies; new media

During the interwar years, exhibitions familiarized the public with a broad range of televisual devices. The medium's flexible identity highlighted its adaptability to many communication contexts and spaces, and drew attention to its close links with earlier media, in particular radio, cinema, and telephony. While television was thus imagined and developed with regard to multiple social practices, the medium's core promise, namely the production of a moving image with sound, the transmission of audiovisual information at a distance, and its reproduction at the receiver's end, was common to all televisual systems and remained challenging during the entire period.

The first solution to these problems[1], the so-called *mechanical* systems, were fragile machines, often equipped with tiny screens and producing an unstable image.[2] The television transmitters and receivers relied on moving components to scan and decompose the object, which, in a second step, was transformed by selenium or photoelectric cells from light waves into electrical impulses or vice versa. The discoveries of selenium in 1817 and of its photosensitive properties in 1873 were crucial steps for the realization of televisual schemes; Paul Gottlieb Nipkow's disk patented in 1885 represented another fundamental component for mechanical television.[3] The Nipkow disk, a spinning round with a series of equally distanced circular holes of equal diameter, realized the decomposition of an image into single elements. The holes on the disk were positioned to form a spiral, starting from an external radial point and proceeding to the disk's centre. By turning the disk, the image was scanned line-by-line, decomposed in picture elements that were projected on the light sensor and transmitted to another scanning disk that worked in synchronicity to reproduce the image on the receiver. Other inventors proposed different scanning principles based on mirror drums (Lazar Weiller, 1889) or mirrors scans (Jan Szczepanik, 1897), incorporating the same fundamental principle of decomposing-recomposing the image to transmit it.[4] In the 1920s numerous engineers used the mechanical principle of television transmission as a starting point for their experiments. John Logie Baird in England, Charles Francis Jenkins in the USA, Dénes von Mihály in Germany and other, less known inventors or amateurs worked to produce practicable and economically viable models. The picture quality of these systems, measured in number of lines per frame, ranged from 30 lines per frame to 180 lines per frame with 12.5 to 25 frames per second. Due to the fragility of mechanical television, early televisual demonstrations frequently employed still images and film

1   Benoît Turquety has recently argued for understanding the history of cinema, and in particular the medium's invention, as a series of 'problems', which were formulated by inventors and engineers depending on their research questions. Television's history from the late nineteenth century on certainly could be analysed in the light of the various problems the internationally developed patents, paper projects, and prototypes sought to solve. See Turquety, *Inventing Cinema*; Shiers, 'Early Schemes for Television' for an overview of early television devices.
2   The term 'mechanical television' is commonly used to describe televisual systems working with mechanical scanning components. This appellation, however, is not entirely accurate since electricity obviously played a fundamental role for the transmission of information.
3   Nipkow's patent was published on 15 January 1885 and retroactively granted on 6 January 1884.
4   See Shiers, 'Early Schemes for Television'. Also Burns, *Television*, 35–100.

excerpts: the slide or filmstrip was scanned by a 'telecine'[5] apparatus and, transformed into electric information, transmitted to nearby receivers. The use of prerecorded images reflected the current state of televisual R&D: live broadcasts of outdoor events were technically challenging during the interwar period even after the introduction electronic cameras in the mid-1930s. As a consequence, early 'live' transmissions were most often arranged in studio settings.

Contrary to the *mechanical* system, *electronic* television used no more moving parts and was built around the cathode ray tube (CRT), allowing to direct beams of electrons on a fluorescent screen. The development of vacuum tubes such as the CRT for detecting, amplifying, or generating radio signals, was stimulated during World War I. It was made possible by the discovery and theorization of the electron and intense research in the field of thermionics, electron optics, photosensitive and fluorescent materials and vacuum practices.[6] The CRT along with other types of vacuum tubes laid the ground for modern long-distance wireless telephony, radio, television and the subsequent telecommunication systems. Thanks to CRT, the picture resolution of television receivers was slowly perfected.[7] After the 30- or 180-lines standards, the mid-1930s saw more pictures of 240 lines, before definitive standards of 405 lines (1937 GB),[8] 441 lines (Germany, 1938)[9] and 525 lines (USA, 1941)[10] were introduced.[11]

Despite the overall technological progress, television's presence at the fairs was not a given. In the light of its slow development, characterized by small successes and major setbacks, one has indeed to wonder how

5   The scanning of filmstrips for their televisual transmission has been called tele-cinema; tele-cinematography; telecine. See Regen and Regen, *German-English Dictionary for Electronics Engineers*.

6   Petzold, 'Zur Entstehung der elektronischen Technologie in Deutschland und den USA'; see also Crafton, *The Talkies*, 23–61.

7   The first to experiment with the CRT for a television receiver were physicist Boris Rosing and his student Vladimir Zworykin at the Technological Institute in Saint Petersburg. In 1907, they patented a hybrid television scheme that included electromechanical as well as electronic parts. Following the Russian revolution, Zworykin migrated to the USA where he began working for Westinghouse and, after their merger with RCA, for this latter enterprise. His experiments, along with the work done by inventors such as Philo T. Farnsworth in the USA and Manfred von Ardenne in Germany, were decisive for the development of electronic cameras and receivers, which were launched in the mid-1930s.

8   Burns, *British Television*, 437.

9   Burns, *Television*, 541.

10   Burns, *Television*, 572.

11   On the history of television standards, see also Fickers, *'Politique de la grandeur' versus 'Made in Germany'*, 65–71.

television fit into the environment of audiovisual spectacle and techno-
logical entertainment staged at radio fairs. The debates on lines per image
and of screen sizes and luminosity, which filled the specialized press, were
certainly appealing to engineers but they did not provide solutions that
would transform the television set into an attractive exhibit. Compared
to talking robots and sound films, whose spectacularity justified the
entrance fee (see Section 1.2), television sets producing stamp-sized
and blurred images seemed indeed to constitute a very poor exhibition
display. Similarly, the transmission of pre-recorded excerpts certainly
could not keep up with the spectacular radio programmes shown live
at the fairs. Even in the second half of the 1930s, when light-sensitive
electronic cameras and CRT receiver sets allowed for a diversification of
television's content, the television's content was modest in comparison
with other mass media. This chapter thus asks why and how did television
become an attraction at fairs? There was literally (almost) nothing to see
on the (tiny) screens, so why did exhibitors continue to annually exhibit
televisions? Why did the press continue to report the demonstrations
and displays and, in so doing, amplify the allegedly enthusiastic public
response?

This chapter tackles these questions by focusing on early discourses
that offer epistemological frameworks to understand the new medium
and, doing so, co-construct the televisual displays. It considers, in par-
ticular, two closely related rhetorical tropes which shaped the medium's
reception throughout the period, namely the narratives of progress and
magic (Section 2.1). Underpinning most press coverage, but also present in
specialized publications and technical reports, these narratives addressed
the medium's potentialities as means of seeing at a distance. They provided
an explanatory framework for understanding newness, while simultane-
ously boosting the sense of novelty surrounding television. The discussion
of this most obvious aspect of a new media – its newness – extends to
the chapter's second part, which shifts from an analysis of discourses
surrounding television's exhibitions to the study of the exhibits and their
mise en scène (Section 2.2). Drawing on Frank Kessler's work on the no-
tion of the 'spectacular dispositif', it analyses the ways exhibition floors
provided a visual *and* sensual spectacle constituting the first televisual
experience for visitors before regular programming became available.
This conceptualization of a televisual spectacular dispositif and its spatial
assignment of bodies and objects invites us to apprehend interwar television
as part of the culture of astonishment and spectacle that was characteristic
of mass media modernity.

2.1 Technological Progress and Modern Magic

In his study of *Electric Sounds* in the interwar period, cinema historian Steve Wurtzler suggests the notion of 'consumer pedagogy' to describe the efforts realized by American corporations to introduce their new sound technologies to the (paying) public. By blending spectacle and education, Wurtzler argues, the manufacturers of phonographs and sound film not only offered information about the new technologies' functions, but also instructed the public on the uses of specific apparatuses and shaped its attitude towards this new technology. Intending to make new media meaningful to its future users in order to better sell it, manufacturers relied on public performances, press articles, and advertisements, and positioned new media within different, already established narratives of progress, domesticity, and cultural uplift.[12]

Contrary to radio and sound film, which were commercialized during the interwar period, it would take several decades before television became a mass commodity. Nonetheless, the efforts undertaken by manufacturers and journalists in the press, in technical literature, and at fairs to make television meaningful were considerable. Their consumer pedagogy relied on two principal narratives closely related to the notion of technological novelty, namely the idea of television as progress and of television as a modern wonder. Providing an epistemological framework for the apprehension of the new technology, these tropes helped convert televisual artefacts into meaningful objects conceived as new *and* as part of the continuum of infinite technological advancement. Almost endlessly repeated in the press, they were emptied of any specific meaning yet highly charged with ideological content.

Progress as an Autonomous Force

During the interwar period, the most explicit presentation of television celebrated it as a symbol of progress moulded into a discourse of cumulative advancement and technological innovation. The hegemonic representation of progress as a positive force was boosted by the cyclical return of radio shows, which produced a vision of uninterrupted improvement that conflated industrial rationalization and scientific discovery with discourses of social and moral utility. Exemplifying the idea of progress by putting a series of new technological objects placed on display, the fairs materialized modernity

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12   Wurtzler, *Electric Sounds*, 70–120.

and buttressed, as scientific author Albert Neuburger wrote in 1931, the widespread 'impression that we are facing progress, which will open new roads and opportunities'.[13] The regularity of radio shows, occurring annually during the same period of the year, was in itself an invitation to compare the new radio and television sets with older, always already outdated products. John Reith, the BBC's Director-General, praised Radiolympia's value to the broadcasting institution precisely for its role in displaying progress: 'The radio exhibition is the occasion each year for a general survey of the progress in design and in performance that has been made in the preceding [...] years'.[14] Newness formed the symbolic and material node around which radio fairs were defined, which in turn evidenced the allegedly unstoppable movement towards technological advance.

Television itself epitomized scientific innovation by promising to achieve the long-cherished hopes of new configurations of spatio-temporal relations summarized in ideas of global communication. Writing in 1929 for the film journal *Film und Volk* after his visit to Dénes von Mihály, journalist Egon Larsen buttressed the idea of television as a perfection of those means of communication seeking to abolish distance, an idea which had allegedly been fantasized about for (almost) all eternity:

> So, it is here, in this ordinary small mezzanine floor apartment of the Kantstrasse that the miracle is to occur, which has been a consistent human desire since *One Thousand and One Nights*: Television, the viewing of spatially distant things and events during the moment of their occurrence.[15]

Similarly, a journalist writing in the *New York Sun* insisted on the long durée of the televisual dream:

> 'Seeing at a distance' is merely a translation of the word television. Its accomplishment has been a human ambition and a scientist's dream for years.[16]

The imaginary of television as the immediate transmission of moving images across space, at the core of many debates in the interwar period, goes back

13   Neuburger, 'Die Funkausstellung – eine Tonschau'.
14   Reith, 'A Message From the B.B.C'.
15   Larsen, 'Fernseher in Sicht!'.
16   'Two Units Needed for Vision'.

to the late nineteenth century. New communication tools (telegraphy, telephony, the mass-circulating press, cinema) together with new means of transportation (the train, the tramway, and later the automobile and airplane) were both the symptoms and the cause of the 'time-space compression' experienced in modern capitalist societies;[17] televisual paradigms such as ubiquity and immediacy were explicitly linked to this modern spatio-temporality. Parallel to scientific discoveries, caricaturists and literates imagined and described televisual devices, drawing their inspiration from recent experiences with electrical telegraphy and telephony. The discovery of the photosensitive characteristics of selenium in 1873 and Alexander Graham Bell's demonstration of his newly invented device, the telephone, in 1878 triggered indeed a wave of more or less fantastical inventions related to the problem of instantaneous tele-vision.[18] The drafts for televisual communication were presented in popular press and literature, and made accessible beyond the expert's community. Following the increased interest of media historians for the mass culture at the end of the nineteenth century, which forms the context for several emerging 'proto mass media',[19] numerous of these televisual dreams have become well known. The most famous televisual imagination probably is Albert Robida's Telephonoscope, described in his science-fiction novel *Le Vingtième Siècle* (1883), and George du Maurier's *Edison's Telephonoscope. Transmits Light as well as Sound* (1878).[20] While these televisual dreams fantasized about ubiquitous and immediate audiovisual communication, the actual technological development of 'seeing at a distance' was slowed down due to technical and financial difficulties. In the interwar period, the introduction of television in public space via their exhibition at radio shows and parallel publicizing in the mass media carried on these earlier imaginaries and debates of simultaneity and ubiquity, presenting them as an old 'human dream'.

More matter of fact, other accounts described television's projected evolution from scientific gadgetry to a means of mass entertainment and,

17   Harvey, *Geography of Difference*, 242–247; also Kern, *Culture of Time and Space*; Galili, *Seeing by Electricity* offers an extended discussion of this context with regard to television's speculative era in the nineteenth century.
18   André Lange has collected many of these televisual fantasies on his website https://www. histv.net/ (accessed 28 February 2021).
19   Marvin*, When Old Technologies Were New*, 3.
20   The recent media archaeological work by Doron Galili and Ivy Roberts discuss in depth the televisual imaginaires in the nineteenth century. Galili, *Seeing by Electricity*; Roberts, *Visions of Electric Media.*

embedding television into the success story of the modern media, were not afraid of mentioning the 'few technical hitches' that still prevailed.[21] Indeed, being a 'novelty gadget' [22] and making 'slow but steady progress',[23] the development of television evoked the early stages of other media. In particular, unstable televisual images recalled the experience of early cinema spectators and invited observers to make comparisons between television and early moving-picture projections. Describing Baird's demonstration at Selfridges in 1925 for the scientific journal *Nature*, one commentator observed what would become a recurrent critique of television transmissions, namely the 'cinematographic' flicker: 'Just as in the early kinematograph films, there is a constant flicker, but this will doubtless be got rid of in whole or part in the new Baird "televisor".' [24] In 1937, in a particularly sceptical article about an RCA television demonstration, the *New York Times* wrote:

> It was suggested that in viewing this ethereal performance that the guests recall "the flickering images and crude scenes of the early films." And as the show went on it became evident that television and the early films are a parallel.[25]

Whereas the 'parallel' history of early film and television is invoked here to disapprove of televisual picture quality, it was suggested in other writings of the time that the flicker was a momentary technical weakness that would disappear over time. The comparison of television with early film invoked the rapid progress that cinema had made as a media technology and media practice, and implied a natural evolution that would also affect television and transform its 'flickering images' into bright pictures. Classifying television among the 'early kinematographs', such stories suggested that a better future for television lay ahead. They contributed to the narrative of linear progress in which media forms evolve from an experimental 'childhood' to full maturity, thus supporting one of the most common epistemological frameworks used to think about technological change.

Yet another way of highlighting television's intrinsic bond to progress was to insist on television's proximity or even kinship with other media whose communication potential it would improve. As Albert Neuburger

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21   'All-Wave Sets at Radiolympia', 15.
22   'Off to a Flying Start'.
23   Lescarboura, 'Radiovision Bids for Public Favor'.
24   'Television', *Nature*.
25   'Watching a Radio Shadow Show'.

explained in 1928, the 'televisor may be said to be the ultimate stage in the development of picture telegraphy',[26] while he succinctly stated in 1929, 'The telephone [*Fernsprecher*] has become a television-telephone [*Fernsehsprecher*]'.[27] In these accounts, television's hybrid identity as an audio/visual medium constituted the final step in a seemingly linear development of newly invented communication technologies, which it combined and thus perfected.

This frequent discourse on television as progress constitutes a topos in the sense that Erkki Huhtamo has defined it for media archaeology. As a 'stereotypical formula evoked over and over again', the topos is a cultural pattern that extends through history, which can help us to study continuities as well as ruptures in discourses on and about media.[28] In the case of interwar television, the particular topos of progress provided the press, advertisers, and the public with easily recognizable epistemological models framing the new. It embedded televisual devices within a broader cultural discourse on new technologies which encompassed telegraphy, telephony, and many other emblems of modernity and progress.

This clichéd language may seem tired and thus emptied of any actual meaning: It is, as the historian of technology John Staudenmaier reminds us, highly ideological. For Staudenmaier, 'progress talk' is part and parcel of 'autonomous progressive determinism' and the idea that technology might work as an 'autonomous force' independent of social, economic, and political determinants.[29] However, the alleged 'natural' and 'irreversible' course driving technological and scientific innovation is by no means independent of political or economic issues but becomes precisely an ideological object through the denial of its own situatedness. Going back to the example of the televisual topos of progress, such a critical perspective on the history of technology shines a light on the discursive uprooting of television from its historical context. In the examples quoted above, television's development is discursively relocated to an independent realm untouched by political events, social relations, and industrial forces, and appears as an inevitable cause of natural law, rather than the result of financial investment, scientific inquiry, or, more broadly, human–machine interactions and decisions. In this sense, the topos of televisual progress constitutes a myth, which, as Roland Barthes has argued, 'has the task of giving an historical intention a natural

26 Neuberger [Neuburger], 'Karolus System of Television'.
27 Neuburger, 'Am Fernseh-Sprecher'.
28 Huhtamo, 'Dismantling the Fairy Engine'.
29 Staudenmaier, 'Perils of Progress Talk', 271.

justification, and making contingency appear eternal'.[30] Substituting history with nature, the mythical account conferred upon televisual innovation the 'simplicity of essence',[31] rather than uncovering its non-linear development characterized by industrial and economic struggles, social negotiations, and ideological appropriations.[32]

Beyond Science: Television as a Modern Miracle

Obviously, not all reactions to television were as positive as those described so far: the introduction of every new media has been accompanied by enthusiasm *and* scepticism, provoking excitement *and* fear. As we will see in Chapter 3, television was also suspected to infringe upon the private sphere and foster surveillance or social control. However, most of these apprehensions did not question what seemed an unstoppable march forwards: they critiqued the downsides of progress without fundamentally challenging its allegedly inherent value to industrial society.

In addition, the idea of television as a marvel, a modern wonder, and a new scientific sensation fed into its positive reception, pushing aside more hesitant views. The metaphor of televisual 'miracles', of engineers as 'wizards', and of technology as a 'spectacle' was common in all three countries and shifted attention away from industrial laboratories to a (vague) fairyland of modernity. The mythical dimension of the discursive shaping of television was here explicitly acknowledged. Adjectives such as 'wonderful', 'miraculous', and 'magical' were used ubiquitously, from the radio amateurs' journal to *The Times* newspaper, from radio show catalogues to scientific reports. At the fairs, 'wonder shows' and 'modern magic tricks' were frequent attractions. As a 'wonder' yet to come, television resonated with the contemporary taste for technological speculations and projections, and promised uninterrupted progress towards even more amazing things.

But what exactly were these magical properties ascribed to television? How did television become a 'wonder'? First, the medium's capacity for instantaneous and audiovisual transmission – also regularly invoked as a proof that television was a symbol of progress – seemed to confer upon it almost supernatural qualities:

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30 Barthes, *Mythologies*, 142.
31 Barthes, *Mythologies*, 143.
32 For a history of technological myths from the telegraph to the digital age, see Mosco, *Digital Sublime*, in particular Chapter 5.

Henry Ford has called this the 'bridge' age. He meant, of course, an age of transition. But how singularly applicable his term is to the achievements and methods of modern communication and its greatest achievements, television—bridging space and transporting us as if *by magic* to remote quarters of the globe and enabling us to see what is taking place while it is happening.[33]

Second, television's amazing properties stemmed from its visuality more than from its space-binding qualities, which were also shared by radio:

We still marvel at an invention which carried the sounds of the Coronation round the world and brought into British homes the cheers from the King and Queen in Paris. Now there is television, a yet greater wonder.[34]

If (British) radio's most noble task was to follow the royal family and disseminate their voices, television would make the impossible a reality: not only to hear but to *see* the king and queen in one's own living room. Third, less specific descriptions pointed to the general 'magic' of television: In 1936, the cinema journal *Der Film* described the television exhibition at the Funkausstellung as 'the fairyland of television'[35] and Eduard Rhein's influential book, published for the first time in 1935 and translated into several languages, was titled *Wonder of the Airwaves: Radio and Television for Everyone*.[36]

In addition to these press reports and publications, advertisements and drawings that accompanied the television exhibitions indicated the medium's marvellous properties. John Logie Baird spoke in his ads of 'the birth of a wonderful radio era' and promised that 'the dream of this wonder age [was] now a solid fact';[37] the British manufacturer Plew Television compared the television set directly with a crystal ball, echoing a caricature published six years earlier in the journal *Television* in which the 'clairvoyant' expresses

33   Trenton, 'Now! Where Do We Go From Here?', 453, emphasis mine. Very similarly, Egon Larsen (1904–1990), who would later publish a monograph titled *Radio and Television: The Everyday Miracle* (1976), exclaimed after his visit to Dénes von Mihály: 'Is it really true that human brains have now also this mystery solved, and thus have broken the chains of space, just as film and gramophone records have alleviated the dependency on time for us mortals?' Printed in 1929, both texts represented television as the final materialization of modern times, using 'magic' and 'mystery' to express their enthusiasm for the technology. Larsen, 'Fernseher in Sicht'.
34   Norman, 'A Message from the B.B.C. to Radiolympia 1938'.
35   '13. Grosse Deutsche Rundfunkausstellung in Berlin'.
36   Rhein, *Wunder der Wellen*. Translations into English (1941), Spanish (1941), Dutch (1940?); in German, the second edition was published in 1936, and the third followed as soon as 1937.
37   Advertisements in *Television* 2, no. 27 (May 1930) and *Television* 2, no. 29 (July 1930).

Figure 2.2. Television, the latest magic I. Source: 'Clairvoyant: Might just as well shut up shop now she has a Televisor', *Television* 1, no. 2 (April 1928): 10.

her anger at the lady with a television, a device that seemingly makes her and her skills redundant (Figure 2.2 and 2.3).

Finally, the radio fairs themselves were perfect spaces in which to promote wonders. Radiolympia's advertisement called on its visitors to 'See the Wonder Show at Olympia' and prognosticated that 'You'll be lost in wonder at Radio-lympia', while the New York radio fair listed all the magic to be witnessed: The

Figure 2.3. Television, the latest magic II. Source: Plew Television advertisement, *Television* 20, no. 3 (September 1934): 377.

'latest marvels' including 'the electricity of your heart', a 'radio knife', '2000 years of lighting progress', a 'wonderful stroboscope', and so forth, formed 'two floors of twentieth-century magic [...] for old and young'.[38] Inside the

38   Advertisement for National Electrical and Radio Exposition, *The New York Sun*, 14 September 1935.

exhibitions halls, the 'Theater of Wonders' presented at the 1928 New York radio showed the 'television experiments [...] by the GE Company and by A. J. Carter and associates of Chicago'.[39] In London in 1932, the radio manufacturer Varley installed a 'Chamber of Mysteries'. The 1938 German show offered a special exhibit called *Das Wunder der Sendung* ('The miracle of broadcasting') which explained the production of a radio broadcast from the studio to its distribution at home. The familiar descriptions of audiovision's magic in the press gained in intensity through the expositional gesture, which multiplied the effects of technological enchantment through live spectacle and demonstration.

From a media historical perspective, the affinity between television and supernatural phenomena is hardly surprising. According to Jefferey Sconce, since the invention of the telegraph, electronic media were associated with the occult, and imagined to reach beyond time and space to communicate with death, the future, and 'other' beings.[40] The almost simultaneous 'invention' of spiritism and the telegraph points to the entangled history of a quotidian fascination with 'mystery' and modern media, and to the fluid frontiers of technologically mediated communication connecting human and 'beyond human' spaces. As Mireille Berton stresses in her work on early cinema, around 1900, 'at a time, when people were as fascinated by modern technology as by the "archaic" world of occultism', the convergence of magic and of modern media provided an epistemological framework to think about both phenomena.[41] With regard to early television, Stefan Andriopoulos has pointedly argued that spiritist research on 'tele-vision' was a 'necessary but not sufficient condition' for the development of scientific theories of 'seeing at a distance'. At the turn of the twentieth century, Andriopoulos illustrates, members of the scientific sphere circulated in the occultist milieu and vice versa, since concerns about the possibility of communication at a (spatial and temporal) distance moved engineers, physicists, and spiritist mediums alike.[42]

While the spiritist movement lost traction in the 1920s, the enmeshed history of media and the supernatural continued to underpin the prevalence of wonder talk within the context of interwar television displays and radio fairs. The conjunction of media and magic remained a powerful

39   'Edison Opens Radio Show Monday'.
40   Sconce, *Haunted Media*. See also Boddy, *New Media and Popular Imagination*. More recently, Simone Natale has underlined the convergence of the spiritist movement and the emergent mass media industry in the Victorian era, arguing that the one would not exist without the other. Natale, *Supernatural Entertainments*.
41   Berton, '"Magism" of Cinema', 114. See also Berton, *Le médium (au) cinéma*.
42   Andriopoulos, 'Psychic Television'.

narrative that reactivated existing discursive strategies and interpretative frameworks to introduce new media to the public space. The description of technology and science as 'wondrous' was particularly effective to catch the attention of a distracted mass audience. As historian of technology Alexander Gall notes, the wonder topos offered an emotional experience of scientific-rationalist matters, which were seldom graspable for the amateur. It connected technological and social transformations to affective states such as surprise, delight, and astonishment.[43] The semantics of televisual wonders was thus part of a wider rhetoric that turned the progress-driven modern age into an age of miracles and entertainment, and provided an explanatory framework of media change based on affect rather than rationality.

On the 'New' in 'New Media'

At first glance, the coexistence of the progress and wonder discourses seems contradictory: with its irrational and emotional connotations, the wonder trope seems opposed to the scientific logic and modernity represented by progress. Furthermore, while the rhetoric of progress insinuated a logical advance devoid of surprises, the occult universe of magic is full of contingencies and unknowns. The formula of modern miracle insisted on the most extraordinary aspects of the prevailing technoculture and introduced a conceptual framework of technological innovation taking leaps, whereas the narrative of progress first and foremost depended on an automatic, linear course.

Despite the differences in the representation of technological change as a linear transformation and as rupture, respectively, progress and magic narratives constituted two coexisting modalities in discourses of new technology and on newness more generally. Situating new technologies in the realm of the 'well known' and of the 'known unknown', both narratives functioned as consumer pedagogy *and* popular entertainment, and helped novelty become intelligible. While the narrative of progress often stressed a media genealogy based on technological specificities (the flickering image, for instance), the metaphor of wonderful marvels hid the unfamiliar workings of technology and machinery, and provided a familiar trope to classify the artefacts that turned the attention away from technology towards television's potentialities as a means of communication. With the help of these narratives, the public

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43   Gall, 'Wunder der Technik'. See also Rieger, *Technology*, in particular Chapter 2 'Modern Wonders'.

became acquainted with the reception of technological innovation and with the vocabulary available to discuss new things: to borrow from Bernhard Rieger, they provided 'a flexible formula around which commentators could organize interpretations about a vast range of technologies'.[44] Even more than the narrative of progress, the presentation of 'magic television' allowed journalists and admen to avoid complicated scientific explanations: wonder talk could contain complexity without offering explication.[45] Simultaneously, television's magical properties were often linked to technology's rational foundations: 'Here lies the fairyland of television, whose secrets the German Reichspost explains with amiable objectivity.' [46] Like other modern wonders, television nourished a realm of amazement, while at the same time anchored in scientific, and thus verifiable, knowledge produced not by occult forces but by the mind of the engineer.[47]

To summarize, then, progress and magic talk represented two distinct discourses of technological novelty and modernity that suggested familiar frameworks to apprehend the new. These 'narrative clichés' bestowed the artefacts with particular emotional and social values, and simultaneously functioned as a remedy for all too sudden technological change.[48] Their productive ambiguity lay in their somewhat exhausted character: subsuming the novel, the modern, and otherwise unknown, they became themselves a familiar and trusted sign that offered a framework to apprehend the new. They taught the public how to understand and interpret changes preventing reluctant reactions vis-à-vis complex systems and machines. The double strategy of boosting and taming the newness of television through promoting it both as a sign of progress and of magic, and embedding it in recognizable tropes, helped to maintain television's signification as innovation and provided an interpretive scheme to classify the new medium.

This mode of consumer pedagogy built around newness underlines that 'the new' is not a self-evident historical fact, nor simply a characteristic

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44 Rieger, *Technology*, 23.

45 See Gall, 'Wunder der Technik', 301.

46 '13. Grosse Deutsche Rundfunkausstellung in Berlin'.

47 Rieger, *Technology*, 37.

48 Discussing strategies of representation in 1920s advertisement, Roland Marchand coined the notion of 'visual clichés' to describe recurring visual tropes used for the promotion not only of products but also values and symbols consolidating consumer society. Images of the family circle in soft focus or ads using religious iconography never just promoted the object on display but communicated hegemonic ideas on gender roles, moral principles, and social ethics, which the consumer could express in his (correct) consumer behaviour. Both progress and wonder talk were *narrative* clichés that built upon well-known ideas about technology, innovation, and newness. Marchand, *Advertising the American Dream*, 235–284.

of new things, but first and foremost a discursive category.[49] Televisual novelty was intimately entangled with discursive strategies that performed newness and with the ideological project of capitalist modernity to promote progress and innovation as an 'autonomous force'. Within the context of mass-produced consumer technologies and their display at radio fairs, the frenzy of the new, furthermore, had an economic rationale. Only the cyclic production of novelty *and* obsolescence, essential to consumer culture, could sustain the 'fascination' with new radios and the like. If in capitalist modernity, as Walter Benjamin pointed out, 'What is "always the same thing" is not the event but the newness of the event',[50] this element of newness had to be created relentlessly, for radio as well as for other household technologies. As with new seasons in the fashion world, radio exhibitions annually introduced new styles of consumer electronics, presenting them in striking displays surrounded by manifold other attractions. They produced novelty through this cyclical arrangement, which transformed previous shows into 'old' displays of 'antiquated' commodities. Television, although not yet a 'fashionable' commodity, sustained the semantics of newness found not only in the clothing store but at exhibitions of technological innovation. The persistent production of new stuff is a ritual in consumer culture to which early television easily contributed. In this sense, the new medium's function was not so much to open up new possibilities in communication than it was to sustain the never-ending cycle of the 'new' new.

2.2   Experiencing the Spectacular Dispositif

Unsurprisingly, then, when the first major television exhibitions in Berlin, New York, and London were launched in 1928, the reactions were overwhelmingly enthusiastic. At the Funkausstellung, television was the 'highlight' and the 'fulfilment of our desire'.[51] A similar assessment regarding the Baird exhibits in the same year in London was made in *Television*: 'Without a doubt the greatest attraction of the exhibition this year will be the Baird Company's exhibit of several commercial types

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49   Gunning, 'Re-Newing Old Technologies'; See also Fickers and Griset, *Communicating Europe*, 331–367; Natale, 'There Are No Old Media'.
50   Benjamin, *Arcades Project*, 868.
51   'Funk-Schau Vorschau'.

of home televisor.'[52] The reaction was equally enthusiastic in New York, where journalists observed that 'television is a major attraction',[53] and reported that 'television exhibit leads in popular interest'.[54] Accordingly, the reported attendance figures for television demonstrations were impressive. As a British journalist stated, in 1928 '[a]pproximately nine hundred people per day witnessed these [Baird] demonstrations, which were a tremendous success'.[55] Despite its placement outside the official exhibition halls (due to the organizers' refusal to accept television demonstrations) Baird's installation did not seem to suffer from a lack of interest from visitors. On the contrary, the demonstration led to new arrangements with Selfridges whereby television demonstrations 'ran for a week' parallel to the Radiolympia exhibition.[56] The same year at the New York Radio World's Fair, '1,200 and 1,300 persons per hour' saw the Daven display and 'it was estimated that in eight hours the curiosity of fully 10,000 was at least somewhat satisfied'.[57]

Journalists frequently underscored the experience of throngs of curious visitors gathering around the devices. One *New York Times* reporter admitted in 1928 that 'it takes time to see the exhibits [because] the crowds are always surrounding the machines [...] and there is a long line of men, women, and children in single file waiting their turn [to see the sets]'.[58] With somewhat more imagination, a journalist for Hugo Gernsback's[59] *Radio News* described the same scenario:

> At one time the lines leading to the various [television] demonstration chambers wrapped themselves about the floor like so many snake-dances and threatened to disrupt the good behavior of the entire floor.[60]

52 'Editorial'.

53 'Television Thrills Radio Show Crowd'.

54 'CROWDS ATTEND RADIO EXHIBIT'.

55 'Television at Olympia' (1928).

56 'Television at Olympia' (1928).

57 'Television Thrills Radio Show Crowd'. The Daven Corporation has completely disappeared from radio and television history, and thus information about it is very scarce, but an advertisement in *Popular Mechanics* for an 'Daven Television Receiver' discloses that the company addressed the amateur community with television self-built sets. See *Popular Mechanics* 50, no. 5 (November 1928): 145.

58 'Television Thrills Radio Show Crowd.'

59 Hugo Gernsback (1884–1967) was a Luxembourgish-American journalist and editor, as well as scifi author. He published an impressive number of popular science (fiction) magazines, among others *Television* (1928) and *Television News* (1931–1932). See Wythoff, *Perversity of Things*, for an introduction to Gernsback's work and legacy.

60 'The Fifth Annual Radio World's Fair'.

A London journalist, complaining about the long queues and endless crowds that gathered around television displays in Berlin, communicated the device's success with a patronizing tone:

> Public support is assured; no one could doubt it after watching for days the continual jam of people who, during a spell of the hottest of hot weather, crowded into the television section of the wireless exhibition, which, being draped to subdue external light, was, as a result, lacking in air but amply provided with degrees Fahrenheit.[61]

Insisting on the heat and other adverse conditions in the television section of the fair, the (British) writer derided the (German) visitors who wanted to see the sets at any cost but, in doing so, also confirmed the public appeal of the machines and their success as an exhibit. On a similar note, the caricature 'Olympia – 1928' mocked the widespread fervour for television, represented as a hexagonal box with a tiny, round screen worshipped by the crowd (Figure 2.4). Its caption 'Injured one: "I <u>WILL</u> see that Televisor, even if they kill me"' pokes fun at the seemingly infinite passion among visitors and mirrors the contemporary 'television craze' (see also Figure 2.1 illustrating the television craze of 1939).

In the early 1930s the general optimism for television was somewhat tempered by slow technical progress and the economic consequences of the Great Depression. Articles in the press nevertheless regularly assured that television continued to 'attract the greatest interest',[62] claiming even that 'public interest in television was wider than ever before at the Exhibition, and the visitors [...] showed how closely the latest developments are being followed'.[63] But what was the attraction of television *on display*? If its potential for telepresence and immediate communication was fostered in discourses of novelty and technological progress, what exactly was the excitement concerning television at exhibitions? Why did television charm throngs of visitors, as the press proclaimed? To answer these questions, the next section presents a close reading of the 1934 television exhibition at the Funkausstellung in Berlin, where a 1000 m² space was dedicated to the 'presentation of the current status of television'.[64]

61   'Television at the Berlin Exhibition' (1929).
62   'Funkausstellung eröffnet'.
63   'Television at Radiolympia'.
64   *Amtlicher Führer* (1934), 8. The choice of the case study here is determined by the primary sources available. Moreover, in anticipation of my discussion of the 1935 Funkausstellung (Section 4.2), which introduces a radically new scenography, the study of the 1934 edition allows for a comparison of the modes of display and highlights the changes in the representation of television that occurred after the inauguration of a regular service in March 1935.
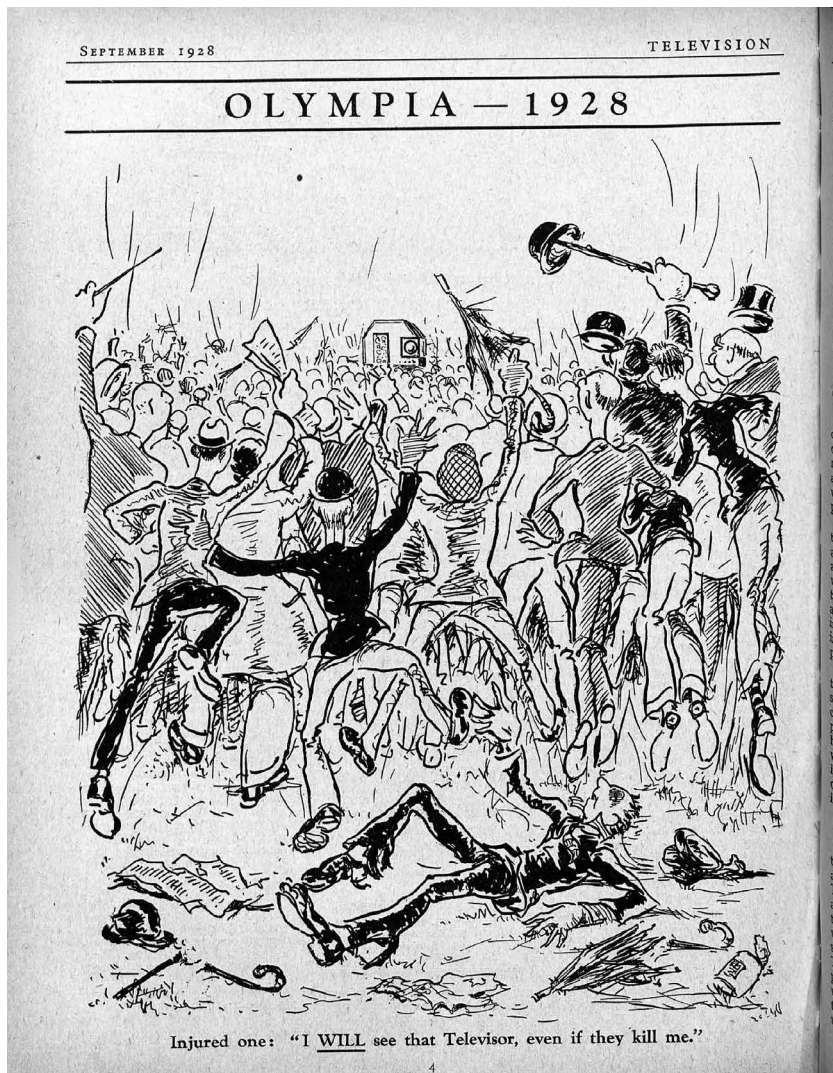
Figure 2.4. Caption reads: 'Injured one: "I WILL see that Televisor, even if they kill me"'. Source: 'Olympia – 1928', *Television* 1, no. 7 (September 1928).

Spectacular Objectness

Welcoming the visitor in capital letters, *FERNSEHEN* ('television'), and a heavy curtain, the entrance to the television display at the 1934 Funkaus-stellung marked an evident separation between the exhibition space and the surrounding environment. The idea of 'seeing at a distance' was allegorically represented by a sculpture of a female nude gazing into the

void, which had previously adorned the exhibition hall in 1930 (Figure 2.5).[65] Inside the television hall, 'dark green draperies [...] spanned to the ceiling' and 'semi-darkness' were installed to protect the television images' faint luminosity, creating a theatrical atmosphere.[66] A total of seven research institutes and corporations displayed television transmitters, receivers, components, and one home-building kit.[67] The television sets were lined up in open booths organized by exhibitors whose names were painted on the wall above the sets. A railing separated these individual viewing zones from the main space. In addition to the booths running along the walls, Fernseh AG presented a *Lichtstrahlabtastgerät* ('flying-spot scanner') in the middle of room (Figure 2.6). This apparatus allowed for live mechanical scanning of a participant seated in the small cubicle. Visitors could gaze into the cubicle through a glass window and follow the transmission; the transmitted image was displayed on a small receiver next to the studio box. Demonstrations occurred around the clock.[68] Most of the exhibitors had their own transmitter on or hidden behind the stand and sent excerpts of recent sound films and newsreels by wire to the receivers on display; only a few receivers were equipped with wireless technology. Furthermore, two 'television vans' were positioned on the exterior fairgrounds: the Reichspost presented a *Fernsehversuchswagen* ('test television van') used for signal measurements and outdoor tests; the Reich Broadcasting Company displayed a car built by the Fernseh AG equipped with the *Zwischenfilmverfahren* ('intermediate film system'), used to transmit Joseph Goebbels's opening speech to the television hall.[69]

The visitor entering the television hall at the 1934 Funkausstellung would certainly have felt confused: the darkened space, the range and heterogeneity of exhibits, the different demonstrations happening simultaneously, the crowds usually filling the space, all this probably created an overwhelming impression. In order to gain an overview, he or she could take a seat in the 'television theatre' installed by Fernseh AG. 'Consisting of raised platforms with rising rows of seats, from which visitors could view at a distance the large-size screen projections of

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65   The sculpture was created by Berlin artist August Kattentidt. Kette, 'Was hat uns die Fernseh-Abteilung?'.

66   Kette, 'Funkausstellungs-Bericht', 51.

67   Kette, 'Funkausstellungs-Bericht', 51–60. The majority of receivers on display used a cathode ray tube and were adjusted to the standard of 180 lines per image with 25 images per second.

68   See the description in Kette, 'Funkausstellungs-Bericht'.

69   On the intermediate film system, its economic history, and fundamental hybridity, see Weber, 'Recording on Film'.

Figure 2.5. Entrance to the television exhibition at the 1934 Funkausstellung with August Kattentidt's sculpture 'Fernsehen'. Source: Georg Kette, 'Die Fernsehschau auf der Rundfunk-Ausstellung 1934', *Fernsehen und Tonfilm* 5, no. 5 (October 1934): 51.
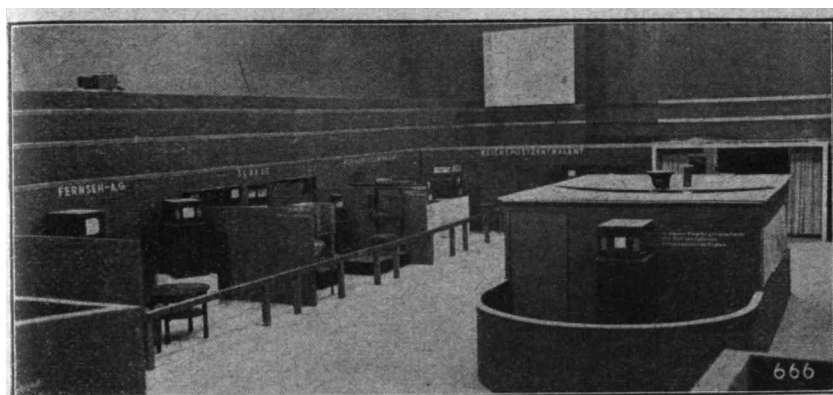
Figure 2.6. View of the television exhibition with the large-screen projector. Source: Georg Kette, 'Die Fernsehschau auf der Rundfunk-Ausstellung 1934', *Fernsehen und Tonfilm* 5, no. 5 (October 1934): 57.

tele-talkies',[70] it offered 'viewers an undisturbed view of telecinema pictures [*Fernkinobild*]' and create[d] the impression of a *Fernsehtheater* ('television cinema').[71] As is illustrated by a photograph taken from the seating platform, the spectators overlooked the whole exhibition space while following the television transmission on the big screen at the other end of the room (Figure 2.6).

From its vantage point, the *Fernsehtheater* offered not only a view of the television projection, but also made the multiform devices and crowded hall

70   Gradenwitz, 'Germany's Television'.

71   Kette, 'Funkausstellungs-Bericht', 57. The device used for the large-screen transmission was the 'continuous intermediate film system projector' in which the televisually received image was printed on film, developed and projected via a film projector within 50 seconds.

intelligible in one glance: to the onlooker, men and machines were made accessible as a spectacle on display. Rather than creating an environment for the attentive consumption of televisual images, the scenography stressed the materiality of television's infrastructure, which constituted the core of the display. Similarly, rather than opening a 'window onto the world', the limited picture quality of the small screens incessantly pointed back to television's very materiality. Tinged with greenish, yellowish, or blue-white hues,[72] the images indeed appeared as an opaque surface on which television's experimental character was constantly revealed and staged. The necessity to darken the exhibition space emphasized the pictures' fragility, which called attention to the screen as an artefact.

Fascinating as a gadget per se, television's appeal emanated primarily from its objectness, that is its physical presence at the exhibition stands. The public gathered to see the sets, to witness the transmission, to gaze at the television exhibit: the materiality of television, along with the 'craze' it provoked, appeared to be more important for its reception than its actual content. It was the experience of television as such, that is as an apparatus for seeing moving images at a distance, which constituted the sensation for the attending public: television's attractiveness and spectacular quality depended on its 'thingness' whose meaning was co-constructed through its location within a particular (exhibition) space. The hybridity of a conceptually and technologically heterogeneous medium – borrowing from cinema, radio, and telephony – only enhanced its attractiveness as an exhibit.

The Spectacular Object as a Spectacular Dispositif

The role of television's objectness for its success as an object on display can be productively analysed with the help of Frank Kessler's notion of the *dispositif spectaculaire*, a term coined to describe the reception of early cinematographic devices for the viewing of moving images.[73] Discussing press reports from the mid-1890s, Kessler shows that the spectacular dispositifs 'in the first place exhibit[ed] a technology'[74] and fascinated their spectators through their material possibilities. Machines such as Ottomar Anschütz's electrotachyscope nourished the spectators' curiosity for the technology of moving images more than for the moving images themselves.

72   Kette, 'Funkausstellungs-Bericht', 53.
73   Kessler, 'La cinématographie'.
74   *Ibid.* 29.

The spectacular dispositif thus designates an interaction between spectator and technological innovation that predominantly proceed from the material potentiality of the device; the second notion introduced by Kessler, the *dispositif of the spectacular*, produces an encounter between viewer and machine organized around spectacular content. Drawing on the machine's potential to record and to play movement and to astonish the audience through a surplus of visuality, the dispositif of the spectacular is synonymous with the more common notion of the cinema of attractions.[75] Together, the notions *spectacular dispositif* and *dispositif of the spectacular* articulate technology's social construction: if the difference between the two dispositifs resides in their presentation and reception of media as foremost technological versus visual artifacts, their respective definition is less essential or ontological but instead shaped by historical contexts and practices.

Kessler's proposal to differentiate between these two dispositifs represents thus a useful historiographical intervention as it makes visible distinct uses and definitions within what, at first sight, appears to be a singular media formation – namely 'early cinema'. As his study demonstrates, the dispositif concept not only helps us to better understand (media) history, it is actually a means for doing (media) history. In the words of cinema historian Weihong Bao: 'the dispositif remains a heuristic tool, rather than an identifiable fact, for us to articulate the particular complexities of historical moments'.[76] Similar, François Albera and Maria Tortajada insist that 'the dispositif doesn't exist' as such, but represents the conceptual node of the historian's work.[77]

For my own study of 'television fairs', the dispositif concept allows me to grasp historical specificities directly related to television's status as a medium on display. It provides a tool to discuss interwar television beyond a technicist description of the medium's materiality in terms of picture quality and screen size, and to understand how television was made part and parcel of the universe of leisure and consumption staged at radio fairs. If the topoi of progress and wonder shaped television's emergence on the discursive level, Kessler's notion reminds us of the importance of materiality to the medium's reception: the spectacular dispositif invites us to conceptualize the framing and reception of new media from a 'materialist' perspective, and offers a key to understanding television's attraction as an *exhibited* rather than *broadcasting* mass

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75   See Gunning, 'Cinema of Attraction[s]'.

76   Bao, *Fiery Cinema,* 30.

77   Albera and Tortajada, 'Le dispositif n'existe pas'.

media. The notion further allows to suggest several hypotheses concerning the spectator-visitor of experimental television. Indeed, with historiographical debates mostly turned towards inventors and technical data, the interwar 'tele-viewer' has received virtually no consideration and is mainly described as 'absent'.[78] Focusing on the media object as well as on its modes of presentation and reception shifts the attention towards an audience that experienced television less through audiovisual content than through its presence as an exhibit. To think of spatial arrangements and television displays in terms of dispositif has therefore helped me conceptualize and differentiate several schemes describing the interaction between technologies, the public, and media content at a given moment: as the following chapter will show, the display of television at fairs produced three dispositifs in addition to the spectacular dispositif, each of which can be understood as yet another definition of a new medium in the making.

Kessler's choice of vocabulary finally reverberates with a recent discussion brought forth by television historian Helen Wheatley's research on 'spectacular television'. Contrary to the medium's common association with the domestic, familiar, and otherwise habituated, Wheatley argues, television has throughout its history explored the visual spectacular, be it in programmes exploring the potentialities of colour TV, in landscape-focused documentaries, or in shows focusing on marginal or, on the contrary, desirable bodies. Spectacular images broadly defined, she shows, constitute a main attraction for television audiences up to our own digital age.[79] Importantly for my study, in the first chapter of her book, Wheatley addresses not televisual content, but televisual *displays* in the 1950s, observing that 'for many people in Britain, events such as Radiolympia, the Ideal Home Exhibition, or the Festival of Britain (1951) would be the place where they would first encounter television'.[80] Very similar to interwar exhibitions, the televisual displays at these large-scale post-war exhibitions focused on pleasurable encounters with spectacular expressions of technological modernity. Wheatley's research thus not only emphasizes the importance of what we might call the 'spectacular paradigm' for television's visuality, but highlights the role of the medium's materiality in creating spectacles for a mass audience.

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78   William Uricchio writes: 'German [interwar] television fundamentally lacked an audience'. Uricchio, 'Television as History'.
79   Wheatley, *Spectacular Television*.
80   Wheatley, *Spectacular Television*, 24.

The Spectacular Dispositif as a Bodily Experience

Central to the televisual spectacular in the interwar period were notions of 'pleasure' and 'amazement' communicated through enthusiastic press reports and the sheer number of visitors at demonstrations. In absence of programmes, the televisual spectacular was also closely related, and dependent upon, a bodily interaction with the technological novelties. At the trade fairs and exhibitions, this physical engagement with television resulted from the spatial ordering and presenting of the devices, and required diverse measures of protection from visitors.

Due to the limited luminosity of television screens, it was often necessary to show the pictures in darkened rooms that contrasted with the surrounding brightly lit exhibition halls. Because of their fragile and 'pixelated'[81] images, the television demonstrations were preferably held in darkened spaces. In Berlin, the art of penumbra was achieved through the use of hefty drapery and reddish lighting. The curtains hanging in front of the windows and decorating the ceiling of the exhibition hall preserved the low intensity of the television images, creating a decor similar to theatres or movie houses. For some devices, a drape was hung around the screen, building a tent for the spectator; sometimes the image was seen through a cone or other aid helping to focus the spectator's gaze on the very small screens.[82] Dénes von Mihály's Telehor, a device developed with the support of the German Reichspost, framed the spectator's gaze through a wooden shade protecting the image from the outside light (Figures 0.1 and 2.7). The 1929 television hall at the Funkausstellung combined sophisticated *Fernseh-Häuschen* ('television cabins')[83] built for individual viewing with non-working sets displayed along the walls (Figure 2.8). Seats and benches invited visitors to rest and adjust to the penumbra before wandering from one exhibit to another. And although it seems from the photographs that visitors could approach the machines to actually see the picture, a handrail protected the devices from overly curious bystanders.

The volume of visitors passing through the television booths and the enthusiastic reactions towards the machines indeed seemed to justify measures taken to shield them from unwary gestures. While figures of attendance, reported regularly in the press, were used to proclaim the events'

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81   'Pixel' is an anachronism. The word is not used in my sources and, according to the *Oxford English Dictionary*, enters the English language in 1969 as an abbreviation for 'picture elements'. However, in German, the expression *Bildpunkte* was widely used to describe picture quality (the more image points, the better an image's the quality).

82   Kette, 'Das Fernsehen auf der Berliner Funkausstellung 1932', 195.

83   Kette, 'Was hat uns die Fernseh-Abteilung?', 29.

Figure 2.7. Visitors peeking into von Mihály's Telehor at the 1929 Funkausstellung**.** Source: Bayerische Staatsbibliothek München/Bildarchiv.

success, the crowds that the organizers wished to attract also represented a danger to the fragile transmitters and receivers. What if the 'long line of men, women, and children in single file waiting their turn to march past the televisor's silver screen'[84] suddenly decided to break out from their designated areas and manipulate the devices themselves? Destined to a mass public, television as an exhibit was a medium whose consumption was regulated through social conventions and specific scenographic settings that prevented uncontrolled behaviour from visiting crowds. As the photographs show, barriers separated individual viewers from the rest of the public, forcing visitors to form an orderly queue to see the exhibits. Here individual visitors became part of the spectacle and, together with the television machine they were examining, were tantamount to the attraction on display. The queues formed by visitors to see an exhibit were calculated to be part of the display: as in the press reports described above, the audience *was* the spectacle. Other spatial markers determined the distance between the visitors' bodies and the machines, the angles from which the exhibits could be seen, and the point of view the spectator would have of the televisual image (Figure 2.9).

84   'Television Thrills Radio Show Crowd'.
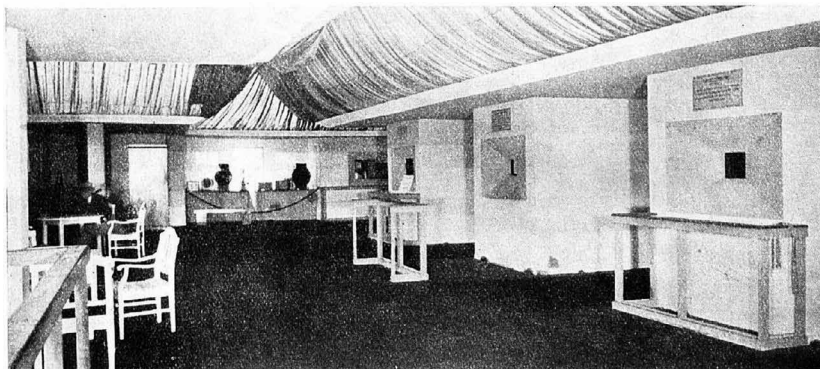
Figure 2.8. Television exhibition featuring 'television cabins' at the 1929 Funkausstellung. Source: Georg Kette, 'Was hat uns die Fernseh-Abteilung der Berliner Funkausstellung gezeigt?', *Fernsehen* 1, no. 1 (1930): 29.

Television in a London Store

An exhibition of television apparatus was recently staged by Holdrons, Ltd., the well-known London store, of Rye Lane, Peckham. A representative collection of receivers was displayed and although, of course, it was not practicable to show these reproducing pictures, they were shown under working conditions with the motors running. Firms who lent apparatus for the display were British Television Supplies, Ltd., The Edison Swan Electric Co., Ltd., The Mervyn Sound and Vision Co., Ltd., and Television Instruments, Ltd. Included also were the Simplest Mirror-drum receiver and the Disc Screen Projector, both of which were recently described in this journal. The large amount of attention that the display created was proof of the interest of the public in television.

A Television Exhibition in a London Store; this is a photograph of the display of television apparatus made by Holdrons, Ltd., of Peckham. Several types of scanning apparatus were shown under working conditions, each being placed in a semi-darkened cubicle as shown above.

Figure 2.9. Television exhibition at London store, with people queuing in order to see the sets from close-up. Source: 'Television in a London Store', *Television* 7, no. 81 (November 1934): 506.

The expositional gesture framing the spectacular dispositif was therefore also an instrument for the management of the body determining the visitors' experience of the artefacts on display. The act of displaying addressed visitors as spectators to whom a particular location and posture was assigned. It played a practical function in protecting the fragile objects on display but also canalized the masses and transformed them into a spectacle themselves. In his genealogy of the 'exhibitionary complex', Tony Bennett has argued that the disciplinary functions of Michel Foucault's surveillance institutions (the prison, the asylum, the clinic) were absorbed by museums and other sites of displays whose function was not to atomize individuals (as in

the panopticon described by Foucault) but rather to assemble and govern the crowd 'by rendering it visible to itself, by making the crowd itself the ultimate spectacle'.[85] As a technique embracing specific power effects, the exhibitionary complex represents a social order in which the public is regulated through subtle mechanisms of self-censuring and self-watching. This governing of the masses through particular 'hierarchically organized systems of looks',[86] Bennett argues, finds its reasoning in the necessity to exercise control over heterogeneous crowds. In his example of museums in the late 1700s and early 1800s, the exhibitionary complex sustained the transformation of a multiform mob into an orderly group and, more specifically, the education and regulation of the working classes.

With their own specific organization of spaces and crowds, the radio shows were part of Bennett's exhibitionary complex. The *mise en scène* of visitors through particular exhibition architecture resulting in mutual observation was not implicitly but explicitly intended: the scenographies integrated the long line of spectators into their display. Assigning visitors *and* the objects on display a specific space, they reified their respective roles as consumers and commodities; producing multiple discourses on television, they provided the language and knowledge to absorb technological change; and, as I will discuss further in Chapter 4, supporting national politics and nationalist (and National Socialist) rhetoric, they sustained the representation of an imaginary community defined by industrial production and scientific research.

However, focusing solely on the disciplinary function of the exhibitionary gesture enacted by complex visual systems, Bennett's analysis risks overlooking more complex meanings of spectacle and consumption. As historians of popular culture have shown, the display of technology can also be understood as a pleasurable and knowledgeable 'encounter with modernity',[87] where consumer pedagogy, commercialized as a spectacle, provided meaningful insights into technological innovation and change. Vanessa Schwartz, who studies popular spectacles in nineteenth-century Paris, criticizes Bennett's approach for its focus on institutional networks and state power.[88] While Bennett shifts the attention from Foucault's regimes of punishment and confinement to exhibitions, his intervention 'ultimately

85 Bennett, 'Exhibitionary Complex', 81. Also Bennett, *Birth of the Museum.*
86 Bennett, 'Exhibitionary Complex', 81.
87 Gunning, 'Aesthetic of Astonishment', 129.
88 Schwartz, *Spectacular Realities*, in particular 1–12; see also Anne Friedberg's discussion of the *flâneuse* in Friedberg, *Window Shopping*, 32–37; Ward, *Weimar Surfaces*, 192–199.

offers only a different means to the same Foucauldian gloomy end'.[89] Wax museums, boulevards, and other spectacular crowd-pleasers, Schwartz shows, offered a shared framework for experiencing and participating in urban modernity. Rather than understanding spectacle solely as a disciplinary means, she comprehends spectacular pleasures as multidirectional interplays of social and economic forces. Furthermore, as Thomas Grossbölting underscores in his review of Bennett's exhibitionary complex, (industrial) exhibitions are multifaceted events that not only displayed hegemonic discourse but also stimulated counter-narratives, contestations, and critical debates.[90]

The radio fairs' primary function aimed at fostering trade and national industry and advertising radio and other consumer electronics to consumers. The events prepared visitors for technological and social transformation by creating newness as 'always the same thing',[91] and sustained the capitalist cycle of novelty and obsolescence. But radio fairs also provided potential pleasures for spectators by offering multiple interactions between scenographies and visitors' bodies, exhibits and corporeality. While Bennett locates the regulating function of exhibitions primarily within the system of looks (translating a system of authority) moulded at the events, the sources presented above indeed indicate that the visitor's whole body was affected by the televisual display. As cultural anthropologist Gudrun M. König has observed, exhibitions suggest a visuality that 'uses the body's synthetizing efforts including distances, movement and rotation'.[92] In other words, the television exhibition, although addressing first the visual sense, implied a corporeal perception of things shown. The photograph taken of Dénes von Mihály's booth at the Funkausstellung in 1928 documents this idea emblematically. In order to 'watch' the Telehor, the viewers had to bend to be at the right height, adjusting the body to the machine (Figures 2.7. and 0.1).

If fairgoers had the occasion to '*experience* television for the first time',[93] the exhibition created thus an environment which fostered knowledge through visual and bodily stimulus. Celebrated as 'sensation' and 'thrill', the televisual devices' effects were not only visually, but also viscerally sensed. This experience of and with television was most explicitly brought to the fore in the accounts of people put in front of a television camera. In 1932,

89   Schwartz, *Spectacular Realities*, 6.

90   Grossbölting, '*Im Reich der Arbeit*', 39–40.

91   Benjamin, *Arcades Project*, 868.

92   König, *Konsumkultur*, 187.

93   'Was bringt die Deutsche Funkausstellung 1928?'. Emphasis mine.

during an experimental broadcast by CBS, former Democratic candidate for president and New York Governor Alfred 'Al' Smith was

> led [...] into the dim little bolt-hole of a studio on the twenty-first floor of the Columbia Broadcasting System Building and stood [...] before the fierce electric eye that beat upon his face through a small window.[94]

In this account, Smith encountered not just a camera, but an aggressive machine whose force he felt on his body. Boosting the sense of strangeness emanating from the camera, the journalist continued:

> I slipped through the door opposite and into the room where the machinery behind the electric eye buzzed and groaned and made everything seem [...] a miniature inferno. There wasn't much light in that room, but a teeny spot light shone on a curl of smoke that passed through open space and up into a pipe [...] I was all alone in that mysterious little room when Mr. Smith began to televise, and watched him eye to eye with the electric eye.[95]

The dramatic description of the apparatus' buzzing and groaning, the smoke, as well as the environment's darkness, was meant to render television's extraordinariness to readers of the *New York Sun*. Translated by the journalist into an overwhelming situation saturated by intense, technically mediated stimuli, (the newness of) television was a sensory experience. Only slightly less dramatic was the account of the visit of the Danish royal couple of the General Electric Exhibit at World's Fair in New York, where the princess conversed with her husband through television:

> With the guests seated in the television theatre, the Prince went into another room, whence, by television apparatus, his image was cast on a foot-square screen. He said nothing and remained only a moment in the projection room, but the Princess, who went in next, proved a better television actress. 'Can they see me now? Can they hear what I say?' she asked an attendant who accompanied her, while her husband and the audience watched her projection on the screen and clearly heard her voice. Laughing delightedly when she was informed that the apparatus

94   'Al Smith Faces Televisor'. Smith had already been televised in September 1928 when he gave his speech of acceptance of the Democratic Party's presidential nomination; cf. Udelson, *Great Television Race*, 33.

95   'Al Smith Faces Televisor'.

was functioning, she turned to the screen and added: 'This is one of the most thrilling things I have ever seen. It is a most curious sensation.' [96]

Implicating the visitor not as a spectator but as a participant, the experience of being televised provided embodied sensations verbally translated into exclamations of superlatives. What is more, the spectacular dispositif fostered access to technology and innovation for social groups traditionally excluded from scientific research. The 'women and children' in long queues, like the Danish princess, would usually not enter scientific laboratories: at the fairs and thanks to the staging of technology as a commodity-experience, they could partake of televisual entertainment.

Obviously, these testimonies, as with any press report, should not be understood as a direct transcription of an authentic experience: they are narrated and formalized mediations of a situation that in itself was already staged for an audience (at the CBS studio; at the World's Fair). They were used to promote television displays and radio fairs in general, and to sell yet another commodity-experience of technology. However, they also highlight a more general aspect of television's representation and reception that ties the televisual spectacle to other forms of popular entertainment generating various affective states. In other words, the spectacular dispositif offered multifaceted pleasures beyond the visual that fostered the medium's integration into commercial leisure culture. The various descriptions indicate that the machines were not only apprehended intellectually and perceived visually, but also *sensed* in synesthetic and physiological ways. Whether creating the possibility to participate directly at a live transmission or implicating the visitor through particular scenographic settings and forms of spectatorial address, the television displays provided experiences striking not only one's eye, but (almost) every limb of one's body. In doing so they made myths of progress and technological advancement intelligible to a broad range of audiences, transformed abstract ideas about modernity into three-dimensional artefacts, and promoted scientific objects as commodity-experiences. For media historians, the most prominent example of such a sensational culture certainly is the cinema of attractions and its 'aesthetic of astonishment'. As Tom Gunning and others have extensively discussed, rather than to provide a diegetic immersion and identification with the fictional world, the cinema of attractions exploited the machine's potential to (re)create 'sensations and thrills' symptomatic and constitutive of modernity.[97] Early

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96   'Danish Heir Happy as Plain Sightseer'.
97   Gunning, 'Aesthetic of Astonishment', 33. Also Gunning, 'Cinema of Attraction[s]', 56–62.

cinema's regime of pleasure was thus fundamentally different from the one offered by the classical (narrative) film and can serve, as Jussi Parikka has proposed, as a starting point for a broader 'media archaeology of the senses'. Such an investigation of the genealogies of historic modes of perception brings to the fore embodied sensations and corporal involvement, shifting the focus from spectators to participants.[98] While Helen Wheatley shows that spectacular television has been part of an archaeology of the senses in the post-war years, the spectacular dispositifs here discussed illustrate that already interwar television nourished the culture of 'astonishment', not through spectacular content but through public display.

Works Cited

Albera, François, and Maria Tortajada. 'Le dispositif n'existe pas!' In *Ciné-dispositifs: spectacles, cinéma, télévision, littérature*, edited by François Albera and Maria Tortajada (Lausanne: L'Âge d'Homme, 2011), 13–38.

Andriopoulos, Stefan. 'Psychic Television'. *Critical Inquiry* 31, no. 3 (2005): 618–637.

Anon. 'Television'. *Nature* 118, no. 2957 (3 July 1926): 18–19.

Anon. 'Funk-Schau Vorschau'. *B.Z. am Mittag*, 4 August 1928.

Anon. 'Was bringt die Deutsche Funkausstellung 1928?'. *Schweizerische Radiozeitung / Radio-Bern* 5, no. 35 (1928): 565.

Anon. 'Edison Opens Radio Show Monday'. *The New York Sun,* 15 September 1928.

Anon. 'CROWDS ATTEND RADIO EXHIBIT – Television Exhibit Leads in Popular Interest'. *The New York Sun*, 18 September 1928.

Anon. 'Television Thrills Radio Show Crowd'. *The New York Times,* 21 September 1928.

Anon. 'Editorial'. *Television: The World's First Television Journal* 1, no. 8 (October 1928): 3–4.

Anon. 'Editorial. Television at Olympia'. *Television: The World's First Television Journal* 1, no. 9 (November 1928): 3.

Anon. 'The Fifth Annual Radio World's Fair'. *Radio News* 10 no. 6 (December 1928): 542, 577.

Anon. 'Television at the Berlin Exhibition'. *Television: The World's First Television Journal* 2, no. 21 (October 1929): 379–389.

Anon. 'Off to A Flying Start'. *Radio Retailing* 12, no. 4 (October 1930): 44–45, 71.

Anon. 'Funkausstellung eröffnet'. *B.Z. am Mittag,* 19 August 1932.

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98 Parikka, *What Is Media Archaeology?*, 19–40. Focusing for instance on tactility, this media archaeology can articulate contemporary media forms such as gaming and interactive screen technologies together with earlier dispositifs such as optical toys.

Anon. 'Two Units Needed for Vision'. *The New York Sun*, 17 September 1932.

Anon. 'Al Smith Faces Televisor'. *The New York Sun,* 24 September 1932.

Anon. 'Television at Radiolympia'. *Television: The First Television Journal in the World* 5, no. 55 (September 1932): 247–248.

Anon. *Amtlicher Führer. Grosse Deutsche Funk-Austellung Berlin 1934* (Berlin: Franz Eher GmbH, 1934).

Anon. 'All-Wave Sets at Radiolympia'. *The Times*, 5 September 1936.

Anon. '13. Grosse Deutsche Rundfunkausstellung in Berlin'. *Der Film* 21, no. 35 (August 1936): n. pag.

Anon. 'Watching a Radio Shadow Show'. *The New York Times*, 24 October 1937.

Anon. 'Danish Heir Happy as Plain Sightseer'. *The New York Times,* 4 May 1939.

Bao, Weihong. *Fiery Cinema: The Emergence of an Affective Medium in China, 1915–1945* (Minneapolis, London: University of Minnesota Press, 2015).

Barthes, Roland. *Mythologies*, transl. Annette Lavers (New York: Noonday Press, 1972 [1957])

Bennett, Tony. 'The Exhibitionary Complex'. *New Formations*, no. 4 (1988): 73–102.

Bennett, Tony. *The Birth of the Museum: History, Theory, Politics* (London; New York: Routledge, 1995).

Berton, Mireille. 'The "Magism" of Cinema and Imaginary Spiritism in France at the Beginning of the Twentieth Century'. *Early Popular Visual Culture* 13, no. 2 (2015): 113–133.

Berton, Mireille. *Le médium* (*au*) *cinema* (Geneva: Georg Editions, 2021).

Benjamin, Walter. *The Arcades Project*, edited by Rolf Tiedemann, trans. Howard Eiland and Kevin MacLaughlin (Cambridge, Mass.: The Belknap Press, 1999).

Boddy, William. *New Media and Popular Imagination: Launching Radio, Television, and Digital Media in the United States* (Oxford: Oxford University Press, 2004.)

Burns, Russell W. *Television: An International History of the Formative Years* (London: Institution of Electrical Engineers, 1998).

Crafton, Donald. *The Talkies: American's Cinema Transition to Sound, 1926–1931* (Berkeley: University of California Press, 1999).

Fickers, Andreas. *'Politique de la grandeur' versus 'Made in Germany'. Politische Kulturgeschichte der Technik am Beispiel der PAL-SECAM-Kontroverse* (München: R. Oldenbourg, 2007).

Fickers, Andreas, and Pascal Griset. *Communicating Europe: Technologies, Information, Events.* (London: Palgrave Macmillan UK, 2019).

Friedberg, Anne. *Window Shopping: Cinema and the Postmodern* (Berkeley: University of California Press, 1994).

Galili, Doron. *Seeing by Electricity*: *The Emergence of Television, 1878 – 1939* (Durham, NC Duke University Press, 2020).

Gall, Alexander. 'Wunder der Technik, Wunder der Natur. Zur Vermittlungs-leistung eines medialen Topos'. In *Wunder. Poetik und Politik des Staunens im 20. Jahrhundert*, edited by Alexander C. T. Geppert and Till Kössler (Berlin: Suhrkamp, 2011), 270–304.

Gradenwitz, Alfred. 'A Special Article on Germany's Television'. *Popular Wireless and Television Times* (6 October 1934): 110.

Grossbölting, Thomas. *'Im Reich der Arbeit': Die Repräsentation gesellschaftlicher Ordnung in den deutschen Industrie- und Gewerbeausstellungen 1790–1914* (Munich: Oldenbourg, 2008).

Gunning, Tom. 'The Cinema of Attractions: Early Film, Its Spectator and the Avant-Garde'. In *Early Cinema. Space, Frame, Narrative* edited by Thomas Elsaesser (London: BFI, 1990), 56–62.

Gunning, Tom. 'The Aesthetic of Astonishment: Early Film and the (In)credulous Spectator'. In *Viewing Positions: Ways of Seeing Film*, edited by Linda Williams (New Brunswick, NJ: Rutgers University Press, 1995), 114–133.

Gunning, Tom. 'Re-Newing Old Technologies: Astonishment, Second Nature, and the Uncanny in Technology from the Previous Turn-of-the-Century'. In *Rethinking Media Change: The Aesthetics of Transition*, edited by David Thorburn and Henry Jenkins (Cambridge: MIT Press 2003), 39–60.

Harvey, David. *Justice, Nature and the Geography of Difference* (Cambridge, Mass.: Wiley- Blackwell, 1997).

Huhtamo, Erkki. 'Dismantling the Fairy Engine. Media Archaeology as Topoy Study'. In *Media Archaeology: Approaches, Applications, and Implications*, edited by Erkki Huhtamo and Jussi Parikka (Berkeley; Los Angeles; London: University of California Press, 2011), 27–47.

Kette, Georg. 'Was hat uns die Fernseh-Abteilung der Berliner Funkausstellung gezeigt?'. *Fernsehen. Zeitschrift für Technik und Kultur des gesamten elektrischen Fernsehwesens* 1, no. 1 (1930): 28–32.

Kette, Georg. 'Das Fernsehen auf der Berliner Funkausstellung 1932'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehwesens und des Tonfilms* 3, no 4 (October 1932): 193–205.

Kette, Georg. 'Funkausstellungs-Bericht'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehwesens und des Tonfilms* 5, no. 5 (1934): 51–60.

Kern, Stephen. *The Culture of Time and Space, 1880–1918* (Cambridge, Mass.: Harvard University Press, 2003 [1983]).

Kessler, Frank. 'La cinématographie comme dispositif (du) spectaculaire'. *Cinémas* 14 (2003): 21–34.

König, Gudrun M. *Konsumkultur: inszenierte Warenwelt um 1900* (Vienna: Böhlau Verlag, 2009).

Larsen, Egon. 'Fernseher in Sicht!'. *Film und Volk: Organ des Volksfilmverbandes* 2, no. 4 (1929) [Reprint: Köln: Prometh 1978]: 9–10.

Lescarboura, Austin C. 'Radiovision Bids for Public Favor'. *Projection Engineering* 2, no. 6 (June 1930): 15–17.

Magoun, Alexander B. *Television: The Life Story of a Technology* (Baltimore: Johns Hopkins University Press, 2009).

Marchand, Roland. *Advertising the American Dream: Making Way for Modernity, 1920–1940* (Berkeley: University of California Press, 1986).

Morton, David, and Joseph Gabriel. *Electronics. The Life Story of a Technology* (Baltimore: The Johns Hopkins University Press, 2007).

Mosco, Vincent. *The Digital Sublime: Myth, Power, and Cyberspace* (Cambridge, Mass.: MIT Press, 2005).

Natale, Simone. *Supernatural Entertainments: Victorian Spiritualism and the Rise of Modern Media Culture* (University Park, Penn.: Penn State University Press, 2016).

Natale, Simone. 'There Are No Old Media'. *Journal of Communication* 66 (2016): 585–603.

Neuburger, Albert. 'The Karolus System of Television'. *Television: The World's First Television Journal* 1, no. 8 (October 1928): 35–37.

Neuburger, Albert. 'Am Fernseh-Sprecher'. *Berliner Zeitung*, 7 September 1929.

Neuburger, Albert. 'Die Funkausstellung – eine Tonschau'. *B.Z. am Mittag,* 21 August 1931.

Norman, R. C., 'A Message from the B.B.C. to Radiolympia 1938'. In *The National Radio Exhibition. Radiolympia. Official Catalogue* (London: RMA, 1938), 11.

Parikka, Jussi. *What Is Media Archaeology?* (Cambridge: Polity, 2012).

Petzold, Hartmut. 'Zur Entstehung der elektronischen Technologie in Deutschland und den USA. Der Beginn der Massenproduktion von Elektronenröhren 1912–1918'. *Geschichte und Gesellschaft* 13 (1987): 340–367.

Regen, Bernard R., and Richard R. Regen, *German-English Dictionary for Electronics Engineers and Physicists with a Patent-Practice Vocabulary* (Ann Arbor: 1946).

Reith, John. 'A Message from the B.B.C. to The National Radio Exhibition, 1935'. In *Official Catalogue of the Tenth National Radio Exhibition Olympia* (London: Radio Manufacturers' Association, 1935), 15.

Rhein, Eduard. *Wunder der Wellen: Rundfunk und Fernsehen dargestellt für jedermann* (Berlin: Ullstein, 1935).

Rieger, Bernhard. *Technology and the Culture of Modernity in Britain and Germany, 1890–1945* (Cambridge, U.K.; New York: Cambridge University Press, 2005).

Schwartz, Vanessa R. *Spectacular Realities: Early Mass Culture in Fin-de-Siècle Paris* (Berkeley: University of California Press, 1999).

Sconce, Jeffrey. *Haunted Media: Electronic Presence from Telegraphy to Television* (Durham, NC: Duke University Press, 2000).

Shiers, George. 'Early Schemes for Television'. *IEEE Spectrum* 7, no. 5 (May 1970): 24–34.

Staudenmaier, John M. 'The Perils of Progress Talk: Some Historical Considerations'. In *Science, Technology, and Social Progress*, edited by Steven L. Goldman (Bethlehem, PA: Lehigh University Press, 1989), 268–293.

Trenton, Leslie. 'NOW! Where Do We Go from Here?'. *Television: The World's First Television Journal* 2, no. 21 (November 1929): 451–453.

Turquety, Benoît. *Inventing Cinema: Machines, Gestures and Media History* (Amsterdam: Amsterdam University Press, 2019).

Udelson, Joseph H. *The Great Television Race: A History of the American Television Industry, 1925–1941* (Tuscaloosa: University of Alabama Press, 1982).

Uricchio, William. 'Television as History: Representations of German Television Broadcasting, 1935–1944'. In *Framing the Past: The Historiography of German Cinema and Television*, edited by Bruce Arthur Murray and Chris Wickham, (Carbondale: Southern Illinois University Press, 1992), 167–196.

Ward, Janet. *Weimar Surfaces: Urban Visual Culture in 1920s Germany* (Berkeley: University of California Press, 2001).

Weber, Anne-Katrin. 'Recording on Film, Transmitting by Signals: The Intermediate Film System and Television's Hybridity in the Interwar Period'. *Grey Room* 56 (2014): 6–33.

Wheatley, Helen. *Spectacular Television: Exploring Televisual Pleasure* (New York: I.B. Tauris, 2016).

Wurtzler, Steve J. *Electric Sounds: Technological Change and the Rise of Corporate Mass Media* (New York: Columbia University Press, 2007).

Wythoff, Grant (ed.) *Perversity of Things: Hugo Gernsback on Media, Tinkering, and Scientifiction* (Minneapolis: University of Minnesota Press, 2016).
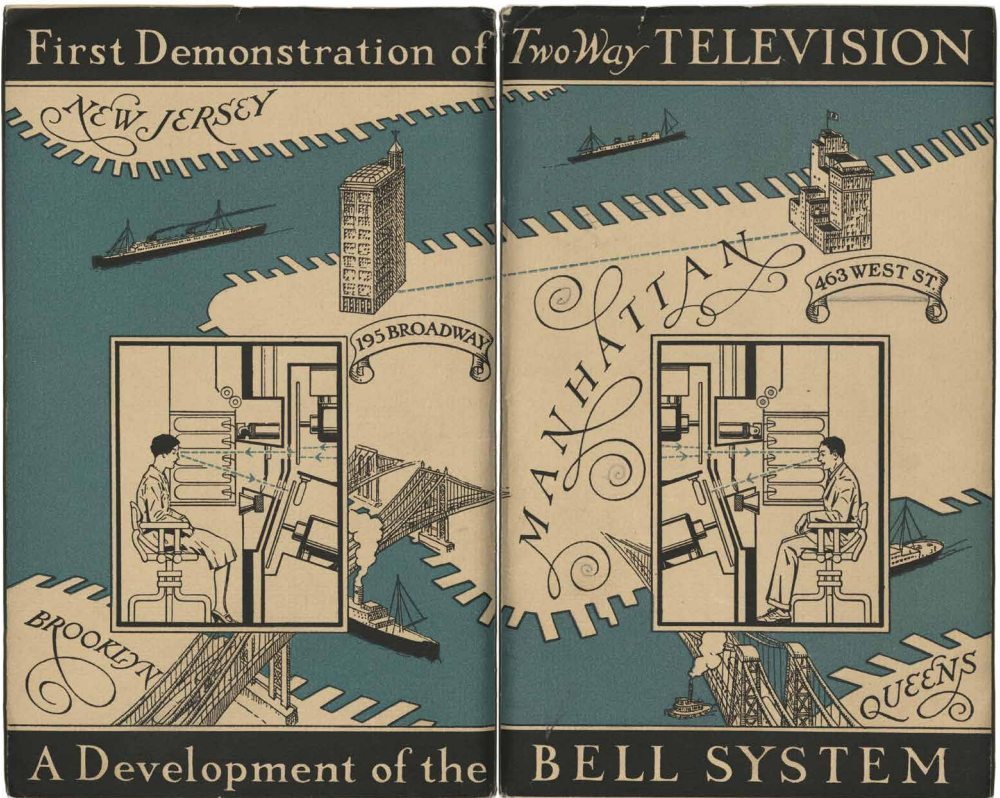
Figure 3.1. Dust cover of the AT&T brochure accompanying the launch of the two-way television system. Source: Bell Telephone Laboratories and Herbert Eugene Ives, *Two-Way Television and a Pictorial Account of Its Background* (New York: Bell Laboratories, 1930). By courtesy of the Department of Special Collections, Memorial Library, University of Wisconsin–Madison.

3. Locating Television Between Imaginaries and Materialities

Abstract

The tension emerging between the televisual imaginary of 'seeing at a distance' and the device's material reality and site-specificity was at the core of televisual displays. Drawing again upon the dispositif concept, the chapter unearths three spatial arrangements, which propose new spectatorial experiences. The reflexive, the live, and the daylight dispositif reveal television's adaptability and elasticity allowing its smooth inclusion within the expositional space. They unveil how recurrent scenographic designs negotiated and, eventually, consolidated television's specificity as a domestic and live media at the expense of alternative televisual uses and technologies. The chapter closes with an 'intermission'; a short intermediate conclusion that emphasizes the importance of locating television in public space to understand how exhibition sites actively shaped the medium's identity through scenography and discourse.

Keywords: interwar television; liveness; two-way television; new media; exhibition studies

During the first years of television demonstrations, visitors discovered a machine that transmitted film excerpts from one corner of a room to another corner of the same room, that projected film excerpts onto large screens, or that projected an actor's performance onto a screen placed above him. The exhibitions anchored the medium in a particular space, within a specific setting, and assigned the object as well as its spectators a precise location. As I have argued in the previous chapter, the attraction of televisual exhibits was dependent on this 'objectness': their value as a spectacular dispositif relied less on media content than on their presence within the exhibition space.

Simultaneously television was thought of as a ubiquitous medium; its specificity was to audiovisually open up access to faraway spaces. The

discursive construction of the medium as a 'window onto the world' associated remote visuality with the capacity of instantaneous vision and shaped the televisual paradigm of immediacy, presence, intimacy, simultaneity, and ubiquity. Linked to the experience of modernity – to the alteration of spatio-temporal relations through new communication and new means of transportation – the televisual imaginaries connected remote places even before first prototypes were developed. William Uricchio has described these 'ideal-typical' forms of immediate communication as 'the televisual',[1] understood not as a particular technology but as a horizon of expectations shaped by the camera obscura, the telegraph, the telephone, and other technologies based on simultaneity and immediacy. More than being a technological fact, the televisual was thus an epistemological framework for thinking about new means of communication.

In the case of interwar television and the first technical solutions for seeing at a distance, the televisual was negotiated within the materialities of particular spaces: interwar television was, to use Anna McCarthy's terms, 'profoundly site-specific',[2] although often described solely in terms of liveness and simultaneity. Exhibitions negotiated between these scales by proposing particular arrangements that simultaneously referred to the imaginary of televisual ubiquity *and* the medium's status as an object on display.

By utilizing the dispositif concept to analyse the exhibits, this chapter addresses the fundamental dialectic of television and asks how fairs managed the televisual imaginary of 'seeing at a distance' and the device's material reality. How did scenographies translate the idea of televisual 'placelessness'[3] or ubiquity in three-dimensional arrangements? And what other spatial orders determined television's presentation? The chapter's first section asserts that the display of television required a reduction in its spatial range and, instead of annihilating space by time, created a reflexive spectacle constantly pointing back towards television itself (Section 3.1). Parting from these reflexive dispositifs, the second section questions the construction of liveness in the exhibition space and discusses how liveness was shaped at fairs (Section 3.2). It presents different definitions of liveness stemming from the displays, and underscores the importance of a network of machines and bodies for the production of 'live TV'. The third section studies the renewed

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1   Uricchio, 'Phantasia and Technè at the Fin-de-Siècle'; Uricchio, 'Television's First Seventy-Five Years'. For an extensive discussion on the links between modernity and television, see Galili, *Seeing by Electricity*.
2   McCarthy, 'From Screen to Site', 99.
3   McCarthy, 'From Screen to Site', 95.

exhibition architecture of the late 1930s, which staged the medium as a new 'daylight' dispositif that no longer required separated, darkened exhibition halls for its presentation (Section 3.3). These daylight dispositifs emerged as a result of electronic television technology and translated in spatial terms the efforts made by organizers to present television as a domestic medium. This new dispositif, however, raised several questions, the most important of which was how to display a domestic medium in a public setting at the fair. The chapter concludes with an 'intermission'; a short discussion of the four dispositifs of interwar television, which emerge through the analysis of television displays held during that period, namely the spectacular, the reflexive, the daylight, and the dispositif of liveness.

3.1   Televisual Reflexivity

As I argued in the previous chapter, the shaping of television apparatuses as *spectacular* dispositifs depended on their proximity to visitors: at the core of the presentation lay the showcasing of machines, examined and evaluated by the audience at close range. Their technological imperfections – the smallness of the picture, the limited content – were no impediment to spectatorial appreciation but rather fostered the device's classification as a novelty. By narrativizing and spectacularizing television, the press and the exhibitions created a discursive and physical space, which allowed the technology to travel from the hidden spheres of the inventor's laboratory into a more familiar realm of consumer technologies and pleasures. The encounter between the television apparatus and its spectator was regulated by various measures that separated the exhibition space from the space of reception. Handrails, windows, and other scenographic aids made sure that visitors did not cross the frontier preventing the two spaces from collapse. If spectacular television was to be considered a space-binding technology, then it is merely because it tied its audience to a very precise place determined by the expositional gesture. In this sense, the spectacular dispositif can also be defined as a particular spatial relation between the televisual object and its spectator, created to direct the latter's attention to the former's materiality.

This spatial relation was co-determined by the exhibition space and its organizational logic. In itself a 'window onto the world', the fair assembled, as sociologist Georg Simmel wrote in 1896, 'the products of the [...] world in a confined space as if in a single picture',[4] fitting the exhibits

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4   Simmel, 'Berlin Trade Exhibition', 120.

Figure 3.2. '20 million radio listeners', sculpture presented at the Funkausstellung 1928. Source: Stiftung Deutsches Rundfunkarchiv, C. J. von Dühren & Ernst Henschel. All rights reserved

into its own four walls. Miniaturization, not so much of singular objects but infrastructures, was therefore inevitable. Giant radio valves and robots, for instance, enhanced the entertainment value of the radio shows thanks to their larger-than-life-size. The transnational network of shortwave

broadcasting or the global grid of transmitter stations, however, could not be displayed without reduction, and neither could the international network of radio listeners. In 1928, on the occasion of the conference of the International Broadcasting Union held at the Funkausstellung, the fair exhibited a sculpture visualizing the 'global community of broadcasting devotees' (*Rundfunkanhängerschaft auf der Erde*), while simultaneously depicting the differences in numbers of listeners existing between countries (Figure 3.2). At Radiolympia, the BBC and the General Post Office (GPO) took great care to present the national infrastructure by staging the network of transmitter antennas as well as a model of the London Broadcasting House (Figures 3.3 and 3.4). Both installations aimed at publicizing the institutions and their services within the surface of just a few square metres.

Similarly, as an exhibit, television called for a reduction of its scale from an imaginary global broadcast to a literal narrowcast. The best way to demonstrate television's potential for a visual exploration of faraway places was to make 'seeing at a distance' graspable to visitors by placing the transmitter and receiver in vicinity. At the New York radio fair in 1929, RCA displayed a one-square-foot large screen [c. 30 x 30 cm] arranged in such a way as to be compared with the 'original scene' played by actors onstage set up nearby.[5] The flying-spot scanner presented at the 1934 Berlin exhibition was mounted in a small, glass-windowed cubicle and transmitted on a receiver placed in front of the installation (see Figure 2.6 above). Again, setting the actual view against its televisual image, the apparatus emphasized the immediacy of the transmission rather than the distance the image had travelled. Both exhibition designs stressed the simultaneity of performance and televisual content by placing transmitter and receiver nearby.

Such compact arrangements of transmitters and receivers resulted in self-contained displays, in which television pointed relentlessly towards itself and its potential as a broadcast medium. Ulises A. Sanabria's public demonstrations of large-screen television were emblematic of such a reflexive dispositif. A key figure in the development of mechanical systems, Sanabria regularly organized television demonstrations in the early 1930s. In 1931 he exhibited his system at the New York Radio Show in Madison Square Garden, where a 'huge screen [...] in the center of the main exhibition floor'[6] transmitted a live programme televised in the basement. In a demonstration organized a few months later at the New York Moss Theater, Sanabria displayed

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5   '300,000 Visit N.Y. Show, See 1930 Design'.
6   'Radio World's Fair Opens'.

Figure 3.3. BBC Exhibition at Radiolympa 1931: the display of British broadcasting infrastructure.
Source: © BBC Photo Library

'the entire television apparatus' on site.[7] In this scenography, the audience could see at a single glance the apparatus, the performance, and the televised image. The screen itself, 'translucent' and hanging from the ceiling above the equipment, revealed nothing more than the immediate surroundings of its own location. The performers' live act and its mediation on the screen created the spectacle of a technological doppelgänger compared in real-time to its 'original': together they produced a mirror effect in which television looked at itself. In the words of Jay D. Bolter and Richard Grusin, Sanabria's demonstration depended upon 'hypermediacy' which, instead of staging an older medium (as in Bolder and Grusin's model), staged itself. By 'mak[ing] us aware of the medium', it stressed its own materiality and self-referentiality.[8]

This reflexivity of television displays was not exclusive to early spectacular dispositifs but continued throughout the 1930s. At the Berlin Funkausstellung in 1937, Telefunken presented a *Redner-Grossbildschirm-Übertragungsanlage* ('speaker large-screen transmission system') that allowed for the instantaneous transmission of a speaker's voice and image rear-projected onto a large

7   'Television to Link Theaters in Test'.
8   Bolter and Grusin, *Remediation*, 174.
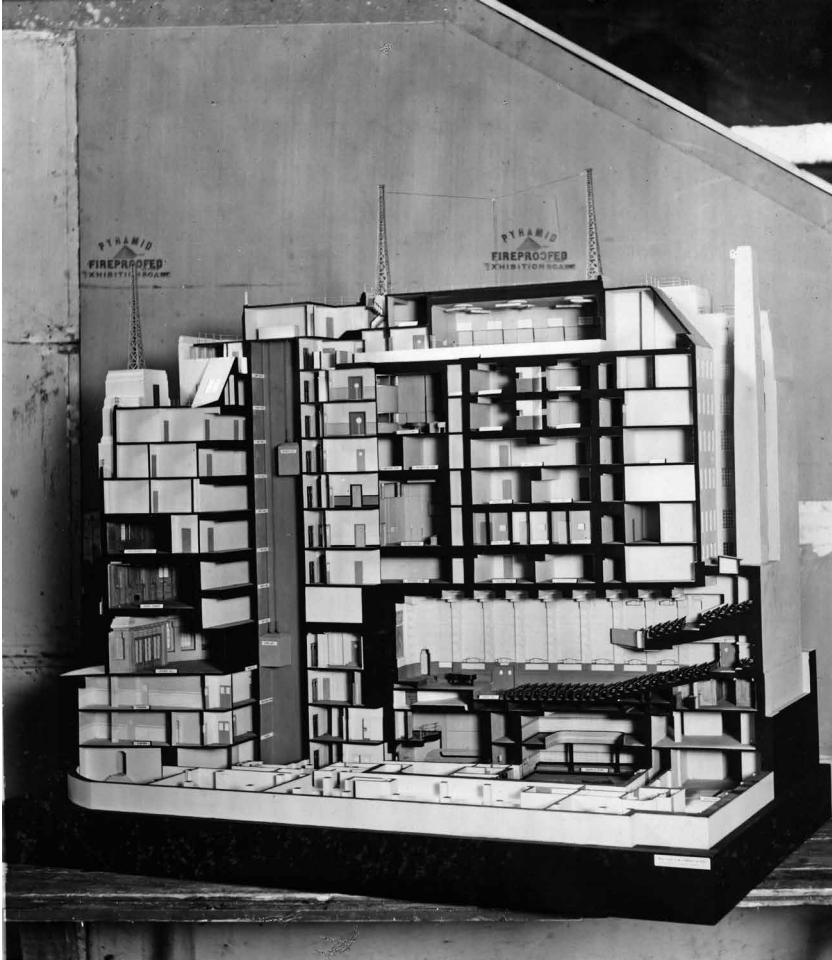
Figure 3.4: Model of the BBC Broadcasting House at Radiolympia 1932. Source: © BBC Photo Library.

screen placed behind the person (Figures 3.5 and 3.6). The speaker, situated between the camera and the screen, constituted the nexus around which the system as a whole was organized. The apparatus was self-sufficient and self-contained: the televisual space covered a few metres between the camera, the projection, and the spectator's eye. The particular disposition of receivers and an 'elaborate system of mirrors' guaranteed that the speaker was able to 'see himself on the receiver whilst facing the audience'.[9] Representation and reception as well as representation and 'reality' collapsed temporally and

9   Traub, 'Television at the Berlin Radio Exhibition, 1937', 294.
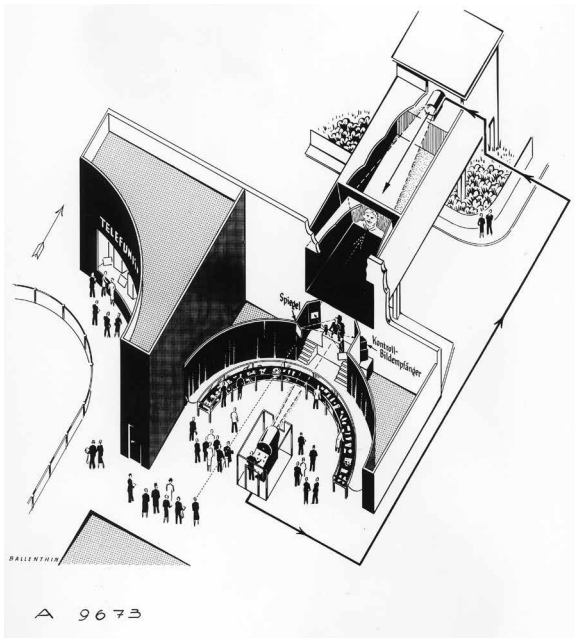
Figure 3.5. Schematic outline of the large-screen projection system for public address at the 1937 Funkausstellung. Source: Stiftung Deutsches Technikmuseum Berlin, Foto Historisches Archiv.
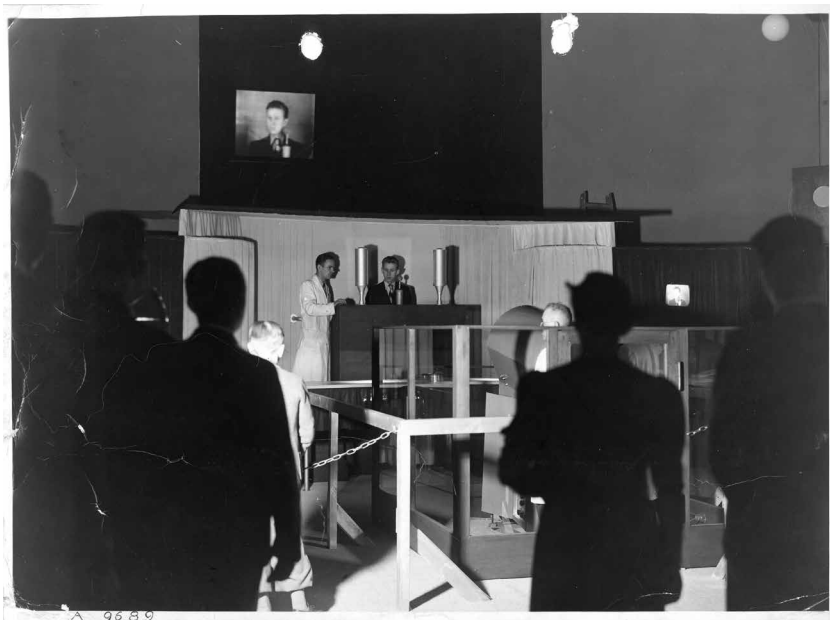
Figure 3.6. Photograph of the large-screen projection system for public address taken at the 1937 Funkausstellung. Source: Stiftung Deutsches Technikmuseum Berlin, Foto Historisches Archiv.

spatially, creating an audiovisual loop in which television exhibited itself. Put on display, its various components – the camera, receivers, screens, control instruments, microphones, and other technical instruments – continuously called attention to the system's materiality.

Expectedly, within the context of the National-Socialist mediascape in the late 1930s, Telefunken did not hesitate to promote the installation's potential for 'a propagandistic use'.[10] From the perspective of television's dispositifs, however, more intriguing than the projected applications of this particular television system is its compressed architecture that stands in contrast with television's social construction as a medium of remote visuality and instantaneous vision. In this display, the common trope of television as a window was undermined: instead of unlimited audiovision, the *narrow* layout performed short-distance transmissions in which the present space and the televised image overlapped. Creating a closed circuit between the camera and the screen, this system proclaimed alternative uses of television which deviated from the conception of television as an *broadcasting* medium.

Thus, televisual settings at the fairs frequently pointed back towards the television system itself. Instead of providing a televisual 'window onto the world', that transgressed the spatial borders of the televisual display, scenographies accentuated the location of the entire television system within the same space. Raising awareness of the medium, the reflexive dispositif emphasized the spatio-temporal configuration of *simultaneous* transmission *at a distance* while remaining limited to the micro-spaces of the exhibition halls.

David Thorburn and Henry Jenkins have argued that media 'self-awareness' and 'self-reflexivity' are related to 'periods of media change' and the particular 'aesthetics of transition' they engender.[11] According to these authors, the medium's novelty period distinguishes itself from later phases because of its 'deep and even consuming self-consciousness',[12] and represents a distinct moment within a medium's history that hyperbolizes certain traits such as self-reflexivity and technological exhibitionism. The disappearance of these characteristics coincides with a new period in this particular medium's institutionalization. Interwar television would easily fit

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10   Das Bundesarchiv (hereafter BArch), R 4701/13061, Fernsehen Allgemeines, 1938–1940. 'Antrag Gladenbeck: Redner-Grossbild nach dem Glühlampentableauverfahren von Prof Karolus, 8.9.1939'.

11   Thorburn and Jenkins, 'Towards an Aesthetics of Transition', 4.

12   Thorburn and Jenkins, 'Towards an Aesthetics of Transition', 4.

into this historiographical scheme: from the point of view of institutional-
ized television, its otherness – the absence of stable economic, social, and
institutional structures, but also its flexibility and heterogeneity – can
serve to argue in favour of a narrative of difference between 'early' and
'institutionalized' TV. Understood as a result of the exhibition gesture,
however, television's self-reflexivity ceases to be a sole expression of its
novelty. On display, each exhibit highlights the very gesture of display-
ing, which in turn spotlights the object shown. On display, every object
as an object is intrinsically exhibitionist. Constantly calling attention
to itself, this expositional gesture is essential to the culture of showing
that characterizes modern consumer society.[13] Interwar television's self-
reflexivity confirms the medium's place within this culture, a place less
determined by the commercial value of receivers and programmes than
by pleasurable encounters with technology and modernity turned into a
commodity-experience.

Window-Framed Exhibition Spaces

If televisual reflexivity – as much as the medium's spectacularity – was thus
tied to the expositional gesture as such, it was intensified and accentuated in
displays that playfully staged the act of staging itself. Installing an exhibition
within an exhibition, the fairs often presented transmitters and receivers
in windowed spaces. This transparent architecture emphasized television's
reflexivity and underscored the exhibition's own mediality.

   In 1929 the Baird Television Company presented its television system
in a locale adjacent to the Radiolympia halls. Organized around the same
time as when the BBC, after negotiations with Baird, eventually agreed to
support experimental broadcasts, the display envisioned the layout of a
(future) television studio. Upon entering the exhibition, visitors were guided
into a demonstration space hosting receivers, a studio, and a control room.
The map published in the journal *Television* highlighted the 'glass windows'
separating the visitors' space from the studio and the control room (Figures
3.7 and 3.8), while the article insisted twice on the presence of glass.[14] On
the right to the glass studio, two television sets were positioned. Given the
small screen size, only one person at a time could see the televisual image:
'public gangways' installed in front of the receivers canalized the visitors
into a disciplined single-file queue. Similar to balustrades, cordons, and large

13   König, *Konsumkultur*, 33.
14   Trenton, 'Now! Where Do We Go from Here?', 451.
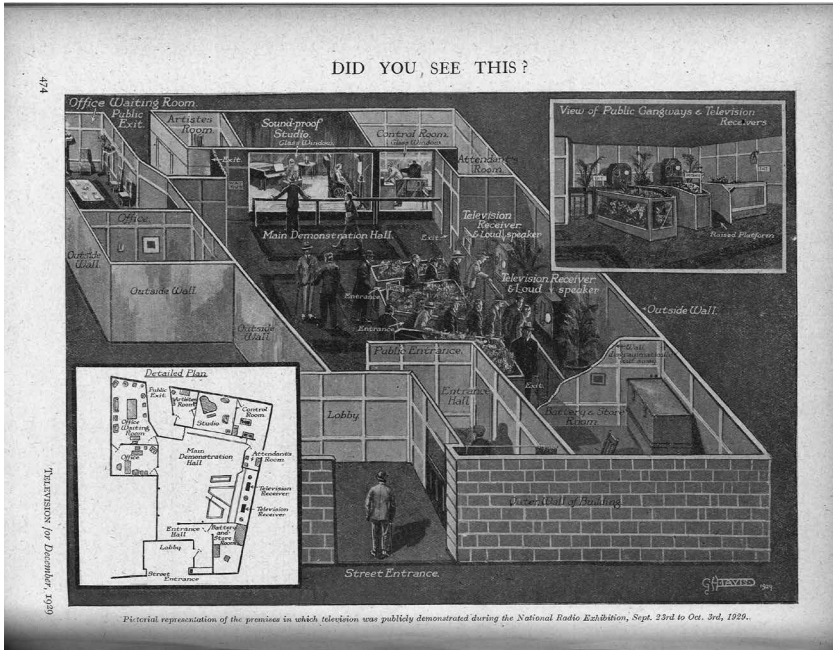
Figure 3.7. Map of Baird's 1929 exhibition adjacent to the Radiolympia hall. Source: 'Did You See This?' *Television* 2, no. 22 (December 1929): 474.
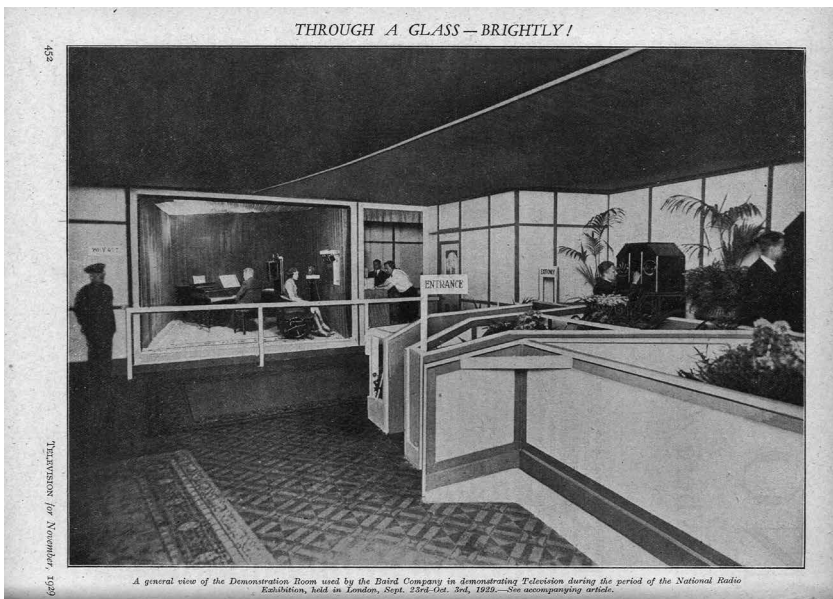
Figure 3.8. The glass-enclosed television studio at Baird's 1929 television exhibition. Source: Leslie Trenton, 'Now! Where Do We Go from Here?' *Television* 2, no. 21 (November 1929): 452.

Figure 3.9. The receiver sets at Baird's 1929 television exhibition: the gangway on the right is elevated. Source: Leslie Trenton, 'Now! Where Do We Go from Here?' *Television* 2, no. 21 (November 1929): 453.

glass screens used in other displays, these scenographic props protected the fragile devices from enthusiastic reactions of excited fairgoers. Furthermore, the public gangway to the far right of the hall (as seen from the studio) was elevated to ensure a 'view of the artists at work in the studio and in turn compare them with the televised image' (Figure 3.9).[15]

This juxtaposition of a live performance with its televisual reproduction recalls earlier public performances of sound technologies demonstrating the fidelity of audio recordings. Historians of sound technology have described the Edison Company's 'tone tests' conducted from 1915 to 1925 throughout the United States.[16] Aiming to convince the audience that live music and phonograph recordings were comparable, these tests paralleled singers and recordings by switching between the live performance and the phonograph.[17] In highly standardized demonstrations sometimes introduced by Edison himself, the singer would stop singing while his or her voice would continue to resonate on the phonograph, or the lights would be turned off and the audience left guessing who was playing: the human voice or the machine.[18] While earlier public demonstrations of phonographs had emphasized the functioning of the machine and proven that 'it worked', the tone tests shifted the attention to the equivalence between original and imitation, and sought,

15   Trenton, 'Now! Where Do We Go from Here?', 453.
16   Emily Thompson writes that during this period 'thousands of tone tests [...] were presented to millions of Americans'. Thompson, 'Machines, Music, and the Quest for Fidelity', 131.
17   See Thompson, 'Machines, Music, and the Quest for Fidelity'; Sterne, *Audible Past*, 261–265; Wurtzler, *Electric Sounds,* 80–81.
18   Thompson, 'Machines, Music, and the Quest for Fidelity', 148–156.

Jonathan Sterne writes, 'to erase the medium (ironically, by highlighting the technology)'.[19]

According to the journalist quoted above, the exhibition design of Baird's display analogously envisioned to establish a *visual* equivalence between performers in the studio and their images on-screen. Given the tiny size of the television screen (Figure 3.9) however, the possible confounding of the show and its transmitted image was impossible. The display of television's 'fidelity' relied on simultaneity *and* on the possibility to authenticate the medium's space-binding potential: it depended on the infrastructure's micro-scale within the exhibition hall. The lack of televisual visuality and the emphasis of its object over its images were compensated thanks to the large glass panes opening a view on the studio and control room. The glass window contributed to the commodification of television technology as a spectacle and accentuated the exhibition's role as a means for visual consumption of technological novelty. Like shop windows, they framed the visitor's gaze and gave access to, but simultaneously withdrew the object on display.[20]

The expositional *and* exhibitionist gesture of celebrating television and revealing the workings of usually invisible apparatuses and their engineers became particularly important with the introduction of public broadcasting in the mid-1930s when television broadcasting institutions and the wider industry began to advertise their regular broadcasting service on exhibition grounds. Suggesting (institutional) openness and transparency, window-framed ephemeral studios at fairs exposed the machinery of a new media and revealed otherwise hidden production processes, inviting fairgoers to familiarize themselves with the 'making of' television and providing a space in which education and entertainment overlapped. The studio settings produced the visibility and visuality lacking the medium on display, which merely demonstrated its own capacity for transmissions at a distance.

Following the official launch of a regular broadcasting service in Berlin in 1935, the 1936 Funkausstellung display by Telefunken presented a television interior stage (*Fernseh-Innenbühne*) that drew closer together the view of television images with the live event. Here, the receivers were placed directly in front of the transmission space and invited spectators to simultaneously perceive the various images performed for them. At one glance, the spectator saw the conjunction of two differently mediated realities, one through the glass window, the other through the television screen (Figure 3.10).

19   Sterne, *Audible Past,* 261.
20   Ward, *Weimar Surfaces*, 202.

Figure 3.10. Telefunken's display at the 1936 Funkausstellung. Source: Stiftung Deutsches Technik-museum Berlin, Foto Historisches Archiv.

Since the erection of the iconic Crystal Palace in London, glass architecture had been a main attraction in exhibitions and world's fairs.[21] The material's transparency and the subsequent blurring of frontiers between the inside and the outside, along with the possibility of building enormous but comparatively lightweight constructions, made glass a perfect tool for the exhibition's celebration of the exchange value of things.[22] Such a glass environment, Anne Friedberg writes, created 'a two-way model of visuality: by framing a private view outward – the 'picture' window – and by framing a public view inward – the 'display' window.'[23] Staging the interior and the exterior as a representation open to visual consumption, the picture and the display window not only blurred the frontier between spaces, but it also complicated the distinctions between reality and its image, the object and its mediation, the material and the immaterial.

In exhibition settings that superposed windows and screens as in the 1936 Telefunken example, the question of visuality and visibility became particularly complex. Inviting visitors to compare between the performance and its mediation on screen, the window-framed studio behind the set

21   On the architectural history of world's fairs, see Giedion, *Space, Time, and Architecture*, 241–288.
22   Grossbölting, '*Im Reich der Arbeit*', 188–189.
23   Friedberg, *Virtual Window*, 113.

Figure 3.11. Entrance to the NBC headquarters, Rockefeller Center, c. 1940. Note: The CRT is on the mezzanine on the left, partly covered by the pillar. Source: AVD 1985259 03 09 04, Cavalcade of America photographs (Accession 1985.259), Audiovisual Collections and Digital Initiatives Department, Hagley Museum and Library.

authenticated the image's liveness and immediacy. This liveness was, however, tied neither to the conquest of space by time nor to a claim for immediate access to the world (as in the metaphor of the 'window onto the world'): on the one hand, the reduced distance between transmitter and receiver limited the conquest of space on live television to a few metres. On the other hand, the virtuality of the televisual image enhanced the virtuality of the window-framed studio image by underlining the representational nature of both views. Both the live performance on stage and on-screen were mediated as a literal *mise en scène*, as opposed to a direct, unmediated sight. The glass-windowed studio and their receivers created an image of and on television that continuously pointed to its own mediation as an image – on-screen and behind glass.

Selling the Brand

The most compelling *mise en scène* of a glass studio creating opaqueness rather than openness was installed by NBC one year before the official launch of public broadcasting at the 1939 World's Fair in New York. At the
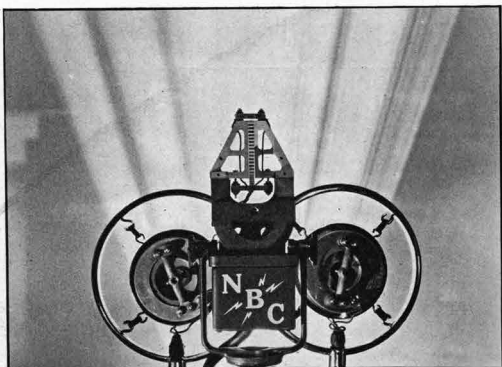
"MIKES"—A NAKED VELOCITY MICROPHONE AND TWO OF THE CARBON TYPE

THE SPIRIT OF RADIO
—A SERIES OF EXOTIC PHOTO-MURALS IN THE N.B.C. STUDIOS AT RADIO CITY.—
By Margaret Bourke-White
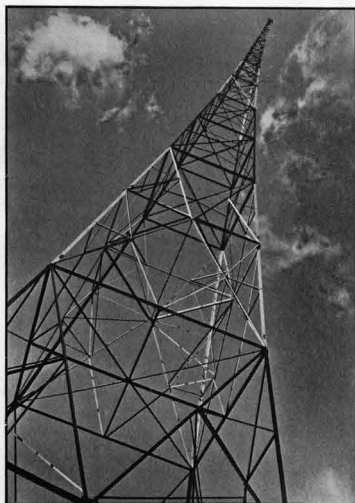
ONE OF THE **WJZ** TOWERS AT BOUND BROOK, N. J., WHERE THE PROGRAM IS HURLED FORTH INTO SPACE

—AND LOOKING A TELEVISOR STRAIGHT IN THE ELECTRIC EYE

Figure 3.12. Presentation of Bourke-White's photomural highlighting individual motives (including the CRT). Source: 'The Spirit of Radio', *Broadcast News*, no. 12 (August 1934): 22. Courtesy of the Hagley Museum and Library.

opening of Rockefeller Center in 1933, a 'group of four studios on the ninth floor'[24] had been reserved for television broadcasting. A multimedia and commercial space, Rockefeller Center materialized first and foremost ideas of prosperity and modernity, sculpted in stone the zeitgeist of the Depression era, and dedicated its main theme to the 'March of Civilization'.[25] The entrance hall to NBC's headquarters, described as a 'doorstep to the ether', represented the company's activities in a monumental photomural by Margaret Bourke-White (Figures 3.11 and 3.12). Blown up to giant size, the photographs depicted fragments and singular elements of transmission and reception technologies, communicating the grandeur of the corporation. Included in this dispersed view of modern media-making was an enormous image of a cathode ray tube located just next to a huge radio antenna tower. In his discussion of Bourke-White's mural, photo historian Olivier Lugon argues that the artist commented on the power of the new means of communication by creating an analogy between wireless communication and the photographic mural. Like broadcasting – and, in particular, like television, the future cornerstone of NBC's empire – the photomural functioned as an amplification of visual information.[26]

From late summer 1938 onwards, visitors paying fifty-five cents could tour an actual television studio exclusively established for demonstration purposes. The press release issued by RCA on 13 June, before the opening of the premises, presented the future attraction 'as a complete unit in itself':

> Three studios have been set aside for the benefit of the public. The first houses the Iconoscope camera, a 'boom' microphone and other equipment for broadcasting sight as well as sound […] Once the camera has been inspected, the group will be taken to an adjoining studio separated from the telecasting room by a huge glass panel, a telephone connected to the studio, and the four RCA experimental television sets which will show the action taking place in the studio. A fifth receiving set, yet to be delivered, will be in an unfinished chassis, with all the works exposed. This will be open for inspection by tour parties. In the second studio visitors will be able to see performers in the room they have just left, both on the screens of the receiving sets and, through the glass panel, in real life. Guides will converse with persons in the telecast studio so that their image, doubly

24   'Opening of Radio City, New York'.
25   Nash, *Manhattan Skyscrapers*, 93.
26   Lugon, 'Entre l'affiche et le monument'.

visible in receiving set and through the panel, will be accompanied by
their voices audible both through the loudspeaker and over the telephone.
The third room will be the first television museum.[27]

The NBC television tour's objectives were obvious. By combining the display
of progress (in the museum) with the unveiling of an outstanding technology
(in the other rooms), NBC hoped to educate and inform its future audience
about the firm's latest success. The visit covered every aspect of television
production and consumption such as was envisioned by the corporation,
shaping television after its own image and presenting the medium as belong-
ing to NBC. The press release notably emphasized the 'huge glass panel' and
the sets placed in close proximity, celebrating the visibility created by the
transparency of glass and screens.

For the 1939 New York World's Fair, NBC edited a small booklet titled
America's First Television Tour: Demonstrating [and] *Describing the Art and
Science of Seeing at a Distance*, comprising a map of the different segments
of the 'show studio' tour (Figure 3.13).[28] The map suggests that except for
the 'large glass panels', no other windows existed: the world on view was
the world produced within these walls. Following a predetermined path
indicated by arrows, the visitor passed not as a *flâneur* in urban space, but
rather as part of a well-oiled machine that, in each room, revealed a new
window on its own workings. In the so-called viewing room, the sights
conflated with the television images, which showed in reduced size what
was visible through the two windows opening onto the television studio.
The demonstration studio no longer merely displayed television: its entire
architecture was transformed into a technique of seeing, in which windows
opened up viewing perspectives similarly to those seen on screens. While
the combination of transparent surfaces and multiple screens created
the impression of a surplus of visibility, the demonstration studio merely
promoted itself. The visitors paying the entrance fee to 'see at a distance'
were brought into a space turned not towards the outside, but to the inside
of the corporation. From the booklet distributed to every camera on display,
the television tour advertised television itself, not just its content, as NBC's
product.

27   'Television exhibit planned for visitors to Radio City'. George H. Clark Radioana Collection,
Archives Center, National Museum of American History, Smithsonian Institution, series 112,
box 311.
28   According to the text in the brochure, visitors first entered the 'television museum', before
moving to the 'viewing room', the 'control room', and the studio itself – a trajectory that differed
from the one presented in the press release one year earlier.

On the Television TOUR

You saw exhibits that traced television from its infancy up to the present. For your convenient reference we hereinafter review the salient points covered in the Tour:

With his imagination and his mind's eye man roved the universe, and he "saw" through fog and night, earth and substance.

But the specific inventions and discoveries that relate directly to television go back only to the year 1817 when Baron Jöns Jacob Berzelius, a Swedish pharmacist, discovered a strange element which he named selenium. A scientific oddity of that day, relatively little was heard of it until 56 years later, in 1873, when May, a telegrapher working
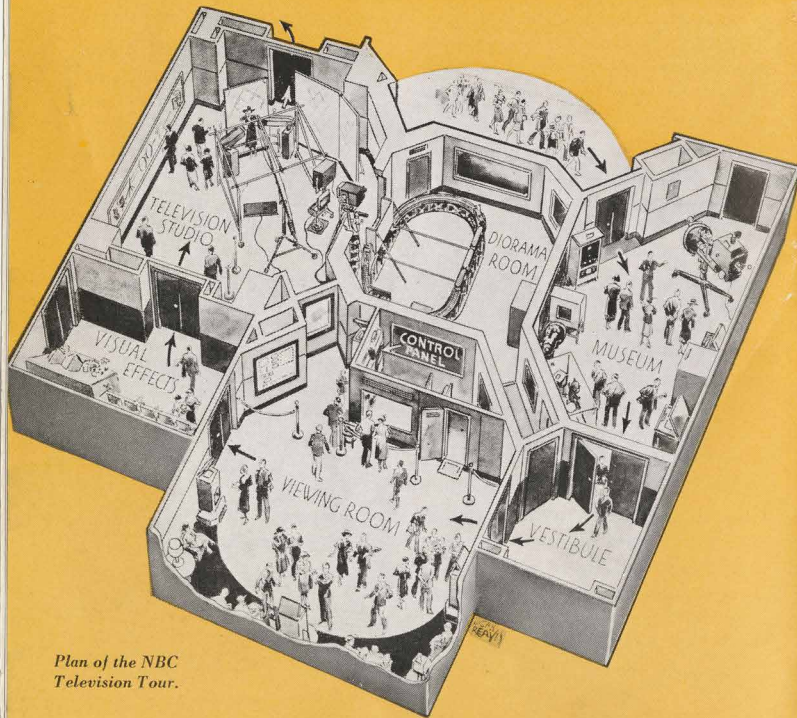
Plan of the NBC Television Tour.

Figure 3.13. Map of the NBC television tour. Source: National Broadcasting Company, *America's First Television Tour: Demonstrating [and] Describing the Art and Science of Seeing at a Distance* (New York: NBC, 1939).

3.2   Negotiating Liveness

If the function of reflexive displays was promotional, it also was, I have argued, a result of demonstrating the *immediacy* of seeing *at a distance*. The display of audiovisual broadcasting within the exhibition halls required that transmitter and receiver sets be moved near to each other in order to authenticate the medium's capacity to connect two places *at once*. As such, the reflexive dispositif was intrinsically tied to televisual liveness. As television scholars have extensively discussed, the discourse on televisual liveness represents a 'key aesthetic value' [29] for producers and spectators, a 'key concept' [30] for television studies, but also a 'myth' [31] and an 'ideology' [32] throughout the medium's history. It provides TV with a particular media identity and describes specific affective regimes, which were intensely debated in the period under consideration here.

Speculating about television's potential in 1935, perceptual psychologist and media theorist Rudolf Arnheim portrayed the medium as a 'pure means of transmission' that 'modified our relations with reality itself':[33]

> We see the people gathered together in the central square of a near-by [*sic*] city, we see the head of the government of a neighboring state, we see boxers fighting for the world's title on the other side of the ocean, we see an English jazz band, an Italian soprano, a German professor, the burning members of a train that has collided, the masked figures of carnival [...] we can admire the sun setting behind Vesuvius and a second later the illuminated night-signs of New York. The need for the descriptive word disappears as the barrier of foreign language vanishes. The world in all its vastness comes to our room.[34]

According to Arnheim, television's affordances for live communication produced a map of nation-states that appeared simultaneously on the screen. Abolishing the need for a linear textual description, televisual visuality recreated the world in the intimacy of domestic environments and generated a topography in which private and public spaces merged at a glance. While

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29   Gripsrud, 'Television, Broadcasting, Flow', 19.
30   White, 'The Attractions of Television', 76.
31   Caldwell, *Televisuality*, 28.
32   Feuer, 'The Concept of Live Television'.
33   Arnheim, 'Seeing Afar Off', 77.
34   Arnheim, 'Seeing Afar Off', 77.

television lacked 'the elements of an original artistic elaboration of reality', it would produce an immediate – and virtually unmediated – access to this reality.

However, televisual liveness was not simply a given, but depended on a web of materials and machines, bodies and discourses. The simultaneous transmission of images and sound, abundantly described as a 'miracle', a 'wonder', and a 'marvel', could potentially provoke a reaction of incredulity from the audience, with questions about the authenticity and veracity of televised content. The short film *Das Auge der Welt*, produced by the German Reichspost and released in November 1935, stages a group of 'ordinary' people watching television on a small screen.[35] As the anchorwoman announces the next programme, an elderly spectator in the audience gets nervous and yells: 'Wait! This is a trick, the little lady sits in the box!' His reaction evokes disbelief vis-à-vis the unknown device and calls for a proof of the veracity of televisual transmission at a distance. This proof is provided when an organizer present in the demonstration room phones the woman in the studio, who answers the call 'on-air'. The identical tool for testing television's potential for instantaneous communication is used in the following example narrated by *New York Times* journalist and author Orrin Dunlap in 1932:

> The lights are dimmed as in any motion picture playhouse. The curtains part. In the center of the stage is a screen. At the side stands a man with a telephone. He calls the television studio two miles away, and the audience hears him announce that all is ready for the performance to begin. The telephone is utilized to convince the audience that it is a real television performance, and not a talking picture on a film.[36]

In both examples, the telephone serves as the mediating link between transmission and reception spaces that confirms the liveness of televisual transmissions. Both examples present television's liveness as an epistemological problem for spectators, who doubted the authenticity of the show. The telephone, an older and more familiar technology, demonstrated television's fidelity by confirming the simultaneity of its *audio* and *visual* transmission.

As in the famous case of early cinema allegedly 'panicking' spectators, it is challenging to assess whether the television audience was as incredulous as the accounts lead us to believe.[37] Yet, the use of the telephone in other settings than those just described equally introduces the question of liveness

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35   Carl Hartmann, *Das Auge der Welt*, Rota-Film A.G., Germany 1935.

36   Dunlap, *Outlook for Television*, 119.

37   See Bottomore, 'The Panicking Audience?'.

as a problem to be negotiated. In the description of the NBC television tour quoted above, the tour guide uses the telephone to talk with the performers in the studio and to confirm the non-recorded quality of the show. The telephone was further employed in programmes during which the audience could call the studio directly and talk to the host or the programme director.[38] By telephoning the studio and having the call answered on-air, the simultaneity of these actions performed by television viewers and television producers was confirmed, and the mysterious visual presence was turned into an understandable sign. The use of live communication via the telephone on a television show not only bound the audience closer to the broadcast station by offering participation; it also allowed the callers to experience first-hand audiovisual liveness and their own co-presence, at home and as part of the televisual media space.

Two-Way Television

The employment of the telephone for the construction of a live televisual space-time configuration resonates with nineteenth-century utopias that envisioned the medium's capacity to link two distant locations, creating an audiovisual geography of simultaneity and connectedness. Conceived as a successor to the telephone, the imaginary telephonoscopes and other televisual tools functioned not only as transmitters of information and entertainment but also as two-way audiovisual means of communication. William Uricchio and Alain Boillat have both argued that the idea of television in the nineteenth century 'fits initially in the technological "series" of telephony'.[39] The telephone and the intersecting paradigm of communication preceded the emergence of *vision* at a distance, which, as Albert Robida would have it, was the 'ultimate improvement of telephony'.[40] The shared genealogy of television and telephony is important because it suggests the entangled development of both media that provides the historical background for the use of telephony in interwar television demonstrations. If in Boillat's nineteenth-century fiction television promised to eliminate the 'mechanic strangeness' (*l'étrangeté mécanique*)[41] of telephonic communication by revealing the human body belonging to the voice, in the

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38   See 'CBS to Ask Criticism of Public on Television'.
39   Boillat, 'Faire pour la vue', 77; Uricchio, 'Television's First Seventy-Five Years', 289–291. This argument has subsequently been developed in Stadel, *Television*; Roberts, *Visions of Electric Media*.
40   Robida, *La vingtième siècle*, 54.
41   Boillat, 'Faire pour la vue', 83.

1930s, the telephonic voice came to authenticate the tele*visual* presence of the performer.

As the example of the 1927 AT&T transmission has already shown (Chapter 1), during the interwar period, engineers sought to give form to the nineteenth-century utopias of audiovisual two-way communication. Benefitting from the work done by Bell Telephone Laboratories on transcontinental telephony and telephotography, as well as from its recently established and state-of-the-art facilities, AT&T did not hesitate to launch a research programme on (two-way) television.[42] Their involvement with the technology was a logical step that extended their research and development activities. Other companies in other countries followed, and two-way television became a long-pursued economic and technological enterprise, whose 'arrival' was praised several times throughout the twentieth century.[43] During the interwar years, it was in Germany where the project for telephone-television was pushed the furthest. From 1929 onwards, different systems were exhibited at the Funkausstellung in Berlin, and in the 1930s, after the laying of a coaxial cable, several two-way television services were available in bigger cities such as Berlin, Hamburg, and Leipzig.[44]

At the 1929 Berlin radio show, the Reichspost exhibited two *Fernsehsprecher*, literally 'television-speaker', in which members of the audience could 'converse' and 'see each other simultaneously'.[45] Journalist Albert Neuburger described the apparatus and its potential effects in some length:

> The telephone has turned into a television. You can see it at the radio fair. Two television-telephone booths have been set up. Each one a little bigger and more spacious than those, still numerous enough, of the public telephone. Also, one is allowed to sit down. Not because the Post feels the obligation to care for our convenience, but because our head must be located at a specific location. This works better if we sit [...]. Before us an ordinary telephone and a funnel-shaped opening. A second similarly equipped booth hosts our female or male friend, or whoever ventures to start with us a fight with spiritual weapons [...]. O wonder—in the funnel-shaped opening appears his head and tells us that he can see

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42   Burns, 'Prophecy into Practice', 35.

43   For a history of two-way television see Burns, 'Prophecy into Practice'; Lipartito, 'Picturephone and the Information Age'; Mills, 'Audiovisual Telephone'.

44   The first two-way service between Berlin and Leipzig opened at the Leipzig Fair on 1 March 1936. On the occasion of the Nurnberg Rally in 1937, another service was opened, and in July 1938, the Berlin–Munich connection followed. See Goebel, 'Das Fernsehen in Deutschland', 33–38; 'Eröffnung der Fernsehsprechverbindung Berlin-München'.

45   'Television at the Berlin Exhibition'.

excellently, too [...]. We recognize the expression of his noble features, the grace of her smile, the beautiful luster of her magnificent teeth [...]. The same is reported to us from over there. Therefore, we strive to look as kind and thoughtful as possible. So the conversation goes on with simultaneous vision, until the others, who stand outside the door, become impatient and want to try it once. Oh dear technology, what do you have done again. Don't you know that a large part of mankind already considers the telephone as a necessary evil? Now you think it also necessary to ensure that we are seen wirelessly while on the phone. Do you have considered the consequences? Gone are the fine times when one could rush to the phone [...] at 10 o'clock in the morning and answer the question of whether one was already awake with an indignant tone, saying that one had already been working for three hours. Our all too clearly visible nightgown or, if we are an elegant gentleman, the sleeping suit reveals the truth. Gone are the beautiful times when the lady could disguise her voice and announce that the lady was not at home [...]. The television-telephone brings it to light![46]

According to Neuburger, televisual communication was a continuation of the older and henceforth common form of exchange, and, as such, further proof of technological innovation and progress. However, the device's visual component, 'miraculous' and suspicious, affected the user (who had to adjust to the machine's effects) as well as the writer (who felt compelled to produce lengthy speculations about its consequences). As Neuburger specifies in the first part of the quote, the camera required participants to adopt a particular posture inside the television-telephone booth. The sitting position distinguished the television device from an ordinary telephone booth and resulted from the machine's technological prerequisite: the regulation of one's head to the camera represented a corporeal modification to a norm prescribed by the machine. The televisual connection thus required the speaker's anchoring in the here and now, and before one could be transported to an electronic elsewhere, his presence had to be fine-tuned to the camera.

In the second part of the quote, Neuburger turns away from the materiality of the machine and the interaction with its users and shifts to the televisual imaginary. Here, Neuburger maps out some of the possible pitfalls of this new communication device if used in domestic space. Allowing for enhanced surveillance and social control, and producing various embarrassing situations, the television-telephone would reveal information that the voice on its own would not give away. The televisual 'wonder' induces liveness and

46   Neuburger, 'Am Fernseh-Sprecher'.
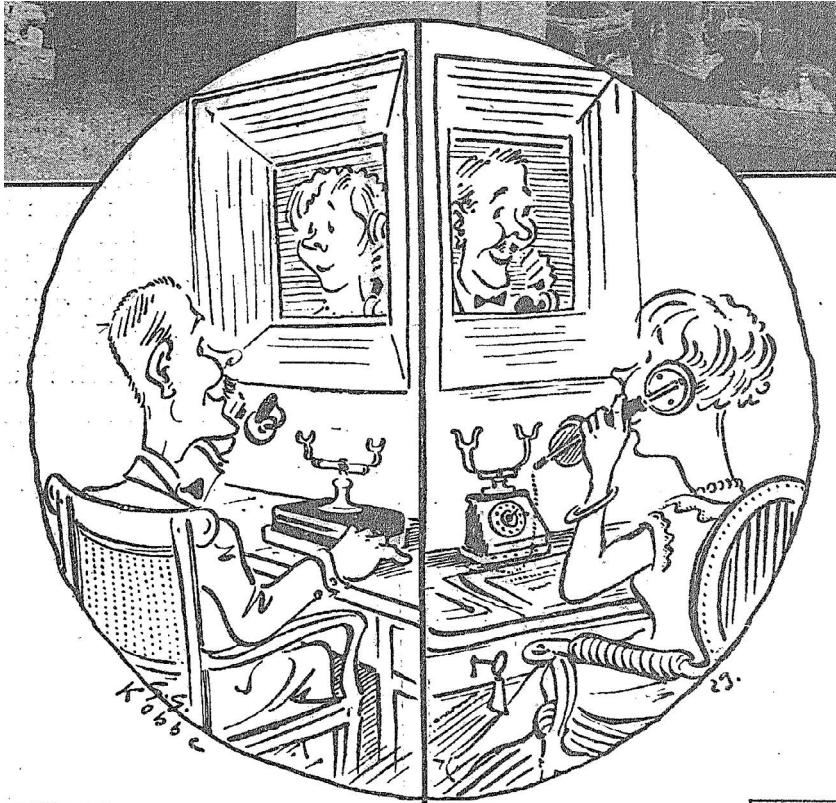
Figure 3.14. Caption: 'Telephone and television. A telephonebooth at the exhibition, which allows to "tele-view" the conversation partner.' Source: *Die Funk-Stunde*, nr. 38 (13 September 1929), 1244.

visuality as a problem. Because it offered audio*visual* immediacy, Neuburger argued, the televisual device also disclosed intrusive capacities.

The tension between public and private space as well as the corporeal involvement with technology was particularly explicit in narratives on audiovisually mediated romance. Often with a humorous tone, stories and drawings depicted scenes of communication between young couples brought together thanks to television-telephony. One caricature published in the popular *Funk-Stunde* magazine went even further and showed not only an amorous conversation but, as specified in the caption, a 'two-way television-wedding' between what appears to be a happy young woman and her slightly suffering (or at least sweating) fiancé (Figures 3.14 and 3.15).[47]

47   'Das erste Fernseh-Ja-Wort'.
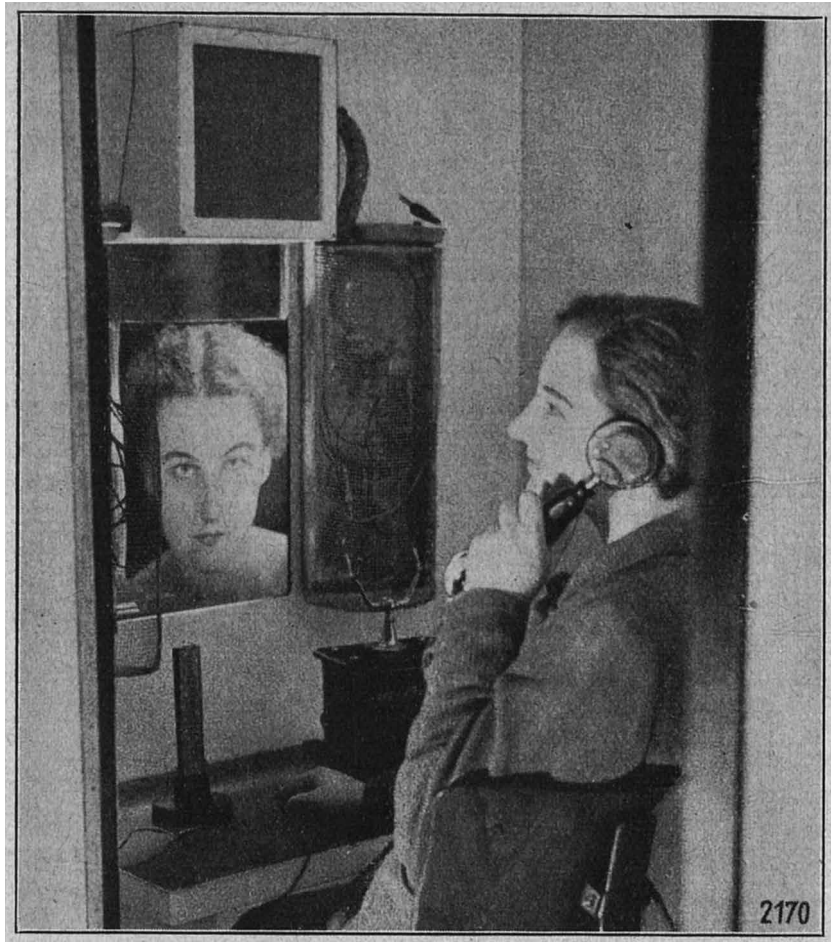
Figure 3.15. Photomontage of the interior view of a television-telephone system published in relation with the 1935 Funkausstellung. Source: Georg Kette, 'Fernsehen auf der Rundfunkausstellung 1935', *Fernsehen und Tonfilm* 6, no. 7 (September 1935): 62.

Articulated in romantic terms, such images echoed tales of technological courtship that began with the telegraph in the nineteenth century. As historians of media have discussed, a considerable amount of these early 'love stories' told the misfortunes of young women experiencing inappropriate courting or fraudulent wedding offers over the wire; yet other tales promoted successful romances and friendship made possible through modern technology.[48] Such imagery linked liveness with intimacy and

48   See Marvin, *When Old Technologies Were New*, 63ff.; Sterne, *Audible Past*, 137ff.

sexuality, and associated wireless audiovisual communication with the physical desires of its participants.

The Infrastructure of Liveness

However, the shaping of (two-way) television as an intimate and live medium veiled the complexity of its actual localization at radio shows. Instead of wireless togetherness and romantic affairs, the machines were used to demonstrate television at crowded media events where the two people communicating were observed by throngs of visitors. This tension between an imagined, ideal televisual space – the intimacy of the couple – and the reality of its technological and social setting – the exhibition – had to be negotiated by television's users at the fairs, as is testified by this account of an English journalist:

> in the Television section two booths were erected where visitors could speak to and see persons in Leipzig, or at one of the two public Television offices in the centre of Berlin. Two receivers mounted outside these booths enabled the general public to 'tap,' both visually and orally, on these long-distance conversations; which is very interesting but could in some circumstances be very awkward for the two people talking to each other. It is hoped that this practice will not continue.[49]

The long queue of visitors, as well as the opportunity to follow the conversation from the outside, placed the participants at the core of a surveillance dispositif in which they not only observed each other (as in Neuburger's example with the nightgowns) but in which they were, in turn, observed by a large crowd.

The tension between the privacy and publicness of communication persisted outside the exhibition space in the case of the regular television-telephone service between Berlin, Leipzig, and other cities, which invited Germans to use two-way television for audiovisual conversations (Figure 3.16). As the rules for these public services reveal, the complicated and slow procedure necessary to establish a connection transformed televisual phone conversations into a semi-public experience, taking several hours or even days to become reality:

> 1. Long-distance conversations between the television stations of the German Reichspost in Berlin, Leipzig, Nuremberg, and Munich are called

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49   Traub, 'Television at the Berlin Radio Exhibition, 1936', 182.

Bild 91. Fernseh-Sprechstelle München. In der Mitte der Anmeldeschalter für Fernseh-Gespräche, rechts daneben die Tür zur Abtastkabine.

Figure 3.16. Television-telephone booth in Munich. Source: Gerhart Goebel, 'Das Fernsehen in Deutschland bis zum Jahre 1945'. *Archiv für das Post- und Fernmeldewesen* 5, 5 (1953): 335.

television conversations. The television stations are open daily from 8:00 to 20:00.

2. The duration of the television conversation is right now limited to three minutes.

3. The fee for a three-minute television conversation is twice the fee for an ordinary telephone conversation.

4. Television conversations can be announced verbally to the postal and telegraph offices of the Reichspost in Berlin, Leipzig, Nuremberg, and Munich. They can also be announced to the television stations verbally or by telephone, including by public payphone, but not before the afternoon of the previous day.

5. The applicant has to specify his own name and the name of whom he wants to speak to, and has to communicate their two addresses. He also has to indicate the location of the television-telephone station from which the television conversation should be organized, and the time of the conversation. In case the other person has no telephone connection, then the time scheduled for the television conversation can be arranged only after notification of the desired person via a special messenger.

6. The Reichspost issues no guarantee that the person who reports for the television conversation is the required person.[50]

Lasting a maximum of three minutes, and always under the threat of a false connection, these two-way television talks were all but intimate, private, or spontaneous. Fixed by appointment announced in advance to Reichspost employees, who would inform the interlocutor personally if he had no telephone installation, they were registered and policed since the employees were aware of the users' identity. The system was also expensive, likely preventing most Berliners and other urban residents from reserving a call, and was overall a limited commercial success.[51] If we compare Neuburger's media imaginary with the Reichspost regulations, we can grasp the complexity of the televisual topography. Television's locations encompassed virtual media spaces and physical places, imaginaries of boundless communication and embodied encounters with machines.[52]

The physical space of televisual liveness – that is, the location the apparatus occupied as well as the network it created – was frequently depicted in journals and other publications. For the launch of its two-way television system in 1930, AT&T printed a small brochure containing information about the history of the company's televisual research. Explaining the workings of the camera in relation to the person using the device, the brochure included

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50   BArch, R 4701/13061, Fernsehen im Ausland, 1936–1944. 'Anweisungen für den Fernsehsprech-dienst'.
51   Goebel, 'Das Fernsehen in Deutschland', 335.
52   See Couldry and McCarthy, 'Introduction', 2.
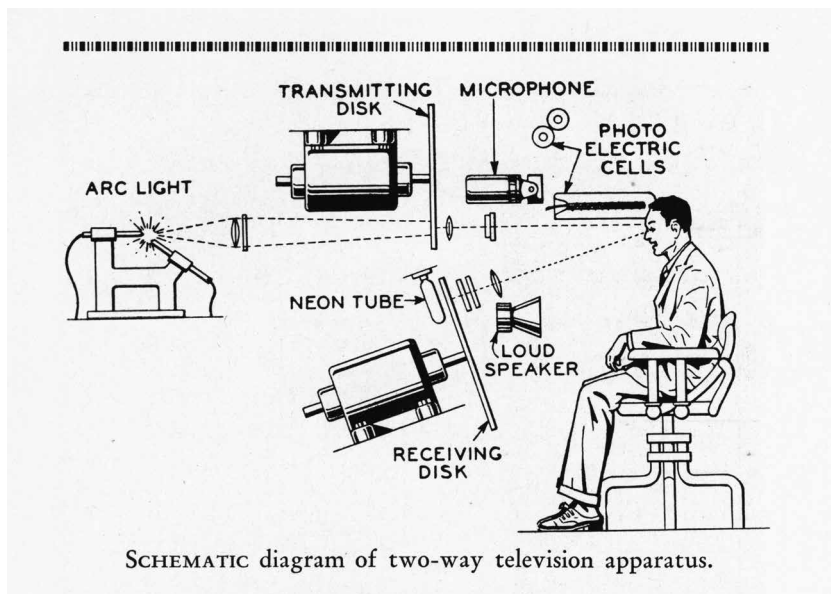
Figure 3.17. Schematic diagram of the AT&T two-way television apparatus. Source: Bell Telephone Laboratories and Herbert Eugene Ives, *Two-Way Television and a Pictorial Account of Its Background* (New York: Bell Laboratories, 1930).

a schematic diagram illustrating the man-machine interaction at the core of live television (Figure 3.17). The publication's dust cover imprinted the materiality of televisual communication on a map of Manhattan, locating the machines within a televisual geography connecting 195 Broadway (AT&T headquarters) to 463 West Street (Bell Laboratories) (Figure 3.1). Still other illustrations highlighted the network between a televised event and its image on a screen by depicting the various apparatuses and cables necessary to build the transmission. Collapsing the distance travelled by televisual signals onto one page, the collage 'First Link in a Television Network' introducing General Electric's W2XB station exemplified the physical connections of live television by combining maps and on location photographs (Figure 3.18). In his work on the history of sound technologies, Jonathan Sterne has underscored the importance of social and material networks for the reproduction of sound. Telephony and radio required networks of people and machines to become functional. These networks were, Sterne documents through an array of illustrations, frequently depicted in the notes of inventors, in advertisements, and the press.[53] Similar to his sources, the illustrations of (two-way) television built upon the visualization of networks and testified

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53 Sterne, *Audible Past,* 225–240.
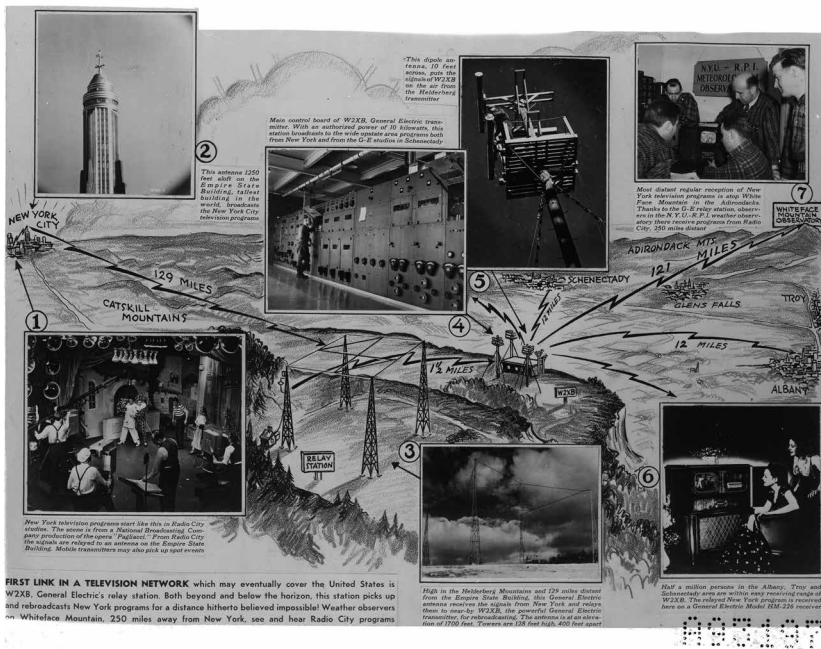
Figure 3.18: Highlighting the material infrastructures of audiovisual transmission. Source: 'First Link in a Television Network', 1935. GE Photograph Collection, by courtesy of miSci, Museum of Innovation and Science.

to the physicality and materiality of mediated sound and images, which were never 'naturally' given but always produced by things, people, and their interaction. Touching upon issues of domesticity, privacy, and public space, immediate televisual communication – 'live TV' – was a matter of bodies and machines.

'Come and Be Televised'

The dispositif of televisual liveness shaped in the press and at the fairs was a way to habituate viewers to liveness as a specific televisual effect: the two-way television installations, but also reflexive dispositifs such as the glass studios emphasized the experience of audiovisual immediacy.[54] One exhibition feature, popular at the end of the 1930s, was particularly operational in producing the aesthetics of live television. Presented at the fairs in Berlin, London, and New York, this scenography allowed the audience to perform live before the camera for the fairgoers watching television

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54   On liveness as an effect rather than a fact, see Gripsrud, 'Television, Broadcasting, Flow', 19.

Figure 3.19. In the background: 'Come and Be Televised' installation at Radiolympia 1939. Note: The 'Come and Be Televised' studio appears to have a glass window front allowing visitors to peek into the studio, similar to the production spaces discussed in Section 3.1. Source: TCB 417/E 11290, BT Heritage and Archives .

at the exhibition and, in the case of Radiolympia, for the public at home. Contrary to the two-way television devices presented as a continuation of the telephone conversation, the so-called 'Come and Be Televised' attractions imitated the television service projected by the German, American, and British institutions.[55]

At Radiolympia in 1938 and 1939, the participation of the audience constituted a daily programme element filmed directly on the premises and transmitted from 11 am to noon (Figure 3.19). Inviting everyone with a 'telegenic' story, the programme had two advantages for the BBC. It familiarized the audience with television and its operation and, maybe more importantly, allowed the broadcasting corporation to fill airtime with free content.[56] A list of interviewees from 1938 – judged 'items of interest' by a BBC employee – illustrates the persons and topics chosen for this programme.

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55   'Fernsehen 1937'.
56   Memo from Harold Cox to Gordon Winter, 'Radiolympia 1938: "Come and be Televised" August 25th – September 3rd', dated 1 September 1938, BBC Written Archives Centre, Caversham (hereafter BBC Archives), T 14 / 929 / 1.

Among the participants were an American journalist who had survived an encounter with 'American gangsters', an English businessman building his own house, a lady 'whose hobby is crocodile hunting', and a 'Scotchman who lives at Inverness, and who is on intimate terms with the Lochness Monster'.[57]

Not all interviews for this programme took place trouble-free. For one participant, the experience – although enjoyable – was somewhat disappointing since he was interrupted before he could perform all of the programme he had prepared in advance.[58] His discontent lasted long enough to incite him to write to the BBC and share his experience, prolonging it beyond his immediate appearance before the television camera. His letter furthermore alluded to a debacle of another sort:

> With reference to the old gentleman who in 'Come and be televised' on Thursday morning complained about the cutting out of Picture Page during August. He appears to think that other people should not have a holiday so that his pleasure be not interrupted.[59]

Visibly, the 'old gentleman' quoted in the letter had used his airtime to criticize the BBC for interrupting programmes during summer months and, instead of writing a letter, taken advantage of the contingent character of liveness to communicate his dissatisfaction on-air. For both the participants and the institution, live television thus also meant experiencing the (small) catastrophes of unexpected interruptions and criticisms. The incidents reported in the letter translated a sense of the arbitrariness and surprise of live programming experienced by producers and audiences alike.

At the 1939 New York World's Fair, Westinghouse and General+ Electric installed a small television studio in their pavilions, giving the 'Fair guests not only an opportunity to see television in action but to take part in its programmes'.[60] In both settings, the picture was transmitted in an adjacent viewing room, where several small television receivers were situated. Westinghouse's exhibit was featured in an in-house film production titled *The Middleton Family at the World's Fair*.[61] Shot on the premises of the

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57   Memo from Harold Cox to Gordon Winter, 'Radiolympia 1938: "Come and be Televised" August 25th – September 3rd', dated 1 September 1938, BBC Archives, T 14 / 929 / 1.

58   G. Makemson (?) to the BBC, 30 August 1939. BBC Archives, T 14 / 929 / 1.

59   G. Makemson (?) to the BBC, 30 August 1939. BBC Archives, T 14 / 929 / 1.

60   'Television – Facsimile – Radiotype', New York World's Fair 1939–1940 records, Manuscripts and Archives Division, The New York Public Library, box 401, folder 12.

61   *The Middleton Family at the World's Fair*, USA 1939, 55min. Available online https://archive.org/details/middleton_family_worlds_fair_1939 (accessed 28 February 2021).

corporation's pavilion, the movie glorified the contributions of free enterprise to progress and affluence by recording an 'average' American family's visit at the Fair.[62] In the film, the second exhibit that the paterfamilias and his son inspect is the television studio. Comprising a background screen depicting a panoramic view of New York, a television camera, and, in a second room separated by a glass window, several television sets, the studio resembles other glass studios described in Section 3.1. Upon entering the studio, the Middleton boy is invited to stand in front of the camera onstage. While he starts conversing with the attendant, his father walks to the viewing room to observe him on the screen. After a brief moment, the boy asks through the camera, 'How am I doing, father?' Without being able to reply verbally, the father gives an 'OK' gesture to his son through the studio's glass window. To the son, his father's gesture verifies the liveness of his act and confirms the medium's space-binding potential. Assigning both son and father a defined role and physical location, the display makes both of them part and parcel of the televisual demonstration.

At interwar fairs, the televisual ideal of ubiquity and immediacy was thus negotiated, debated, and staged in scenographies and discourses that underscored television's specificity for audiovisual presence and simultaneously revealed the materiality of liveness. Insisting on infrastructure, networks, and corporeality, the examples discuss and test the making of televisual proximity: they show that rather than being a given, 'live TV' depended on a complex network of machines and people, which was made visible through specific displays. These displays co-produced knowledge about a new medium and its (potential) space-time configurations, all the while revealing their fragility. Additionally, the various scenographies analysed suggest different conceptions of televisual liveness that further complicate this seemingly self-evident notion. Addressing spectators *and* participants, the dispositif of liveness created two different spaces where liveness was experienced. Both the son in the Westinghouse film and the participants in the BBC's 'Come and Be Televised' programme met 'live TV' as a theatrical happening situated in the space of production, whereas spectators following the transmission on-screen observed the immediacy of a mediated event. In both cases, the encounter with televisual liveness needed to be authenticated either through other mediation (the 'OK' gesture, the telephone call) or

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62   Warren Susman observes that the idea of an 'average' person was central to the vision and the rhetoric of the world's fairs organizers. The Westinghouse film certainly sustained this discourse. Susman, 'The People's Fair'.

through the particular scenographies of the reflexive dispositif that enabled the comparison of both production and reception in a single glance.

3.3   Daylight Television

I described in Section 2.2 how early displays employed draperies and other measures to create spectatorial spaces around the television set that protected the screens from direct light and generated an obscured environment in which to see the pallid pictures. The broadcasts were televised in darkened studios illuminated only by the light source directed onto the person or object being televised. The performers wore heavy make-up sensitive to the particular lighting conditions.[63] In other words, the technical limitations of mechanical television restricted aesthetic creativity, rendered outdoor filming difficult, and impeded the work of those in front of the camera.

With the introduction of all-electronic equipment in the mid-1930s and the subsequent possibility of transmitting from outdoors, a new trope emerged. In press reports and at exhibitions, the medium was henceforth celebrated as 'daylight television'. Compared to mechanical systems, in which receivers and cameras had to be placed in an obscured environment, the new light-sensitive cathode ray tube (CRT) technology appeared to transform a previous nocturnal medium into a diurnal one:

> Yesterday, only few people knew: artists were working in dark rooms during transmissions, because the previous transmitting methods based on selenium cells could only be used in the dark. Today: artists work in shining light, which warrants them the possibility of deploying all their talent.[64]

According to observers, daylight television changed the space of television's existence, bringing it from the dark rooms into gleaming (sun)light. Thanks to the daylight dispositif, seeing 'at distance' now implied seeing 'out of doors'.[65] The possibility of daylight television, however, not only altered the range of programs to televise, it also determined new scenographic settings at the exhibitions.

As I will describe in more detail in the next chapter, the television exhibit at Radiolympia in 1936, the first organized by the BBC in prospect of the

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63   See for instance Toneski, 'How We Staged the World's First Television Plays'.
64   Eck, 'Fernsehen – ganz gross!'.
65   'Outdoor Television'.

opening of a regular television service, was met with some criticism. Conceived to host an important volume of visitors, the installation consisting of eight viewing booths did not allow spectators to make their own choice concerning the demonstration they wanted to visit, nor concerning the length of their stay in the booths. The entire space had only two entrances and two exits and required a strict managing of the crowds suggested on the map published in the catalogue, which signaled the correct trajectory to its readers by indicating the directions with arrows (Section 4.3). The following year, some of the problems of the initial scenography were solved:

> Fourteen viewing booths have been arranged, and the BBC has collaborated with the trade by dividing the three daily programmes each into three parts, with a short interval to allow the booths to be cleared and filled again. The idea is to allow each group of viewers to see a complete small programme. Last year the continuous 'move along there, please,' only allowed the public to obtain a very unsatisfactory idea of the new entertainment.[66]

The simplified spectatorial routing allowed visitors to 'watch TV' for the entire duration of a programme, the spectators could move freely between the exhibition booths, and the crowd control was now maintained via the distribution of free tickets at the 'Television Box Office'.[67]

At the 1938 fair, finally, the British Radio Manufacturers. Association (RMA) introduced a new exhibition rule for Radiolympia that allowed set-makers to demonstrate their television receivers directly in their booths. The exhibition committee explicitly asked the exhibitors 'to dispel any thought in the mind of the public that television requires, of necessity, to be viewed in a darkened room' and suggested that 'exhibitors demonstrating television [should] avoid, as far as possible, the erection of closed booths for this purpose'.[68] Meant to 'prove that television does not need to be viewed in a darkened room, for exhibitors will so arrange their stands that programmes will be seen in full daylight',[69] the new line-up was sensibly different from previous displays in 1936 and 1937, which confined television to a particular area of the hall. With a total of sixteen manufacturers presenting televisions next to radio sets and

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66   'Secrets of the Radio Show'.
67   'Television Demonstrations'.
68   RMA quoted in 'No Theatre at Radiolympia'.
69   '1938-Teleolympia'.

other electronic items,[70] television's integration into the general exhibition floor lowered the aura of particularity that surrounded earlier displays. Instead of being confined to specific, darkened rooms, television joined other consumer electronics in well-lit exhibition halls. This disappearance of distinct (dark) spaces designated exclusively for tele-viewing conveyed the idea of the medium's readiness for the domestic sphere. By integrating the sets into the general exhibition area, the organizers communicated that television had been calibrated for mass consumption and use in the home. Journalists, welcoming this change, dramatized the spatial shift by presenting it as a liberation for television from its existence within obscure space:

> Perhaps the most significant feature of the campaign is the emergence of television from the peep-show stage to broad daylight. No more darkened cubicles for demonstration purposes: instead each firm shows its models on its stand in the main halls and operates them there.[71]

With television displays no longer requiring dimmed environments, daylight television represented a discontinuation from the relatively strict management of the spectators' paths through the exhibition – the inclusion of television in the general spectacle of consumer commodities provided fairgoers with the liberty of choice. In this sense, daylight television constituted a new televisual dispositif located within the same spaces as radio and other consumer electronics. At Radiolympia, the new adaptability of television was reflected through new exhibition architectures that incorporated the shape of television screens into their booth design. The multiplication of (display) windows pointed to the affinity of television with exhibitions as visual media projecting modern experiences for the viewer-visitor (Figures 3.20 and 3.21). Here, television was no longer solely a new technology on display, but helped actively shape the modern 'culture of showing'.[72]

The spatial rearrangement from obscured to (relatively) bright places inversed cinema's relocation from 'open' to more 'closed' spaces. The projections of moving images at the end of the nineteenth century were first organized in popular public sites such as *fêtes foraines*, on fairgrounds, and in itinerants' tents, before they moved to more established locations

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70   Briggs, *Golden Age*, 619.
71   'A Television Radio Show'.
72   König, *Konsumkultur,* 33.
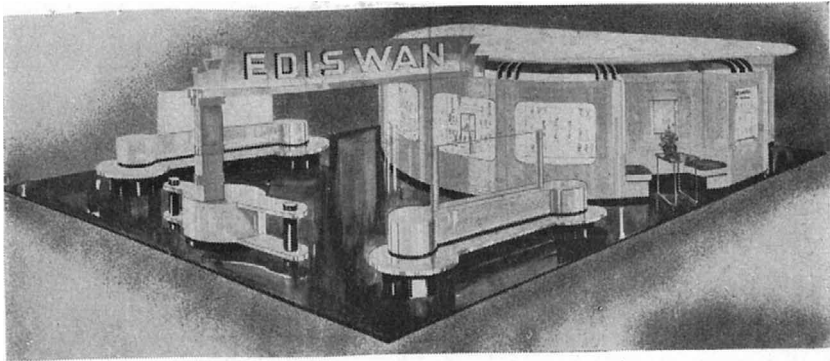
Figure 3.20. Drawing of the Ediswan booth at the Radiolympia in 1938. Source: *Television and Short-Wave World* 11 (September 1938).

Figure 3.21. Post Office exhibit at Radiolympia, 1939. Source: TCB 417/E 11285, BT Heritage and Archives.

from the 1905s on.[73] Cinema's transition to the Nickelodens and, some years later, to the (luxurious) movie houses that characterized cinema's stabilization as an industry coincided with it being gradually absorbed in a black box. As Jean-Louis Comolli has explained in the 1960s, with cinema's institutionalization the 'darkness of the theatre' has become an 'indispensable part of viewing', so much that it 'is accepted as natural, normal and ontological'.[74] The multiple screens and places of digital cinema remind us today that this (naturalized) cinematographic space is less an ontologically determined characteristic of the medium than conditioned by historical, institutional, and economic factors.

The shaping of television as a 'daylight' dispositif destined for the domestic space appears as a similar process of fixing media practices. The daylight dispositif contained a normative quality by providing guidelines for 'correct' televisual consumption defined as domestic and private: as I will further discuss in chapter 5, it was essential to the domestication of television. Within the exhibition space, however, daylight television's norms were not easily implemented. Contrary to the recommendations made by the RMA to avoid where possible the erection of closed booths, manufacturers continued to use separated and darkened demonstration rooms, this time integrated into their exhibition stands. Scophony's booth in 1938 mirrored the tensions between private and public viewing. The domestic and private consumption of television was insinuated by the decoration around the receiver, which included a bookshelf and a sofa, yet the exhibition still called for collective and public viewings. Presenting a 'large-size receiver' for the home, Scophony had installed 'screen and chairs in cinema formation'.[75] The orderly arrangement of chairs resembling a movie theatre meant the exhibitions could host numerous visitors, while the dark walls and curtains implied the necessity to protect the spectatorial space from the bright lights. At the end of the 1930s, television still required at least dimmed lights, and the considerable number of fairgoers called for some kind of crowd control, here realized with chairs limiting the spectatorial space and its distance to the machine. The tension between private and public reception arising from the display of 'daylight TV' could not be solved definitively. What is more, the collective nature of demonstrations was crucial to shaping fairgoers as tele-viewers. Scophony's 'cinema formation' suggested to (potential)

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73   On overview of cinema's multiple locations before its 'settlement' in the movie theater offers Herzog, 'Archaeology of Cinema Architecture'.

74   Comolli, 'Notes'.

75   Caption photograph 'Radiolympia'. *Shelf Appeal* (September 1938): 35.

buyers that watching television at home demanded similar attention and discipline to watching a movie in the cinema. It thus shaped an idea of how the television viewer should 'behave' in consuming the new medium.

As Olivier Lugon has highlighted in his work on photographic exhibitions, the question of spectatorial mobility was at the core of discussions in the interwar period among exhibition designers such as László Moholy-Nagy and Herbert Bayer.[76] Exhibitions and fairs were a privileged territory for artists exploring new artistic practices and renewed engagements with their audiences. Through the use of large-format photography and three-dimensional display techniques, artists created 'dynamic paths' for the spectator to follow, destabilizing his point of view and forcing him to constantly move to see the exhibit. The model for this kinetic perception was the cinema and its aesthetics of dynamism and speed, which was imitated in the exhibition space by various means. However, as Lugon underlines, the association of cinema and exhibition scenography was problematic insofar as the two media were based on different perceptive and sensual structures: cinema offered a mobile vision but required an immobile body, whereas the exhibition showed 'static images that stimulate mobile perception' in form of spectatorial circulation.[77] At the radio fairs, the encounter of two media relying on two different spectatorial models – the mobile fairgoer versus the immobile televiewer – similarly created scenographic concerns. The difficulties arising from the display of a daylight dispositif point at the complex processes underlying television's domestication and its transition from public space to the private realm.

Large-Screen Television

The tension between the immobile spectator and the exhibition conceived for circulating visitors is at the core of the scenographies of the late 1930s. The next two chapters will provide the opportunity to study this matter in more depth, and to discuss how regular television programmes shifted television's spectacularity from the media object to its content, raising questions about the suitability of *public* displays for *domestic* TV. For the remaining part of this chapter, I will turn to the Berlin Funkausstellung, where the spatial ordering of television displays considerably differed from the British scenographies. Although 'daylight television' also became a new standard of quality for television reception in Germany, the televisual

76   Lugon, 'Dynamic Paths of Thought'.
77   Lugon, 'Dynamic Paths of Thought', 130–131.

Figure 3.22. Television exhibition at the 1935 Funkausstellung. In addition to the *Fernsehstrasse*, a big screen television system was shown (see upper-right corner). Source: Stiftung Deutsches Rundfunkarchiv. Some rights reserved.

displays were increasingly separated from the general halls. In the early 1930s, the customary setting had placed the television exhibit in one of the main halls, where it occupied a (relatively) small space apart. For the 1937 Funkausstellung, television was granted an entire hall on the west side of the exhibition complex. In 1938 and again in 1939, thanks to a considerable extension of the general floor surface, television was finally located in a hall separate from the main building. Instead of merging the television displays with the other exhibits, the Funkausstellung created an isolated and larger showroom signalling the medium's growing importance for the German industry and within the National Socialist propaganda apparatus.

Another major difference from the London show was the inclusion in the Berlin programme of large-screen television demonstrations. In their own way, these large-screen displays singled out the scenographic problem of conciliating the flow of fairgoers with cinematographic (static) reception in darkened rooms. In 1935, the Fernseh AG chose to project their large-screen television image high above the visitors' heads (Figure 3.22). Telefunken, a major developer of large-screen television, tested different solutions to attenuate the tensions arising from the requirements of the exhibit to host
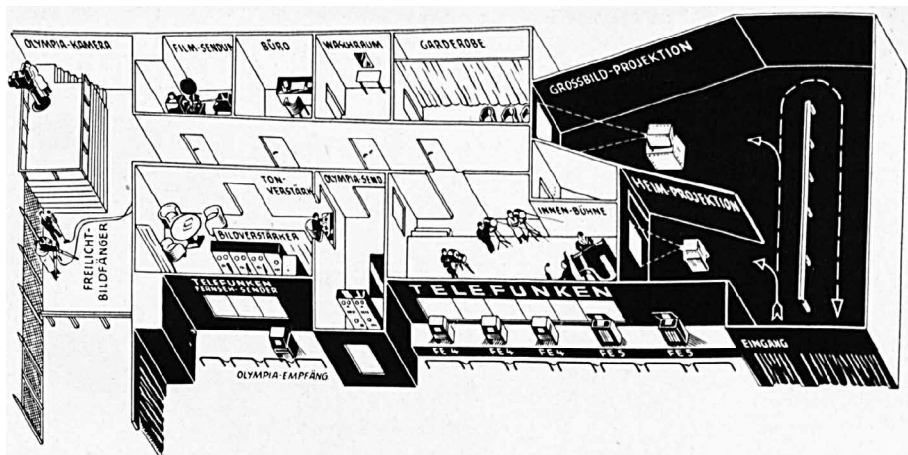
Figure 3.23. The Telefunken display at the 1936 Funkausstellung included different models of home receiving sets and large-screen projection systems. In black, the publicly accessible space; in white, production spaces and offices. Source: 'Telefunken auf der 13. Grossen Deutschen Rundfunk-Ausstellung', *Telefunken-Zeitung*, no. 74 (1936): 57.

Figure 3.24. The Telefunken large-screen projection systems at the 1938 Funkausstellung. Source: Stiftung Deutsches Technikmuseum Berlin, Foto Historisches Archiv.

passing visitors in darkened spaces. At the 1936 exhibition, the firm's stand was separated from other television exhibits by a curtain (Figure 3.23, on the left; see also Figure 3.10). Upon entering the space, the spectator was invited

to observe the action in the television studio and on small television screens. By passing through another curtain on the far right of the stand, the spectator then accessed the television 'theatre' and two large-screen projections, one for 'home television', the other for theatrical presentation. According to the map, this second room was kept in almost complete darkness. As in the movie theatre, the only light source for the room emanated from the fluorescent rectangles projected on the wall. However, contrary to the film spectator whose identification with the camera and the plot depends on his physical immobilization and the theatre's complete darkness, the visitors of the Telefunken stand were incited to walk from one screen to the next. The dashed line on the plan as well as the handrail splitting the audience into an entering and an exiting group were both techniques to encourage spectators to move continuously through the exhibit.

Another solution was found in 1938, when the 'Fernseh-Grossbildraum' at the Funkausstellung, again organized by Telefunken, occupied the middle-part of the exhibition hall (Figure 3.24). Three screens were placed in three alcoves at ground level. Hindered by balustrades, the spectators were not permitted to enter the image 'caves'. This installation circumvented the problem of spectator circulation in a dark space by placing only the image in a black box; the spectator remained outside, free to move in any direction and at any speed allowed for by the crowds.

Intermission I: Four Dispositifs of Interwar Television

In comparison with the spectacular dispositif, which framed a mobile, participative visitor whose interaction with television was primarily articulated through her contact with objects, the daylight dispositif aimed at an immobile media consumer focusing on media content. Rather than fair*goers*, the medium here addressed tele-*viewers.* This shift from visitor to spectator raised questions concerning the suitability of television exhibitions as mass events presenting domestic technologies. Simultaneously, as I will further discuss in Chapter 5, the new spectatorial positioning underpinned the domestication of television and thus its shaping as a broadcasting medium for the living room.

As a spectacular medium, television staged at fairs can be understood within an archaeology of popular entertainment for 'the senses':[78] the spectacular dispositif was part of a broader culture of 'astonishment' and

78   Parikka, *What Is Media Archaeology?,* 19–40.

modernity that has been described by historians of early cinema, consumer and mass culture. The exhibition halls provided a context in which television was made part of the celebration of technology as progress and magic, among other things, and where artefacts were prepared as commodity-experiences. At odds with most of the accounts of interwar television describing the medium from a technicist or teleological perspective that focuses on inventors and their machines, this link between television and consumer culture is fundamental to understanding interwar television and its value as an exhibit. Following Frank Kessler, I have argued that the spectacular dispositif's attractiveness as an exhibit resided in its objectness: rather than constituting a flaw, the absence or limitedness of media content was secondary compared to the appeal of the machines themselves. This double observation – the importance of 'machines' for the medium's shaping as well as its belonging to spaces of industrial mass culture – results from the relocation of television within exhibition spaces and leads to a rethinking of television's historiography. Television exhibitions enable us to understand the interwar medium beyond narratives of (failed) inventions and (dominant) corporations and instead account for what made television attractive before it became the familiar object in our living rooms. They call us to rethink the question of early audiences and to describe some of the possible pleasurable experiences television offered during the interwar period.

On display, television's spectacularity depended on its hybridity and flexibility. It was, literally, adaptable to every situation and every space. Anna McCarthy has underscored that television is anchored in everyday places – the home, but also bars, airports, and hospitals. These places, McCarthy argues, uncover the medium's 'peculiarly malleable and heterogeneous physical *form*'.[79] Interwar television certainly was as malleable as contemporary forms of TV: a product of industrial consolidation and convergence, television's material, economic, and conceptual forms are intertwined with radio, cinema, and telephony. On the exhibition floor, this adaptability was emphasized in displays that juxtaposed small-screen sets, large-screen apparatuses, and bidirectional systems, which combined stage performances and television transmissions or which underscored television's belonging to the entertainment industry.

The fairs also stressed the multiplicity of television as a broadcasting medium by displaying its various components. In all three countries, manufacturers first exhibited complete systems including receivers, transmitters, cameras, amplifiers, and other devices necessary to the televisual

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79   McCarthy, 'From Screen to Site', 99. Emphasis in the original.

infrastructure. The reflexive dispositifs as well as the dispositifs of liveness repeatedly accentuated the importance of this infrastructure and allowed fairgoers to inspect television sets along with other components. In the manner of Baird's 1929 display, early exhibitions hosted multiple apparatuses developed by firms researching the production *and* reception of televisual transmission.

If the fairs drew attention to television's hybridity and adaptability, they also negotiated a televisual specificity that corresponded to the televisual paradigm of connectivity, proximity, and liveness. The dispositifs described in this chapter – the reflexive dispositif, the dispositif of liveness, and the daylight dispositif – translated the televisual ideal into three-dimensional scenographies. Doing so, they sketched out an identity for television that continues to inform contemporary debates. This double function of exhibitions – to highlight television's multiple forms while giving substance to a televisual specificity – was maintained throughout the period, but the emergence of daylight television along with the opening of regular services in the mid-1930s shifted the focus away from multiple devices to the question of television's singularity. As I will discuss in Chapter 5, the framing of television as a domestic medium at fairs accelerated the standardization of television and contributed to its hegemonic definition as a living room medium, supplanting other, alternative conceptions and technologies.

I have suggested that to make interwar television meaningful, we have to abandon the question of *what* television is and instead ask *where* it is. Using the dispositif concept as a tool to examine the nexus of spectator-visitors, the televisual object, and its images, this chapter has confirmed that *locating television* in public space excavates the ways in which exhibition sites actively shaped the medium's identity through scenography and discourse. The next chapter will broaden the discussion of televisual spaces by including the question of national mediascapes and study in greater depth the differences between the three nations in shaping the medium at industrial and world's fairs. Doing so, it complements the analysis of televisual dispositifs with a transnational perspective that underscores the political framework co-determining television displays in Berlin, London, and New York.

Works Cited

Anon. '300,000 Visit N.Y. Show, See 1930 Design'. *Radio World* 16, no. 2 (28 September 1929), 20.

Anon. 'Television at the Berlin Exhibition'. *Television: The World's First Television Journal* 2, no. 20 (October 1929): 379–389.

Anon. 'Radio World's Fair Opens'. *The New York Sun*, 21 September 1931.

Anon. 'Television to Link Theaters in Test'. *The New York Times,* 14 October 1931.

Anon. 'Opening of Radio City, New York'. *Nature,* no. 132 (30 December 1933): 998–999.

Anon. 'Das erste Fernseh-Ja-Wort'. *Funk-Stunde,* no. 34 (August 1935): 1367.

Anon. 'Fernsehen 1937'. *Funk-Stunde*, no. 33 (15 August 1937): 3.

Anon. 'Secrets of the Radio Show'. *The Observer*, 22 August 1937.

Anon. 'Outdoor Television'. *The Times*, 26 August 1937.

Anon. 'Eröffnung der Fernsehsprechverbindung Berlin-München'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehwesens und Tonfilms,* no. 8 (August 1938): 58–59.

Anon. 'Television Demonstrations'. In *The National Radio Exhibition. Radiolympia: Official Catalogue* (London: Radio Manufacturers' Association, 1937), 148–149.

Anon. 'No Theatre at Radiolympia'. *The Wireless and Electrical Trader* 54 (7 May 1938): 193.

Anon. 'Wie öffnet man Austern… an der Rundfunkausstellung bei 30 Grad im Schatten'. *Berliner Zeitung,* 12 August 1938.

Anon. '1938-Teleolympia'. *Television and Short-Wave World* 11, no. 126 (August 1938): 458

Anon. 'A Television Radio Show'. *The Manchester Guardian*, 24 August 1938.

Anon. 'CBS to Ask Criticism of Public on Television'. *Broadcasting / Broadcast Advertising* (May 1939): 22.

Arnheim, Rudolph [sic]. 'Seeing Afar Off'. *Intercine* 7, no. 2 (February 1935): 71–82.

Berenstein, Rhona J. 'Acting Live: TV Performance, Intimacy, and Immediacy (1945–1955)'. In *Reality Squared: Televisual Discourse on the Real,* edited by James Friedman (New Brunswick, N.J: Rutgers University Press, 2002), 25–49.

Bolter, Jay David, and Grusin, Richard. *Remediation: Understanding New Media.* (Cambridge, Massachusetts: MIT Press, 1999).

Boillat, Alain. 'Faire pour la vue ce que le téléphone fait pour l'ouïe. Rencontres entre l'image et la voix dans quelques anticipations de la télévision'. In *La télévision du téléphonoscope à Youtube: pour une archéologie de l'audiovision*, edited by Mireille Berton and Anne-Katrin Weber (Lausanne: Editions Antipodes, 2009), 77–97.

Bottomore, Stephen. 'The Panicking Audience?: Early Cinema and the "Train Effect"'. *Historical Journal of Film, Radio, and Television* 19, no. 2 (1999), 177–216.

Briggs, Asa. *The History of Broadcasting in the United Kingdom. Volume II: The Golden Age of Wireless* (Oxford: Oxford University Press, 1995).

Burns, Russell W. 'Prophecy into Practice: The Early Rise of Videotelephony'. *Engineering Science & Education Journal* 4, no. 6 (1995): 33–40.

Caldwell, John Thornton. *Televisuality: Style, Crisis, and Authority in American Television*. (New Brunswick, N.J.: Rutgers University Press, 1995).

Comolli, Jean-Louis. 'Notes on the New Spectator (April 1966)'. In *Cahiers Du Cinéma: 1960–1968. New Wave, New Cinema, Reevaluating Hollywood*. Edited by Jim Hillier (Cambridge, Mass.: Harvard University Press, 1986), 210–215.

Couldry, Nick and McCarthy, Anna. 'Introduction. Orientations: Mapping MediaSpace'. In *MediaSpace: Place, Scale, and Culture in a Media Age,* edited by Anna McCarthy and Nick Couldry (London; New York: Routledge, 2004), 1–18.

Delavaud, Gilles. 'Le dispositif télévision. Discours critique et création dans les années 1940 et 1950'. In *La Télévision du téléphonoscope à YouTube. Pour une archéologie de l'audiovision*, edited by Mireille Berton and Anne-Katrin Weber (Lausanne: Editions Antipodes, 2009), 229–248.

Dunlap, Orrin E. *The Outlook for Television* (New York; London: Harper & Bros., 1932).

Eck, Bernhard. 'Fernsehen – ganz gross! Beim Fernsehsender Paul Nipkow zu Gast'. *Völkischer Beobachter*, no. 216 (4 August 1937): 7.

Feuer, Jane. 'The Concept of Live Television: Ontology as Ideology'. In *Regarding Television: Critical Approaches, an Anthology*, edited by E. Ann Kaplan ([Frederick, MD.]: University Publications of America, 1983), 12–22.

Friedberg, Anne. *The Virtual Window: From Alberti to Microsoft* (Cambridge, Mass.; London: MIT Press, 2009).

Galili, Doron. *Seeing by Electricity*: *The Emergence of Television, 1878 – 1939* (Durham, NC: Duke University Press, 2020).

Giedion, Sigfried. *Space, Time, and Architecture: The Growth of a New Tradition.* 3rd ed. (Cambridge: Harvard University Press 1954 [1941]).

Goebel, Gerhart. 'Das Fernsehen in Deutschland bis zum Jahre 1945'. *Archiv für Post- und Fernmeldewesen* 5, no. 5 (1953): 259–340.

Gripsrud, Jostein. 'Television, Broadcasting, Flow: Key Metaphors in TV Theory'. In *The Television Studies Book*, edited by Christine Geraghty and David Lusted (London: Arnold, 1998), 17–32.

Grossbölting, Thomas. *'Im Reich der Arbeit': Die Repräsentation gesellschaftlicher Ordnung in den deutschen Industrie- und Gewerbeausstellungen 1790–1914* (Munich: Oldenbourg, 2008).

Herzog, Charlotte. 'The Archaeology of Cinema Architecture: The Origins of the Movie Theatre'. *Quarterly Review of Film Studies* 9, no. 1 (Winter 1984): 11–32.

König, Gudrun M. *Konsumkultur: inszenierte Warenwelt um 1900* (Vienna: Böhlau Verlag, 2009).

Lipartito, Kenneth. 'Picturephone and the Information Age: The Social Meaning of Failure'. *Technology and Culture* 44, no. 1 (January 2003): 50–81.

Lugon, Olivier. 'Dynamic Paths of Thought. Exhibition Design, Photography and Circulation in the Work of Herbert Bayer'. In *Cinema Beyond Film: Media*

Epistemology in the Modern Era, edited by François Albera and Maria Tortajada (Amsterdam: Amsterdam University Press, 2010), 97–117.

Lugon, Olivier. 'Entre l'affiche et le monument, le photomural dans les années 1930'. In *Exposition et médias: photographie, cinéma, télévision*, edited by Olivier Lugon (Lausanne: L'Âge d'Homme, 2012), 79–123.

McCarthy, Anna. 'From Screen to Site: Television's Material Culture, and Its Place'. *October* no. 98 (2001), 93–111.

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

Mills, Mara. 'The Audiovisual Telephone: A Brief History'. In *Handheld? Music Video Aesthetics for Portable Devices*, edited by Henry Keazor (Heidelberg: ART-Dok, 2012), 34–47, accessible online: http://archiv.ub.uni-heidelberg.de/artdok/2016 (accessed 25 July 2021).

Nash, Eric. *Manhattan Skyscrapers* (New York: Princeton Architectural Press, 1999).

National Broadcasting Company (NBC). *America's First Television Tour: Demonstrating* [*and*] *Describing the Art and Science of Seeing at a Distance* (New York: National Broadcasting Co., 1939).

Neuburger, Alfred. 'Am Fernseh-Sprecher'. *Berliner Zeitung*, 7 September 1929.

Parikka, Jussi. *What Is Media Archaeology* (Cambridge; Malden: Polity, 2012).

Rieger, Bernhard. *Technology and the Culture of Modernity in Britain and Germany, 1890–1945* (Cambridge, U.K.; New York: Cambridge University Press, 2005).

Roberts, Ivy. *Visions of Electric Media: Television in the Victorian and Machine Ages* (Amsterdam: Amsterdam University Press, 2019).

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

Simmel, Georg. 'The Berlin Trade Exhibition'. *Theory, Culture & Society* 8, no. 3 (1991 [1896]): 119–123.

Spigel, Lynn. *Make Room for TV: Television and the Family Ideal in Postwar America* (Chicago: University of Chicago Press, 1992).

Stadel, Luke. 'Television as a Sound Medium, 1922–1994'. Ph.D., Northwestern University, 2015.

Sterne, Jonathan. *The Audible Past: Cultural Origins of Sound Reproduction* (Durham, NC: Duke University Press, 2003).

Susman, Warren. 'The People's Fair: Cultural Contradictions of a Consumer Society'. In *Culture as History: The Transformation of American Society in the Twentieth Century* (Washington, D.C.: Smithsonian Institution Press, 2003), 211–230.

Thompson, Emily. 'Machines, Music, and the Quest for Fidelity: Marketing the Edison Phonograph in America, 1877–1925'. *The Musical Quarterly* 79, no. 1 (1995): 131–171.

Thorburn, David, and Henry Jenkins. 'Introduction: Towards an Aesthetics of Transition'. In *Rethinking Media Change: The Aesthetics of Transition*, edited by David Thorburn and Henry Jenkins (MIT Press, 2004), 1–16.

Toneski, William J. 'How We Staged the World's First Television Plays'. *Television News* 1 no. 4 (September-October 1931): 260–261.

Traub, Ernest H. 'Television at the Berlin Radio Exhibition, 1936'. *Journal of the Television Society* 2, no. 6 (December 1936): 181–187.

Trenton, Leslie. 'NOW! Where Do We Go from Here?'. *Television: The World's First Television Journal* 2, no. 21 (November 1929). 451–453.

Uricchio, William. 'There's More to the Camera Obscura than Meets the Eye'. In *Arrêt sur image, fragmentation du temps: Aux sources de la Culture visuelle moderne*, edited by François Albera, Marta Braun, and André Gaudreault (Lausanne: Payot, 2002), 103–117.

Uricchio, William. 'Phantasia and Technè at the Fin-de-Siècle'. *Intermédialités: Histoire et théorie des arts, des lettres et des techniques* no. 6 (Fall 2005), 27–42.

Uricchio, William. 'Television's First Seventy-Five Years: The Interpretive Flexibility of a Medium in Transition'. In *The Oxford Handbook of Film and Media Studies*, edited by Robert Kolker (Oxford: Oxford University Press, 2008), 289–293.

Ward, Janet. *Weimar Surfaces: Urban Visual Culture in 1920s Germany* (Berkeley: University of California Press, 2001).

White, Mimi. 'The Attractions of Television. Reconsidering Liveness'. In *Media Space: Place, Scale, and Culture in a Media Age,* edited by Nick Couldry and Anna McCarthy (New York: Routledge, 2004), 75–94.

Wurtzler, Steve J. *Electric Sounds: Technological Change and the Rise of Corporate Mass Media* (New York: Columbia University Press, 2007).
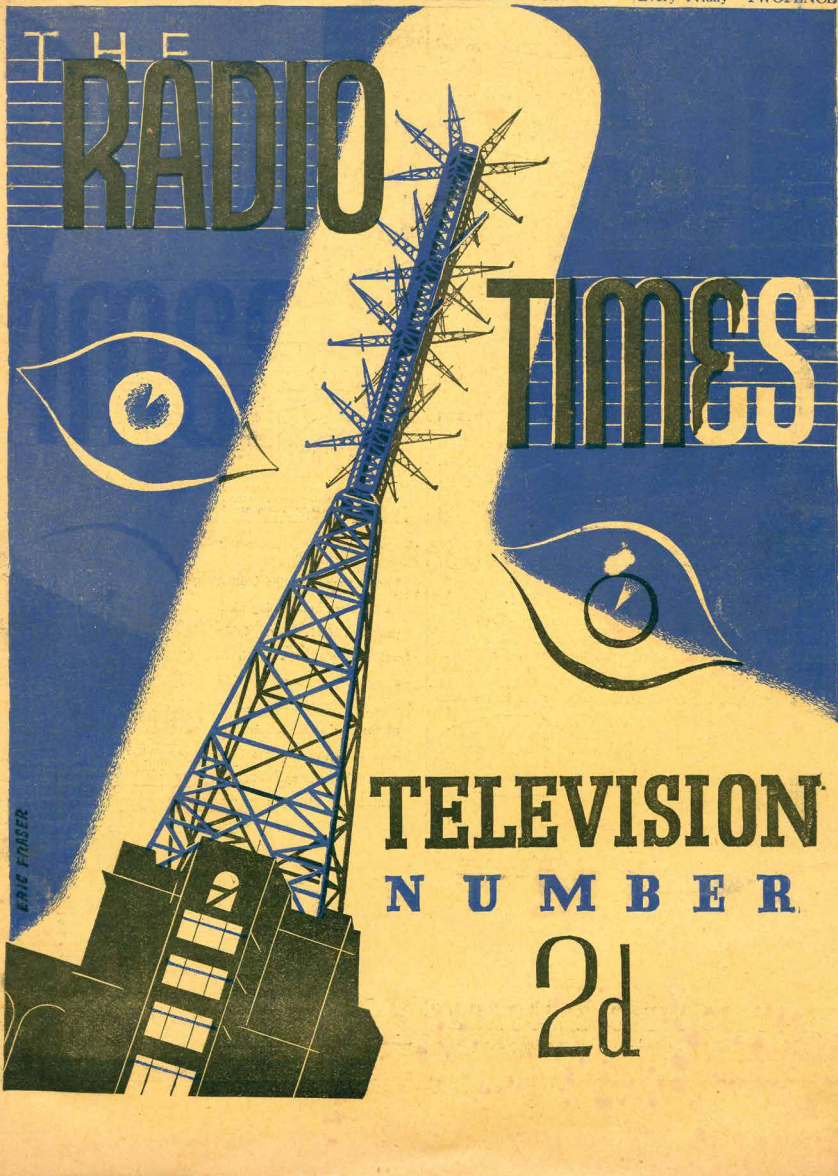
Figure 4.1. Cover of the *Radio Times'* first 'Television Number' displaying the new television antenna at Alexandra Palace. Source: *Radio Times* 53, no. 682, 23 October 1936.

4.   Nationalizing Television in a Transnational Context

Abstract

This chapter unearths the important role played by radio fairs for the construction of television's national identity. Its core is articulated around three case studies: television at the Century of Progress World's Fair in Chicago in 1933–1934, at the Funkausstellung in 1935 that followed the opening of the public service in Berlin, and at Radiolympia in 1936, which preceded the launch of the BBC's television service in November that year. An understanding of the dynamics between national and transnational spaces is especially important for a discussion of television under National Socialism. Without neglecting the medium's particularities, the chapter embeds German television's national history in a transnational framework that highlights the intertwined histories of the medium across the three countries and across democratic and totalitarian regimes. The chapter closes with an 'intermission'; a short intermediate conclusion, which emphasizes the benefits of a transnational approach to interwar television.

Keywords: transnational history; mechanical and electronic television; Century of Progress World's Fair; Paul Nipkow; BBC; Alexandra Palace

Ritualized performances of national identity and the fostering of patriotic sentiments were part of every (radio) exhibition and constituted an important argument for the organization of such events. Showcasing modernity and innovation, exhibitions simultaneously helped to 'invent traditions'[1] and contributed to a conception of national identity as progress-driven *and* anchored in a faraway past. Historians of exhibitions have insisted on this national dimension, which constituted the core of these events even

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1   Hobsbawm and Ranger, eds., *Invention of Tradition*.

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at international gatherings and celebrations.[2] Displaying texts, images, and objects, the exhibitions created a space in which the idea of nation could take various material forms, and where industrial goods met political artefacts such as flags or medals. The sense of belonging to a nationally defined space and its community was sensually and visually experienced, negotiated, and appropriated intellectually by visitors.[3] The presentation of products manufactured by the national industry and their appraisal in the press furthered the process of 'internal nation-building'[4] through the shaping of shared narratives and symbols of an (imagined) national community and its achievements.[5]

Similarly, radio historians emphasize that the history of broadcasting, developing at a moment of increasing nationalistic sentiments and tensions, is deeply related to the history of national self-definition. From its inception, and despite the ubiquitous nature of wireless communication, which does not stop at national frontiers, broadcasting space was conceived of as a national territory, and the shaping of radio as a mass media became closely entangled with the shaping of national identities. For historian Michele Hilmes, broadcasting is as fundamental to the history of the twentieth century as it is to the history of nation-states. However, as Hilmes also shows, the construction of a national identity through broadcasting was entangled on multiple levels with transnational politics and cultural circulations.[6] Arguing that 'British and American broadcasting together constitute a unified system, a powerful symbiotic machine of cultural influence',[7] Hilmes unearths the multiple links and entanglements on political, social, and cultural levels between the two countries whose broadcasting systems shared little commonalities at first sight.

It is before this transnational background that the frequent press reports on the international television development has to be understood. Specialized television journals informed regularly on issues such as international standards and norms, demonstrations, and the commercialization of receivers. Sending their own 'representative visiting the exhibition'[8] or inviting foreign journalists to write in their pages, the magazines printed detailed descriptions of the displayed technologies at foreign fairs. Doing

2   Geppert, 'Exponierte Identitäten?'
3   Geppert, 'Exponierte Identitäten?', 182.
4   Grossbölting, '*Im Reich der Arbeit*', 383.
5   Anderson, *Imagined Communities*.
6   Hilmes, *Network Nation*.
7   Hilmes, *Network Nations*, 4.
8   'Impressions of the Berlin Show'.

so, they prepared the horizon of expectation for the national development of television and fuelled international competition. Furthermore, behind closed doors, exchange on television within the international engineering community was regular throughout the 1930s. For instance, in 1934, Vladimir Zworykin left the RCA labs for a two-month trip to Europe, during which he met engineers in Great Britain, Germany, Italy, and the USSR.[9] Between 1936 and 1938 Nazi officials travelled abroad to investigate the American and British state of the art. One Reichspost official went to London in September 1936 just after Radiolympia and before the official opening of the BBC television service, and wrote down a technical description of the Baird and Electrical and Musical Industries (EMI) systems used by the BBC.[10] Similarly, the Selsdon Committee based its recommendations on the organization of television in Britain on a comparison with international developments. The scientific exchange finally found an economic rationale in the sharing of television patents and licensing agreements,[11] which became particularly visible at the 1936 Olympic Games, when the German industry demonstrated electronic cameras based on RCA and Farnsworth technology (see Section 5.2 below).

Notwithstanding the transnational entanglement of television research and technology, the medium was first and foremost defined as a national affair. As a proof of national advancement and technological progress, its development was embedded within a discourse of national pride and achievement. This symbolic value of television as a *national* medium became particularly visible in the context of mounting tensions between Germany and Great Britain in the mid-1930s, which accompanied the countries' concomitant efforts to launch regular television services. Indeed, the commencement of regular programmes in Berlin in 1935 and one year later in London were the most direct expressions of the symbolic capital of interwar television and marked an important step towards the institutional integration of the new medium. However, even after the launch of public services, only few people had access to televisual programmes, which were only transmitted for a few hours per day: television as a *programming* medium did not unite the national community. The national radio fairs henceforward gained additional importance for the introduction of television

9   David Sarnoff Research Center records (Accession Number 2464.09), Vladimir K. Zworykin papers, Box M&A 80, Folder 34, Hagley Library and Museum, Visit to European Countries, 1934.
10   Das Bundesarchiv (hereafter BArch), R4701/13064, Fernsehen im Ausland, 1936–1944. 'Bericht über die Dienstreise des PR Harder nach London zum Studium der Einrichtungen des englischen Fernsehens vom 4. bis 9. 12. 1936'.
11   Uricchio, 'Television as History'.

to the public. As the analysis of the radio fairs held in 1935 and 1936 will show, before television would unite the imagined national community through national programming and news reporting, the televisual *object* fuelled contemporary discourses on national identity and prestige. Introducing radically new scenographies for the presentation of television, the radio shows in the mid-1930s crucially contributed to the articulation of nation and television in the interwar period. In a way, then, the radio fairs were a supplement, if not a substitute, to the regular, national television service.

This chapter examines the radio fair's role in nationalizing television through the closereading of three singular events. First, it studies an ignored television exhibition, namely the 1933–1934 Chicago World's Fair (Section 4.1). The Chicago World's Fair constitutes a particular case within my inquiry insofar as television was almost completely absent from displays. However, as I will argue, it is precisely the exhibition's status as a 'missing television fair' that is meaningful since it exposes the different strategies adopted in the United States and Europe for the medium's introduction. The following study of the 1935 Funkausstellung (Section 4.2) and the 1936 Radiolympia (Section 4.3), held in relation with the opening of a regular television service in Berlin and London, will demonstrate how television was integrated into the National Socialist mediascape, respectively adopted to fit into the BBC's monopoly. The chapter concludes with the second 'intermission' that shines a light on the national narratives from the perspective of their entanglement with transnational circulations of ideas, objects, and people. As the chapter overall shows, the making of national television plays out on multiple scales and cannot be separated from the medium's transnational history.

4.1   Unearthing Television at the Century of Progress Exhibition, Chicago 1933–1934

The mid-1930s constitute a crucial moment in the institutional appropriation of television, as well as in the transnational competition surrounding the new medium. The launch of regular broadcast services in Berlin (1935) and London (1936), and the broad promotion of these initiatives as national achievements considerably reshaped the industrial and institutional mediascape. Interventions by governmental authorities structured the regulatory frameworks, which defined the industry's realm of action. As the following two sections will show, both the Funkausstellung and Radiolympia reacted to and sustained the policy changes and institutional transformations by radically renewing their television displays. In the United States, this fervour on the European side

did not go unnoticed. From 1935 onwards, radio journals and the mainstream press regularly proclaimed the beginning of a 'world television rush' or an international 'television race',[12] and observed closely the progress made abroad. Newspaper articles translated the symbolic capital of television as a technology representing a nation's progress; the very wording of their headlines confirmed the transnational context of national television development.[13] Even the RCA president David Sarnoff's famous speech in May 1935, often described as a comment to Vladimir Zworykin's advances in electronic television, has to be understood within this transnational context.[14] In his speech, which was delivered before RCA stakeholders and later widely disseminated, Sarnoff outlined a three-point plan for television for which the RCA would invest 1\$ million in the near future.[15] This plan comprised the establishment of a transmitter network near RCA research facilities, the manufacturing of experimental receivers, and the start of an experimental programme. It signified the ultimate endorsement of electronic television and emphasized that television still required consequential investiment before it would be ready for the public. While historiography has mainly focused on these aspects, understanding the proposal as a milestone for commercial TV, it is important to note that Sarnoff opened his speech by referring to the international situation:

> Public interest in television continues unabated since the statement made in the annual report to the company's stockholders on February 27, 1935 [...]. The results attained by RCA in laboratory experiments go beyond the standards accepted for the inauguration of experimental television service in Europe. We believe we are further advanced scientifically in this field than any other country in the world.[16]

12   'World Television Rush Is On!'; 'Television Race Gets Hotter'.

13   See for example the following headlines: 'England's Entry in Television Race Stirs America', *The New York Times,* 10 February 1935; 'Television for Germans Will Start in Week', *Chicago Daily Tribune,* 9 March 1935; 'At London's Radio Show – Berlin Displayed Picture Receivers', *The New York Times,* 8 September 1935.

14   For an account of Sarnoff's speech as a reaction to the engineering breakthroughs, see Edgerton, *Columbia History of American Television*, 52; Magoun, *Television*, 65. Abramson also understands Sarnoff's announcement in the context of international competition. See Abramson, *History of Television*, 218–219.

15   At the end of the decade, RCA claimed having spent $20 million in televisual research, a number that may serve as an indication for the importance television gained for the corporation in the second half of the 1930s.

16   David Sarnoff, 'Statement on Television', 7 May 1935. George H. Clark Radioana Collection, Archives Center, National Museum of American History, Smithsonian Institution, series 142, box 388.

A few months later, in October 1935, returning from a trip to Europe, Sarnoff contended his view of American superiority in a full-page inter-view given to the *New York Times*, this time talking with the authority of someone who had seen with his own eyes the various systems and compared their quality.[17] Obliged by the international situation to publicly take a position and explain his strategy, Sarnoff affirmed RCA's leadership while simultaneously insisting on the view that television was not yet ready for the world. He sustained the idea that delaying the introduc-tion of television was in the public's interest, since only a coordinated and large-scale initiative from the part of private corporations would eventually be able to guarantee a regular programme.[18] Contrary to his European competitors, Sarnoff thus promoted a slow introduction of television in public space.

Against this background, the RCA's decision *not* to display television at the Chicago World's Fair is not entirely surprising. It expresses the overall approach chosen by the firm in the early to mid-1930s to delay the launch of television in public space, and to push forward the television development behind closed laboratory doors rather than on open exhibition floors. More broadly speaking, RCA's absence at the World's Fair in 1933 is suggestive of the specificities of interwar television's history in the United States and highlights transnational differences in the way the new media was introduced to its future audience. Indeed, despite the importance of the event, no major corporation displayed television at the Chicago Fair. While the New York World's Fair in 1939-1940 would put television at centre stage (see Section 5.3), the Chicago World's Fair is a rather uneventful event for the medium's history. This is reflected in the echo this event has received in television history, or lack of it. Standard television histories omit the 1933-1934 fairs, and the little information there is comes from websites and message boards maintained by television history buffs.[19]

With this historiographical silence in mind, this section shows that the World's Fair *does* offer a picture of televisual research at the beginning of the 1930s, and highlights the strategies adopted for the introduction (and delaying) of television in the United States during the interwar period. The Chicago event was organized towards the end of what Joseph H. Udelson has called the 'first television boom', which lasted from the late 1920s to

17   Dunlap, 'Sarnoff Scans the Radio World'.
18   See Jowett, 'Dangling the Dream?'.
19   For example, see the websites of the Early Television Foundation (in particular, 'Television at the 1933 Chicago World's Fair', https://www.earlytelevision.org/chicago_1933_worlds_fair. html (accessed 28 February 2021))

the emergence of electronic television and the concomitant decline of mechanical systems.[20] Building upon the Century of Progress records, the section argues that the story of television at the 1933/1934 World's Fair epitomizes this shift from mechanical to electronic television, and from a culture of televisual tinkering by individual inventors to the scientifically organized television research in corporate laboratories. The detour via a fair at which the big players did not display television finally offers the opportunity to reflect upon the importance of transnational competition for national framings of the medium. As this section's conclusion will show, the nationalization of American television in the mid-1930s was inseparable from corporate strategies of market control as well as from transnational trends. The relative marginality of the Century of Progress exhibition for a history of televisual display should therefore not veil its importance as a symptom of particular American choices with regard to the shaping of television as a national mass media.

The Two Displays of Television at the 1933 Edition

The Chicago World's Fair, planned on private initiative from 1927 onwards, became a communion of American science and corporate business mapping a way forwards out of the Great Depression towards modern consumer society. Its official title, 'A Century of Progress International Exposition', as well as its motto 'Science Finds, Industry Applies, Man Conforms', subsumed the major philosophy behind the event at which industrial elites presented themselves as the mediating link between science and society, paving the way for never-ending economic, but also social and cultural advancement.[21] The emphasis on industry as a promoter of American society reflected the broader shift from a national economy based on individual entrepreneurship towards a consumer-oriented, technology-based corporate culture.[22] In the midst of the Great Depression, the Fair provided an opportunity for corporate America to defend its values and project confidence by wrapping its profit-oriented goals with the seeming neutrality of scientific progress.[23]

As an expression of the necessity of scientific progress fostered by private business, the fair might have been destined to become a showcase for television. In 1930 George Clark, show manager for the RCA and the man

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20   Udelson, *Great Television Race*, Chapter 3.
21   On the Fair's history, see Ganz, *1933 Chicago World's Fair*; Rydell, *World of Fairs*; Rydell, Schiavo, and Bennett, eds., *Designing Tomorrow*. See also Schrenk, *Building a Century of Progress*.
22   Schrenk, 'Industry Applies', 25.
23   See Marchand, *Creating the Corporate Soul*, 265–283: Rydell, *World of Fairs.*

responsible for its public displays, was indeed convinced that television would 'be perfected in 1933'[24] and introduced to the public at the World's Fair. Similarly, the Fair's Promotion Department wrote in 1931 'naturally, television will have an important part [at the exhibition]'.[25] According to testimonies of fairgoers, television undeniably left an impression: the historian Robert Rydell narrates a memory of his father talking about two particular exhibits from the 1933 Chicago Fair: Sally Rand's famous (sometimes nude) fan dance and the display of television.[26] In a filmed interview, journalist Walter Cronkite, anchorman for the CBS Evening News for nineteen years during the 1960s and 1970s, remembers visiting the Chicago Fair and participating in a television demonstration – an encounter with the medium that made him, as he says, one of the first people to be 'on TV'.[27]

However, if none of the big telecommunication firms showed television at the Chicago World's Fair, where did Robert Rydell's father and Walter Cronkite see the new medium? And could the Fair satisfy its wish to have television among the attractions? After attempts to collaborate with at least two different television developers, both of which subsequently pulled out before the Fair's opening,[28] the 1933 edition included two television exhibits narrating different, although complementary, stories about the new technology. One exhibit, organized by the Western Television Research Corporation was presented in the focal building of the Fair, the Hall of Science. Originally conceived as the 'Temple of Science', the Hall emphasized the importance of science to progress, and of scientists as the priests of this advancement. Outside the building, visitors were met by a sculpture by Louise Lentz Woodruff titled *Science Advancing Mankind*. The sculpture depicted a life-size couple walking with uplifted arms being pushed forwards by a giant robot at least twice their size.[29] Inside the Hall,

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24   Internal Memorandum, 13 March 1930. A Century of Progress records, Special Collections and University Archives, University of Illinois at Chicago (hereafter CoP records), series 1, box 395, folder 1–12510.

25   Norman W. Gregg to Eric Palmer, 26 June 1931. CoP records, series 1, box 419, folder 1–13522.

26   Rydell writes: 'My father's stories always turned on two exhibits, the television display and Sally Rand's display of, well, as my father recalled, herself.' Rydell, *World of Fairs*, 1.

27   Interview accessible on YouTube: http://www.youtube.com/watch?v=LD651pI3xis (accessed 25 July 2021). Cronkite remembers his trip to the World's Fair at around 9:00.

28   The two developers were Hollis S. Baird (no relation to John Logie Baird), owner of the Shortwave and Television Corporation, and Ulises A. Sanabria, who would also attempt to exhibit TV in 1934. See Udelson, *Great Television Race* for information on Baird and Sanabria. On their attempt to exhibit at the Fair, see CoP records, series 1, box 419, folder 1–13522; CoP records, series 1, box 409, folder 1–13123.

29   Rydell, *World of Fairs*, 101–102.

two floors with exhibits devoted to the 'Basic Sciences' educated fairgoers about the fundamentals of this progress. Placed in the 'Physics' section and classified under 'Illumination and Rays',[30] television was presented as a scientific principle of light rays transmitted via electric currents. Its description in the official catalogue provided abundant technical details.[31] In an internal memo on the exhibit written after the closing of the World's Fair, a staff member criticized the demonstration for its complexity – and because it only 'occasionally' worked, 'making but a poor demonstration when it does'.[32]

While the Hall of Science presented research outside economic and industrial interests, the Electrical Building, where the second television display was situated, was all about the 'dazzling spectacle' of electricity, presented in 'vast and spectacular compositions of light that flood the Fair'.[33] Dedicated to the industrial production made possible thanks to the scientific achievements displayed in the Hall of Science, the Electrical Building presented 'in dramatic fashion' the newest 'air conditioning machines, home appliances, and model kitchens'.[34] For visitors moving through the building, televisual technology was here a spectacular dispositif fitting into the 'stupendousness' of the general show.

The firm responsible for the television demonstration in the Electrical Building, the Hudson Motor Car Company, most certainly had absolutely no experience in television development or presentation, and it is not clear with whom the well-known car manufacturer collaborated to showcase this new technology. As far as the sparse documents reveal, the firm was hesitant to exhibit at the Century of Progress exhibition since a standard presentation of new automobiles would merely duplicate 'the excellent annual shows which they now hold in New York, Chicago and almost every other important city and town in the land'.[35] Apparently, the Hudson Company remained uninterested during most of the Fair's preparation phase, and had to be reminded to participate on 19 April 1933, five weeks before the opening.[36] On 23 May finally, an internal memo by staff members

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30   *Official Catalog of Exhibits in the Division of the Basic Sciences*, 74–75.

31   *Official Catalog of Exhibits in the Division of the Basic Sciences*, 50.

32   'Interoffice Correspondence', 17 January 1934. CoP records, series 8, box 42, folder 8–545.

33   *Official Guide Book of the Fair*, 153.

34   *Official Guide Book of the Fair*, 153.

35   Letter to Roy Chapin [Hudson Company], 10 February 1931. CoP records, series 1, box 248, folder 1–7704.

36   W.C. Wanner [CoP] to W.A. James [Hudson Company], 19 April 1933. CoP records, series 1, box 248, folder 1–7704.

stated that the Hudson firm had agreed to acquire exhibition space in the Electrical Building and planned to sponsor 'an elaborate show of television as their contribution to A Century of Progress'.[37] For the Fair's Department of Exhibits, the so-called 'Hudson Motor Car Television Show' was a highly welcomed addition to the Fair's programme:

> In accordance with our conversation regarding your contemplated display of Television [...] we are glad to assure you that such a Television Show on your part will be the only commercial show of Television on the Fair grounds. We are very happy indeed to have you sponsor this show, as the Electrical Bldg. was badly in need of some display of this phase of the industry, and we are glad you followed our suggestions along these lines.[38]

The insistence that the organizers were 'very happy' confirmed the significance the Fair accorded to a televisual show. Even more, the letter suggests that the Fair had been actively pushing the Hudson Company to adopt a television display. Despite this evident official interest from the Fair's organizers, however, the television demonstration was barely covered in the press and its public success is virtually impossible to evaluate.[39]

Sanabria & Co.: Independent Inventors at the 1934 Edition

One indication of at least a partially favourable outcome of the television display was that the Fair sought to stage another television exhibition in the second edition of the Century of Progress exhibition.[40] It would encounter similar problems to the year before, but it did encourage new actors to envisage new displays.[41] In the Hall of Science, M.L. Hayes was

37   Internal memorandum, 23 May 1933. CoP records, series 1, box 248, folder 1–7704.

38   B. Harrison [CoP] to C.C. Abbott [Hudson], 25 May 1933. CoP records, series 1, box 248, folder 1–7704.

39   At the beginning of July, the *New York Times* reported only very briefly: 'A television theatre has been opened by Hudson-Essex in the Electrical Building of Chicago's World Fair. Every half hour a demonstration of television, hailed as the dawn of the vast industry whose future no one can venture to predict, is provided for visitors.' 'Car Demand Keeps High'.

40   The 1934 edition opened in May 1934 and closed in October of the same year.

41   In February 1934, the Fair contacted Philo Farnsworth' company to organize a collaboration between Farnsworth and the Hudson Motor Car Company. However, after a few exchanges, this collaboration did not take place and Farnsworth did not present his electronic television system. Later that summer Farnsworth staged a television exhibition at the Franklin Institute in Philadelphia which televised visitors upon entering the museum. Stashower, *The Boy Genius*, 200.

responsible for a new display of a mechanical system. Hayes had collaborated with Ulises A. Sanabria in 1928[42] and had probably been involved with the Western Television Research Corporation that had presented in the Hall of Science exhibit in 1933. Two additional displays were located in the Electrical Building and in the refurbished Television Theater, and while they are the only demonstrations for which I have found some press material, their stories remain as obscure as those of the other displays.

According to announcements made in the *Chicago Tribune*, the Television Theater was opened around 4 June. Situated opposite the Travel and Transportation Building, it had been bought in March by a firm called Marchand & Calas who planned 'to operate [...] a concession known as the "Giant Television"'.[43] The programme publicized in a press release announced performances transmitted from an interior stage and promised visitors the opportunity to be televised.[44] In the theatre, a large screen and small receivers were installed.[45] The Television Theater itself was conceived in order to allow 'the spectators [to] see both the television apparatus and performers in the glass-enclosed studio and the televisioned picture on the screen'.[46] For the audience, the studio – 'set in the rear wall, considerably above the heads of the audience'[47] – and the transmitter were thus visible on the one side, the projected image on the other. This display of simultaneous televisual production and reception was, as I have discussed in the previous chapter, a regular feature in the exhibition of reflexive dispositifs.

Ulises A. Sanabria, the inventor of the television system exhibited, was a key figure in the public display of large-screen television in the United States. In 1931 Sanabria had been present at the New York Radio Show in Madison Square Garden, and a few weeks later he installed his equipment at a Broadway theatre, before travelling to 'Baltimore and Newark movie houses'.[48] At least one member of the Fair's organizational committee had followed one of Sanabria's demonstrations in 1931 and had written an enthusiastic note about the show.[49] Consequently, the Century of Progress press release

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42   'Broadcast Scene and Sound'.

43   The Air Show to CoP, 20 March 1934. CoP records, series 1, box 450, folder 1–14466.

44   Press Release, CoP records, series 15, box 12, folder 15–149.

45   Press Release, CoP records, series 15, box 12, folder 15–149.

46   Malcolm McDowell, 'Television Theater Shows Entertainers in Studio and on Screen at Same Time', *Chicago News*, 4 June 1934. CoP records, series 15, box 12, folder 15–149.

47   Press Release, 30 May 1934. CoP records, series 15, box 12, folder 15–149.

48   'Sanabria Triumphs', *Television Times*. CoP records, series 15, box 12, folder 15–149.

49   On 7 June 1931, the president of the World's Fair, Rufus Dawes, received a letter from the publicity manager of Hollis S. Baird's Shortwave and Television Corporation inviting Dawes to a 'historic demonstration of large size television' in New York. The Corporation was a manufacturer

dated 30 May 1934 introduced Sanabria as 'an authority on the subject' of televisual research, who had spent 'five years of exhaustive research [...] to develop the television equipment at the new World's Fair'.[50]

However, after this enthusiastic welcome by the Fair and the opening of the Television Theater at the beginning of June 1934, the traces of Sanabria's activities at the World's Fair get blurred. As far as the records show, during the two first weeks of June several letters were sent between Sanabria's lawyers and the Fair concerning the appointment of a new trustee to Sanabria's firm and regarding the removal of 'the television machine'.[51] On 3 August 1934 Marchand & Calas (the owners of the Television Theater) informed the Fair managers that the firm was in the process of selling the theatre to Sanabria.[52] In January 1935, Marchand & Calas, finally still owners of the Theater, signed the demolition permit for the Theater.[53]

The remaining exhibit situated in the Electrical Building is the only one we know for sure was used for television shows. It was installed by John Beatty who ran the exhibit under the name 'Television Exhibits Corporation' and who had been in contact with the Fair from at least the beginning of June 1934. An unknown figure in television history, it is not clear what kind of equipment he used for his transmissions. Beatty's exhibit in the Electrical Building was opened on 3 July, six weeks after the launch of the Fair's second edition:

> The television exhibit and demonstration in the electrical building at the World's Fair will be officially opened at 8pm Tuesday (July 3rd). Major Lohr, of the exposition staff, will be the first visitor to be televised. Officials of the exhibit expect to have many famous stars of the stage and screen as

of mechanical television and owner of two television stations in Boston. Ulises A. Sanabria, the Chicagoan inventor who would present its large-screen equipment three months later at the New York radio show, organized the demonstration. According to the publicity manager at Baird's company, 'Reflecting televised images on a screen ten feet square, to be seen at a distance of one hundred feet, is a great forward step in the establishment of a new industry – and certainly television will play an important part in connection with the Chicago Worlds [*sic*] Fair.' Dawes did not personally assist this demonstration, but was represented by one of his staff members. The latter was greatly pleased by what he had discovered and wrote an appreciative note to the Corporation: 'I assure you that I found the work done by Mr. Sanabria extremely impressive, and I know that your organization must be deeply interested in "A Century of Progress" as a medium for giving the knowledge of what your engineers and inventors have done to the world.' CoP records, series 1, box 419, folder 1–13522.

50   Press release. CoP records, series 15, box 12, folder 15–149.
51   'Television Device Shown'.
52   Calas to Owings, 3 August 1934. CoP records, series 1, box 450, folder 1–14466.
53   Demolition permit, 21 January 1935. CoP records, series 10, box 156, folder 10–4839.

their guests in the demonstrations at various times during the summer. The first of these will be Taylor Holmes and Ann Mason, leading characters in 'Big Hearted Herbert,' now playing at the Court Theater in Chicago. They will visit the exhibit next Thursday. Complete television apparatus, only recently perfected, will be publicly operated for the first time when this exhibit opens. Hitherto, the operation has been confined to laboratory experimentation, but the development of television has now reached the point where the layman may be permitted a peek behind the scenes without embarrassing the scientist. Enclosed in a booth similar to an ordinary telephone booth, the visitor will be able to talk to his companion in another booth and see his image at the same time. Although in this case the distance separating them is only ten or twelve feet, exactly the same set-up will operate when the distance is a thousand miles or more. A theater equipped with a movie screen makes up another part of the exhibit. This will be used to demonstrate the manner in which we may expect to see as well as hear our radio programs in the near future. The programs will be produced on a stage in the rear of the theater and projected by television to the screen in front. Clinton Stanley and Jack Russell, two stage and radio actors who have been engaged in television experimental work, will preside at the demonstrations. The entire display is sponsored by the Television Exhibits Corporation.[54]

Beatty's exhibit included the whole range of television display, including two-way television, a large-screen device, and an experimental studio (Figure 4.2). According to the daily schedules of the Fair, a 'demonstration of wired television, with two-way telephone-talks and participation by audience' was organized for between 10am and 10pm.[55] Prepared by an outsider, this television exhibition thus closely resembled similar displays in London and Berlin. Tapping into the spectacularity of the new technology and its capacity to transmit an image at distance, it allowed the visitor to experience television as a viewer *and* as a participant. It furthermore did not hesitate to underscore the affinities between television and modern media, including telephone, cinema, theatre, and radio. Overall, thus, the television display at the Chicago World's Fair was in line with other exhibitions in the 1930s:

54   Press release, 'For Release in Afternoon Papers of Friday June 29.' CoP records, series 16, box 22, folder 14–157. Lenox R. Lohr (1891–1968) was the Fair's general manager. From 1936 to 1940, Lohr occupied the role of president of NBC and was involved in the development of experimental television, as well as in the preparation of the RCA exhibit at the New York World's Fair 1939-1940 (Section 5.3).

55   'Daily Programs of the Fair's Events'. CoP records, series 14, box 20, folder 14–134.

Figure 4.2. The television apparatus at the 1934 Century of Progress Exhibition shown in the Electrical Building. Source: COP_17_0005_00221_002, Century of Progress records, Special Collections and University Archives, University of Illinois at Chicago Library.

rather than introducing one single use of the medium, the display explored its multiple applications. However, what distinguishes the Chicago story from mid-1930s exhibitions in Berlin and London is the absence of major broadcasting firms and institutions taking control of the television exhibit.

An Alternative Story of Television's Development

The Chicago case underscores the many predicaments and failures television show organizers had to confront in the early 1930s, which were not only of a technological but also a financial and institutional nature. Furthermore, it is a perfect example for the significance of alternative paths neglected by a canonized history that continues to focus on success stories and ingenious devices. Sanabria, the Western Television Research Corporation, and Hayes all remain but footnotes to the official narrative. Although these actors together would not influence the medium's history as much as any of the corporations such as RCA alone, their attempts to demonstrate television at the Chicago exposition illustrates that for interwar audiences the medium was shaped not only by those who would eventually make history (for

instance with an enormous display at the 1939-1940 New York World's Fair), but also by those who would fall into oblivion.

Inversely, as I have already affirmed, the corporations' absence from televisual displays was as significant as their potential presence could have been, and thus deserves a closer look. Following the first public display of television at radio shows and other events in the late 1920s, the radio corporations seemed initially interested in presenting the new technology in Chicago. In an early discussion held in July 1930 between the RCA, the AT&T, Western Union, and the World's Fair, the medium was favourably mentioned.[56] In addition, the records collected by the RCA exhibition manager George Clark clarify that the RCA, or at least Clark himself, had plans in early 1930 to show television at the World's Fair. The 'tentative space estimates' for the RCA exhibit dating from 17 April 1930 include the entries 'broadcasting and television' and 'television display',[57] and various undated documents from the same period mention a 'Broadcasting and Television Theater',[58] list 'television' among the exhibits,[59] and estimate the cost of a television display in the Radio Building.[60] Therefore, in the summer of 1930 it seemed as though the RCA would present their televisual research programmes together with their other product lines.

Why would these influential actors eventually decide to withdraw their plans for a television display? Why did the corporations, having already (heavily) invested in television research,[61] decide not to include this (most) spectacular technology? The answer lies, I suggest, in the broader industrial, economic, and social positioning of these firms.

As historians of American television have shown, the regulatory and economic context shaping interwar television was identical to the context framing radio broadcasting. In its early years before the mid-1920s, radio remained mostly in the hands of amateurs and small enterprises or grassroots

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56 Telegram, 24 July 1930. CoP records, series 1, box 395, folder 1–12510.

57 'Tentative Space Estimates for Radio (or Communications) Building, Chicago World's Fair, 1933', George H. Clark Radioana Collection, Archives Center, National Museum of American History, Smithsonian Institution, series 112, box 312, folder 'Radio Shows 1930–1933'.

58 'Preliminary Plans for Radio Building, World's Fair 1933', George H. Clark Radioana Collection, Archives Center, National Museum of American History, Smithsonian Institution, series 112, box 312.

59 'Preliminary Notes for a RCA Display', George H. Clark Radioana Collection, Archives Center, National Museum of American History, Smithsonian Institution, series 112, box 312.

60 'Estimate of Costs for Radio Building World's Fair', George H. Clark Radioana Collection, Archives Center, National Museum of American History, Smithsonian Institution, series 112, box 311.

61 Stern, 'Television in the Thirties', 289.

organizations, uncontrolled by the large corporations and the government. The unhindered expansion of content producers and suppliers, 'disturbing to the leaders of the emerging radio industry',[62] was definitively stopped in 1927 when the federal government passed the Radio Act establishing the Federal Radio Commission (which would become the Federal Communications Commission FCC in 1934) to preside over future legal and regulatory matters in broadcasting.[63] Through the reassignment of frequencies, the Radio Act forced hundreds of small and non-profit stations out of the race, reinforced corporate power by means of jurisprudence, and confirmed the legal basis for the control of airwaves by corporations.[64] 'The sometimes bitter rivalry between amateurs and early commercial broadcasters in radio', William Boddy writes, 'provoked an intense debate in the 1920s about the proper social uses of radio broadcasting, a debate which leaders in the emerging television industry did not wish to see repeated in connection with television broadcasting.'[65] Therefore, after four years of intense public debate in the press accompanying frequent public displays of the new medium, from 1931 the promotion of television became more discrete.[66] From this moment on, television was framed as an economic and technological but also social extension of corporate radio, and defined as a consumer durable rather than as a device for amateur experiments.[67]

Preparing the commercial launch of television, the presentation of televisual spectacular dispositifs – which were, as I have argued, not a purchasable good per se but were consumed as an attraction at exhibitions and other spaces of public display – was not a desired feature to the RCA and the likes. Contrary to the independent researchers and manufacturers such as the Western Television Research Corporation who pushed for regular television services and daily programming,[68] the corporations deliberately 'dangled the dream of television for as long they could'.[69] They did so, Garth Jowett shows, by insisting on television's high development costs and by nourishing a narrative about financial and technological difficulties.

62   Boddy, *Fifties Television*, 16.
63   From 1921 onwards, the airwaves had been systematically regulated through spectrum allocations that soon favoured corporate broadcasters over independent ones. The Radio Act of 1927 reinforced this existing regulatory system. See Wurtzler, *Electric Sounds*, 58–61.
64   Wurtzler, *Electric Sounds*, 60.
65   Boddy, *Fifties Television*, 17.
66   Stern, 'Regulatory Influences'.
67   Boddy, *Fifties Television*, 20.
68   Sewell, *Television in the Age of Radio,* 42.
69   Jowett, 'Dangling the Dream?', 123.

Symptomatically, the RCA head television engineer and inventor of the 'Iconoscope', Vladimir Zworkyin, presented his new electronic tube at the meeting of the Institute of Radio Engineers held during the Chicago Fair on 26 June 1933. This presentation for a specialist audience was concomitant to the beginnings of a series of tests by the RCA of complete electronic systems, which again addressed the engineering guild rather than the general public.[70] The focus on electronic television, in return, further sustained their argument for a 'systems approach'; that is, a definition of television as a comprehensive infrastructure consisting of transmitters, networks, studios, and mass-produced home sets.[71] Whereas independent developers were willing to show, and if possible commercialize, each step in the development of television, the radio industry emphasized the importance of a holistic, and obviously much more costly, progression. This discourse of 'the whole system or nothing'[72] was intertwined with debates about the superiority of electronic television.

In his study of interwar discourses of television, Philip Sewell has described the debates about the technical insufficiency of mechanical television systems. By defining mechanical television as 'crude' or at least perfectible, the more complex and capital-intensive all-electronic systems were presented as the 'natural' succession of the first, much cheaper apparatuses.[73] As Sewell observes, electronic television was discursively shaped as synonymous with 'perfection' and 'quality' not only because 'of a core technological superiority' but because 'it was a better fit culturally'.[74] It fit the radio industry's patent holdings (and those of the RCA in particular), its industrial culture structured around managerial elites and research centres with highly trained engineers, and their conception of television as a 'natural' addition to radio broadcasting.[75] David Noble's thesis that 'the history of modern technology in America is of a piece with that of the rise of corporate capitalism' can here be reformulated by replacing 'modern technology' with 'electronic television'[76]: the advent of television from the mid-1930s onwards was inseparable from corporate liberalism

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70   Abramson, *Electronic Motion Picture*, 65. For the 1931–1932 field tests, the receiver sets were based on cathode ray tube technology, but the transmitter still relied on a Nipkow disc. Udelson, *Great Television Race*, 85.

71   Udelson, *Great Television Race*, 91.

72   Jowett, 'Dangling the Dream?', 136.

73   Sewell, *Television in the Age of Radio*, 37–43.

74   Sewell, *Television in the Age of Radio*, 47.

75   Jowett, 'Dangling the Dream?', 129.

76   Noble, *America by Design*, xxiii.

as a set of ideas and practices that emphasized the free marketplace and private property over the state, all the while building upon governmental regulation and constraint to control access to the airwaves.[77] For the big players in the telecommunications industry, electronic television systems contributed fundamentally to the development of new patents and new devices and were therefore an important branch of their research. Larger firms such as the RCA did not necessarily seek immediate profit but aimed at assuring the rights to the main patents in view of obtaining profits years or even decades later. Not only did the firms' financial situation allow for long development phases and bigger investments – in 1932, the RCA's 'developmental efforts reached a peak of intensity'[78] with a laboratory staffed by about 60 people working with Vladimir Zworykin to push electronic systems – but television also presented a potential threat to the newly established and continuously flourishing radio market controlled by the same corporations. Within this context, inventor-entrepreneurs such as Ulises A. Sanabria or Hollis Baird would only survive for a short time, and only as long as mechanical television systems had not been completely discredited in public opinion. In the words of the historian Robert H. Stern: 'The shift of emphasis in technical development from mechanical to electronic methods was accompanied by a marked change in the status of individuals and companies relative to it.'[79]

To sum up, it appears that at the Century of Progress exhibition the projection of a national television system built upon high-resolution cathode ray tube (CRT) technologies became visible precisely in the absence of corporate actors. The difficulties encountered by the Fair managers in organizing a television display reflected strategic choices made in boardrooms concerning the medium's technology and its cultural forms. The corporations' decision to renounce televisual displays at the Century of Progress Fair was determined by and reinforced discourses in accordance with their strategies of corporate expansion and profit. This broader context explains why the RCA, the AT&T, and other players vanished from the stages of public shows after a phase of initial enthusiasm around 1928 and 1929. It also explains how the delayed introduction of television fostered by corporations pushed mechanical devices and their inventors to the fringes of research centres and of collective memory alike.

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77   On the concept of corporate liberalism and its importance for the shaping of US broadcasting throughout the twentieth century, see Streeter, *Selling the Air*.
78   Stern, 'Television in the Thirties', 289.
79   Stern, 'Television in the Thirties', 285.

However, at the close of the Chicago World's Fair, the international situation concerning the development of television had changed and would force American corporations to reposition themselves concerning their televisual projects. In April 1934, the British government had become involved in television by establishing the Selsdon Committee, mandated to discuss the future of British television and the government's eventual implication in the medium's growth. The committee met with numerous witnesses from the radio industry and other interested parties who discussed questions including the financing of a public service, the possibilities of a television news service, and the use of television in the cinemas, among other things.[80] During 1934, members of the Selsdon Committee travelled to the USA and Germany to investigate the televisual systems operating in these countries, fostering transnational scientific and institutional exchange.[81] The Selsdon Committee's activities, together with the German public television launched in 1935, pushed the RCA to defend its strategy, among others through the numerous speeches Sarnoff gave on the topic. The international competition in the field of television was finally also an important aspect explaining the firm's decision to focus their display at the 1939-1940 New York World's Fair on television, and to position itself on the national and international map as a leader of the field (see Section 5.3.).

Before this background, the history of television on display confirms the importance of the transnational context to national narratives of technology.

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80   Burns, *British Television*, 303.

81   'The Television Committee in Germany'. According to the press report, the committee visited 'the television laboratories of the German Post Office and under the guidance of Postrat Dr. Fritz Banneitz they were shown the television film scanner and the twin ultra-short wave television transmitters for sight and sound broadcasting'. The delegation further visited Reich Broadcasting Company's television research department and various German firms. Burns, *British Television*, 305. Banneitz, head of the department for telegraphy at the Deutsche Reichspost (Referat für drahtlose Schnelltelegraphie und Bildübertragung beim Telegraphentechnischen Reichsamt), had started working on television in July 1927. His institute collaborated closely with Denés von Mihály and, after the display of Mihály's telehor at the Funkausstellung 1928, organized the first transmission of 30-line images from the broadcasting transmitter in Berlin-Witzleben. Simultaneously, the DRP also established contact with John Logie Baird: Hans Bredow, director of the Reichs-Rundfunk-Gesellschaft (the broadcasting company), Fritz Banneitz and technical director of the RRG Walter Reisser travelled to Baird's laboratories in 1928 and suggested a collaboration between Baird and the DRP for the installation of a transmitter. From May to July 1929, Baird Company oversaw experimental broadcasts from the VOX-Haus in Berlin; after July, the RP took the transmissions in their hands. At the same time, the German industry contacted the Baird Company and suggested a collaboration between the British and German firm, from which the Fernseh A.G. would emerge in 1929. See Burns, *Television: An International History*, 252–254.

Sarnoff's announcement of the RCA's million-dollar plan was a consequence of technological progress *and* the pressure stemming from German and British initiatives. Similarly, the British technical standard eventually adopted in 1937 reflected foreign politics and international competition, despite the Selsdon Committee's allegedly apolitical investigation. The interdependency between the national control of a technology and transnational economic and scientific competition became particularly visible with the introduction of a regular television service in Berlin in March 1935 and the launch a year later of a British 'high-definition' television service in London. These new services, which would redefine television's place at radio shows and, more broadly, within the national mediascape, resulted in radically new scenographies that communicated the new status of television to visitors and the press.

4.2   Television for the *Volksgemeinschaft*: Funkausstellung 1935

In Germany, before 1933, the responsibilities for television oversight were assumed by the Reichspost, which collaborated with the industry on experimental broadcasts. With the Nazi takeover, the question of who would be responsible for television became a disputed affair. From 1934 onwards, the Reichsrundfunkgesellschaft (RRG, in English the 'Reich Broadcasting Corporation'), which operated under Goebbels's Propaganda Ministry, competed with the Reichspost (under Wilhelm Ohnesorg),[82] and the Ministry of Aviation (under Hermann Göring) for control of television. The RRG started experimenting with transmissions in April 1934,[83] and Eugen Hadamovsky, its ambitious programme director, announced at

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82   Ohnesorg became the Reichspost minister in 1937. However, he had been involved in the negotiations concerning the distribution of responsibilities among the different ministries from 1934. Winker, *Fernsehen unterm Hakenkreuz*, 76–82. In comparison to the situation in Britain, where the Selsdon Committee's report would create clarity about the competencies of the various actors involved, the situation in Berlin was chaotic and improvised. The launch of a regular programme did not immediately bring to an end the dispute between the Reichspost, the Propaganda Ministry, and the Ministry of Aviation, which was only resolved early 1936. Before the official separation of authorities, the Reichspost and the Reich Broadcasting Company continued to broadcast television at different hours of the day. The final ordinance accorded the Reichspost oversight of infrastructural and technical matters for civilian television – the Reich Broadcasting Company the production of content, and the Ministry of Aviation the use of television for military purposes such as defence operations or securing air space.

83   Winker, *Fernsehen unterm Hakenkreuz*, 50.

Figure 4.3. Eugen Hadamovsky launches the regular television service at the Berlin Broadcasting House in March 1935. Source: Stiftung Deutsches Rundfunkarchiv, Deutsche-Presse-Photo-Zentrale, 22.3.1935. All rights reserved.

the Funkausstellung a few months later the start of a regular television service.[84] On 22 March 1935 the new 180-line service finally opened with a small ceremony assisted by Nazi officials and business representatives.[85] Seven experimental (non-purchasable) television sets provided by Telefunken and Fernseh AG were installed in the Berlin Broadcasting House (Figure 4.3).[86] The programmes broadcast by the new service were still limited to film excerpts and, according to television historian Klaus Winker, it is most unlikely that television sets were actually sold in Berlin.[87] Overall, the public response seemed rather unimpressed,[88] whereas official appraisals of the new German achievement were (almost) bottomless: 'In this hour broadcasting is called to serve the largest and most sacred

84 Winker, *Fernsehen unterm Hakenkreuz*, 54. See also Diller, *Die Rundfunkpolitik im Dritten Reich*, 186–196. The *Reichspost* had continued its tests since 1929.

85 This standard remained in place until 1938, when the 441-line standard was adopted. In Great Britain, the BBC opted already in January 1937 for a 405-line norm.

86 Winker, *Fernsehen unterm Hakenkreuz*, 69.

87 Winker, *Fernsehen unterm Hakenkreuz*, 91.

88 Elsner, Müller, and Spangenberg, 'Early History of German Television', 206; Winker, *Fernsehen unterm Hakenkreuz*, 72.

mission: to plant the image of the leader inextinguishably in all German hearts.'[89]

Historians of German television agree that the British Selsdon inquiry launched in 1934 contributed to the rushed opening of an official television service in Berlin since it had uncovered the ambitions of a direct competitor in a field Germany was determined to win.[90] The scholars furthermore highlight the discrepancy between this discourse by a few television-enthusiastic Nazi bureaucrats and the technological and political reality. Observing the absence of Hitler and other high-level officials at the opening of the new service, Knut Hickethier suggests that their limited support resulted from their distrust of the televisual 'dwarfing' of things and persons appearing on the small screens.[91] William Uricchio points out that the launch reflects the efforts of various institutions and individuals to invoke the prestige of realizing the world's first television service, while veiling persisting technical weaknesses and very short programmes.[92] For him, the 'regular' German television service was in fact indistinguishable from other, experimental services.[93]

Television between Propaganda and Entertainment

While it would be easy to discredit the Nazis' efforts for a regular television service as pure propaganda aiming at dazzling the world with another well-staged lie, it would also mean missing the complexities of television as 'a subject and a medium' of propaganda.[94] The particular form and content of Nazi 'techno-national tales' [95] in the realm of television became explicit at the first Funkausstellung held after the opening of the service. For the first time, television was incorporated into the Funkausstellung's official motto: 'Volkssender! Fernsehen! Volksempfänger!'. Listed alongside the people's station and the people's radio,[96] television was officially made part of the National Socialist media sphere. Its display at the fair, organized conjointly by the Reich Broadcasting Corporation, the Reichspost, and the wider industry,

89   Hadamovsky, 'Die Mission des Fernsehfunks', 15.
90   Uricchio, 'Introduction to the History of German Television', 175; Winker, *Fernsehen unterm Hakenkreuz*, 59–63, 71–72.
91   Hickethier and Hoff, *Geschichte des deutschen Fernsehens*, 37.
92   Uricchio, 'Introduction to the History of German Television', 115.
93   Uricchio, 'Introduction to the History of German Television', 115.
94   Hoff, 'German Television (1935–1944)'.
95   Ficker and Kessler, 'Techno-Nationalist Tales'.
96   For a presentation of the people's station and the people's radio, see Section 1.2.
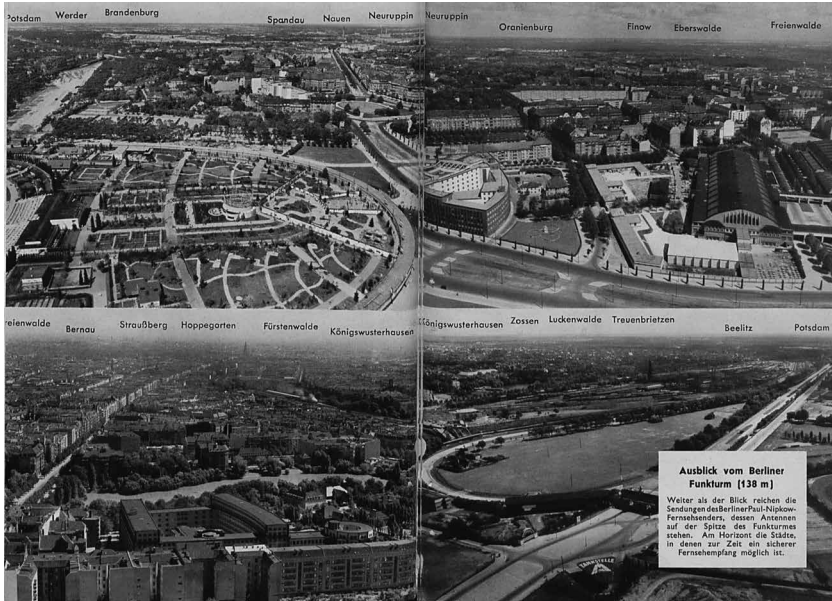
Figure 4.4. A view from the Berlin Funkturm to depict television's range of transmission. Source: *Amtlicher Führer zur 12. Grossen Deutschen Rundfunkausstellung Berlin 1935* (Berlin, 1935), 48–49.

was no longer a sideshow but part of the focal (radio) exhibition. In other words, the affirmation of Germany's leadership in television immediately impacted the medium's public display.

The Funkausstellung's official catalogue brought to light television's new status by dedicating for the first time a large space to the medium. Remarkably, the reporting on television consisted mainly in visuals such as caricatures, photographs, and two photomontages: television's visual minimalism (due to ongoing technical difficulties and small screens) was counterbalanced by a surplus of images in the catalogue. The two-page spread titled 'View from the Berlin radio tower' illustrated the transmitter's broadcast range and introduced seeing at a distance through photography (Figure 4.4). The visual detail and sharpness of these images contrasted with television's own picture quality: on the one hand, photography highlighted its iconographic superiority in comparison with the new media. On the other hand, representing the horizon to which television signals travelled, the photographs insisted on the difference between the two media as a recording and a broadcasting technology. Less than depreciating the audiovisual medium it was depicting, photography helped shape its identity.

Right from the first Funkausstellung in 1924 on, all catalogues had included visual materials such as photographs and drawings, and the National Socialist

publications had continually increased the use of graphic and photographic items. In 1933, the catalogue was brought in line with the particular conception of Nazi modernity characterized by Erhard Schütz as an 'organic' [97] or 'para-' [98] modernity seeking to balance between technological progress and modern consumer culture *and* the conservation of traditions.[99] The publication translated this organic modernity by embracing numerous modernistic pictures, as well as the old Fraktur typeface meant to embody Germanic and *völkisch* values alike.[100] The 1935 issue, mirroring this tentative cohesion of high-tech modernity and a mythical past, presented itself as a hybrid artefact: next to the pages dedicated to (contemporary and historic) conservative German art, the catalogue included 'photo-stories' illustrating the mass production of the *Volksempfänger* and graphic statistics about its dissemination.

The more than twenty pages on television in the catalogue similarly contained a patchwork of references and styles, of literary genres and stories. The section opened with a tribute to the 'German Paul Nipkow', presented as the father of television.[101] Several photographs of the inventor and a reproduction of his patent, a written homage, and a copy of Goebbels's and Hitler's telegrams sent to Nipkow perfectly sustained the techno-nationalist myth of television as a German invention (Figure 4.5). By celebrating the achievements of 1885, the opening of a regular broadcast service 50 years later appeared as a linear and natural progression towards Germany's definitive leadership in this area.[102] Nipkow's 75 birthday in August 1935 offered the perfect occasion for this homage and further nourished the image of Germany as a television nation.[103]

The *mise en scène* of Nipkow as the father not only of German television, but of television per se, fuelled the techno-nationalist tale of National Socialist leadership in televisual broadcasting. The various representations of television's history as a mythical German past also veiled the institutional

97   Schütz, 'Das "Dritte Reich" als Mediendiktatur', 146.

98   Schütz, 'Zur Modernität des "Dritten Reiches"', 118.

99   Schütz, 'Das "Dritte Reich" als Mediendiktatur', 146.

100 Aynsley, *Designing Modern Germany*, 121.

101 'Der Deutsche Paul Nipkow', 35.

102 Nipkow's patent was published on 15 January 1885 and granted retroactively for 6 January 1884. For the 1935 celebrations, the date of 1885 was obviously a better match.

103 Nipkow had already been honoured in May 1935 when the 'first television congress in the world' was held. This one day-meeting of party officials and institutions, organized under the militaristic and hyperbolic motto 'Television: the eighth great power', was used to rename the telecine transmitter on the Funkturm into 'television transmitter Paul Nipkow, Berlin'. Each programme henceforth started with a commemorative plaque to Nipkow. 'Fernsehkongress im Zeichen der Rundfunkeinheit'; 'Fernsehen: 8. Grossmacht'.
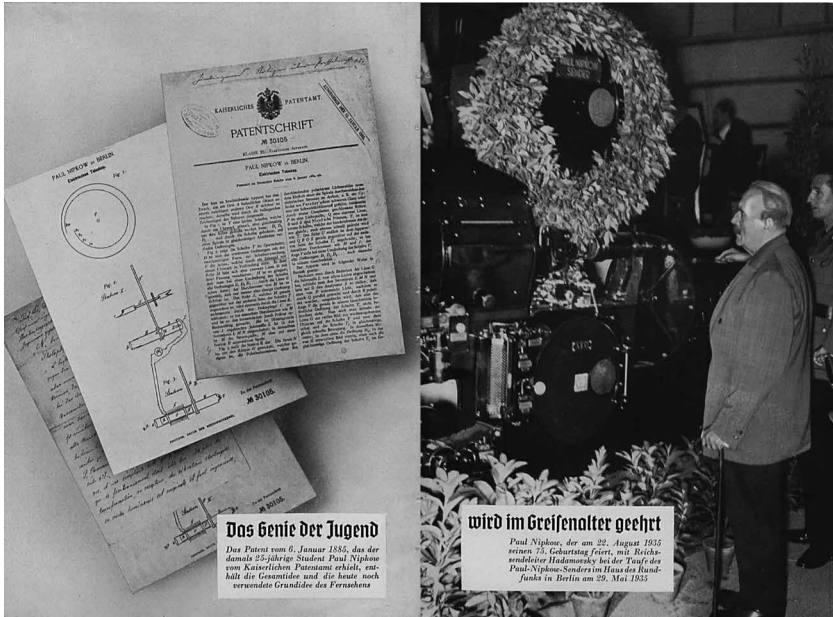
Figure 4.5. Celebrating Paul Nipkow and the 'German' invention of television: 'The genius of youth is honored in old age'. The photographs show Nipkow's patent from 1885 and the 'Paul Nipkow transmitter station' inaugurated in 1935. Source: *Amtlicher Führer zur 12. Grossen Deutschen Rundfunkausstellung Berlin 1935* (Berlin, 1935), 36–37.

tensions that accompanied the medium's absorption into Nazi bureaucracy, as well as the German telecommunications industry's embeddedness in a multinational network of patent and technology exchange.[104] Aiming to construct an unified national discourse, the depicted superiority of German engineers and technology obscured the obvious fact that television had been developed internationally and had reached similar if not better standards in the USA and in Great Britain.[105]

In parallel to commemorating and bolstering Nipkow's legend, the 1935 catalogue included caricatures and photomontages presenting television not as national achievement but as a form of popular entertainment. The caricatures invited the reader to approach the new phenomenon of

104 On this latter point, see Uricchio, 'Television as History', 175.
105 The German scientific community was very much aware of the research realized internationally. Specialized journals continued to report regularly on issues such as international standards and norms, demonstrations, and the commercialization of receivers. Both popular radio journals and more specialist publication such as *Fernsehen und Tonfilm* published articles on developments in Britain and the USA. See for instance, 'Fernsehen im Ausland'; Wagenführ, 'Besuch bei der NBC'.
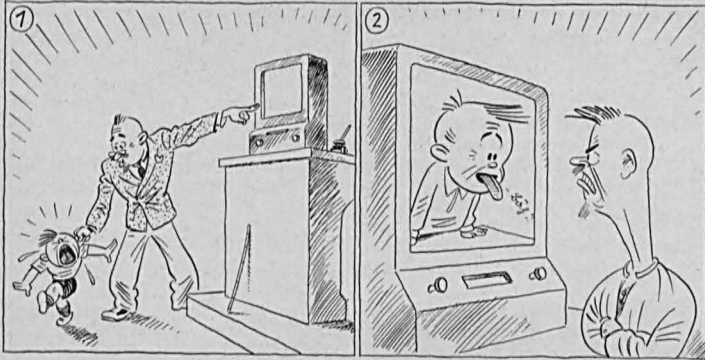
「"Was ist das? — Ein Fern-Seh-Apparat
ist das! — Haste nu kapiert?!"
(in der Schule)

— — — — !
(nach der Schule)
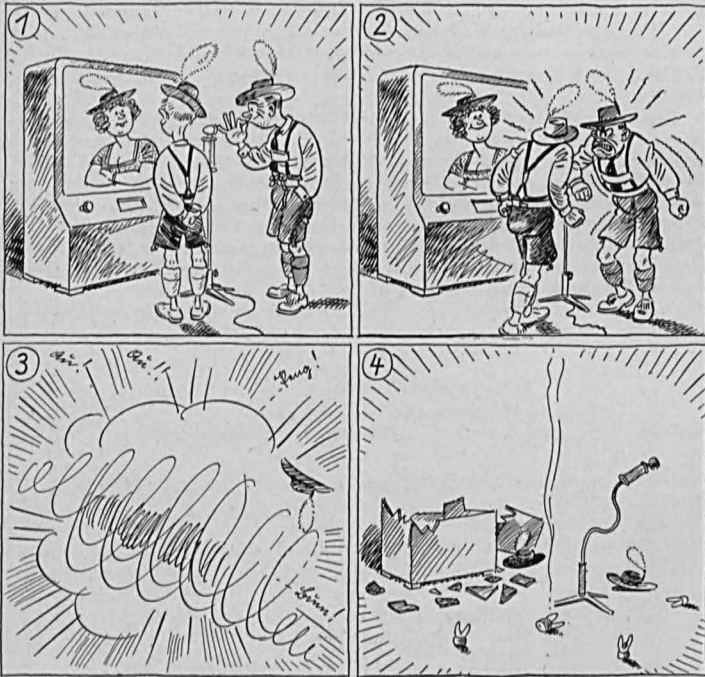
— die Sendung ist beendet!

Was Paul Nipkow für ein Unheil angerichtet hat
Toll- und Gemeinheiten vom Fernsehen, vom NS-Funk-Zeichner Kurt Balkie

42

Figure 4.6. Caricatures included in the official Funkausstellung catalogue (1935). Source: *Amtlicher Führer zur 12. Grossen Deutschen Rundfunkausstellung Berlin 1935* (Berlin, 1935), 42–43.

„Wat! — Jeboxt haste?
Na, soviel ick in meinem
Fern-Seher jeseh'n habe,
wird nich mit Bratpfanne
und Kochtopp jeboxt!"

„Versetzt!"

43
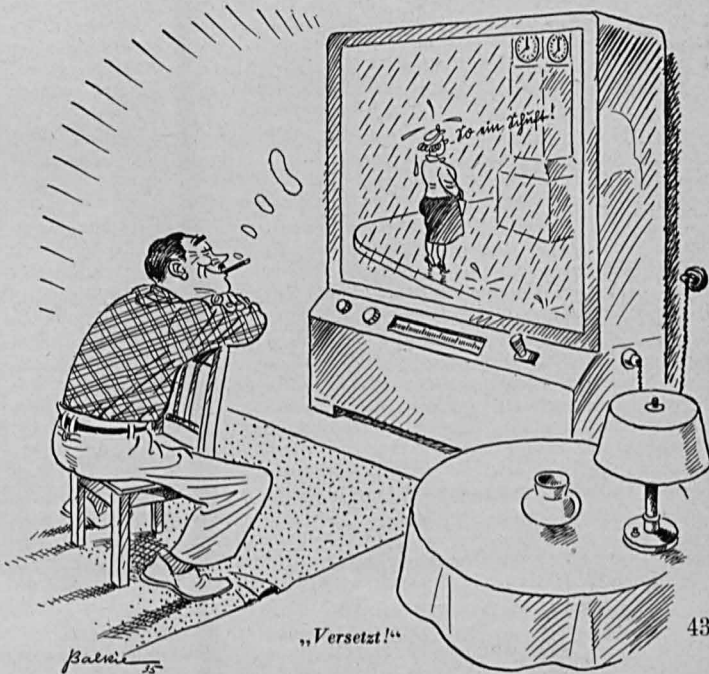
'vision at a distance' with humour and curiosity, educating them about the (im)possibilities of the device by making them laugh. The lead title of the caricatures, 'The Calamities that Paul Nipkow has Wreaked: Crazy and Wicked Stories from Television', captured the idea developed in the drawings. Instead of portraying the potential of television in an exclusively positive way, the caricatures depict the dangers lurking within the various uses of the television set. Imagined as a two-way device, it enables a student to behave inappropriately towards a teacher who cannot punish him (upper left corner of Figure 4.6), it offers the occasion for extra-marital encounters, or incites male rivalries (lower left corner of Figure 4.6). Causing the trouble was obviously the visual component of television, more than its aural or communicational features. The caricaturists used parody to make the devices meaningful to the audience, and imagined situations in which the particularity of television was at issue.

Such stories stressed the official catalogue's importance as a mediator between the exhibition and its audience: similar to the radio show, but in a portable form, it educated and entertained visitors with new technologies. The publication also documents how the Nazi regime supported popular mass culture insofar as it offered an 'illusion that certain spaces remained beyond control, beyond politics, beyond the effects of coordination'.[106] Historians of National Socialism interested in the seeming contradiction between the regime's modernizing efforts and its racist ideology have discussed at length the question of 'Nazi modernity'. Rather than solely highlighting the Nazi regime's singularity in terms of its social and economic order, historians seek to understand what Erhard Schütz has called the 'scandal of the Third Reich's normality',[107] and explain that debates on modernity and its multiple facets (rationalization, urbanization, mass culture) were continued from the Weimar period into the Nazi regime. An important insight offered by these works is the fundamental role played by the emerging consumer culture shaped less by political rituals than by leisure and popular entertainment.[108] Although the regime's promises of abundance through the mass distribution of automobiles, mass tourism, or television sets did not, for the most part, materialize, and mass consumption remained a project rather than a given, the various codes of consumer culture were mobilized

106 Koepnick, 'Fascist Aesthetics', 52.
107 Schütz, 'Zur Modernität des "Dritten Reiches"', 121. Schütz argues against the widespread idea of a Janus-faced or schizophrenic Nazi society and seeks to think *together* the 'brutal and cozy' aspects of the Third Reich.
108 Koepnick, 'Fascist Aesthetics', 52.

by the regime and employed for the daily micro- and macro-management of the *Volksgemeinschaft*.[109]

In their own way, the caricatures and tales included in the 1935 catalogue participated in the shaping of a national mass culture of National Socialist orientation by diverting the attention away from the staged and highly controlled television displays, which were themselves framed as nationalistic achievements. The fictional stories reveal how seemingly apolitical narratives coexisted next to, and were intermingled with, political speech expressed in other essays and on the exhibition floor. Through the sketches, the national community appeared not militant (or militaristic) but able to laugh at itself.

Seeking an Audience through Collective Reception

Woven around the figure of the *televiewer*, the short satires included in the Funkausstellung catalogue indirectly addressed one of the most urgent problems of Nazi television, namely the audience's access to the programme. At the opening of the regular television programme, only 50 television sets were functioning, most of them owned by officials and laboratories. In the following years, the sets – samples or low-volume productions – remained too expensive to be aimed at a mass audience, and interwar television programmes certainly lacked an audience. The absence of spectators was an enormous setback for the industrial development and political credibility of the television project. The Reichspost thus started the installation of the so-called *Fernsehstellen* ('television site') for collective viewing, and the Reich Broadcasting Company followed with the furnishing of the *Fernsehstuben* ('television lounge').[110] In both cases entrance was free and the audience could watch television on home receivers and, later, large-screen television devices (Figure 4.7).

'Born out of necessity',[111] these collective settings were absorbed by a socialist-infused discourse on equality of access for all Germans (of 'Aryan' origins):

> May 15th represents a landmark in the history of German televi-sion. It is the opening day of the first four television rooms of the

109   Ross, *Media and the Making of Modern Germany*, 303–341. In her analysis of the people's radio set, Uta C. Schmidt elaborates how the set's design materialized industrial modernity, mass production, and the actual rise of consumption and promise of material abundance, as well as political propaganda and attachment to the Führer. As Schmidt shows, the people's set translates the continuities of consumer ideologies between Weimar and Nazi Germany, and simultaneously reveals the particularities of their configuration under National Socialism. Schmidt, 'Der Volksempfänger', 136–159.
110   Winker, *Fernsehen unterm Hakenkreuz*, 93–97.
111   Winker, *Fernsehen unterm Hakenkreuz*, 91.
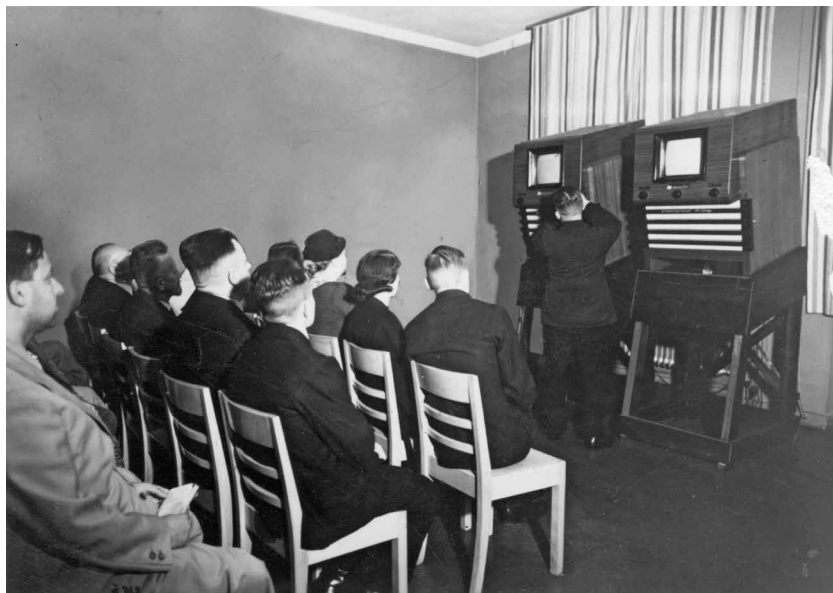
Figure 4.7. Television room in Berlin-Charlottenburg, 1936. Source: Stiftung Deutsches Technik-museum Berlin, Foto Historisches Archiv.

> Reichs-Rundfunk-Gesellschaft [...] One can say that this opening, which must be regarded as a social act, has been a complete success. Many onlookers and interested persons have been waiting patiently in front of the television rooms, despite the rain and long waiting time, until they could see the programme of the day [...] The most fundamental aspect of this installation, which is important for the entire Volk, is the opportunity offered to every fellow to participate in the spiritual good of the nation and to experience television [...] Because the prices of television sets are much higher than radios [...] and since this will remain the case for some time, the television rooms represent the most generous means for bringing television to the general public.[112]

If, due to economic factors, the mass distribution of television was not yet a realistic option, the television rooms offered every *Volksgenosse*[113] the opportunity to marvel at the wonders of 'German' technology.

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112 'Jeder soll Fernsehen', 879.

113 Previously an approximate term for 'fellow countrymen', under Nazism the *Volksgenosse* was understood to mean a member of the German *Volksgemeinschaft*.

In German television history, the collective television rooms are often understood as the Nazis' attempt to suppress the individual on behalf of the community. In Elsner, Müller, and Spangenberg's words:

> What was already anticipated very early on in England or the USA as being distinctive about the new technology and the new medium, namely the particular new reception situation of home viewing, was hardly recognised in Germany, or, for political reasons, was not promoted. Instead, forms of collective reception, which were supposed to take on a surrogate function for physical participation in mass assemblies, were obviously favoured.[114]

Similarly, William Uricchio assesses that collective settings supported by the Propaganda Ministry were 'a means to ensure consistent interpretation and minimize aberrant negotiations of meaning'.[115] Historian Klaus Winker nevertheless advances a different interpretation and argues that the establishment of television rooms were not 'motivated by political reasoning', but reflected the limited distribution of receivers as well as the ongoing competition between the Reichspost and the Propaganda Ministry.[116] According to Winker, the telecommunication industry explicitly agreed to these collective settings,[117] probably due to technological and financial difficulties with regard to the launch of commercial television sets, but also because the industry sought to avoid negatively impacting the still-booming radio market.[118]

The importance of collective participation in television was stressed in the 1935 Funkausstellung catalogue, where collective viewing was defined as reflecting the 'social side'[119] of National Socialism's accomplishments:

> It is no longer his wallet or his list of contacts that decides today whether the working German man can participate in the great spiritual goods of our time and therefore also of the technical achievement of our century.[120]

The television rooms, the catalogue explained, substituted the unfair capitalist market by offering every German worker the opportunity to take part

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114 Elsner et al., 'The Early History of German Television', 208–209.
115 Uricchio, 'Television as History', 173. Elsner et al., 'The Early History of German Television'. See also Steinmaurer, *Tele-Visionen*, 192.
116 Winker, *Fernsehen unterm Hakenkreuz*, 94.
117 Winker, *Fernsehen unterm Hakenkreuz*, 95, 138.
118 Winker, *Fernsehen unterm Hakenkreuz*, 92.
119 Bachmann, 'Fernsehen fürs Volk', 44.
120 Bachmann, 'Fernsehen fürs Volk', 44.

Figure 4.8. Photomontage depicting the idea of 'television for all' in the 1935 Funkausstellug catalogue. Source: *Amtlicher Führer zur 12. Grossen Deutschen Rundfunkausstellung Berlin 1935* (Berlin, 1935), 45.

in this new adventure. Television, and by extension the National Socialist consumer society, was meant to realize the utopia of a classless (but overtly racist) society by providing unrestricted access to progress. The free admission and the setting in urban centres appeared as proof of the egalitarian choices the authorities had made to grant access to television 'for all'.[121]

A skilfully arranged photomontage accompanying the text pushed the idea of television 'for all' even further. The picture, featuring Eugen Hadamovsky in the left upper corner, highlighted the idea of television not only *for*, but also *by* the masses: in this collage, the spectators rush into the *Fernseh*-rooms, and are represented on the screen of one of the sets in the centre of the photomontage (Figure 4.8).

The Television Street, or Projecting Mass Television

The construction of television as a mass media for all Germans was spectacularly amplified on the 1935 exhibition floor, where the so-called *Fernsehstrasse* undoubtedly constituted a core attraction (Figure 4.9).[122] This television street staged the 'social side' of Nazi television not through collective reception, but via the multiplication of domestic receiver sets. Projecting a vision of television for every home, the exhibition hall facilitated access to the medium through enabled public viewing. Rather than constituting two conflicting phenomena, private and collective media consumption were therefore both celebrated at the fair and beyond.[123]

The television street, occupying the television hall almost entirely, comprised two long lines of a total of twenty television home receivers and offered visitors the 'unobstructed viewing of television pictures'.[124] The allusion to the car and its infrastructure in the exhibit's name – 'television street' – linked television to another cherished emblem of technological modernity in Nazi Germany; the mass representation of television sets suggested a new era of 'television for all'. Indeed, in comparison to the multitude

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121 Uricchio, 'Television as History', 182. 'For all' meaning in this context evidently only the members of the Aryan *Volksgemeinschaft.*

122 The domestic receivers of the *Fernsehstrasse* dominated the exhibition space, but were not the only devices shown. The Reichspost displayed a two-way television apparatus and Telefunken presented a large-screen receiver composed of 10,000 incandescent lamps, whereas Fernseh AG showed its intermediate film system. Another exhibit illustrated the history of television through devices and components. Traub, 'Television at the Berlin Radio Exhibition, 1935'.

123 This is also true for radio broadcasting. While the *Volksempfänger* stimulated private reception, initiatives such as the launch of the DAF receiver (Deutsche Arbeitsfront) in 1935 targeted reception in factories and other (semi-)public spaces.

124 Kette, 'Fernsehen auf der Rundfunkausstellung 1935', 92.

Figure 4.9. The *Fernsehstrasse* at the 1935 Funkausstellung. Source: Stiftung Deutsches Rund-funkarchiv.

of experimental television receivers presented at the 1934 exhibition (see Section 2.2), the orderly arrangement in 1935 symbolized a step towards standardization, rationalization, and mass production.

The photograph of the television street shows that the television sets were not simply put on tables or other low-key display stands; on the contrary, they were displayed on a built exhibition structure consisting of a long

roof supported by inclined columns (Figures 4.10 and 4.11).[125] The roof's sleekness and the thin antennas mounted at regular intervals accentuated the perceived length of the *Fernsehstrasse* and visually echoed the idea of transport and traffic – an association that was also supported by the signpost pointing the way to the exhibit.[126] The inclined columns of the exhibition stand, furthermore, created a visual dynamic suggesting speed: metaphorically and materially, the *Fernsehstrasse* linked communication and transportation. For visitors of the Funkausstellung, this link was all the more manifest since it was already staged in the first hall after the main entrance. There, two large panels facing each other across the gangway titled 'Rundfunk' and 'Autobahn', respectively, depicted the German radio transmitter network and the motorway system.[127] Representing the material and immaterial connectivity of the German Volk, the two infographics set the tone for the television display that would soon confront the visitor.

In its name and design, the *Fernsehstrasse* thus referred to the intertwined definitions of the television and modes of transportation, which had already accompanied the medium's speculative era,[128] but was infused with the particular National Socialist imaginary of the *Volksgemeinschaft* and the mythical progress of its nation. By 1933 Adolf Hitler had announced the importance of the motorization of the German people, including the dissemination of cheaper cars, the extension of motorways, and the support of motor racing.[129] One of the most telling examples of National Socialist appropriation and the subsequent redefinition of an American symbol, the automobile – representing mobility, leisure, modern technology, and Fordist organization of industry – epitomized those aspects of cultural and economic modernity the party was eager to integrate into its heterogeneous ideological construct.[130] Hitler himself was an automobile enthusiast who expressed admiration for Henry Ford, while simultaneously trying to limit the American company's economic influence in Germany. Following the introduction of

125 A technical explanation for this scenography was given by Reichspost officials in a memo from May, which described the lighting system in the hall. Lamps pointing towards the ceiling were installed on the roof and illuminated the halls indirectly; the roof protected the television screens from the light reflected from above. BArch, R 78/867, Vorbereitung zu den 'Großen Deutschen Funkausstellungen' in Berlin, 1934–1935, 1937.

126 'B.Z.-Bilder'.

127 BArch, R 78/867, Vorbereitung zu den 'Großen Deutschen Funkausstellungen' in Berlin, 1934–1935, 1937. 'Besprechung mit Architekt Uhlen, am 17. Juni 1935'.

128 See Galili, *Seeing by Electricity*, 26–35.

129 Gunthert, 'La Voiture', 30.

130 See Hachtmann, '"Die Begründer der amerikanischen Technik sind fast lauter schwäbisch-allemannische Menschen"'.

Figure 4.10. Close view of the *Fernsehstrasse* at the 1935 Funkausstellung. Source: Stiftung Deutsches Rundfunkarchiv, Michaelis Reportagen.

Figure 4.11. The *Fernsehstrasse* at the 1935 Funkausstellung with public. Note that the visitors in the foreground face the photographer, who visibily arranged for the particular moment. Source: Stiftung Deutsches Rundfunkarchiv.

the *Volksempfänger* in 1933, the automobile industry used the expression 'Volkswagen' to present their new models in 1934, and Hitler, in his opening speech to the automobile exhibition in Berlin, mentioned the people's radio set as an example for how cars should made available to every German.[131]

Historian Wolfgang König has studied in detail the history of the National Socialist Volkswagen as an example of a 'peculiar consumer society' that ultimately failed due to striving for armament and policies of autarky. More than just a car, it was a symbol of a technologically advanced, socially progressive, and nationalist-oriented community.[132] The German *Reichsautobahn*, partially realized, similarly functioned as an emblem of Nazi modernity.[133] According to James D. Shand, the highways were 'among the most publicized tokens of the new German regime, and one of its most visible manifestations'.[134] A touring exhibition titled 'The Road' as well as a homonymous journal, films, novels, radio plays, a special stamp, and many other products disseminated representations of and stories about the motorway.[135] To associate television with this project of Nazi self-representation bestowed the medium with an importance that far exceeded the exhibition space.

Like these transportation projects, television thus contributed to the representational node of nation, progress, and equality, and mattered since it generated reality through its representation.[136] In addition to serving discourses of nation and modernity under the banner of the national-socialist *Volksgemeinschaft*, the automobile and television had some very concrete encounters. In spring 1934, the idea was voiced to couple the laying of television cables with the building of highways that had started around the same time.[137] Germany's television industry was also the first to build television trucks for mobile outdoor broadcasting. The first of these cars, presented in 1934, was part of the Fernseh AG's plan to promote the intermediate film system. Pictures of this truck and others built in the following years were often included in the press.[138] Around the same time,

131 König, 'Adolf Hitler vs. Henry Ford', 252.

132 König, 'Adolf Hitler vs. Henry Ford', 249. See also König, *Volkswagen, Volksempfänger, Volksgemeinschaft*.

133 Makropoulos, 'Die infrastrukturelle Konstruktion der "Volksgemeinschaft"'. See also Schütz and Gruber, *Mythos Reichsautobahn*.

134 Shand, 'Reichsautobahn', 189.

135 Schütz, 'Das "Dritte Reich"', 146.

136 Makropoulos, 'Die infrastrukturelle Konstruktion', 185.

137 Winker, *Fernsehen unterm Hakenkreuz*, 53.

138 See 'Der erste Fernseh-Aufnahmewagen nach dem Zwischenfilmverfahren' and 'Der neue Fernsehaufnahmewagen der Reichsrundfunkgesellschaft'. On the intermediate film system's history, see Weber, 'Recording by Film'.

the Loewe Company sent their Daimler-Benz-manufactured television cars to London.[139] As reported by the British journal *Television*, the firm arrived in London with a 'magnificent stream-lined van about thirty feet long, finished in bright blue, with chromium-plated lettering'.[140] Its sleek shape inspired by American car designs combined with one of the most recent means of communications promoted German modernity abroad, while private and collective television promoted the *Reich* at home.

4.3   'Here's Looking at You': Television at Radiolympia, 1936

In Great Britain, television transmissions were publicised by John Logie Baird from the mid-1920s on. The emergence in 1929 of 'rivals'[141] and 'alternative systems'[142] to Baird's efforts had led to an intensified debate about standards and picture quality within the headquarters of both the Postmaster General and the BBC. Radio manufacturers such as Cossor and new television firms such as Scophony had begun researching televisual technology in the early 1930s, but the most imminent competition to Baird came from the multinational firm Electrical and Musical Industries (EMI) and the Marconi Wireless Telegraph Ltd. EMI had been created in 1931 after a merger between the Gramophone Company (which had begun television research in 1930) and the Columbia Gramophone Company, a subsidiary of RCA. Consolidating two major actors in the radio business, EMI embraced the production and distribution of radio and its by-products, and furthermore benefitted from a direct connection with American businesses. These links were expressed in the make-up of EMI's board of directors, which included the RCA president David Sarnoff. The proximity with the RCA directly profited EMI's television research, which could build on Vladimir Zworykin's patents for the development of its CRT-based technology.[143] Early on, EMI established contact with Marconi who could provide expertise in shortwave transmitters, and in May 1934, the two firms formed the Marconi-EMI Television Company Ltd. According to television historian Russell W. Burns, through this merger EMI's development of television was 'immeasurably' strengthened, while Baird's activities were 'considerably' weakened.[144] Simultaneously, Baird launched a campaign accusing the BBC,

139   Winker, *Fernsehen unterm Hakenkreuz*, 25.
140   'Loewe Television Demonstrated in London'.
141   Briggs, *Golden Age*, 566–582.
142   Norman, *Here's Looking at You*, 70.
143   Briggs, *Golden Age*, 566–582.
144   Burns, *British Television*, 316–319.

who had shown an interest in EMI's research, of assisting American concerns and thus favouring a foreign company over British industry.[145]

In order to circumvent potential political scandals, advance British television, and take definitive decisions concerning the standards of a future public service, a government-appointed committee led by Lord Selsdon started work in mid-1934. The committee's final report published in January 1935 treated every aspect of television's development and pronounced itself in favour of a permanent Television Advisory Committee.[146] The Selsdon Committee also ruled that the future public service had to transmit its programmes over a 'high-definition system' comprising an image composed of at least 240 lines and 25 frames per second.[147] It further recommended the opening of a regular service provided by the BBC, as well as the alternate operating of Baird and Marconi-EMI cameras and transmitting systems: subsequently, the better scheme would be chosen as the definite British standard for the nation's public service. The other companies – including Cossor, GEC, Ferranti, Plew Television, and Scophony – would henceforth be permitted to produce receivers only. Aimed at improving the technical standards of British television and outpacing the German television standard of 180 lines, the new televisual norm, in moving from 30 lines to an image eight times better defined, divided all television research into category of either insufficient or acceptable devices. In contrast to the situation in Germany, where the regulatory body increased image quality incrementally over a longer period of time,[148] the BBC, on the recommendation of the Selsdon Committee, thus drastically changed the television standards from a level aimed at mainly home constructors to one that could support a system of institutional broadcasting.

A Palace for the New Medium

The BBC's growing involvement with a British television service would eventually result in the launching of its regular television service in November 1936; it was made public in June 1935 when the corporation announced it would

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145 Briggs, *Golden Age*, 573. See also Medhurst, *Early Years.*

146 The report is reprinted in Herbert's *A History of Early Television* and discussed at length in Burns's *British Television.*

147 The report stated: 'The standard which has been used extensively for experimental work is 180 line, but we should prefer the figure of 240 and we do not exclude the possible use of an even higher order of definition and a frequency of 50 pictures per second.' Herbert, *History of Early Television*, 10.

148 In Germany, the standards were as follows: 1929, 30 lines; 1931, 48 lines; 1932, 90 lines; 1933, 180 lines, 1938, 441 lines; 1951, 625 lines. Kniestedt, 'Die historische Entwicklung des Fernsehens', 192.

install television studios in Alexandra Palace, a former entertainment venue in north London.[149] The transformation of Alexandra Palace into up-to-date studios represented a break from the institution's rather reluctant attitude towards television in earlier years, and reflected national and international pressure exerted on the BBC to go forward with the new medium. The Selsdon Committee had discussed the ideal placement for a new television building and assessed its most important features, including its distance from Broadcasting House (the BBC's headquarters in central London) and its elevation. Alexandra Palace, 'a huge and rambling exhibition hall in northeast London',[150] was eventually chosen among a list of four possible sites, including the iconic Crystal Palace that had hosted the Great Exhibition in 1851.[151]

Owen Jones, who had been responsible for the decoration of Crystal Palace in 1851, had originally designed plans for the Alexandra Palace in the 1860s. This new exhibition building, according to Jones, should be made of glass too and feature a huge dome covering a winter garden, a concert hall, a theatre, and vast exhibition areas. However, after initial financial difficulties, the original plans were modified and a less spectacular version of the palace was eventually opened in May 1873.[152] Shortly after the inauguration, the building burned down, but was rebuilt and again used as an entertainment and exhibition venue. During the interwar period, the building and its premises were mostly unused. With the BBC's occupation of the site from February 1936 on,[153] Alexandra Palace was revived as a centre of modern leisure and information culture, and as symbol of Britain's leading position in television. Yet the BBC's presence on the site redefined the building's function: once a popular site for mass events, it had drawn the city into its halls. As a broadcasting studio, it henceforth radiated signals from the hill towards the city.

This permanent structure, which simultaneously produced and epitomized television, created a monument to the medium visible within urban space. The construction of a physical space for television anchored it within a concrete location and conferred upon television a new authority that

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149 'London Television Station Chosen'.

150 'Choose Alexandra Palace for British Television Station'.

151 One reason for not choosing Crystal Palace was that it was already occupied by John Logie Baird's company, which had signed a lease in 1933. Like Alexandra Palace, Crystal Palace offered sufficient space and was located on an elevated site: visibly, the two media – exhibition and television – asked for similar localizations within the urban landscape. Installing its headquarters, including four television studios, in this most famous of all exhibition buildings, Baird's firm stayed until a fire in 1936 destroyed the laboratories, studio, and offices. Burns, *John Logie Baird*, 297–298.

152 *Grand Opening Festival*.

153 Burns, *British Television*, 409.

inscribed it into the official national media landscape. Like other architectural monuments for broadcasting, Alexandra Palace materialized the dialectics of media spaces that are time-based and space-bound, and where immaterial ubiquitousness overlaps with site-specific concreteness.[154] While exhibitions drew part of their attraction from their ephemerality and thus exclusiveness and uniqueness, the erection of lasting studios, offices, or control rooms symbolized the willingness and the opportunity to provide television with more stable forms and practices developed by engineers, producers, and performers. Very much like radio shows but as perennial sites, buildings like Alexandra Palace participated in the shaping of television and, in particular, in its integration within the mass media industry.[155]

The information concerning BBC's television studios was widely circulated. The press enthusiastically adopted the new building and reproduced numerous photographs transforming Alexandra Palace from the physical location of the BBC's television studios into a symbol of British television. Alexandra Palace was everywhere: on magazine covers announcing a special issue for Radiolympia, in the BBC's annual report, on the cover of the 1936 television issue of the *Radio Times*, and in the pages of radio journals (Figures 4.1 and 4.12). Circulating across the country, its photograph provided the BBC's television service with a visible identity that went beyond the service's limited transmission ranges. All drawings and photographs made sure to depict the impressive antenna mounted on one of Alexandra Palace's towers. Representing the only distinctive feature of the new home for the new medium, the antenna signified technological modernity and progress, contrasting with the original structure that recalled older forms of entertainment.

The 65-metre antenna tower, still perched on top the Palace today, was also a core feature in written descriptions of Alexandra Palace. In 1938 the Radiolympia catalogue started its introduction to 'Television To-Day' with the following words:

From that strange, futuristic-looking mast which overlooks the northern suburbs at Alexandra Palace, the B.B.C. Television Station radiates 'live'

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154 Ericson, Riegert, and Aker, 'Introduction', 12.
155 The BBC was not the only institution that sought to create a permanent structure for radio and television: the broadcasting-exhibition complex erected in Berlin around the Witzleben fairgrounds with the Funkturm at its centre is an early example (see Section 1.1). Similarly, in New York, Rockefeller Center stood for and contained 'all things wireless' (see Section 4.1). For US television, two other iconic New York buildings became part of the visual vocabulary describing the new medium, namely the Empire State Building and the Chrysler Tower, both of which had an antenna mounted on their roof.

Figure 4.12. Cover of *Popular Wireless and Television Times*, 1936, with Alexandra Palace.

programmes in vision and sound to homes scattered all over London and the neighbouring counties.[156]

Subsuming the double function of Alexandra Palace as a geographical location and a broadcasting centre, the antenna synecdochically represented the whole building and stood as a metaphor for the BBC's entire television service.

156 'Television To-Day', 37.

From its beginning, Alexandra Palace was thus circulated as an 'icon of progress'[157] existing simultaneously as a geographical location and an architectural shelter for television *and* as a mass-reproduced image and symbol of the electronic medium. Beatriz Colomina's incisive summary of modern architecture and its links to modern mass media – 'The house is in the media and the media is in the house'[158] – is perfectly adaptable to the BBC's television studios.[159] From the first transmission on its premises, Alexandra Palace became inseparable from its representations. As a concrete space photographed and circulated in the press, it participated in a network of signifiers shaping symbolically the image of British television; as a space producing televisual content, it created the images transmitted by British television.

Introducing Television at Radiolympia

The official opening of the BBC television service, scheduled for 2 November 1936, was preceded by a test run at Radiolympia where the public could for the first time see the television programmes transmitted from the studios located in Alexandra Palace. As suggested by the Selsdon Committee, both Baird and Marconi-EMI organized programmes for this early phase of the regular service. The programmes were similar for both companies and consisted of a mix of live broadcasts and film transmissions, including Gaumont-British newsreels, a film by Alexander Shaw produced by Paul Rotha called *Cover to Cover*, and excerpts of mostly British productions from the current year.[160] The reactions to these demonstrations were enthusiastic, and the television exhibit was 'the most popular, as the queues waiting for an hour or more before each demonstration eloquently attest[ed]'.[161]

In contrast to previous fairs, where television demonstration had been banned from the official fairgrounds, television was everywhere at Radiolympia 1936.[162] The manufacturers' general booths displayed non-working

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157 Lüdtke, 'Ikonen des Fortschritts'.

158 Colomina, 'Media House', 57.

159 This is of course equally true for the BBC's Broadcasting House, which was designed by a team of modernists including Wells Coates and Serge Chermayeff and opened in 1932. This building had been conceived as the centre of national broadcasting and, by extension, national culture.

160 'First Television Broadcast'.

161 'Sideshows at Olympia', 271.

162 According to television historians, this event was more noticed by the press than the official opening nine weeks later, and provided the BBC with an excellent opportunity to promote its new service in a popular setting.

receiving sets, inviting visitors to inspect and find out more about the interior and exterior design of the devices and enquire about the purchase price. To stage demonstrations, a space was set up next to the BBC's Radiolympia Theatre. This television exhibit consisted of eight booths each of which contained two receivers covered with drapes veiling the sets' brand and all its other features:

> When one's turn comes to enter the darkened booth in which the pictures can be seen there is a choice between turning to right or left. On either side several television receivers by different makers are in operation, but unless one is 'in the know' or under the guidance of a friend able and willing to divulge State secrets, it is not possible to discover which receiver is which, since all but the screens on which the pictures appear are completely covered by curtains.[163]

Contrary to all installations described so far in this book, this *mise en scène* guided the spectator's attention towards the medium's content rather than its materiality. The BBC, as a broadcasting institution, was first and foremost a producer of programmes whose personnel and organizational structure were suited to the creation of entertainment and information. It wanted to shape television into a medium similar to the one it already managed; specifically, it wanted to make television a domestic technology, offering a programme resembling radio broadcasts. The emphasis on television as a programme distributor marked a shift from a spectacular dispositif to what Frank Kessler has termed the *dispositif of the spectacular*, presenting content in the form of vaudeville, variety, and other entertainment genres.[164]

However, the tentative shaping of television as a programme supplier was inconsistent with the actual situation at the fair serving a crowd of passers-by, and the accentuation of television's visuality in the booths appeared to be problematic if we believe this memo written by a BBC staff member after the Radiolympia tests:

> It was impossible to design a programme satisfactory for conditions at Radiolympia where the audience was continually being pestered and herded through the booths, and unable to observe for more than about

163 'Sideshows at Olympia'.
164 Kessler, 'La cinématographie'; see Section 2.2.

a minute, at best about three minutes. Any performance with a theme and continuity was meaningless.[165]

Given the scenographic design of small booths and the high number of visitors, the demonstrations had to be very short: with only a few minutes to appreciate the media content, programmes with narrative or even spectacular coherence were not convenient, and the sole focus on television's content rather than its objects, was a scenographic error.[166]

Baird versus EMI, or the Social Construction of Electronic Television

The passage from hearing to seeing in domestic space was therefore not as fluid as the BBC had hoped for while preparing their 1936 display, and nor was the transformation of radio to 'radio-vision'. Furthermore, contemporary debates about language uses translated the ongoing negotiation of viewing practices beyond the question of efficient Radiolympia exhibits. These discussions highlighted how 'watching TV', by no means a given, was historically shaped and normalized in the interwar period:

> Such verbs as Televise or Televisionise are not very expressive, and the words Looker-I or Lookers-in are inelegant. I have suggested elsewhere the word Telise for the process or act, as it tells our eyes what is taking place at a distance. Some may prefer to spell it as my wife suggests Telleyes. The term Television receiver is too long. It might be abbreviated to Teliser, and for Looker-In we might use the word Telisor. These terms are merely suggested with diffidence, unless any better can be found.[167]

One month after these reflections on Telisers and Telisors by Ambrose Fleming, then President of the Royal Television Society, *The Times* reported that

> The problem of finding a suitable name for the person who receives a broadcast television programme has been considered by the B.B.C., and though the coining of new words does not strictly come under the jurisdiction of its Advisory Committee on Spoken English the Corporation

165 'Radiolympia Television Demonstrations August 26th to September 5th 1936 – Conclusions derived from experience in Production, Transmission and Reception', 7 September 1936. BBC Archives, T 23 / 77 / 2.
166 In 1937, the exhibition architecture changed to allow visitors to watch the entirety of the television programme, see Section 3.3.
167 Fleming, 'Short Names for Television'.

has in this instance asked the committee to approve the use of the word 'televiewer', which, it is hoped, will rapidly learn to disguise its mongrel origin by shedding the prefix and showing itself to the world as 'viewer'.[168]

The Times would henceforth employ 'viewer' in its articles and thus disseminate the word that seems innate today. Yet, in 1936 the question was not definitively settled and other journalists, unsure about the denomination, continued to use multiple notions for describing the person 'who receives a broadcast television programme'. Such reflections about the 'right' and 'wrong' words point to the cultural work performed with the introduction of new media technologies.[169] They show that (new) media are, as Lisa Gitelman pointedly states, 'socially embedded sites of the ongoing negotiation of meaning as such'.[170] The institutionalization of television was a continuous process of experimenting with the technological and institutional framework and of establishing and demarcating the rules for media content and media uses: deciding upon a 'proper' vocabulary for the technology and its consumers was part of this process.

To be attentive to the social construction of a medium is also particularly important with regard to its technological changes. As the case of American television has shown, the move from mechanical to electronic systems was not so much a technological revolution than a deliberate push for a technological apparatus that better suited corporate culture and economic goals. Similarly, the choice for an explicitly 'high-definition' system by the Selsdon Committee was not solely a technological one, but reflected decisions made by the governing and industrial elites over the new technology.

At the 1936 Radiolympia, Marconi-EMI used its so-called Emitron electronic cameras and presented scenes from the surroundings outside Alexandra Palace and a half-hour live variety programme. The Baird transmissions, realized with mechanical systems and an intermediate film system, did not include outdoor acts and its live programming was only suitable for head-and-shoulder transmissions.[171] In television historiography, the

168 'Televiewer'. See also Burns, *British Television*, 352–353.

169 Similar debates also existed in the USA around the same time; see Sewell, *Television in the Age of Radio*, 22–23, and continued after the war, see Schneider, 'Konzepte vom Zuschauen und vom Zuschauer'.

170 Gitelman, *Always Already New*, 6.

171 The Baird Television Company actually used three different apparatus: the intermediate film system, the flying-spot scanner, and a telecine scanner for the televising of film. Probably due to technical difficulties, it seems that the company did not use its electronic cameras for this occasion. 'Report on Demonstrations of Television at the R.M.A. Exhibition at Olympia,

differences between the two companies are often articulated as the 'natural' victory of electronic 'high-definition' over mechanical 'low(er)-definition' systems, which would eventually lead to the triumph of the Marconi-EMI system over Baird's technology – a perspective explicit in Neil Robson's observation, 'The [BBC's] learning curve had been steep, and the merits of two rival systems were still under evaluation when the service opened on a regular basis [in November]. But the inferior Baird system was easily outclassed and within three months it was dropped.'[172]

While it is not my intention to question the technological superiority of electronic television and of the Marconi-EMI System, I would argue that this (all too) rapid jumping to conclusions bears the marks of a retrospective analysis that leaves out complementary stories that may shed a different light on the Baird–Marconi-EMI 'rivalry'. According to various reports made immediately after the Radiolympia demonstrations, the differences between the two systems were actually far less obvious than one might think. In a 'confidential' memo, a BBC staff member wrote:

> It was difficult to get the apparatus ready in time partly owing to that fact that neither of the two Companies was really whole-heartedly in favour of the scheme. However, all the apparatus was ready in time [*sic*], [...] but the reliability was by no means up to service standard. The Baird Company had their film apparatus working considerably in advance of the time required and, generally speaking, it worked well. There were, however, one or two breakdowns of a fairly serious nature due to mechanical difficulties and the breaking of film. The flying spot apparatus – suitable for head and shoulders only – was installed only a day or two before the start of the demonstrations, but within its own limitations it worked fairly well. The intermediate film apparatus was installed, but has not yet been properly tested and was not used at all for the demonstrations [...]. The whole of the [Marconi-EMI] apparatus was used more or less according to plan. The whole system depends on the Iconoscope (Emitron), both for studio scenes, outside scenes and film scanning. Reliability was fairly good, but, as already stated, it was not up to service standard, and there was one bad breakdown during the Olympia press demonstration lasting about an hour. Both the Baird and the Marconi–EMI apparatus was operated by the Companies' own staff at our request, but our people

August 26th–September 5th, 1936', Controller (Engineering), 7 September 1936. BBC Archives, T 22 / 77 / 2.

172   Robson, 'Living Pictures Out of Space', 227.

gave a considerable amount of assistance. It is obvious that a number of refinements are necessary even in the existing equipment apart from new developments [...]. Summing up one can say that the technical standard of the demonstrations, in spite of the several breakdowns, was higher than I expected, having regard to the fact that everything was hurriedly arranged. The pictures at Olympia were below the best that can be done, but there were probably above the standard likely to exist in the home for some considerable time.[173]

Both systems worked better than expected but neither of them presented finished and complete television systems. Both Baird's and Marconi-EMI's devices were still at the experimental stage, as were the manufacturers' receiving sets. In any case, Marconi-EMI's electronic system was not a conclusively better choice:

The famous electric eye, roving over the grounds of the Alexandra Palace, was one of the most exciting parts of the show, but only because it suggested so many possibilities of O.B.s. [outdoor broadcasts]. The actual pictures were rotten.[174]

The discrepancy between the imaginable possibilities and the actual results were considerable for both systems, since both, as the BBC had insisted before the opening of the fair, represented still 'tests' and not 'the beginning of a regular service of programmes'.[175]

While the results of a high-definition service were thus not immediately satisfying, the consequences of the Selsdon Committee's decision regarding television standards were directly visible at the fair. Most obviously, due to the introduction of the high-definition service the receivers on display were extremely costly. Indeed, one could argue that mechanical television did have numerous advantages over electronic systems: it was a low-cost and low-maintenance technology that could be mastered by home constructors and engineers unaffiliated to multinational corporations. As Baird had

173 'Report on Demonstrations of Television at the R.M.A. Exhibition at Olympia, August 26th–September 5th, 1936', Controller (Engineering), 7 September 1936. BBC Archives, T 22 / 77 / 2.
174 'Television', 15 September 1936. BBC Archives, T 23 / 77 / 2. In the report from 7 September, its author came to a similar conclusion: 'People were not so much impressed by outside scenes simply because the detail was insufficient and the general effect artificial. That is to say, trees were recognisable as trees, but they did not look like the real thing, and the light values were very obviously false.' 'Report on Demonstrations of Television at the R.M.A. Exhibition at Olympia'.
175 'B.B.C. Announcement', 22 August 1936. BBC Archives, T 23 / 77 / 2.

proven, its quality in matters of picture lines could reach the required standard fixed by the Selsdon Committee and thus have commercial potential. From this perspective, the decision to adopt a high-definition television system included a choice of quality over access, or in other words, of good pictures over the mass distribution of television sets – excluding most parts of the population.[176] Sticking with a low-definition television service could have circumvented the costliness of the apparatus, and would have allowed radio constructors to continue their independent research.[177] It would have opened up the possibility for Baird and others to commercialize their receivers rapidly and at lower cost, and thus widen the access to television's 'public service'. As one BBC staff member pointed out very bluntly as early as 1934:

> I suppose that at the beginning television sets will be so expensive as to be the toy of the favoured rather than pieces of furniture in the homes of the proletariat.[178]

The decision for a high-definition television service therefore also reflected certain conceptions about the televisual audience defined in terms of class. I will come back to the issue of the cost of receivers in the next chapter and conclude here by insisting on the non-imperative sequence of events: while electronic television represented the technically superior system, the passage from mechanical to all-electronic systems in the 1930s was not a mandatory or natural evolution, but rather it was influenced by an ideological framework shaped, among others, by international competition and managerial culture.

The symbolic value of technology was indeed confirmed by the final decision at the beginning of 1937 to adopt the Marconi-EMI 405-line standard as the national norm. First, Germany's television standard of 180 lines was comparatively inferior to the British standard. The opportunity to maintain an edge over Britain's most direct international competitor by choosing the best standard available certainly played a role in the BBC's decision-making. Second, the BBC's decision to choose the Marconi-EMI transmitter was probably also influenced by a certain kinship between the two enterprises. As writes Russell W. Burns:

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176 'Report on Demonstrations of Television at the R.M.A. Exhibition at Olympia'.
177 The amateur community protested when the BBC stopped the experimental 30-line transmissions in September 1935, which it had started three years earlier. Norman, *Here's Looking at You*, 82.
178 'Television', 12 July 1934. BBC Archives, T 16 / 78.

> The M-EMI approach to scientific and engineering problems was typical of the attitude which the BBC adopted in its investigations, and possibly, as a result, Ashbridge [the BBC's chief engineer] felt a closer affinity with the Hayes [EMI] concern than with Bairds [*sic*].[179]

Marconi-EMI's scientific and systematic approach contrasted with Baird's more pragmatic, trial-and-error methods, and corresponded more closely to the BBC's own organizational managerialism.[180] The standardization of domestic high-quality television was pushed by the BBC and Marconi-EMI on the basis of managerial affinities and international rivalry, and framed by their ideas about the 'right' mode of televisual reception and an ideal target audience.

Historians of technology have argued that the categories of success and failure, explicit in the narrative about mechanical versus electronic television systems, are highly complex, contingent, ambiguous, and historically bounded notions. In his essay on technological 'failure', Graeme Gooday points out how, over time, a so-called failed technology could become successful and vice versa, how a successful apparatus could become economically unviable, or how failure is sometimes a necessary step towards finding a successful solution. By disrupting the seemingly simple classification of good and bad devices and technological systems, Gooday reveals the social character of success: 'completely embedded in the social relations of its usage [...] the category of "success" is a thorough-going social construction'.[181] Success depends less on technological hardware than on the people and institutions making, regulating, distributing, and using the machine, and therefore giving it meaning and significance. High-definition television is a telling example of this social construction of technological triumph.

Intermission II: Travelling Exhibits

Gooday's discussion intersects with the argument I made at the outset of this chapter regarding the television displays at the Chicago World's Fair. In comparison to European efforts to promote television in the mid-1930s, the Chicago exhibition might appear a 'failed' project. The absence of any

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179   Burns, *British Television*, 326.
180   The BBC underwent a major reorganization in 1933 which marked a strengthening of central control. Briggs, *Golden Age*, 446.
181   Gooday, 'Re-Writing the "Book of Blots"', 270.

noteworthy television display at an exhibition of this size and scope seems logically to be a failure of American engineering. However, as I have argued, this 'missing television fair' reflects the particular context of the American broadcasting system at the time. Integrated into the corporate landscape of radio, television's relative absence from American exhibition halls resulted from the dominance of private over public actors. Because American television was to become *corporate* TV, its presence at mass events did not follow the same course as it did in Europe.

In Germany and Britain, the national radio fair promoted the nationalization of television from the mid-1930s onwards. The opening of regular television services not only reflected institutional changes and new broadcasting policies. It also resulted in new exhibition programmes that confirmed the new status of television as part of the *national* mediascape. While television was continuously displayed at the Funkausstellung, the *Fernsehstrasse* in 1935 marked a clear rupture with previous scenographies and suggested the medium's potential for mass production and distribution. The Radiolympia exhibition in 1936, too, signified a radically new event since the BBC participated for the first time in television display, easing up on previous restrictive exhibition policies.

In both countries, the fairs were used to soothe tensions and solve ongoing negotiations accompanying the medium's institutionalization. For the BBC, Radiolympia was an ideal laboratory in which to stage the competition between the Marconi-EMI and Baird broadcasts. Although the rivalry between the two systems was probably not visible to the attending audience at the time, the arrangements taken by the BBC translated the Selsdon Committee's ordinance to compare the two systems before choosing one. With regard to this competition, the exhibition floor acted less as a display window than as a testing site to manage the BBC's internal affairs.

Rather than encouraging rivalries, the 1935 Funkausstellung was utilized to present a unified image of German television institutions. Ongoing conflicts between the Reichspost and the Reich Broadcasting Company were veiled behind discourses of an all-German television history and a coordinated scenography that communicated a harmonious collaboration between governmental agencies and industry similar to earlier displays during the Weimar period. Integrated into the National Socialist propaganda network, television fuelled discourses on the *Volksgemeinschaft* and its collective achievements. Staged as an original German invention, its display aimed at representing common efforts by the industry, the regime, and the Volk, and at consolidating the vision of a modern nation. In his discussion of what he calls the National Socialist 'media dictatorship', Erhard Schütz

mentions television briefly as another proof of the regime's attempt to colonize all possible means of communication. According to Schütz, the 'National Socialist propaganda expected the highest suggestive and controlling power' from television, which, consequently, had a 'high priority' within Nazi propaganda plans.[182] He illustrates his claim by citing television at the Olympic Games and the standard television receiver, both of which I will discuss in the next chapter. But even without knowing the details of these two stories, it seems safe to assert that Schütz overstates the importance of the televisual image and misses the importance of the televisual object within the National Socialist propaganda machinery. Despite declarations of regular broadcasts from 1935 onwards, the 'suggestive powers' of television were still some way off. The medium was not yet mass-produced and regular programming remained scarce; furthermore, television's 'high priority' was questionable, not least because Hitler himself showed little interest in it.[183] Indeed Schütz's analysis of the *Reichsautobahn* is actually closer to the function of television in Nazi Germany. According to him the *Reichsautobahn* was neither first and foremost a military operation nor a job-creation scheme: it was an 'aesthetic-ideological project' targeting the 'self-representation' and 'self-admiration' of the German Volk made sensually, visually, and conceptually tangible.[184] Although on a more modest level than the *Reichsautobahn*, television had a similar purpose within the Nazi Reich. As an 'aesthetic-ideological project', its function was to project mass consumption and technological modernity. More than for transporting cars and video signals, the autobahn and television mattered for their symbolic value.

The national framing of television in the mid-1930s should not veil transnational similarities and circulations between the three countries. I will elaborate on this point in the next chapter and discuss in more depth the usefulness of a transnational and comparative approach of interwar television. In the form of a conclusion, I suggest returning to the *Fernsehstrasse*, whose memory was revived in 1936, when the Berlin fair's official catalogue included a one-page photograph of the scenography and the crowds, reminding its readership of the previous year's main attraction. In 1938 another television street, smaller in scope, was again installed on the

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182 Schütz, 'Das "Dritte Reich"', 137.

183 Hitler visited the Funkausstellung just once in 1933. Bressler, *Von der Experimentierbühne zum Propagandainstrument*, 232. According to Winker, Hitler was not interested in civilian television but in military technology. Winker, *Fernsehen unterm Hakenkreuz*, 55.

184 Schütz, 'Das "Dritte Reich"', 145.

exhibition floor. Symbolizing mass production of the most modern German technology and offering access to television for all, the *Fernsehstrasse* epitomized National Socialist television propaganda. While thus a specifically Nazi exhibit, a version of the *Fernsehstrasse* appeared also in London. The potential of this scenography connecting the imaginary of (privatized) mass transportation to the imaginary of domestic media consumption did not escape the Radiolympia organizers, and in 1939 the fair presented its own 'Television Avenue'. Installed on the balcony surrounding the main hall, 64 receivers were exhibited in Television Avenue, along with 'literally hundreds of sets' placed 'throughout the exhibition'.[185] This particular exhibit's transfer from Berlin to London suggests the fairs' role as a knot on the international map of television research and institutions closely observed by the international community, and directly confirms the adaptability of television (displays) to various national and ideological contexts. The circulation of the *Fernsehstrasse* also serves as a concrete example of the importance of a transnational approach in identifying such appropriations. The transfer of one exhibit from (Nazi) Berlin to (democratic) London does not signify that Radiolympia had suddenly become fascist, but it shows that the representation of television mobilized references – the car, speed, the link between communication and transportation – that resonated within the contexts of both countries.

Another, more complex, example of a circulating exhibit constituted the 'transparent television' shown by the RCA at the 1939-1940 New York World's Fair. I will describe this object in more detail in the next chapter but for now, it is sufficient to say that the receiver was made of transparent plastic and thus allowed the public to peek into television's entrails and discover commonly hidden parts (Figure 5.21). While presented as a major attraction in the RCA pavilion, the idea of a transparent box for broadcasting media was nevertheless not new: at Radiolympia, similar exhibits had already been displayed, including a transparent radio in 1932 and a transparent television in 1936 (Figure 4.13). Together, these exhibits echoed another internationally successful and well-known exhibit, namely the 'Transparent Man', first shown at the 1930 *Hygiene-Ausstellung* in Dresden.[186] Made of plastic (despite being called the *Gläserner Mensch*, 'Glass Man'), the exhibit travelled internationally and was also used in National Socialist exhibitions; in the United States the figure was publicly presented for the first time at the

185 Radiolympia poster, *The Wireless World* 45, no. 8 (24 August 1939): 7. See also 'This Month's Great Show'.
186 On the history of the 'Transparent Man', see Beier and Roth, eds., *Der Gläserne Mensch*.

Figure 4.13. Cossor's transparent television on display at Radiolympia 1936. Source: Photograph by Bishop Marshall. Daily Herald Archive / Science Museum Group. All rights reserved.

Chicago World's Fair 1933 and again at the New York World's Fair 1939-1940. Revealing interior organs and veins in a colourful design, the 'Transparent Man' translated contemporary debates about 'the human factory' into a three-dimensional artefact, and projected an image of the human body as a machine studied in terms of its efficiency and productivity. While not directly referring to each other, the RCA television set, the London exhibits, and the 'Transparent Man' were part of a web of signifiers organized around ideas of rationality, transparency, knowledge, and vision that surpassed any single exhibition or indeed national or ideological context.

Works Cited

Abramson, Albert. *Electronic Motion Pictures: A History of the Television Camera* (Berkeley: University of California Press, 1955).

Abramson, Albert. *The History of Television, 1880 to 1941* (Jefferson, NC: McFarland, 1987).

Anderson, Benedict. *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London: Verso Editions/NLB, 1983).

Anon. *Grand Opening Festival: Programme and Book of Words* (London: Burt & Co., 1873).

Anon. 'Broadcast Scene and Sound'. *The New York Times*, 21 June 1928.

Anon. 'Impressions of the Berlin Show'. *The Wireless World* 13, no. 11 (12 September 1928): 306–310.

Anon. 'Car Demand Keeps High'. *The New York Times*, 9 July 1933.

Anon. 'Television Device Shown'. *The New York Times*, 11 July 1933.

Anon. 'Loewe Television Demonstrated in London'. *Television: The First Television Journal in the World* 7, no. 79 (September 1934): 391–392.

Anon. 'The Television Committee in Germany'. *Television: The First Television Journal in the World* 7, no. 82 (December 1934): 538.

Anon. 'Fernsehen im Ausland'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehwesens und des Tonfilms* 6, no. 1 (February 1935): 10–11.

Anon. 'World Television Rush Is On!'. *Radio World* 16 (February 1935): p. 4.

Anon. 'Choose Alexandra Palace for British Television Station'. *Chicago Daily Tribune*, 4 April 1935.

Anon. 'Televiewer'. *The Times*, 18 April 1935.

Anon. 'Jeder soll Fernsehen'. *Funk-Stunde* 12, no. 22 (22 May 1935): 879.

Anon. 'Der neue Fernsehaufnahmewagen der Reichsrundfunkgesellschaft'. *Funk-Stunde* 12, no. 21 (May 1935): 838.

Anon. 'Fernsehkongress im Zeichen der Rundfunkeinheit'. *NS-Funk* no. 24 (1935): 2.

Anon. 'London Television Station Chosen'. *The Times*, 7 June 1935.

Anon. 'Fernsehen: 8. Grossmacht'. *Funk-Stunde* 12, no. 24 (7 June 1935): 959.

Anon. 'Der Deutsche Paul Nipkow'. In *Amtlicher Führer zur 12. Grossen Deutschen Rundfunkausstellung Berlin 1935* (Berlin, 1935), 35.

Anon. 'Der erste Fernseh-Aufnahmewagen nach dem Zwischenfilmverfahren'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehwesens und des Tonfilms* 6, no. 5 (July 1935): 49–51.

Anon. 'Television Race Gets Hotter'. *Radio World* 17 (September 1935): 5–6.

Anon. 'The Sideshows at Olympia: Popularity of the Television Demonstrations'. *The Wireless World: The Practical Radio Journal* 39, no. 10 (4 September 1936): 271.

Anon. 'B.Z.-Bilder'. *Berliner Zeitung am Mittag,* 16 August 1935.

Anon. 'First Television Broadcast'. *The Times*, 26 August 1936.

Anon. 'Television To-Day'. In *The National Radio Exhibition Radiolympia: Official Catalogue* (London: RMA, 1938), 37–41.

Anon. 'This Month's Great Show'. *The Observer*, 13 August 1939.

Aynsley, Jeremy. *Designing Modern Germany* (London: Reaktion, 2009).

Bachmann, I. G. 'Fernsehen fürs Volk'. In *Amtlicher Führer zur 12. Grossen Deutschen Rundfunkausstellung Berlin 1935* (Berlin, 1935), 44–46.

Beier, Rosmarie, and Martin Roth, eds. *Der Gläserne Mensch, eine Sensation. Zur Kulturgeschichte eines Ausstellungsobjekts* (Stuttgart: G. Hatje, 1990).

Boddy, William. *Fifties Television: The Industry and Its Critics.* (Champaign: University of Illinois Press, 1990).

Bressler, Eva Susanne. *Von der Experimentierbühne zum Propagandainstrument. Die Geschichte der Funkausstellung von 1924 bis 1939* (Cologne: Böhlau, 2009).

Briggs, Asa. *The History of Broadcasting in the United Kingdom. Volume II: The Golden Age of Wireless* (Oxford: Oxford University Press, 1995).

Burns, Russell W. *British Television: The Formative Years* (London: The Institution of Engineering and Technology, 1986).

Burns, Russell W. *John Logie Baird, Television Pioneer* (London: Institution of Electrical Engineers, 2000).

Camporesi, Valeria. *Mass Culture and National Traditions: The B.B.C. and American Broadcasting, 1922–1954* (Fucecchio: European Press Academic Pub., 2001).

Century of Progress, Inc., ed. *Official Catalog of Exhibits in the Division of the Basic Sciences, Hall of Science* (Chicago: The Exposition, 1933).

Century of Progress, Inc., ed. *Official Guide. Book of Fairs* (Chicago: The Exposition, 1933).

Colomina, Beatriz. 'The Media House'. *Assemblage*, no. 27 (1995): 55–66.

Diller, Ansgar. *Rundfunkpolitik im Dritten Reich*, vol. 2 of series *Rundfunk in Deutschland*, edited by Hans Bausch (Munich: Deutscher Taschenbuch-Verlag, 1980).

Dunlap, Orrin E. 'Sarnoff Scans the Radio World'. *The New York Times*, 27 October 1935.

Edgerton, Gary R. *The Columbia History of American Television* (New York: Columbia University Press, 2007).

Elsner, Monika, Thomas Müller, and Peter M. Spangenberg. 'The Early History of German Television: The Slow Development of a Fast Medium'. *Historical Journal of Film, Radio and Television* 10, no. 2 (1990): 193–219.

Ericson, Staffan, Kristina Riegert, and Patrik Aker. 'Introduction'. In *Media Houses: Architecture, Media and the Production of Centrality*, edited by Staffan Ericson and Krisitna Riegert (New York: Peter Lang, 2010)*,* 1–18.

Fickers, Andreas, and Frank Kessler. 'Techno-Nationalist Tales of Glory and Failure: Writing the History of Inventions in Early Film and Television', paper delivered at the Fourth Media in Transition Conference, MIT, 2005, online http://web.mit.edu/comm- forum/legacy/mit4/papers/fickers%20kessler.pdf (accessed 25 July 2021).

Fleming, Ambrose. 'Short Names for Television: From the President'. *Journal of the Television Society* 2 (March 1935): 24.

Galili, Doron. *Seeing by Electricity*: *The Emergence of Television, 1878 – 1939* (Durham, NC: Duke University Press, 2020).

Ganz, Cheryl. *The 1933 Chicago World's Fair: Century of Progress* (Champaign: University of Illinois Press, 2008).

Geppert, Alexander C.T. 'Exponierte Identitäten? Imperiale Ausstellungen, ihre Besucher und das Problem der Wahrnehmung, 1870–1930'. In *Nationalismen in Europa: West- und Osteuropa im Vergleich*, edited by Ulrike von Hirschhausen and Jörn Leonhard (Göttingen: Wallstein, 2001), 181–203.

Gitelman, Lisa. *Always Already New: Media, History and the Data of Culture* (Cambridge, MA and London: MIT Press, 2008).

Gooday, Graeme. 'Re-writing the "Book of Blots": Critical Reflections on Histories of Technological "Failure"'. *History and Technology* 14, no. 4 (July 1998): 265–291.

Grossbölting, Thomas. *'Im Reich der Arbeit': Die Repräsentation gesellschaftlicher Ordnung in den deutschen Industrie- und Gewerbeausstellungen 1790–1914* (Munich: Oldenbourg, 2008).

Gunthert, André. 'La voiture du peuple des seigneurs: Naissance de la Volkswagen'. *Vingtième Siècle. Revue d'histoire*, no 15 (1987): 29–42.

Hachtmann, Rüdiger. '"Die Begründer der amerikanischen Technik sind fast lauter schwäbisch-allemannische Menschen": Nazi-Deutschland, der Blick auf die USA und die "Amerikanisierung" der industriellen Produktionsstrukturen im "Dritten Reich"'. In *Amerikanisierung: Traum und Alptraum im Deutschland des 20. Jahrhunderts*, edited by Alf Lüdtke, Inge Marssolek, and Adelheid von Saldern (Stuttgart: Franz Steiner Verlag, 1996), 37–66.

Hadamovsky, Eugen. 'Reichssendeleiter Hadamovsky: Die Mission des Fernseh-funks'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernse-hwesens und des Tonfilms* 6, no. 2 (1935): 15–16.

Herbert, Stephen, ed. *A History of Early Television*: *Vol. 2* (London: Routledge, 2004).

Hessler, Martina. *'Mrs. Modern Woman': zur Sozial- und Kulturgeschichte der Haushaltstechnisierung* (Frankfurt: Campus-Verlag, 2001).

Hickethier, Knut, with the collaboration of Peter Hoff. *Geschichte des deutschen Fernsehens* (Stuttgart: Verlag J.B. Metzler, 1998).

Hilmes, Michele. *Network Nations: A Transnational History of British and American Broadcasting* (New York: Routledge, 2011).

Hobsbawm, E.J., and T.O Ranger, eds. *The Invention of Tradition* (Cambridge and New York: Cambridge University Press, 1983).

Hoff, Peter. 'German Television (1935–1944) as Subject and Medium of National Socialist Propaganda'. *Historical Journal of Film, Radio and Television* 10, no. 2 (1990): 227–240.

Jowett, Garth. 'Dangling the Dream? The Presentation of Television to the American Public, 1928–1952'. *Historical Journal of Film, Radio and Television* 14, no. 2 (1994): 121–145.

Kessler, Frank. 'La cinématographie comme dispositif (du) spectaculaire'. *Cinémas* 14, no. 1 (2003): 21–34.

Kette, Georg. 'Fernsehen auf der Rundfunkausstellung 1935'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehwesens und des Tonfilms* 6, no. 7 (1935): 61–68.

Kniestedt, Joachim. 'Die historische Entwicklung des Fernsehens. Zur Eröffnung des Deutschen Fernsehrundfunks vor 50 Jahren in Berlin'. *Archiv für das Post- und Fernmeldewesen* 37 (1985): 185–239.

Koepnick, Lutz P. 'Fascist Aesthetics Revisited'. *Modernism/modernity* 6, no. 1 (1999): 51–73.

König, Wolfgang. 'Adolf Hitler vs. Henry Ford: The Volkswagen, the Role of America as a Model, and the Failure of a Nazi Consumer Society'. *German Studies Review* 27, no. 2 (2004): 249–268.

König, Wolfgang. *Volkswagen, Volksempfänger, Volksgemeinschaft: 'Volksprodukte' im Dritten Reich, vom Scheitern einer nationalsozialistischen Konsumgesellschaft* (Paderborn: Schöningh, 2004).

Lüdtke, Alf. 'Ikonen des Fortschritts. Eine Skizze zu Bild-Symbolen und politi-schen Orientierungen in den 1920er und 1930er Jahren in Deutschland'. In *Amerikanisierung: Traum und Alptraum im Deutschland des 20. Jahrhunderts*, edited by Alf Lüdtke, Inge Marssolek, and Adelheid von Saldern (Stuttgart: Franz Steiner Verlag, 1996), 199–210.

Magoun, Alexander B. *Television: The Life Story of a Technology* (Westport, CT: Greenwood Publishing Group, 2007).

Makropoulos, Michael. 'Die infrastrukturelle Konstruktion der "Volksgemein-schaft". Aspekte des Autobahnbaus im nationalsozialistischen Deutschland'. In *Vernunft – Entwicklung – Leben. Schlüsselbegriffe der Moderne*, edited by Ulrich Brö' kling, Stefan Kaufmann, and Axel T. Paul (Munich: Wilhem Fink Verlag, 2004), 185–203.

Marchand, Roland. *Creating the Corporate Soul: The Rise of Public Relations and Corporate Imagery in American Big Business* (Berkeley: University of California Press, 1998).

Medhurst, Jamie. *The Early Years of Television and the BBC* (Edinburgh: Edinburgh University Press, 2022).

Noble, David F. *America by Design: Science, Technology, and the Rise of Corporate Capitalism* (Oxford: Oxford University Press, 1977).

Norman, Bruce. *Here's Looking at You: The Story of British Television, 1908–1939* (London: Royal Television Society, 1984).

Robson, Neil. 'Living Pictures out of Space: The Forlorn Hopes for Television in pre–1939 London'. *Historical Journal of Film, Radio & Television* 24, no. 2 (2004): 223–232.

Ross, Corey. *Media and the Making of Modern Germany: Mass Communications, Society, and Politics from the Empire to the Third Reich* (Oxford and New York: Oxford University Press, 2008).

Rydell, Robert W. *World of Fairs: The Century-of-Progress Expositions* (Chicago: University of Chicago Press, 1993).

Rydell, Robert W. and Laura Burd Schiavo, eds. *Designing Tomorrow: America's World's Fairs of the 1930s* (New Haven, CT: Yale University Press, 2010).

Schmidt, Uta C. 'Der Volksempfänger. Tabernakel moderner Massenkultur'. In *Radiozeiten: Herrschaft, Alltag, Gesellschaft (1924–1960)*, edited by Inge Marssolek and Adelheid von Saldern (Potsdam: Verlag für Berlin-Brandenburg, 1999), 136–159.

Schneider, Irmela. 'Konzepte vom Zuschauen und vom Zuschauer'. In *Medienkul-tur der 50er Jahre.: Diskursgeschichte der Medien nach 1945*, edited by Irmela Schneider and Peter M. Spangenberg (Göttingen: Vandenhoeck + Ruprecht, 2002), 245–269.

Schrenk, Lisa D. *Building a Century of Progress: The Architecture of Chicago's 1933–34 World's Fair* (Minneapolis: University of Minnesota Press, 2007).

Schrenk, Lisa D. 'Industry Applies. Corporate Marketing at A Century of Progress'. In *Designing Tomorrow: America's World's Fairs of the 1930s*, edited by Robert W. Rydell and Laura Burd Schiavo (New Haven, CT: Yale University Press, 2010), 23–40.

Schütz, Erhard. 'Das "Dritte Reich" als Mediendiktatur: Medienpolitik und Modernisierung in Deutschland 1933 bis 1945'. *Monatshefte* 87, no. 2 (1995): 129–150.

Schütz, Erhard. 'Zur Modernität des "'Dritten Reiches'"'. *Internationales Archiv für Sozialgeschichte der Literatur (IASL)* 20, no. 1 (1995): 116–136.

Schütz, Erhard, and Eckhard Gruber. *Mythos Reichsautobahn: Bau und Inszenierung der 'Strassen des Führers', 1933–1941* (Berlin: Ch. Links Verlag, 1996).

Sewell, Philip W. *Television in the Age of Radio: Modernity, Imagination, and the Making of a Medium* (New Brunswick, NJ: Rutgers University Press, 2014).

Shand, James D. 'The Reichsautobahn: Symbol for the Third Reich'. *Journal of Contemporary History* 19, no 2 (1984): 189–200.

Stashower, Daniel. *The Boy Genius and the Mogul: The Untold Story of Television* (New York: Broadway Books, 2002).

Steinmaurer, Thomas. *Tele-Visionen: Zur Theorie und Geschichte des Fernsehempfangs* (Innsbruck and Vienna: Studienverlag GmbH, 1999).

Stern, Robert H. 'Regulatory Influences upon Television's Development: Early Years under the Federal Radio Commission'. *American Journal of Economics and Sociology* 22, no. 3 (1963): 347–362.

Stern, Robert H. 'Television in the Thirties: Emerging Patterns of Technical Development, Industrial Control and Governmental Concern'. *American Journal of Economics and Sociology* 23, no. 3 (1964): 285–301.

Streeter, Thomas. *Selling the Air: A Critique of the Policy of Commercial Broadcasting in the United States* (Chicago: University of Chicago Press, 1996).

Traub, Ernest H. 'Television at the Berlin Radio Exhibition, 1935'. *Journal of the Television Society* 2 (December 1935): 53–61.

Udelson, Joseph H. *The Great Television Race. A History of the American Television Industry, 1925–1941* (Tuscaloosa: University of Alabama Press, 1982).

Uricchio, William. 'Introduction to the History of German Television, 1935–1944'. *Historical Journal of Film, Radio and Television* 10, no. 2 (1990): 115–122.

Uricchio, William. 'Television as History: Representations of German Television Broadcasting, 1935–1944'. In *Framing the Past: The Historiography of German Cinema and Television*, edited by Bruce Arthur Murray and Chris Wickham, (Carbondale: Southern Illinois University Press, 1992), 167–196.

Wagenführ, Kurt. 'Besuch bei der NBC'. *Funk-Stunde*, no. 51 (December 1936): 6–7.

Winker, Klaus. *Fernsehen unterm Hakenkreuz: Organisation, Programm, Personal* (Cologne: Böhlau, 1994).

Wurtzler, Steve J. *Electric Sounds: Technological Change and the Rise of Corporate Mass Media* (New York: Columbia University Press, 2007).

Figure 5.1. RCA commercial for Victor Television Receiver Model TRK–5 that shows the non-domestic setting of domestic television's promotion. Source: Hagley PC20110330_744, Chamber of Commerce of the United States photographs and audiovisual materials, Series II. Nation's Business photographs (Accession 1993.230.II), Audiovisual Collections and Digital Initiatives Department, Hagley Museum and Library.

5.   Domesticating Television Outside the Home

Abstract
This chapter discusses how, towards the end of the 1930s, television was shaped to fit into domestic space. Taking into account a variety of events in addition to the radio fairs – the 1936 Olympic Games in Berlin, the 1937 Exposition Internationale in Paris, the displays at Selfridges and at the Ideal Home Exhibition in London, and RCA's pavilion at the 1939-1940 New York World's Fair – it illustrates how television was projected as a private medium, whose promotion nevertheless relied on public events. Even in national-socialist Germany, where collective viewing rooms were meant to compensate for the absence of commercially available television sets, a prominent public-private venture promoted the launching of a standardized domestic receiver.

Keywords: domestic television; design history; Paris Exposition 1937; 1936 Olympics; New York World's Fair 1939-1940

In a piece on early post-war American television and its discursive framing, William Boddy observes that the 'de-familiarization' of the 'over-familiar' medium represents a necessary condition to analyse television from a historical perspective. For television historians, instead of getting acquainted with their object of study, the challenge is to create the required critical distance to it.[1] Situating interwar television within spaces of exhibition, as this book does, contributes efficiently to the de-familiarization of television both through the new questions that arise from the 'unfamiliar' environment and through new sources surfacing in relation to it. The exhibition space helps shift the attention from programmes and domesticity to alternative histories and practices that help us rethink the alleged everydayness of

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1   Boddy, 'The Amateur, the Housewife, and the Salesroom Floor'.

television as a mass media. However, the opening of regular broadcasting services in London and Berlin increased representations of and on television that located it in the soon-to-be-familiar living room, and serially produced domestic receivers became a new standard of television's promotion. This fifth chapter thus arrives where most televisual histories begin; at the shaping of television for the home.

In considering television's introduction into the domestic space, I refer to the notion of 'domestication' used in media/communication and science/technology studies. In their research on information technologies and consumption, Roger Silverstein, Eric Hirsch, and David Morley have suggested a concise model that describes how media technologies are 'tamed' for integration into the home. Illustrating their theoretical proposal through the example of television, the authors carve out four stages a technology traverses as part of its integration into 'the moral economy of the household' – that is, into a social structure defined as both an economic unit *and* a set of beliefs. According to their model, the *appropriation* of a television receiver (the purchase) is followed by its *objectivation*, in which the household negotiates the receiver's location within shared or individual spaces. *Incorporation* translates a habituated use of television, henceforth incorporated 'into the routines of daily life'. *Conversion*, finally, describes how members of the household use television, in particular its programmes, to link the private experience of watching TV to their broader social context.[2]

Interwar television was barely integrated into the moral economies of households, and its domestication remained, I will argue, 'imaginary'. However, underscoring the dynamics and social interactions that shape technology, 'domestication' can be adapted to the televisual display in the late 1930s. In particular the question of objectivating television – that is 'the physical disposition of objects in the spatial environment'[3] – is closely related to the expositional gesture and its ordering and classifying of objects. On a more general level, the model is useful since it conceives of domestication as a dynamic process, and understands it not as a rational, linear, or technologically determined single event but as a series of discourses and symbolic, aesthetic, social representations, and everyday practices located inside as well as outside the home (see Figure 5.1).

The chapter is organized into three sections, each of which explores the domestication of television at exhibitions held in the late 1930s. As I argue here, the medium's domestication became a central aspect of its definition,

2   Silverstone, Hirsch, and Morley, 'Information and Communication Technologies'.
3   Silverstone, Hirsch, and Morley, 'Information and Communication Technologies', 20.

which was supported mainly through public events happening outside the home. The tension arising from the projection of a domestic horizon of reference and television's actual location at fairs and in department stores was inherent to the process of domestication and most explicitly expressed in London, where stores commercialized television in fair-like settings while inviting their customers to watch television in a 'home-like' space (Section 5.1). The domestication of receivers in Germany posed a problem of economic nature insofar as the sale of television sets had not started yet. While the development of a standard receiver was supposed to solve this issue, another solution for disseminating television to the population was found in the collective viewing room implemented all over Berlin (Section 5.2). In New York, finally, the domestication of television coincided with NBC's opening of a regular television service celebrated with an opulent RCA pavilion at the World's Fair. Dedicated to the 'World of Tomorrow', the World's Fair was attuned to a modern and even futuristic vision of culture and technology, which the television display transplanted into the home. What is more, as a consumer good commercialized in the city's large department stores, the television sets promised to extend this World of Tomorrow into the quotidian spaces of the visitors' living rooms (Section 5.3).

5.1   Showrooms and 'Home Conditions': London, 1936–1939

In the late 1930s, the domestication of television was most advanced in London, where an estimated 20,000 to 25,000 television sets were in use before the outbreak to the war.[4] This comparatively rapid growth of domestic television testifies to the systematic approach to the launch of a regular service, and hence of a coordinated push for the medium's institutionalization. As I have discussed in the previous chapter, the opening of a regular television service on 2 November 1936 was preceded by a 'test run' at Radiolympia, where the EMI-Marconi and Baird Television equipment were used. The competition between the two firms remained in place until early 1937. In the January of 1937 the Television Advisory Committee finally recommended the adoption of the Marconi-EMI 405-line standard and in the following month Baird's system was dropped. At the same time, the BBC promised that its standard would not change 'substantially' before the end of 1938, assuring potential buyers that their television sets would

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4   Briggs, *Golden Age*, 620. London's population was around 8.6 million at the end of the decade.

not become obsolete within a couple of months of purchase.[5] After just a few months of television service, the BBC had thus decided upon the issue of standardization, allowing the industry to launch the mass production of receiver sets.[6]

In parallel, the public corporation fostered television's growth through its programming. Gerald Cock, the BBC's first director of television, was wary not to hire radiomen for the newly created positions in his department and instead recruited a team of young media professionals with backgrounds in cinema, theatre, and variety.[7] The television producers started exploring the potential for a proper televisual aesthetic that would be specific to the new medium. Jason Jacobs has highlighted the importance of 'intimacy' in the conception of the BBC's early programmes, in particular dramas, resulting from the domestic setting of television consumption. Producers and programmers agreed that the televisual mode of address should be sensitive to the proximity between performers and spectators and thus required a conversational rather than declarative style.[8] Furthermore, intimacy was conceived as depending on 'immediacy' and on the co-presence of performer and spectator, the event and its reception. This televisually mediated presence of the outside world in domestic space was highlighted by numerous critics who defined the medium's double specificity as an immediate and an intimate means of communication.[9]

The BBC programmes embraced performances, music, ballets, talks, dramas, live acts, or British newsreels.[10] Programming for television was thus diverse in content and in genres, relying in particular on more or less well-known stars residing in or passing through London.[11] In general terms, the choice of performers and acts reflected a musical and theatrical culture, both popular and highbrow, which was remediated for television. Through studio productions, television was integrated into a familiar set of spectacles and amusement. Outdoor broadcasts, a significant feature of programmes, were organized for important events such as the coronation of George VI (1937) and the tennis tournaments at Wimbledon, as well as for more prosaic activities including gardening lessons. These outdoor broadcasts continued

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5   Briggs, *Golden Age*, 609–611.
6   For a recent in-depth analysis of BBC's television service in the interwar period, see Medhurst, *Early Years.*
7   Sandon, 'La télévision expérimentale'.
8   Jacobs, *Intimate Screen.*
9   See for instance Woods, 'Looking at Television'.
10   Aldridge, *Birth of British Television*, 245–252; Norman, *Here's Looking*, 102–112.
11   Sandon, 'La télévision expérimentale'.

and sustained the 'daylight television' narrative described in Section 3.3. They also fostered television's role as a purveyor of national culture and identity, brought into British homes.

Engaging with Viewers

After the opening of a regular broadcasting programme, television's display at Radiolympia was accompanied by several new features underlining the medium's growing importance to the BBC and radio industry alike. In 1938 the cover of the fair catalogue referred for the first time not only to radio and its entertainment value, but also to television by showing a 'solid and substantial-looking eye, but the mere filmy ghost of an ear'[12] (Figure 5.2). Accordingly, all printed statements by the Radio Manufacturers' Association and BBC officials included a reference to the medium.

Furthermore, concurrent with the opening of the exhibition, the BBC put on sale a 'pictorial booklet' titled *And Now. The BBC Presents Television To The World*. Thirty-two pages long, the pamphlet was 'almost entirely devoted to pictures', presenting past and current television development and programmes.[13] Its short introduction tapped into the narratives of national achievement, televisual marvels, *and* domestic media consumption, and further emphasized the low level of maintenance fees for set owners:

> London has had the exciting honour of presenting the world's first regular television programmes. If you have never seen television or if you have merely had a demonstration in a noisy showroom, you will find the first experience in the quiet of your own home a miraculous experience. [...]. If you [...] already own a wireless set there are no extra licence fees. All you pay for is electricity. For a penny a week you capture and present these miraculous pictures, words and music as they flash invisibly and mysteriously through the ether.[14]

The overtly commercial reasoning by the BBC confirmed the new role envisioned for television as a source of profit for the institution, which went hand in hand with intensified efforts to promote the domestic medium to a broad audience. The status of television as a consumer good, however, brought with it several problems, the most urgent of which was its high cost.

12   'Impressions from Olympia'.
13   'Progress of Television. Booklet Published by the BBC'.
14   TV Publicity Pamphlet 1938. BBC Archives, T 23 / 80.
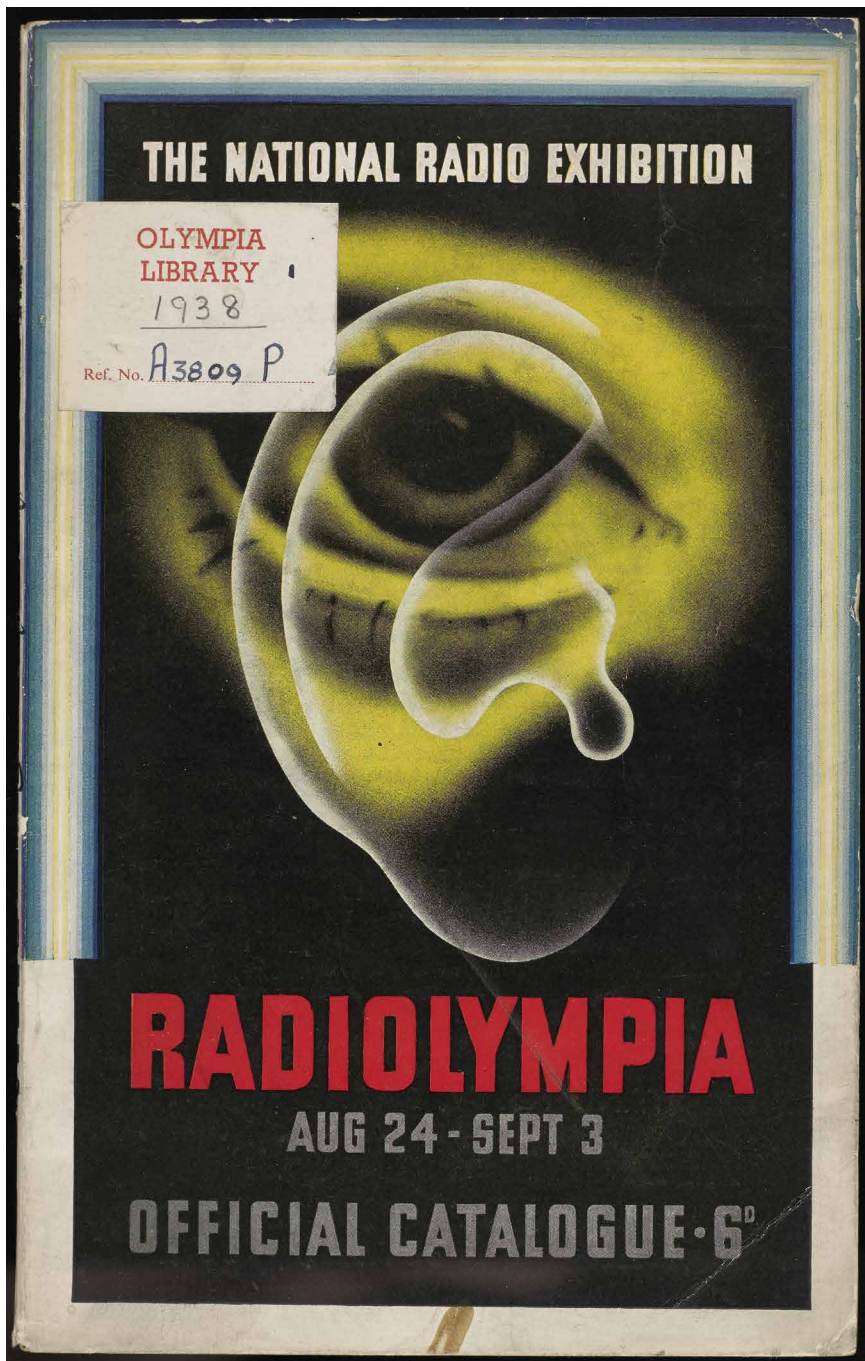
Figure 5.2. Cover of the 1938 Radiolympia catalogue. Source: *Radiolympia Official Catalogue* (London: RMA, 1938). London Metropolitan Archives. Some rights reserved.

Television sets were expensive and accordingly receiver sales slow.[15] The set prices were a frequent topic in the press, which reported price reductions[16] *and* complained about the inaccessibility of these sets:

> for although I can understand (approximately) how television works, I do not and never shall understand how guys who look as hard-up as I do can fork out the sixty quid or so that turns Listener into Looker.[17]

For the listener to become a viewer was first and foremost a financial issue. For the BBC, leading their audience towards televisual consumption required renewed efforts on several fronts, including improving television sets, extending programming hours, educating spectators, *and* reducing the cost of sets. While the public corporation had no influence on the production costs of TV sets, it was responsible for the attractiveness of televisual content, and, at Radiolympia in 1938, it took great care to demonstrate its proficiency.

At this edition, the radio broadcasting theatre, 'hitherto almost an institution', was replaced by a television studio 'with glass observation windows three feet high'[18] encircling the studio on two sides (Figure 5.3).[19] The studio revealed the otherwise hidden work of cameramen and producers, decorators and make-up artists, and disclosed 'exactly how shows are produced in the studio at Alexandra Palace'.[20] As one article in *Radio Times* explained, the studio's ultimate role was to replace a visit to the BBC studios:

> 'Please may I visit the television studio at Alexandra Palace?' is a plea that is made many times every week by members of the public. Working conditions are normally such that a 'Sorry, quite impossible' is the only answer that can be given. The position is very different with the giant television studio in the National Hall at Olympia, put up specially for the occasion by the Radio Manufacturers Association.[21]

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15   Up until December 1936, just 427 receivers had been sold. In June 1937, the British industry had sold a total of 1,444 television sets. Burns, *British Television*, 446.
16   In February 1937, following the adoption of the Marconi-EMI system, Marconiphone and His Master's Voice – both subsidiaries of Marconi-EMI – announced a 25 per cent price reduction on their receivers, from 120 and 95 guineas to 80 and 60 guineas, respectively. 'Television Receivers'.
17   'Radio Notes'.
18   'Wait for Radiolympia!'.
19   'News of the Week: Radiolympia'.
20   'Wait for Radiolympia!'.
21   'Alexandra Palace goes to Radiolympia', 7.

Figure 5.3. The 1938 Radiolympia studio with the observation windows. Source: By courtesy of Alexandra Palace Television Society.

Studio settings for the two main productions at the fair, *Cabaret Cruise* and *Queue for Song*, were installed on-site, allowing visitors a sneak peek of the world behind the television screen. This strategy of bringing television to its (potential) viewers was further supported by the new feature 'Come and Be Televised' introduced for the first time at the fair. In this one-hour programme, 'celebrities and members of the general public' could be 'televised in the studio at Radiolympia',[22] moving from behind the glass windows into the studio space (see Section 3.2).

Beyond its educational, informative and spectacular function, the BBC exhibit should also be understood as part of broader attempts by the institution, and in particular by Stephen Tallents, its public relations officer, to create a closer link with its listeners and (potential) viewers. Tallents arrived at the BBC in 1935 after a successful career at the Empire Marketing Board and a briefer mandate at the General Post Office (GPO).[23] In both functions, Tallents pioneered modern techniques of public relations by working with artists and designers to create exhibitions, posters, and films, fostering communication between governmental agencies and

22   See the television programme for Thursday 25 August in *Radio Times* (19 August 1938): 15.
23   Scott Anthony offers an exhaustive study of Tallents's career and influence in *Public Relations and the Making of Modern Britain*.

their constituencies.[24] The establishment of the GPO film unit in 1928, for which Tallents brought John Grierson to the Post Office, contributed substantially to the shaping of a national media culture.[25] In 1932 Tallents had further published a much-cited booklet, *The Projection of England*, in which he laid out his ideas for a 'school for national projection' concerned with self-promotion at home and abroad through modern means of mass communication. In Tallents's view, promoting British culture, art, science, and technology would simultaneously foster a sense of national identity *and* support the British economy.[26] At the BBC Tallents invested his energy into freeing the institution of its elitist image as he introduced for instance the first efforts to systemize listeners' research.[27] Before his arrival, the BBC's contact with its listeners had been maintained mainly through letters sent to producers and radio hosts; at the time no research of the existing radio audience and its preferences was available. Tallents's affinity with public relations accelerated the launch of the BBC's Audience Research Department in October 1936, and while Tallents's verve was criticized within the radio department, which felt it unfavourable to base programming on listener preferences,[28] his ideas 'gained greater traction'[29] among television personnel. This enabled Tallents to pursue different methods – personal invitations to the studios, questionnaires, letters, and so forth – in order to carry out early audience research to support the new medium.[30]

Tallents was also personally involved in the promotion of television, and for the last edition of Radiolympia before the war,[31] he opened the fair via a live television broadcast from Alexandra Palace.[32] Television's integration into the BBC's – and thus the official British – mediascape was explicitly staged in the main hall where model facades of Broadcasting House and

24   On Tallents and the GPO, see Suga, 'State Patronage of Design?'.

25   Anthony, 'The GPO Film Unit and "Britishness" in the 1930s'.

26   L'Etang, *Public Relations in Britain*, 36–39.

27   Anthony, *Public Relations and the Making of Modern Britain*, 130–163.

28   Briggs, *Golden Age*, 265–266.

29   Anthony, *Public Relations and the Making of Modern Britain*, 138.

30   In 1939 the BBC sent out 4,000 questionnaires enquiring about television programmes; viewers were also invited to apply to meet Gerald Cock and other members of staff. 'A Television Conference'; 'A Discursive Note on Modern Television'. On the history of audience research at the BBC and the changes after 1936, see also Camporesi, *Mass Culture and National Traditions*, Chapter 3, 'Attitudes towards Audience Research, 1930s–1950s'.

31   Organized between 23 August and 2 September 1939, the exhibition coincided with Germany's attack on Poland on 1 September 1939.

32   'BEST RADIOLYMPIA OPENS TODAY'.

WEST END FEATURE

Impressive, dignified and wholly fitting as the setting for the greatest radio show yet staged, the magnificent panorama of Radiolympia 1939 is a living presentation of modern radio in all its varied phases.

Uniformity of treatment of every detail of the exhibition is the keynote of this outstandingly successful scheme by an eminent architect. Every stand is designed as an integral part of the whole decor, blending into the impressive vista which sweeps in a crescendo of harmonious line up to the well-known façade of Broadcasting House dominating the West End of Radiolympia.

EAST END FEATURE

Television is represented with equal impressiveness at the East End, which is dominated by the Alexandra Palace television tower. Nor is this striking feature confined solely to decorative purposes; the tower also houses the main amplifier which supplies television and sound programmes to the stands, and provides direct access to the cinema hall and the Alexandra Tea Garden in the gallery.

The amplifier room, with its monitor television screens and speakers, its array of dials and pilot lights, and the white-coated engineers moving quietly and efficiently about their work, provides another aspect of "broadcasting in action" which will prove a fascinating spectacle for the public.

Figure 5.4. Radiolympia 1939 leaflet depicting Broadcasting House transmitting to the exhibition space. Source: Earls Court & Olympia Collection, London Metropolitan Archives. Courtesy of TechUK.

Figure 5.5. Radiolympia 1939 leaflet depicting Alexandra Palace transmitting to the globe. Source: Earls Court & Olympia Collection, London Metropolitan Archives. Courtesy of TechUK.

Alexandra Palace were mounted opposite each other.[33] Dominating the space as an ensemble materializing the institution's double role as radio and television broadcaster, this face-to-face staging translated radio and television's importance for the institution *and* the institution's centrality to broadcasting in Britain. In the brochure used by the fair organizers to sell exhibition space, the airwaves emanating from the antennas were directed towards the exhibition floor (Figure 5.4) and the entire planet (Figure 5.5). The BBC's web of sound and images covered here the whole world: like sunshine that nourishes life, the public corporation's rays sustained the businesses growing under its control.[34]

33   Photographs of the 1939 Radiolympia, available at Earls Court & Olympia Collection, London Metropolitan Archives.
34   Alongside the BBC's dominant role, the 1939 Radiolympia also reflected the context of international politics and war preparations, since the Army, the Navy and the Air Force all were present at the exhibition. During the Munich Crisis in September 1938, the BBC had started to transmit news bulletins in foreign languages and had been expanding its news services to various overseas and European countries in the following months. Its double role – providing information to the public at home and broadcasting news around the world – made the institution

Department Store Displays

In line with this institutional 'knighting' of the medium at Radiolympia, television was increasingly integrated in commercial environments where it was displayed along with other electronic consumer goods. Most prominently – and precociously – the department store Selfridges had begun collaborating with John Logie Baird in 1925 (when Baird held his first display at the Oxford Street store) and in 1928 had opened the 'first television sales department in the world'.[35] Televisual activities at Selfridges were intensified with the publication of the Selsdon Committee report promising public support for the medium, and in February 1936, Gordon Selfridge announced in *The Times* the opening of a 'room where visitors will have the opportunity of seeing the possibilities of television reception'.[36] In early 1937 the Television Exhibition at Selfridges was inaugurated, followed by a 'new television theatre' in the same store. Tallents himself attended the opening of this television theatre.[37] The event's press report, which even appeared across the Atlantic in the *Chicago Daily Tribune*, described the demonstration as a show running 'like an ordinary movie, except that no charge for admission will be made'.[38] Finally in February 1939, Selfridges opened an actual television studio, together with a seven-week exhibition of twenty-four receivers, at its luxurious Palm Court Restaurant.[39] The display of television at Selfridges was part of recurrent efforts to promote the image of the store as standing at the forefront of modernity and progress, and further confirmed the status of television as a commodity.[40]

In the department store setting, television no longer addressed fairgoers but consumers. Its arrival in the universe of consumption translated television's changing status from a technological novelty to a commodity that could be purchased and brought home. This definition of television as

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an essential ally to industry, politics, and British society more broadly. This was also translated in Radiolympia's halls. Briggs, *Golden Age*, 645–650.

35 'Television Sets for Sale'. News of this event even appeared in the *New York Times*: See 'Baird Puts Television on Sale'.

36 Callisthenes, 'Road of Progress'.

37 Callisthenes, 'Progress of Television'.

38 'Free Television Theater Opened in London Store'.

39 Callisthenes, 'Progress of Television'. The restaurant was a venue for the London Elite; it was destroyed in April 1941 during the London Blitz.

40 Advertising the medium *and* publicizing the store, Selfridges anticipated the double function of in-store television displays in the 1940s described by Anna McCarthy in *Ambient Television*. Noah Arceneaux has studied a similar double use of early wireless in American department stores in the 1910s and early 1920s. See Arceneaux, 'Wanamaker's Department Store'.

a consumer good distinguished it from earlier demonstrations, where its spectacularity formed the core of its display as a commodity-*experience*. The passage from a spectacular dispositif to a consumer appliance for domestic space was, however, not as smooth as this account might suggest. The expositional function of department stores – their resemblance with industrial and world's fairs in the *display* of merchandise to a mass public – was central to the domestication of television. In London, radio retailers and department stores, but also bars and restaurants, exhibited television and provided free access to the daily programming. This practice was explicitly backed by the BBC through the *Radio Times*, its official programme publication, which in January 1937 started publishing a list of public places demonstrating television for free. Similarly, the TV set manufacturer Cossor included in its advertising materials a list of shops and stores where its receiver could be tested. As one German report concerning 'the facilities of British television' had already stated in December 1936: 'The approximately forty receiving rooms are housed in department stores and shops, and are actually screening rooms for set buyers.' [41]

The information provided by the BBC and the industry about 'Where to See Television' [42] in commercial settings contrasted with the frequent encouragement to adopt 'home conditions' for experiencing television. Both the BBC and set manufacturers explicitly reminded their audience that television belonged in private and not public space. In 1936 during the demonstrations at Radiolympia, Baird organized transmissions in his company's offices 'under conditions which approximated to reception in the home'. [43] The following year, the *Radio Times* advised its readers to 'make an effort to see one or two television programmes in their entirety under home conditions'. By 'home conditions', the article specified, this meant 'conditions under which you would view had you a set in your drawing-room. Your local dealer may be able to provide these conditions for you, or put you in touch with a neighbouring set-owner who can.' Defined as 'an absorbing and not a "background" entertainment', television dictated a particular spectatorial arrangement: if the audience was to give a fair trial to television, it should respect the medium's site-specific requirements and its own positioning vis-à-vis the apparatus. [44] Too crowded or noisy an environment, such as those

41   Das Bundesarchiv (hereafter BArch), R 4701/13064, Fernsehen im Ausland, 1936–1944. 'Bericht über die Dienstreise des PR Harder nach London zum Studium der Einrichtungen des englischen Fernsehen vom 4. bis 9. 12 1936'.
42   *Radio Times. Television supplement* 54, no. 693 (8 January 1937): 14.
43   'Television in the Home'.
44   'Prelude to Radiolympia' (1937).

experienced at exhibitions and fairs, would hinder the correct appreciation of television and jeopardize the televisual experience:

> Whatever you see at Radiolympia, remember that television is essentially an intimate entertainment, with programmes designed every day, Sundays included, for you and me to enjoy in our favourite chairs in our own homes.[45]

The discussion of television display in home conditions and in an environment of familial intimacy raised the same problems as the medium's shaping into a daylight dispositif (Section 3.3), and resulted from the display of a private medium in public space. Underscoring the specificity of television as an 'intimate entertainment', the *Radio Times* article above implied that Radiolympia constituted an inappropriate place to watch television while simultaneously promoting the BBC's new studio at the exhibition. This seeming paradox reflected the BBC's double task of preparing television for the domestic space *and* advertising television's 'domestic' features at mass public events.

Guidelines such as those issued by the *Radio Times* communicating the correct domestic reception were complemented by advertisements for television sets framing the medium within (upper-middle-class) household settings. Promoting 'two models, specially designed for family use', the GEC included in its one-page ad an illustration of adults watching TV seated in a half-circle in front of the set (Figure 5.6).[46] Marconi stated on its ad 'Television is now definitively a domestic reality',[47] while His Master's Voice – an EMI subsidiary – featured a ribbon proclaiming 'From the Laboratory in 1931 to the Home in 1936'.[48]

This 'home' was resolutely upper class: an advertisement for luxury apartments in London's West End praised the location's amenities comprising 'Every modern convenience even including TELEVISION AERIAL'.[49] Negotiating the daylight dispositif between domestic and collective reception, Radiolympia thus also intervened to mediate between upper-class goods and middle-class consumer desires by providing access to otherwise unattainable goods. Doing so, it fuelled the very same consumer demands it promised to momentarily calm – a strategy the radio industry would pursue during the war when radio and TV sets were unobtainable but nevertheless advertised in the press.[50]

45   'Alexandra Palace goes to Radiolympia'.
46   *Radio Times. Television supplement* 54, no. 693 (8 January 1937): 16.
47   *Radio Times. Television supplement* 54, no. 694 (15 January 1937): 2.
48   *Radio Times* 53, no. 682 (23 October 1936): 24
49   'Flats and Chambers'.
50   Hartley, *Uses of Television*, 84.
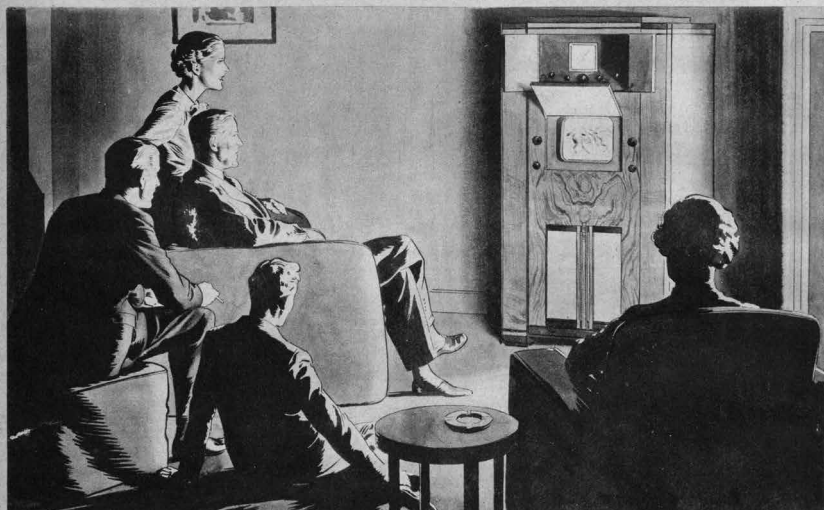
Figure 5.6. GEC's advert promoting television for domestic use: television 'comes to enhance and increase a hundredfold the delights that ordinary sound broadcasting brought you'. Source: *Radio Times*, television supplement (8 January 1937): 16.

Towards the end of the decade, the medium's domesticity was thus relentlessly discussed, emphasized, and therefore constructed. The efforts to domesticate TV simultaneously targeted the audience, which was to be educated about the right mode of reception, *and* the televisual device itself, which had to be delocalized from exhibitions sites to the living room. Working hand in hand, the BBC and set manufacturers designed television for private space and increasingly questioned the usefulness of public demonstrations. At the same time, because television remained an 'unfamiliar' medium, its display at fairs and in department stores was crucial precisely for the instruction and education of audiences. The 'training' of fairgoers into tele-viewers thus unfolded at the very same events that, in turn, were criticized for preventing the public from fully appreciating television's intimate entertainment.

5.2   The Virtual Consumption of German Television, 1935–1939

At the Berlin Funkausstellung, the transition from the 1934 television hall (insisting on the medium's heterogeneity, see Section 2.2) to the 1935 *Fernsehstrasse* (suggesting television's mass production and mass dissemination, see Section 4.2) mirrored the opening of a regular television service and concomitant efforts to promote Germany as an international leader in television at home and abroad. The vision of a domestic television set for all Germans became even more sharply defined at the 1939 Funkausstellung when a newly launched standard receiver was presented in a scenography consisting of a family sitting around a set. Just like the people's radio before it, television was henceforth imagined as bringing the Führer into every German home.

The E 1 Standard Receiver as a Virtual Nazi Consumer Product

The domestication of television initiated in 1935 with the *Fernsehstrasse* and its imaginary of mass production was continued in the following years through new experiments in programming and improved television infrastructure. However, in Nazi Germany, the major remaining problem still concerned the question of television's accessibility and availability to its potential audience. The paradoxical situation whereby televisual infrastructure was continuously expanded (i.e. through the construction of a new studio in 1938) yet few viewers could access the programmes, together with the evidence that Nazi Germany trailed behind Britain in terms of the

progress of the television industry, made the commercialization of receiver sets an urgent matter.[51] In August 1938, Reichspost officials initiated talks with the industry for the production of cheap television receivers.[52] At the same time, the press announced the sale of sets for 800 Reichsmark (for comparison, the people's radio set was 76 RM), and party officials proclaimed that television would soon be 'ready for the public'.[53] The joint efforts by industry and the Reichspost resulted in the project for a 'Einheits-Fernsehempfänger E 1', a standardized set planned for production in 4,600, and later 10,000 units.[54] Costing 650 RM, the receiver was about the size of a radio, and with only four knobs for volume, contrast, focus, and luminosity, it promised easy handling. The manufacturers had planned to launch the model on the occasion of the 1939 Funkausstellung, but due to material shortage resulting from intense rearmament, production could not start as planned, and only fifty receivers were made for the fair.[55] Retrospectively, the E 1's history turned out to be a rebranding campaign dressing up old promises in new clothes.

Produced collectively by five television manufacturers and intended originally to be sold at a relatively modest price, the E 1 was part of the 'people's products' strategy. Including realized and projected consumer goods such as the people's radio, the Volkswagen, or people's housing, these model products materialized the promise of a National Socialist consumer society for the *Volksgemeinschaft*.[56] Accessible only to members of the Aryan community, the products reinforced the mechanisms of racial exclusion in the realm of consumption. They also suggested that the regime supported

51   From 1937 on, plans for a new television studio were made. After a fire at the Funkausstellung in 1935, the television studio had been located in a small space in close proximity to Broadcasting House and the Funkturm, where the transmitter antenna was mounted. In the spring of 1938, the new studio in the Deutschlandhaus at the Adolf-Hitler Platz (today Theodor-Heuss-Platz), again just a few steps from Broadcasting House, was ready. The official opening for broadcasts from the studio, however, had to be pushed back until the end of the year due to technical difficulties resulting from the non-standardized technologies provided by Telefunken and Fernseh AG alike. Hickethier and Hoff, *Geschichte des deutschen Fernsehens*, 49; Winker, *Fernsehen untem Hakenkreuz*, 159–181.

52   Winker, *Fernsehen untem Hakenkreuz*, 202.

53   Richter, 'Das Fernsehen auf der Berliner Funkschau 1938'.

54   For a detailed history of the E 1, see Winker, *Fernsehen unterm Hakenkreuz*, 200–204, and König, *Volkswagen, Volksempfänger, Volksgemeinschaft*, 100–114.

55   Winker, *Fernsehen unterm Hakenkreuz,* 203.

56   The notions *Volksprodukt*, as well as *Volksradio*, Volkswagen, or *Volkskühlschrank*, were established before the regime change and reflected advertising strategies as well as consumer desires, which were perpetuated under national-socialist rule. See König, *Volkswagen, Volksempfänger, Volksgemeinschaft.*

individual liberty insofar as the act of consuming could be perceived as a private activity not controlled by the regime.[57] Built by government-owned firms or by the private industry on behalf of the regime, and destined to consolidate the classless community, the *Volksprodukte* epitomized the particular 'politics of consumption' of the Nazi Party. In his work, economic historian Hartmut Berghoff pointedly describes this politics under the headline of 'enticement and deprivation':

> First, the regime allowed increased consumption and considerable progress towards Western consumerism in a number of sectors. Second, there was suppressed consumption because rearmament required reductions in the imports of consumer goods or the reallocation of scarce raw materials from consumer- to production-goods industries. Thus, shortages of an ever-growing number of consumer items became a general feature of daily life under the Four Year Plan. Third, the regime created virtual consumption by opening up new horizons and promising unprecedented advances into modernity. To make this propaganda effective it concentrated on prestigious consumer goods with high levels of symbolic meaning, such as cars and holidays.[58]

Simultaneously fostering as well as supressing private consumption, the regime in particular created an imaginary of abundance through the promotion of luxury items. While the people's radio actually introduced technological modernity in private spaces, the E 1 television set belonged in the category of 'virtual consumption' promoted for their symbolic value.

The new status of television as a domestic *Volksmedium* also affected the Funkausstellung, which in 1939 was for the first time called Grosse Deutsche Rundfunk- und Fernseh-Rundfunk Ausstellung (Great German Radio and Television Broadcasting Exhibition). While the Reichspost had asked the manufacturers to exclusively display the new television model, the firms continued to show other devices as well.[59] Nevertheless, the E 1 dominated the exhibition, presenting television in a domestic framework. At the Telefunken stand, the receiver was staged as the centre of a family scene: five mannequins – father, mother, two daughters, and a son manipulating the set – were positioned around the set, visibly prepared to watch TV (Figure 5.7). A similar setting had been presented the year before for radio

57   Koepnick, 'Fascist Aesthetics', 65.
58   Berghoff, 'Enticement and Deprivation', 173.
59   Kägeler, 'Das Fernsehen der Deutschen Reichspost', 18; Riedel, *70 Jahre Funkausstellung*, 106–107.

Figure 5.7. Telefunken's domestic scene at the 1939 Funkausstellung: the family gathers around television. Source: Stiftung Deutsches Technikmuseum Berlin, Foto Historisches Archiv.

Figure 5.8. The Telefunken booth at the 1938 Funkausstellung: the family gathers around radio. Source: Stiftung Deutsches Technikmuseum Berlin, Foto Historisches Archiv.

(Figure 5.8); transposing the scene from a radio to a television display helped construct television as a normal and available domestic feature. Assimilated to the family circle, the definition of television as a domestic medium seemed accomplished, and finally promised not only to imprint the voice but also the image 'of the Führer indelibly in all German hearts'.[60] As the radio set had done before it, the E 1 was henceforth supposed to connect the individual to the national community. Inevitably this domestication of television via the standard receiver carried with it the weight of Nazi ideology. Supposed to materialize the level of consumption now available to Germans, to certify the national breakthrough in technological matters, and to attest to the cultural and political avant-garde credentials of the regime, this *mise en scène* of the family gathered together in front of the television did not, in fact, bear much resemblance to reality in Germany in the 1930s. Like representations of the Volkswagen and other virtual consumer projects, it nevertheless generated a symbolic reality that bound together domesticity, modernity, technology, and belonging to the *Volksgemeinschaft*.

1937 Paris World's Fair

This account of Nazi television's domestication as a linear process (virtually) accomplished towards the end of the 1930s is complicated when we consider two major television events that occurred outside the Funkausstellungen, namely the Paris World's Fair of 1937 and the Olympic Games of 1936. In their own ways, both events suggest an alternative path that does not imperatively lead to television's domestication. Here instead the exhibition of television continues to build upon strategies that privilege the spectacular dispositif and its collective reception.

   After the opening of a regular programme service in 1935, numerous televisual events were staged in Berlin and other German cities. In 1937 television was exhibited at shows in Passau, Saarbrücken, and Frankfurt, at the *Arbeiter, Bauern und Soldaten* exhibition in Frankfurt (Oder), and at *Schaffendes Volk* in Düsseldorf; furthermore, the Deutsches Museum in Munich opened a temporary show called *Fernsehen* about the history and future of the medium.[61] The main event for German television in 1937,

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60   Hadamovsky, quoted in Anon., 'Der Fernsehbetrieb in Berlin eröffnet'.
61   Steiner, 'Die Sonderschau "Fernsehen" im Deutschen Museum', 598. Steiner argues that the Munich exhibition fuelled the competition between Germany and Great Britain in the field of television research since the London Science Museum launched a similar display shortly after the opening of the German event. On the London exhibition, see Morris, '"An Effective Organ"'.

nevertheless, was the exhibition sponsored by the Reichspost at the Paris Exposition Internationale des Arts et Techniques dans la Vie Moderne. This event surpassed the annual Funkausstellungen in duration by several months and allowed the German industry to position itself on the international map of televisual research.[62] According to internal reports, the television display was the 'main attraction'[63] of the German pavilion that 'attracted an unexpectedly large flow of visitors'.[64] In particular the two-way television booths were consistently occupied because, for a contemporary observer,

> through adding the speaker's image to the language, it leaves the deepest and most lasting impression of the nature and importance of television for the observer.[65]

The organizers received praise from the Fair's organizers who awarded Germany with three 'Grands Prix' for television – one for Telefunken's apparatus, one for the new telecine scanner, and one for the exhibition itself.[66]

Somewhat hidden from sight, the television exhibit was mounted at the end of the German pavilion's large main hall in a space situated below the stairs leading to a mezzanine.[67] Upon entering through one of the doors on the left or right of the stairs, the visitor discovered a television receiver made by Telefunken. The programme shown was composed of sound film excerpts transmitted by a new Telefunken telecine scanner working with cathode ray tube (CRT) technology and of live transmissions taken on the roof garden of the pavilion. These live transmissions comprised views of the fairgrounds, the Eiffel Tower, 'animated, delightful pictures from the Seine',[68] and short interviews with visitors. Drawing on the memoirs of Walter Bruch, engineer

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62   Germany was not the only nation presenting television: the French national postal service, PTT (Postes, télégraphes et téléphones) also provided regular transmissions from the 'Palais de la radio'. Fickers, 'Presenting the "Window on the World"', 297.

63   BArch, R 4701/13065, Fernsehen auf Ausstellungen und Sonderveranstaltungen, 1937–1944. 'Der Leiter der Forschungsanstalt der Deutschen Reichspost, Prof. Dr. Gehrts: Weltausstellung Paris', 20.1.1938.

64   BArch, R 4701/13065, Fernsehen auf Ausstellungen und Sonderveranstaltungen, 1937–1944. 'Grand Prix für die Fernsehvorführungen der DRP auf der Pariser Weltausstellung', undated.

65   BArch, R 4701/13065, Fernsehen auf Ausstellungen und Sonderveranstaltungen, 1937–1944. 'Grand Prix für die Fernsehvorführungen der DRP auf der Pariser Weltausstellung', undated.

66   BArch, R 4701/13065, Fernsehen auf Ausstellungen und Sonderveranstaltungen, 1937–1944. 'Der Leiter der Forschungsanstalt der Deutschen Reichspost, Prof. Dr. Gehrts: Weltausstellung Paris', 20 January 1938.

67   On the mezzanine, an architectural model for the newly erected Haus der Deutschen Kunst in Munich, designed by Paul Ludwig Troost, was exhibited. Fiss, *Grand Illusion*, 67.

68   Flanze and Gehrts, 'Die Fernsehvorführungen der Deutschen Reichspost', 46.

with Telefunken and responsible for the Paris exhibition, Andreas Fickers has recounted the problem emerging from this participative television demonstration. Within the context of an explicit national and ideological rivalry that characterized the event, some of the interviewees apparently used the opportunity to express defiance of the German regime, for instance by raising their fist in the communist salute. This sort of unruly behaviour finally incited the organizers to carry out control interviews before letting interviewees loose in front of the camera.[69] Not dissimilar to the BBC's 'Come and Be Televised' experiences already discussed (Section 3.2), but in a politically charged environment, the Reichspost had thus to deal with the unexpected and contingent character of live television.

At the rear of the exhibition hall between the information desks, two *Fernsehsprechstellen*, two-way television booths, were installed. After the opening of a telephone-television long-distance connection between Berlin and Leipzig in March 1936, this apparatus was used for every major exhibition. A leaflet published in four languages presented the system to the international public.[70] Inviting visitors to 'see television', the display functioned as a spectacular and reflexive dispositif, exhibiting first and foremost itself: the transmission at a distance was staged for visitors circulating between two control receivers, showing the picture of the person in the booth. The television-telephone booths were equipped with glass windows framing, as with the frame of a television screen, the visitors conversing with each other (Figure 5.9). On display was thus not only the apparatus but also its users – all turned into a spectacle for the visitor-spectator consuming television's novelty.

Given the appeal for visitors, the (foreseeable) success, *and* the considerable effort needed to mount the television show,[71] one might wonder why this display was not installed at the centre of the German pavilion. After all, with the exception of a French television exhibit, no other country displayed this very latest technology.[72] In addition to technical reasons put forth in contemporary accounts – namely that television still required environments with dimmed lights and thus a separate exhibition space[73] – another explanation, linked to the televisual dispositif and its relation with the spectator, may provide an additional answer.

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69 Fickers, 'Presenting the "Window on the World"', 300.

70 *Die Fernsehschau der deutschen Reichspost auf der internationalen Ausstellung Paris 1937.*

71 The article in *Fernsehen und Tonfilm* gives a rare glimpse into the logistical side of a television show and mentions that the telecine transmitter alone weighed 750 kg and thus needed to be moved with a system of pulleys. Flanze and Gehrts, 'Die Fernsehvorführungen der Deutschen Reichspost'.

72 Fickers, 'Presenting the "Window on the World"', 297.

73 Flanze and Gehrts, 'Die Fernsehvorführungen der Deutschen Reichspost' 35.
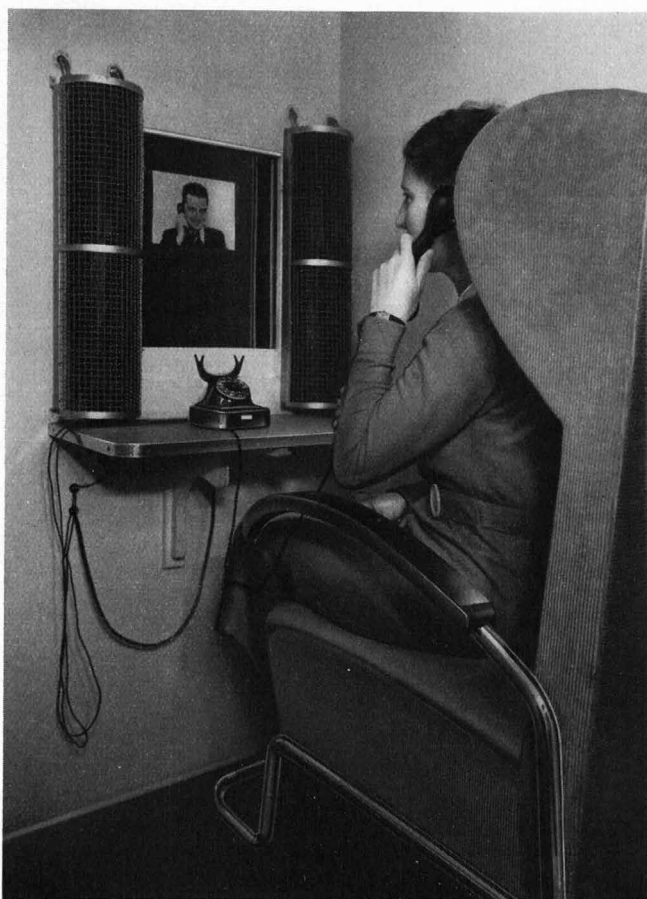
Zelle einer Fernsehsprechstelle

Cabine de la station visiotéléphonique   Cabin of the television-telephone

Figure 5.9. View into the two-way television booth at the 1937 Paris Exhibition. Note: Here as in other depictions of two-way television, the picture appearing on the television screen is a photomontage. Source: *Die Fernsehschau der Deutschen Reichspost auf der Internationalen Ausstellung*, Paris 1937 (Berlin Deutsche Reichspost, 1937).

In her study of the German pavilion at the Paris Fair, Karen Fiss has underscored the exhibition's importance for the construction of National Socialist identity for a foreign, and in particular, French audience. Providing 'immediate, hands-on experience of the Third Reich', the pavilion influenced the regime's reception abroad.[74] The most conspicuous feature of the building

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74   Fiss, *Grand Illusion*, 3.

Figure 5.10. The *Deutsches Haus* at the Paris Exhibition, 1937. Source: Fotoarchiv Hoffmann L.38, Bayerische Staatsbibliothek München/Bildarchiv.

and its interior design was the obvious refusal of references to modern archi-tecture and art.[75] Instead, the walls mainly displayed neo-classical artworks, mosaics, and tapestry. On the exhibition floor, these traditional media were matched by the display of advanced technology and mass-produced goods exhibited in carefully arranged glass cases. While other National Socialist propaganda exhibitions employed huge photomontages and other modernist means of display,[76] the Paris exhibition shifted modernity from the scenographic ensemble to items shown – to the streamlined Mercedes car, the telescope, or the Zeppelin diesel engine (Figure 5.10). Resembling rather a nineteenth-century museum space than a twentieth-century World's Fair, the antiquated scenography in the German pavilion conferred these ultra-modern exhibits the aura of uniqueness and tradition. Detached from the industrial reality of capitalist production, the items were presented as singular, 'auratic' artworks. This aestheticization of technology, Fiss argues,

75   Fiss, *Grand Illusion*, 76.
76   Olivier Lugon has discussed the large-format photographs used in propaganda exhibitions; see Lugon, 'Entre l'affiche et le monument'. See also Tymkiw, *Nazi Exhibition Design,* for a book-length study of Nazi Exhibition Design.

'raised it above the banality of anonymous Taylorized production', and transformed technology from a functional object into 'aesthetically beautiful forms'.[77] Through the fecund tension arising from the juxtaposition of anti-modern signifiers and ultra-modern technology, the Nazi *Volksgemeinschaft* emerged as simultaneously pre-industrial and avant-gardist, in advance of their time but rooted in a timeless past.

Within this context, the separation of the television exhibit from the main space was a necessary choice. Contrary to the exhibits carefully arranged in vitrines (a contemporary observer described them as 'snobbish-sacral altars made of glass and precious wood'[78]), which addressed a beholder supposedly absorbed by the beauty revealed, the television exhibit invited a more distracted, participative, and certainly less contemplative viewer. The distinction between the two different exhibition rooms split the staging of mythical technology apprehended not in functionalist or economic but aesthetic terms from a more entertaining scenography oriented towards the spectators' synesthetic experiences. While television was continuously instrumentalized by the Nazis to foster techno-nationalist tales and shape the *Volksgemeinschaft*, its characteristic as a reflexive and exhibitionist dispositif engaging the spectator's corporeality collided with the spectatorial model of contemplation constructed in the main hall. What is more, such displays also diverged from the attentive spectator presented in the 1939 Funkausstellung scenography. There, the family's absorbed and attentive posture recalled the (ideal) spectator of the Paris main hall and its auratic objects, whereas the World's Fair's television display evoked earlier spectacles of technology. In Paris the television 'viewers' were addressed as mobile fairgoers, rather than immobile spectators.

Taking into account my earlier argument that spectacular dispositifs provided pleasurable interactions with technology and modernity that potentially undermine the all-encompassing exhibitionary complex described by Tony Bennett, it seems safe to speculate that the television exhibit in the German pavilion at the Paris Fair allowed visitors to momentarily circumvent the authoritarian discourse staged in the main hall. It gave visitors the right to actively participate in the display and to quit for an instant the passive-contemplative posture forced upon them in the exhibition's principal part. As Walter Bruch's account confirmed, visitors (temporarily) used television's characteristics as a live medium to provoke organizers, contest the Nazi showcase, or deconstruct the ideologically explosive atmosphere. Even if

77   Fiss, *Grand Illusion*, 78–79.
78   'Russland, Italien, Deutschland: Die drei Kolossalen'.

the interview method was rapidly changed to control the performances, the participatory possibilities of the dispositif of liveness and the two-way device nevertheless offered fairgoers an opportunity to (briefly) escape hegemonic representations by taking over the exhibit.

The 1936 Olympics: Distributing Television in Urban Space

The Paris exhibition was only one event, even if a major one, taking place to display German television. Many exhibitions followed Paris and all these events were partly made possible by an even bigger event staged in 1936: The Berlin Summer Olympic Games.[79] Opening on 1 August 1936 in the presence of over 100,000 spectators, the eleventh Olympic Games of the modern era would stimulate intensified research into all-electronic television cameras, lead to a boost in public television viewing rooms, and definitively confirm television's position within the modern mediascape. In this sense, and maybe more than the opening of a regular service in March 1935 or the international recognition gained in Paris, the Olympic Games constituted a crucial moment in the promotion of television in interwar Germany.

Staged for the thousands inside the stadium *and* for listeners and readers at home, the Games were undoubtedly what Elia Katz and Daniel Dayan have called 'media events' – celebratory, out-of-the-ordinary, scheduled far in advance, historic happenings whose existence depended on their dissemination through mass media.[80] The 'Nazi Games'[81] were the first to be transmitted live via radio on all five continents.[82] The Reichspost had begun as early as 1934 to modernize and extend the capacities of existing shortwave transmitters and build new ones.[83] During the Games, two national radio stations broadcast (at least) hourly updates of the latest results, and international reporters could count on high-tech equipment

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79   When Berlin was selected in 1931 to host the Games, the Nazi Party had condemned the event's pacifistic and internationalist nature, but after Hitler's takeover it soon became a welcome opportunity to promote National Socialist Germany to foreign states. Eckhardt, 'Olympia im Zeichen der Propaganda', 244.

80   Dayan and Katz, *Media Events*.

81   Mandell, author of the first book-length study, has called it *The Nazi Olympics*. The 'Nazi Games' has become a more common expression. See for instance Large, *Nazi Games: The Olympics of 1936*.

82   Becker, 'Schneller, Lauter, Schöner?', 102. The Berlin Games were, however, not the first to be broadcast: The Paris Games in 1924 already used radio. See Marshall, Walker, and Russo, 'Mediating the Olympics', 265.

83   Diller, 'Gross-Veranstaltungen der Rundfunkübertragung'.

to do their work.[84] The Games were intensely promoted before the opening
day with large advertisement campaigns at home and abroad, including
stamps, posters, exhibitions in shop windows and, more spectacularly,
flights around Germany on an 'Olympia plane'.[85] The intensification of
communication before and during the event was accompanied and sustained
by a concentration of the Games themselves: limited to sixteen days, the
sport fields and arenas were mostly arranged around the main stadium.
Facilitating the work of the press, this compact outline of the Olympia
grounds also enabled a more efficient exploitation of the Games' propaganda
functions.[86]

For the live television transmissions from Olympic grounds new all-
electronic cameras were tested. While the electronic equipment did not
entirely replace mechanical television (as would be the case in Great Britain
after 1937), the shift to CRT technology closed an experimental period
that had started in the early 1930s. The research branch of the Reichspost
had shown for the first time a CRT-based television *receiver* at the 1932
Funkausstellung. At the end of 1934 the Reichspost bought a sample CRT
camera and related patents from RCA. At the same time, Telefunken adopted
the RCA technology for their own devices, whereas Fernseh AG's tests with
electronic cameras relied on Farnsworth's patents. For the Olympics, the
Farnsworth camera supplied by Fernseh AG, the Telefunken and Reichspost
iconoscopes with RCA technology, and two intermediate film system trucks
were used.[87]

Outlined on the map published for the opening of the Games, the various
locations of the television cameras testify to the efforts of the organizers to

84   Becker, 'Schneller, Lauter, Schöner?', 102. Remarkably, 30,000 reports were transmitted to
forty countries in the sixteen days of the Games.
85   Becker, 'Schneller, Lauter, Schöner?', 98; Eckhardt, 'Olympia im Zeichen der Propaganda', 238–239.
86   In the run-up to the Games there was international disapproval, and the Americans boycotted
proceedings until late 1935. Schiller and Young, *The 1972 Munich Olympics*, 61. The American
boycott had intensified with the introduction of the Nuremberg 'race laws' in September 1935,
which added, from a German perspective, an additional reason to maintain the peaceable
facade. See Kessler, 'Only Nazi Games?'.
87   Documenting the televisual infrastructure at the Olympic Games, the journal *Fernsehen und
Tonfilm* emphasized that the electronic cameras in use had been developed by the 'Reichspost
in collaboration with the German industry'. Referring to the devices as *Bildfänger* ('image-
catchers'), it is not until the article's second page that the journalist specified the camera's
names – 'Iconoscope' and 'Farnsworth-electronic camera' – explaining neither the origin of
these names nor the names' signification. For most of the certainly well-informed readers of this
specialized journal, it was nevertheless obvious that these names pointed to American–German
patent agreements and exchanges, and signaled the German industry's interaction with foreign
capital. 'Fernsehen bei den Olympischen Spielen 1936'.

Abb. 2. Übersicht über die Fernsehbetriebsstellen im Reichssportfeld.
1 Fernseh-Vermittlung, 2 Bunker am 100-m-Ziel, 3 Marathontor (1), 4 Marathontor (2), 5 Marathontor (3), 6 Maifeld, 7 Dietrich-Eckart-Bühne, 8 Schwimmstadion, 9 Hockey-Platz, 10 Tennis-Plätze
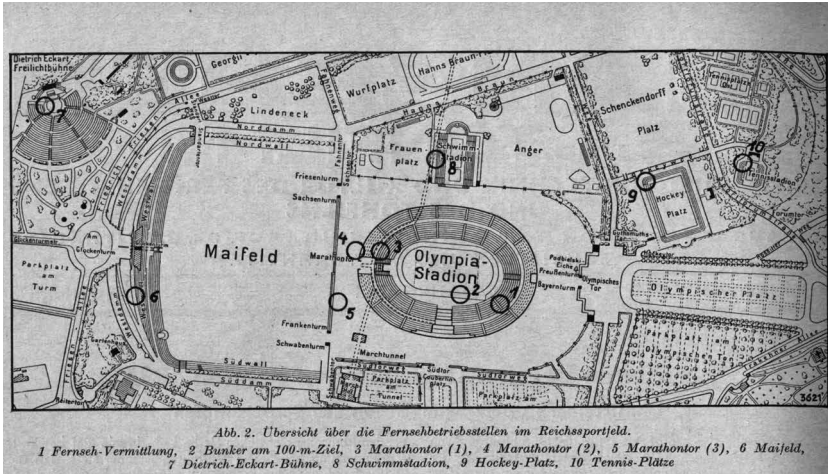
Figure 5.11. Map showing the locations of television cameras and television cars at the Olympic Games. Source: 'Fernsehen bei den Olympischen Spielen 1936', *Fernsehen und Tonfilm* 7, no. 8 (August 1936): 58.

cover as large a part of the Games as possible: television should take part in the creation of the media event (Figure 5.11). This active role of television, however, was at first contested. Werner March, the site's architect, refused to permit television cameras in the Olympic stadium, apparently because he was worried that the devices would negatively impact the architectonic ensemble.[88] March's original plans for the stadium had been conceived along functionalist lines but were adapted to a neo-classical style after an intervention by Hitler, and the ensemble of the Games' architecture finally made an explicit reference to ancient Greek temples and art.[89] The anxiety about television's appearance within this environment imbued with symbols of beauty, strength, and a mythical past seems to have pushed Telefunken and the organization committee to test the camera's 'looks' in the field. Showing a real-size camera dummy positioned on the device's eventual emplacement, the photographs were visibly taken before the stadium was finished, and meant to render the television camera's appearance and its visual impact on the architectural ensemble (Figure 5.12 and Figure 5.13).

If the presence of televisual technology in the arena seemed to constitute a problem, media technologies dictated much of the neo-classical structure's ultimate profile. The arena's form had been adapted to the requirements of modern loudspeaker technology that transmitted the radio reporters' live

88   Winker, *Fernsehen unterm Hakenkreuz*, 125.

89   Ades et al., *Art and Power*, 258.
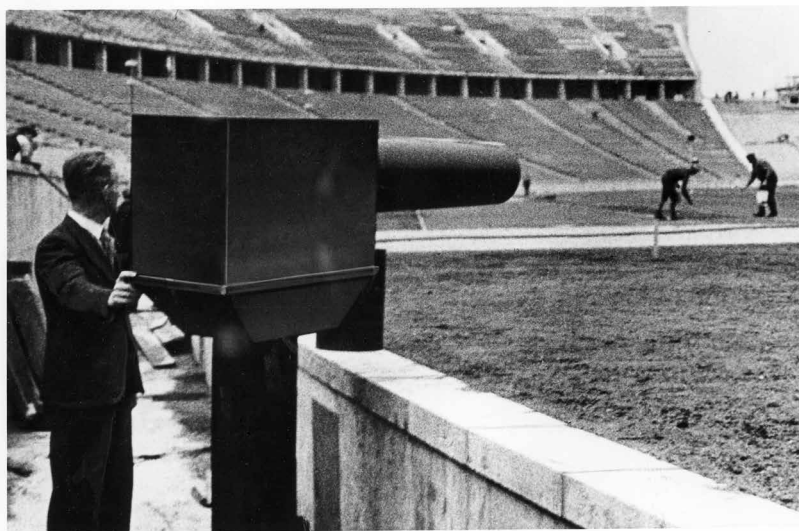
Figure 5.12. Testing the television cameras for the 1936 Olympic Games. Source: Stiftung Deutsches Technikmuseum Berlin, Foto Historisches Archiv.

Figure 5.13. Testing the television cameras for the 1936 Olympic Games. Source: Stiftung Deutsches Technikmuseum Berlin, Foto Historisches Archiv.

commentaries to those in the stadium. Other loudspeakers were placed outside the arena, in the Olympic Village and the city centre.[90] Twenty glass-enclosed booths for radio reporters were located behind the official gallery; other microphone connections were located around the arena at strategically useful positions.[91] In addition to the microphones for journalists, microphones capturing the general soundscape on the ground were placed around the arena. These background noises could be edited into any broadcast, giving the transmission a more 'authentic' feel. For internal communication, the organizers used a telephone and teletypewriter, as well as a 'Gestetner stencilling machine' for the rapid photocopying of incoming news distributed to the reporters in the stadium.[92] This way, foreign news agencies did not have to send their own journalists to the various competition grounds but could report on all events from one office.[93] For the dissemination of the Olympic Games outside the grounds, every possible media technology was thus deployed: teletypewriters, telephones, telegraphs, and phototelegraphy; the daily and weekly press, photography, and shortwave radio (Olympia-Weltsender).[94] The Games as a media event created not only a national but an international web of communication (Figure 5.14).

How and where did television fit into this network of communication technologies and mass media? Given the availability of other innovative and novel means of communication, why should television even play a role at the Games? Obviously, television was not (yet) a means of global communication: it was, as I will argue here, its placement in television rooms that suggested a televisual connectivity that went beyond the radio fairs and brought the medium to its potential audience.

Whereas the regular programme day comprised two hours of transmission between 8pm and 10pm, the Olympic programme was extended to 10am to noon and 3pm to 7pm (in addition to the 8pm to 10pm programmes). Besides prolonging the programme hours, the opportunities to watch television were multiplied. Before the opening of the Games, the Reichspost and the Propaganda Ministry inaugurated new television rooms, increasing the available sites to at least twenty-six.[95] The viewing rooms were regularly

90   Becker, 'Schneller, Lauter, Schöner?', 103.

91   'Die Rundfunkberichterstattung von den Leichtathletik-Wettbewerben', http://1936.dra. de/index.php?id=128 (accessed 28 February 2021).

92   Organisationskomittee, *The XIth Olympic Games*, 314.

93   Becker, 'Schneller, Lauter, Schöner?', 101.

94   Becker, 'Schneller, Lauter, Schöner?', 102–103.

95   The number of viewing rooms vary between sources. In addition to the twenty-six rooms opened in Berlin, one or two viewing spaces were also installed in the Olympic Village.

Figure 5.14. The international web of communication created by the 1936 Olympic Games. Source: Der Olympia-Weltsender. By Courtesy of the Deutsches Rundfunkarchiv.

jammed with visitors and tickets were handed out at no charge in order to regulate the influx of spectators.[96] Two rooms were equipped with large-screen televisions, one with a screen of 100 x 150cm for 100 spectators and the other comprising a 300-seat theatre with an intermediate film projector and cinema screen.[97] According to the Games' official report, 162,288 spectators saw a total of 175 televised competitions transmitted in 138 hours.[98]

In contemporary accounts, these figures translated into evaluations of television rooms as linking an (imaginary) audience across space:

> While a hundred thousand people were granted the privilege of experiencing the event of the Olympic Games in the area around the stadium, the new television increased still further the circle of those who experienced it.[99]

96   'Fernsehen bei den Olympischen Spielen 1936', 59.
97   'Fernsehen bei den Olympischen Spielen 1936', 59. However, these two rooms, located on Leipziger Strasse in the city centre and the Turmstrasse in Moabit, are not listed in the Bundesarchiv document that mentions the twenty-six viewing rooms available during the Games.
98   Organisationskomitee, *The XIth Olympic Games*, 343.
99   'Etappen des Fernsehens', *Die Sendung* 14, no. 20 (1937): 469, quoted in Elsner et al., 'The Early History of German Television', 208.

Providing an extension of the Games' public, the spectatorial 'circle' hence comprised not only the cheering public on-site but also the viewers in television rooms. Similar to how radio was visualized on the map above (Figure 5.14), television was thought of as being able to connect distant localities. The televisual sprawl in urban space replaced the expositional gesture of an orderly display, and located the medium outside exhibition halls in closer proximity to the everyday lives of viewers. While this localization of television in the city did not equate to domestication per se, it fostered the 'banalization'[100] of the medium. More than the following 1937 Paris exhibition, the Olympic Games participated this way in the medium's domestication by suggesting its availability through the multiplication of screens.

This implementation of television in urban centres, furthermore, made it possible for televisual achievements to be presented to the foreign press, international visitors, and German tourists alike. Whereas the 1935 *Fernsehstrasse* framed television as a technology produced by and for the Volk, the mapping of a technologically mediated community through viewing rooms in 1936 embraced, intentionally, a non-racially defined, international citizenry. In the case of the Olympia-Weltsender, this pacifistic outreach to all nations was repeatedly illustrated on maps promoting Nazi Germany's willingness to collaborate with foreign broadcast stations. In the case of television, propaganda efforts were visible in the coordinated implementation of television rooms in many neighbourhoods in Berlin, the Olympic Village, and smaller towns (Figure 5.15 and Figure 5.16). The collective viewing rooms served the nationalist but pacifist affirmation of progress and leadership that was more broadly fostered through the Games. Multiplying the locations and extending programme hours, the Propaganda Ministry and the Reichspost could reach out to a larger and more heterogeneous audience than ever before, while counting on the communal character of athletics and other sports competitions to fill their halls. This accessibility of television allowed the regime to demonstrate how it took care of its citizens *and* visitors, regardless of their class or race. The Games thus offered a platform to present National Socialism as a respectable political culture and Nazi Germany as a 'cheery and peaceable' modern nation, and non-domestic television sustained those overall goals.[101]

100 Gaillard, 'De l'étrange lucarne à la télévision'.
101 Inge Marssolek writes with regard to radio at the Games: 'Die Spiele boten den Rahmen, in dem das NS-Regime die "heitere, friedliebende" Seite der "Volksgemeinschaft" den international Vertretern des Sports und der Presse präsentieren konnte.' Marssolek, '"Aus dem Volke für das Volk"', 134.
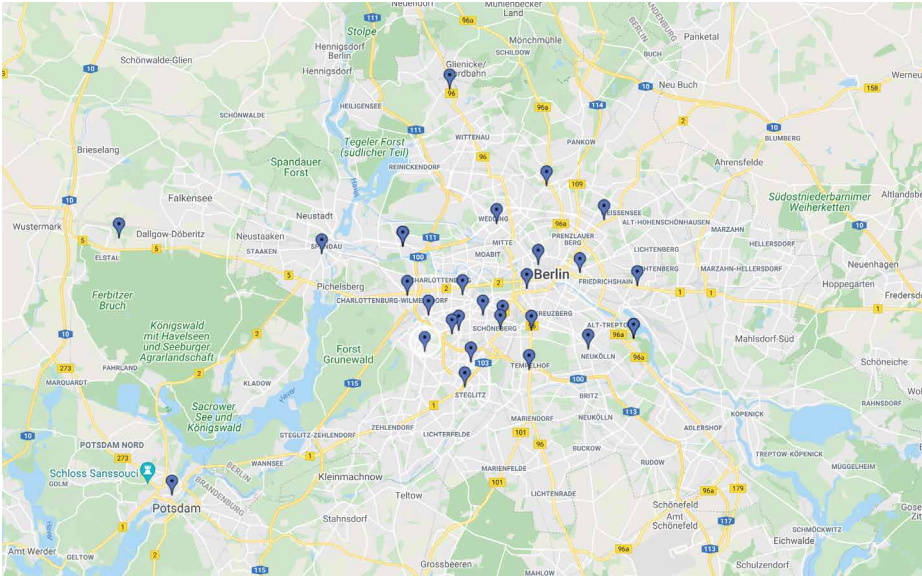
Figure 5.15. Map of television rooms operational during the Olympic Games. Source: BArch, R55/21049, Olympische Spiele – Fernsehübertragung. 'Fernseh-Programm der Olympiade-Uebertragung', 14 July 1936. https://www.google.de/maps/ms?msid=201850894666303655104.00 04f29ad28522183ec6c&msa=0 (accessed 25 July 2021).

Figure 5.16. Television tent in the Olympic Village, 1936. Source: Stiftung Deutsches Technik-museum Berlin, Foto Historisches Archiv.

Simultaneously, as was shown at the beginning of this section, National Socialist consumer politics did not repudiate private media consumption. The people's radio and Einheitsempfänger E 1 set were examples of how the regime fostered modern consumerism, even if the fulfilment of the consumerist promise often fell by the wayside. In parallel with the installation of collective viewing rooms, the domestication of Nazi television was thus an important political project during the late 1930s, and although not realized, remained so by targeting people's private space.

5.3   Television Today, for a World of Tomorrow: New York, 1939

The European successes in domesticating television were intensely discussed in the United States, where the industry advanced mostly behind closed laboratory doors. The apparent progress made overseas jarred awkwardly with a sense of delayed development and provoked admiration as well as envy. Descriptive accounts such as 'Britons see new Televisors'[102] presented factual information; longer reports, such as a *Life* magazine piece on the 'commercial debut of television', described problems as well as successes.[103] One journalist from the *New York Sun* was categorical about the deceitfulness of hasty announcements and national celebrations. In his view, reports about European achievements were invariably embellished, an argument he sustained by quoting the low numbers of television sets sold in England.[104]

Stressing the importance of receiver sales, his verdict mirrored the logic developed by American corporations, for whom receiver retailing – and thus the size of the potential audience for advertisers sponsoring the programmes – was a crucial factor in planning the launch of regular programming. Within the commercially organized broadcasting system, the financing of a television service relied on the collaboration of the advertising and broadcasting industries. Simultaneously, as the RCA director David Sarnoff recognized, flourishing sales of receiver sets and audience growth depended on an infrastructure 'able to furnish a regular service at least to the population residing within the principal market areas of our country'.[105] Invoking national territory and, implicitly, a national duty the RCA had to

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102 'Britons See New Televisors'.
103 'Television: It Makes Its Commercial Debut this Spring with World's Fair'.
104 Schrage, 'Television in Foreign Lands', 9.
105 Sarnoff, 'Progress Here and Abroad', 33.

fulfil, Sarnoff legitimized the corporations' slow approach compared to the government-sponsored services in Europe, and presented the company's strategy as the only solution at hand.[106]

Considering the international race to launch television, the New York World's Fair, which opened on 30 April 1939, offered the ideal opportunity for the radio industry to move forwards with its television plans. Attended by 45 million visitors in its two seasons (equivalent to one-quarter of the country's population),[107] the event could compensate, at least symbolically, for the absence of a national audience. The theme of the first exhibition, 'Building the World of Tomorrow', and its embodiment in the many grandiose and spectacular pavilions erected by America's most power-ful corporations, indeed offered the perfect setting in which to launch the newest of 'modern wonders'. Meant to foster economic stimulus for businesses and moral support for fairgoers in times of hardship during the Long Depression, the Fair provided an introduction and overview of modern America as a consumer-driven, science-based community.[108] The commercialized modernist utopia presented at the Fair, enveloped in a narrative of social change and democratic values, was bound together by streamlined designs, technological prowess, sensational showmanship, and a hint of megalomania paid for by corporate capitalism. Social issues such as poverty, racial segregation, gender inequality, social exclusion, or environmental damage were eschewed in favour of presenting exhibits that stressed rationalized urban planning, mass production and consumption, and worldwide communication.

At the forefront of television display was the RCA, which exerted great efforts to turn the Fair into 'a springboard for television'.[109] In the years leading up to the World's Fair, Sarnoff had repeatedly predicted the coming of television, and in 1938 alone, his firm had organized 134 television demonstra-tions 'for audiences largely made up of important representatives of industry, advertising, engineering, and the press'.[110] After over a decade of research

106 For an analysis of the history of America's national television infrastructure, see Sterne, 'Television under Construction'.

107 Nye, *American Technological Sublime*, 203. As the Chicago Century of Progress exhibition, the New York World's Fair would open for a second season, this time with the theme 'For Peace and Freedom'.

108 Rydell, 'Introduction. Making American (More) Modern', 1. The New York World's Fair is among the most studied of all international exhibitions. For an extensive overview of the secondary literature, see Geppert, Coffey, and Lau, *International Exhibitions*.

109 Dunlap, 'Radio Makes Its Plans'.

110 Sarnoff, 'The Promise of Intercity Networks'.
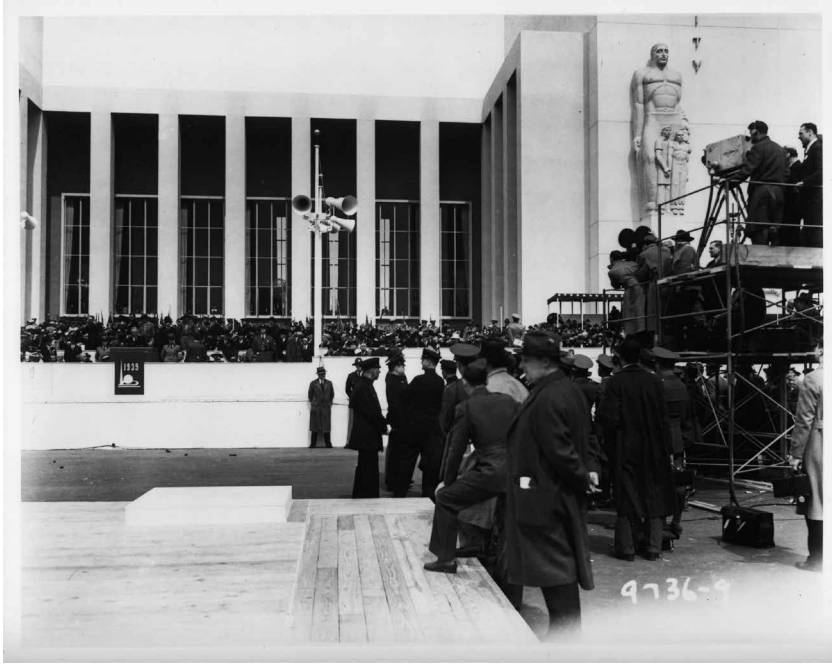
Figure 5.17. Opening speech by President Roosevelt with RCA television crew, New York World's Fair 1939. Source: David Sarnoff Research Center records (Accession 2464.09), AVD15, Folder 9, New York World's Fair 1939–1940, Hagley Museum and Library.

and ten to twenty million dollars spent,[111] the RCA staged the much-noticed 'birth of an industry'[112] with the help of its broadcasting company NBC. In a perfectly orchestrated *mise en scène* including pre-publicity stunts, a visually conspicuous pavilion, and the placing of television sets in the city's major department stores, the RCA officially launched the first public television service with live coverage of President Roosevelt's opening speech (Figure 5.17).[113] Ron Becker and Andreas Fickers have both analysed the RCA's presentation at the New York World's Fair and localized the medium within the Fair's overall narrative, arguing that television was an important

111   Edgerton, *Columbia History of American Television*, 9–10. The exact numbers are difficult to evaluate. According to Edgerton, Sarnoff claimed the RCA spent twenty million dollars. More impartial observers estimated it at ten million.

112   This was the title of Sarnoff's dedication speech ten days before the official opening of the Fair. The same title would also be used for a promotional film about television made with material collected at the exposition. Sarnoff, 'The Birth of An Industry'.

113   Regular programmes were scheduled three afternoons and two evenings a week. Udelson, *Great Television Race*, 129–130. Burns asserts that the schedule consisted of twenty-five hours of television per week. Burns, *Television*, 560.

exhibit insofar as it materialized 'the exciting idea that the future was already here'.[114] In line with the general design of the Fair, visitors in the RCA building were not simply addressed as fairgoers but as consumers, who 'could leave the Fair without leaving the "World of Tomorrow" – they just had to buy a television set from Bloomingdale's or Macy's in downtown New York'.[115] The RCA's presence at the Fair was a strategically well-planned choice which allowed it not only to effectually publicize its television research to a mass public, but also to position itself as the leader of the field – a symbolic gesture that was all the more significant in light of recent pushes for anti-monopoly legislation and the entrance of other enterprises in the market. During the 1930s, the RCA came indeed under mounting pressure as monopolistic tactics in the broadcast industry were targeted, eventually resulting in an investigation by the Federal Communications Commission (FCC) between 1938 and 1941. As Becker shows, Sarnoff used the RCA's investments in television as an argument for the company's defence. According to Sarnoff, only large-scale corporations like the RCA could mobilize the necessary finances and human resources for such a long-term project as television.[116]

Drawing on this previous research by television historians, this section aims to introduce new archival material related to the television presentations of the RCA and other companies, and analyses the role television played in 'building the world of tomorrow' as well as the role the World's Fair played in domesticating television in the United States. The closer examination of the events and exhibits of the Fair demonstrates that the 'technocratic legitimation'[117] adopted by the RCA to justify its stance on television (the insistence on engineering and scientific research together with the emphasis on the level of financial investment already made in the new technology), was complemented by a more spectacular promotion of its vision of television as a domestic media.

A Pavilion Dedicated to Television

The RCA's presence in New York was distinctively different from its exhibition at the Chicago World's Fair six years earlier. At the Chicago event, the RCA was represented at stands inside the Radio and Communication section's building where it competed with other radio displays. In 1933–1934, the exhibit, aiming to cover the whole range of activities by the firm and its subsidiaries, included:

114 Becker, '"Hear-and-See Radio"', 372.
115 Fickers, 'Presenting the "Window on the World"', 302.
116 Becker, '"Hear-and-See Radio"', 366–367.
117 Slotten, *Radio and Television Regulation*, 85.

An organ which adorns its musical strains with changing colors of a
rainbow, a factory which manufacturers complicated radio tubes, a
practical demonstration of transatlantic radio communication and
a museum which traces the history of wireless with relics of experi-
mental days, feature the exhibit of the Radio Corporation of America
and affiliated companies [...]. Sound portrayed by cathode-ray tubes
shows how the tubes in a radio set work. A radio direction finder
demonstrates how ships take bearings at sea from the call letters of
two distant stations. Home sound movies are shown and explained,
and a studio records the voices of visitors on discs to be sent to the
folks back home[118]

Although, according to certain (interested) claims, the 'best exhibit at the
Fair',[119] the description of the RCA show gives the impression of a potpourri
of artefacts displayed on a relatively small surface. Instead of promoting
one major achievement, the RCA exhibitors sought to inform the visitors
of the quantity of research the company had been carrying out.

The 1939 display, organized in a comparatively small but visually attractive
detached building, presented a new exhibition style that emphasized the
modernist taste visible everywhere at the Fair. Located within the Com-
munication section, next to the AT&T building, the official communication
centres, and Crosley's and IBM's pavilions, the RCA pavilion was located
'in a strategic position' since it was 'reached by untired visitors fresh off
the Long Island trains or the subway ramp'.[120] Its distinctive shape, which
simulated a radio tube, and the 250-feet-high antenna next to it were
well discernible on any map and offered an additional landmark on the
fairgrounds (Figure 5.18).[121]

118 'RCA EXHIBIT-Electrical Building-Century of Progress', (press release). George H. Clark
Radioana Collection, Archives Center, National Museum of American History, Smithsonian
Institution, series 112, box 312, 1.
119 George Clark to Glenn Tucker (Public Relations Department), 11 June 1933, George H. Clark
Radioana Collection, Archives Center, National Museum of American History, Smithsonian
Institution, series 112, box 312.
120 George Clark, 'RCA at Fair', George H. Clark Radioana Collection, Archives Center, National
Museum of American History, Smithsonian Institution, series 112, box 311. The document is
undated but was probably written shortly after the first exhibition month in May 1939, since
Clark refers repeatedly to the 'first month of operation'.
121 The Fair sought to prevent the RCA from building the antenna, since it competed with the
610-feet-high Trylon, which constituted (together with the Perisphere) the symbol of the event.
New York World's Fair 1939–1940 records, Manuscripts and Archives Division, The New York
Public Library, box 398, folder 3.

Figure 5.18. Radio-tube shaped RCA pavilion at the New York World's Fair 1939–1940. Source: Manuscripts and Archives Division, The New York Public Library.

The main exhibit in the RCA pavilion was television. The RCA planned to hold a television exhibit as early as March 1937, when an RCA spokesperson assured the Fair organizers that 'RCA would participate in a way that would in years to come definitely credit the Fair for "Building the World of Tomorrow" in the establishment of television as a means of Communication'.[122] In June of the same year, the RCA demonstrated its willingness to use television to advance the Fair's agenda of presenting the future when Sarnoff's signing of RCA's contracts with the Fair was transmitted by television to a group of journalists in Radio City.[123] In the following weeks and months, newspapers and magazines regularly anticipated the television exhibition, reminding

122   Memo Douglas G. Crone to William G. Morrisey, 4 March 1937. New York World's Fair 1939–1940 records, Manuscripts and Archives Division, The New York Public Library, box 1117, folder 1.
123   'R.C.A. to Exhibit in Fair Building. Television will be Feature'. In December 1938 the RCA offered to install one of its experimental receivers in the office of Grover Whalen, president of the World's Fair, and to change it for a commercial model as soon as this latter would become available. Letter from Sidney M. Robards, RCA, to Grover Whalen, 29 December 1938. New York World's Fair 1939–1940 records, Manuscripts and Archives Division, The New York Public Library, box 20, folder 1.

Figure 5.19. Ceremony for the dedication of the RCA building. A group inspects the so-called 'laboratory model', 1939. Source: Manuscripts and Archives Division, The New York Public Library.

the public of the coming attraction and positioning the RCA as *the* television maker not only at the Fair but in the United States in general.

The importance of television to the exhibition was immediately discernible to every visitor. At the back of the building, fairgoers entered the 'Hall of Television' with thirteen receivers.[124] In the main hall a receiver with a transparent cabinet and a so-called laboratory model were exhibited (Figures 5.19 and 5.20). One televisor was placed in the 'Living Room of Tomorrow', situated in one of the booths off the main hall and one receiver was displayed in the (private) 'reception lounge' on the second floor.[125] Along with the sets

124 I base my account on a George H. Clark's document, 'RCA at the Fair', George H. Clark Radioana Collection, Archives Center, National Museum of American History, Smithsonian Institution, series 112, box 311, written after the opening of the show. The number of thirteen receivers differs from Ron Becker's account who writes that 'nine RCA-built receivers [were] on display in the lobby. See Becker, '"Hear and See Radio"', 361. The number of thirteen receivers is also mentioned in a document written probably by the World's Fair press department. New York World's Fair 1939–1940 records, Manuscripts and Archives Division, The New York Public Library, box 401, folder 12.

125 'RCA at the Fair', George H. Clark Radioana Collection, Archives Center, National Museum of American History, Smithsonian Institution, series 112, box 311, 1.

Figure 5.20. RCA's so-called 'Phantom Receiver', a TRK–12 model television with a plastic cabinet. Source: RCA News and Information Department photographs (Accession 2464.68), Box AVD3, Folder 10, Hagley Library and Archives.

conspicuously displayed throughout the building, the 'scientist show[ed] his ware', as George H. Clark, member of the RCA's exhibition team, put it:

> A large railed-off enclosure apart from the front hall holds a very complete and typical display of research problem and technical apparatus. Experimental television tubes [...] stack up side by side with the final commercial forms [...] On the opposite side of the passageway is a miniature of the Empire State Building's television antenna, a television camera and a transmitter unit.[126]

In addition to the display of television's components inside the building, NBC television trucks were stationed outside the pavilion, moving across the fairgrounds on the hunt for new stories.[127]

126 'RCA at the Fair', George H. Clark Radioana Collection, Archives Center, National Museum of American History, Smithsonian Institution, series 112, box 311, 6.
127 Becker, '"Hear-and-See Radio"', 369. The programmes shown in the RCA pavilion came from three different sources. Live transmissions shot in the NBC Radio City studios were fed to the receivers when available; further 'local "Vox Pop" performances on Saturday and Sunday' were used when the mobile unit was stationed outside the pavilion and 'picked up sight and

Except for the considerable means employed for the exhibition and its explicit modernist take on scenography, the RCA show resembled other television demonstrations discussed so far in this study. The scientific displays embedded television within the spheres of science and rational progress, highlighting the corporation's affinity with research and technology, domains defined as 'neutral', 'non-profitable', unquestionably modern, and serving a greater good. The transparent receiver in particular was exhibited for its spectacular make-up: the view of the screen was replaced by a closer view into the receiver's hidden parts. In the manner of reflexive dispositifs, the set invited the world to have a view on the machine instead of opening a view onto the world. The Television Hall, with its multiple sets as well as the 'Living Room of Tomorrow', finally insisted on television's 'commerciability' as a domestic media. Although RCA pursued the development of theatre television and continued to investigate the collective reception of television programs (see Figure 1.16), the firm's exhibit at the World's Fair firmly promoted television as a mass media for the home.

Designing Modern Mass Media

Obviously inspired by and alluding to the World's Fair overall theme, the 'Living Room of Tomorrow', a veritable multimedia centre, contained television, radio, a phonograph, a facsimile receiver, and a home movie projector (Figures 5.21 and 5.22).[128] Combining 'old' (home cinema, radio, phonograph) and 'new' (television, facsimile) media, this model room captured the essential ambivalence of the New York Fair as a bridge between a past left behind and a future already here. With its surplus of media technology, the room appeared futuristic, but not out of reach: with the right amount of money in one's purse and thanks to the help of the RCA, everybody could acquire a multimedia centre for the home. As elsewhere at the Fair, 'Building the World of Tomorrow' translated as 'Buying the World of Tomorrow', the corporation attributing itself with the crucial role of developing, manufacturing, and – importantly – designing this purchasable future. Planned by John Vassos, industrial designer at the RCA, the living room transposed the radio's and other media's modern style on the furniture as

sound from volunteer visitors of the crowd thronging around, who performed quite willingly for the viewers in the darkened hall beyond the wall'; finally, when neither studio nor outdoor transmissions were at hand, the telecine transmitter in the pavilion was used. 'RCA at the Fair', George H. Clark Radioana Collection, Archives Center, National Museum of American History, Smithsonian Institution, series 112, box 311, 2.
128 'Radio Living Room of Tomorrow', 71.

Figure 5.21. View into the 'Living Room of Tomorrow' in the RCA pavilion, 1939-1940.. Source: John Vassos Papers, 1915–1989. Archives of American Art, Smithsonian Institution.
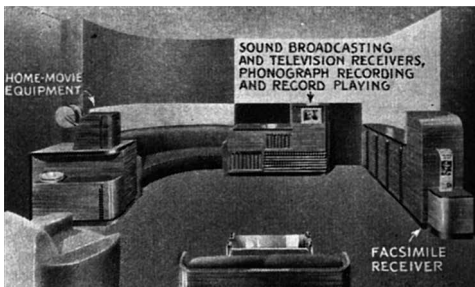
Figure 5.22. Schematic outline of the multimedia ensemble in the 'Living Room of Tomorrow' shown at the RCA pavilion, 1939-1940. Source: 'Radio Living Room of Tomorrow', *Broadcasting-Broadcast Advertising* 16, no. 1 (May 1939): 71.

a whole, creating a streamlined and sleek space in which no ornaments or patterns would disturb the attentive media consumption.[129] The perfect domestic media space of the particular future-present staged at the Fair wore the RCA's signature down to the smallest detail.

Hired in 1933, Vassos's arrival at the company marked the professionalization of visual communication and public relations in all fields of the RCA's activities, from the production of radio sets and control consoles to the designing of studio interiors and advertising campaigns.[130] Around the time of Vassos's engagement, the RCA stopped its various travelling exhibitions and participations at smaller and larger fairs, for which George H. Clark, a member of the exhibition department and from 1922 to 1934 in charge of the company's 'Show Division', had been responsible.[131]

Appointed as lead consultant designer in charge of styling every aspect of the company, Vassos was presented by RCA as the 'genius' able to make 'America Easier to Look At' (Figure 5.23). Printed in an RCA publication, the photomontage with Vassos's picture in the middle offered a visual overview of the new employee's manifold activities: combining creative work and commercial mandates, Vassos was positioned as industrial designer *and* multi-talented artist able to give the 'progressive radio organization' its 'up-to-date' looks.[132] As writes Danielle Shapiro, author of a monograph about Vassos's career, the collaboration with the designer led the RCA to incorporate 'modern design into many aspects of its corporate identity'.[133]

Vassos's influence at the RCA coincided with the rise of designers as experts in the corporate world.[134] As historians of design have discussed, from the late 1920s on industrial designers sought to position themselves as specialists of consumer desires and modern taste. Profiting from intensive competition among manufacturers and the abundance of new products to be sold, they positioned themselves as the makers of all things 'modern'. Industrial designers, along with advertising agencies and the corporations' public

129 For the 1940 edition of the World's Fair, John Vassos participated in the America at Home Pavilion exhibition, where he presented his 'Musicorner', a living room for domestic media consumption, which closely resembles the 1939 display in the RCA pavilion. On the Musicorner, see Shapiro, *John Vassos,* 124–136.

130 Vassos was enormously influential on the RCA's corporate identity until well after the interwar period. For a thorough discussion of his role at the RCA, see Shapiro, *John Vassos*.

131 For a biography on Clark, see the inventory of the George Clark Radioana Collection: https://sova.si.edu/record/NMAH.AC.0055#Biographical%20/%20Historical (accessed 28 February 2021).

132 'New Art in Radio: A Celebrated Designer Joins Staff of RCA Victor Company'.

133 Shapiro, *John Vassos*, 138.

134 Marchand, 'The Designers Go to the Fair I', 5. See also Marchand, 'The Designers Go to the Fair II'.

Figure 5.23. Introducing John Vassos and his role in making the RCA look modern. Source: 'Making America Easier to Look At', *Broadcast News*, no. 10 (February 1934): 18.

relations offices, aimed to facilitate communication between producers and consumers and help stimulate business growth. By the time the World's Fair in New York arrived, Vassos and his colleagues had established themselves as indispensable actors in the modern business world and oversaw many of the most spectacular exhibits at the event.[135]

In the RCA pavilion, the influence of Vassos was visible in the interior design *and* in almost each and every item displayed. The large television receiver TRK–12 shown in the Television Hall and, as a transparent model, in the main hall, demonstrated how the designer sought to negotiate between technical requirements and aesthetic ideals, commercial demands and social needs. Tempering an all too functionalist design with 'balanced proportions', the TRK–12 is, according to Shapiro, today considered as a 'classic in streamlined design'[136] that aimed to break the bulkiness of the machine (due to the large cathode-ray tube) and facilitate the device's introduction into domestic spaces (Figure 5.24).

The exterior of RCA's pavilion was designed by renowned architects Skidmore & Owings who had made their name as chief architects of the Chicago World's Fair, and who, for the New York event, enveloped Vassos's stylish products in a similarly stylish wrap. '[D]esigned to appear from the air like a huge radio tube',[137] the pavilion announced in its form the content it would reveal to its visitors. Usually hidden within the inaccessible construction of radio and television sets and covered by tasteful cabinets, for the exhibition the radio tube was thus made the most visible component. Embracing the whole exhibition and its visitors, it simultaneously displayed and symbolized RCA's production and research activities. It also emphasized the corporate narrative, asserting that RCA's empire was built on scientific discovery transformed into a mass-produced object, rather than on patent battles, mergers, and monopolistic strategies. Moreover, the tube, as a commonly invisible item brought into daylight, suggested that the RCA willingly disclosed its most secretive activities to the fairgoers – a narrative that was sustained by the large glass façade at the front of the building that enabled a view from the outside into the pavilion, and by the transparent television set displayed in its main hall. Literally and figuratively, the pavilion's architecture and its exhibits told visitors (and, incidentally, the FCC) that RCA had nothing to hide.

135 The list of the manufacturer at the World's Fair indeed reads like a *Who's Who* of American industrial design; see Meikle, *Twentieth Century Limited*, Chapter 9: 'A Microcosm of the Machine-Age World', 187–210.

136 Shapiro, *John Vassos*, 169.

137 'Fair Radio Exhibit to Be in Huge "Tube"'.

BROADCAST NEWS • JULY, 1939

TELEVISION RECEIVERS ARE HERE

(Left) The RCA Victor Television Attachment is designed to bring the wonders of modern Television to radio owners at a minimum cost. Sound is heard over your present radio; pictures are viewed on the RCA Victor Television Attachment.

(Below) The RCA Victor Television Console Model TRK-5 provides complete picture and sound reception of Television programs, plus all the entertainment of an 8-tube, 3 band RCA Victor Radio.

(Below) The RCA Victor Television Console Model TRK-12 is designed for those who demand the best in television.
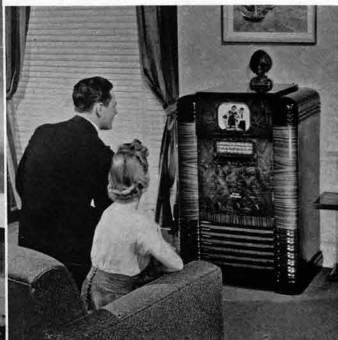
(Above) For those who want an excellent Television receiver plus the finest in radio, the RCA Victor Model TRK-9 will be found to be the logical choice. It is housed in an attractive modern-type console-type cabinet.

One has but to compare the first RCA Victor Television Receivers with the first radio receivers to appreciate what RCA's 7-year, $2,000,000 field test means to the consumer. No one can now forsee the future of television . . . but, with such a beginning, it seems safe to predict television will go hand in hand with radio as one of the nation's greatest public servants. Its services will be common tomorrow.

Figure 5.24. Modernist style for television cabinets designed by John Vassos. Source: 'Television Receivers are Here', *Broadcast News* (July 1939).

The suggested transparency and 'optical veracity',[138] however, was double-edged. The transparent receiver, revealing its interior mechanisms, also functioned as a reflexive dispositif; the large glass front, echoing the history of exhibition architecture and shop windows, also served as a display case transforming the world into a spectacle. For people passing by the building, the window framed the view of the television sets and the crowds surrounding them. For visitors inside the hall, the windows staged a view onto the fair and the fairgoers similar to the one created by RCA's television trucks hovering over the exhibition grounds.[139] In the end, the glass-framed RCA pavilion was not very different from the window-less NBC demonstration studio (see Section 3.1): very much like this opaque display, the exhibition at the World's Fair relentlessly pointed towards the corporation, offering not a 'window onto the world', but a spectacle advertising its own products.

Compensating for Television's Small Screen

Visitors to the New York World's Fair were welcomed by another form of window that opened yet another view on RCA's activities. Four large mural paintings titled 'Broadcasting', 'Manufacturing', 'Research', and 'Communication' occupied three-quarters of the wall and, visually dominating the exhibition hall, guided fairgoers through the exhibition's different themes (Figures 5.25 and 5.26). Each theme was represented by a melange of abstract patterns and figurative drawings. Corresponding objects were placed nearby or below the murals. The 'Research' panel, below which radio tubes were exhibited, for instance, showed

> three major developments in the field of radio and television. In the center is the measuring of the speed of light, etc. The design around the scientist is taken from measuring mechanisms. To the left, below, is another scientist with his inventions. To the right, below, is also another scientist who is working on the developments of the iconoscope and kinescope. The whole design is composed of a cross section of a television camera and a kinescope tube. The latter coincides with the wire plug held in the hand of the large figure in panel three.[140]

138 Friedberg, *Virtual Window*, 109.

139 Warren Susman highlights the centrality of the crowds in the architectural conception of the fair buildings. Susman, 'The People's Fair', 218–219.

140 'Description of Murals, RCA World's Fair Building and Data on Artist', 24 April 1939, George H. Clark Radioana Collection, Archives Center, National Museum of American History, Smithsonian Institution, series 112, box 311, 2.

Figure 5.25. Partial view of Louis Ferstadt's mural in the RCA pavilion: the 'broadcasting' panel. Source: John Vassos Papers, 1915–1989. Archives of American Art, Smithsonian Institution.

Louis Ferstadt, the artist who created these panels, visibly sought to bring together the RCA's multifaceted fields of investments in a coherent ensemble in which producers as well as consumers find their place. Contrary to the Chicago World's Fair, where the RCA's different divisions presented their

Figure 5.26. Partial view of Louis Ferstadt's mural in the RCA pavilion: the 'manufacturing' panel. Source: John Vassos Papers, 1915–1989. Archives of American Art, Smithsonian Institution.

various products and production facilities, the multiplicity and heterogeneity of the company's business – including a broadcasting company, but also research laboratories and a manufacturing sector – was now harmoniously unified in an aesthetically appealing manner. Instead of displaying the objects

per se, the visual scenography in the pavilion's halls, while not hiding the complex reality of corporate America, made it intelligible for all fairgoers.[141]

As importantly as showing visitors the RCA's numerous business sectors was the murals' function as an advertisement for the entire exhibit. Thanks to its 'colorful pattern of forms', the murals, seen through the large glass front, were 'strong and large enough to be understood clearly from a distance'.[142] Even without entering the pavilion, visitors could thus see the RCA's painted business card. Finally, the enormous pictorial decoration transposed television's minimal visuality on a bigger surface. Enveloping the visitor, the murals compensated for television's small screens and thus substituted the 'new' medium with an 'older' technique. What is more, the mural translated television's exclusiveness (due to its price and slow dissemination) into an image of accessibility and omnipresence. In the form of public muralism such as it was promoted by Roosevelt's New Deal, the painted wall had become the most 'democratic' art;[143] adopted by the private corporation, it signalled that its (commercialized) images were available to everyone.

While certainly the most impressive, the RCA's exhibit was not the only one presenting television. The medium was also featured in the focal exhibit of the 'Communications' section, which was themed as 'man's conquest of time and space by improved methods of communications'.[144] In the 'Drug Store of the Future' exhibit, a 'television-telephone booth', probably destined for consultations with physicists on-site, was located in the rear of a 'streamlined, highly departmentalized' shop.[145] In addition, for the 1940 edition of General Motors' extremely successful pavilion 'Futurama', the company installed a similar two-way television device. Westinghouse and General Electric had television studios in their pavilions allowing visitors to take part in transmissions for both editions of the fair (Figures 5.27 and 5.28; on Westinghouse, see also Section 3.2). Furthermore, Westinghouse and RCA not only exhibited television at the New York World's Fair, but also at

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141 An 'Outline Description of Proposed Mural' patronizingly states that 'The mural has certainly the qualities for "Amazing and Amusing" the more simple pictorial minds which will be the great majority at the Fair, yet upon closer inspection it is a complete story of Radio efforts that can satisfy the intellectuals.' George H. Clark Radioana Collection, Archives Center, National Museum of American History, Smithsonian Institution, series 112, box 311.

142 'Outline Description of Proposed Mural', George H. Clark Radioana Collection, Archives Center, National Museum of American History, Smithsonian Institution, series 112, box 311, 3.

143 Patterson, 'Modernism and Murals at the 1939 New York World's Fair'.

144 Reverse side of a photograph of the building. New York World's Fair 1939–1940 records, Manuscripts and Archives Division, The New York Public Library, box 2006, folder 1.

145 'Pharmacy of the Future Shown at the Fair'.

Figure 5.27. Television Studio in the General Electric pavilion, New York World's Fair, 1939–1940. Source: GE Photograph Collection, by courtesy of miSci, Museum of Innovation and Science.

570918   TELEVISION RECEIVING ROOM IN G-E EXHIBIT BUILDING AT NEW YORK WORLD'S
           FAIR 1939.

           FILING NO.211, 6930   E300.9 654   5-25-39

Figure 5.28. The crowd in the General Electric pavilion, New York World's Fair, 1939. Source: GE Photograph Collection, by courtesy of miSci, Museum of Innovation and Science.

the San Francisco Golden Gate International Exposition held simultaneously on the West Coast. Built on an artificial island, this Fair was dedicated to the relationship between the United States and Asia-Pacific countries. The RCA exhibition was – although smaller in scope and located in the general Communication building – visually not different from the New York presentation. Again designed by Vassos, the San Francisco exhibition emphasized streamlined modern design and a harmonious overall look. Westinghouse transmitted NBC's programmes on a few receivers located in its booth, reducing thus the scope of the show compared to the television studio built for New York. Despite their limited size, these displays highlighted the efforts undertaken to present television simultaneously as a domestic *and* a national project. While the television signals travelled only within the New York area and the building of a national infrastructure for commercial broadcasting TV would take more than a decade before completion, the television sets already crossed the country, symbolically linking East and West.

Works Cited

Ades, Dawn, David Britt, and Tim Benton, editors. *Art and Power: Europe under the Dictators 1930–45: The XXIII Council of Europe Exhibition*. London: South Bank Centre, 1995.

Aldridge, Mark. *The Birth of British Television* (Houndmills, Basingstoke, Hampshire, UK; New York: Palgrave Macmillan, 2012).

Anon. 'Television Sets for Sale'. *The Times,* 21 February 1928.

Anon. 'Baird Puts Television on Sale; Opening Branch in Selfridge's'. *The New York Times,* 21 February 1928.

Anon. 'New Art in Radio. A Celebrated Designer Joins Staff of RCA Victor Company'. *Broadcast News,* no. 10 (February 1934): 21.

Anon. 'Der Fernsehbetrieb in Berlin eröffnet'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehwesens und des Tonfilms* 6, no. 2 (April 1935): 13–16.

Anon. 'Fernsehen bei den Olympischen Spielen 1936'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehwesens und des Tonfilms* 7, no. 8 (August 1936): 57–59.

Anon. 'Television Receivers'. *The Times,* 9 February 1937.

Anon. 'Russland, Italien, Deutschland: Die drei Kolossalen'. *Das Werk* 24 (1937): 341–344.

Anon. *Die Fernsehschau der deutschen Reichspost auf der internationalen Ausstellung Paris 1937 / La section de la télévision à l'exposition internationale de Paris 1937 / Television Show by the Deutsche Reichspost at the International Exhibition Paris 1937* (Berlin: Deutsche Reichspost) 1937.

Anon. 'R.C.A. to Exhibit in Fair Building. Television will be Feature'. *The New York Times,* 18 June 1937.

Anon. 'Prelude to Radiolympia'. *Radio Times. Television Supplement* 56, no. 724 (13 August 1937): 16.

Anon. 'Free Television Theater Opened in London Store'. *Chicago Daily Tribune,* 26 August 1937.

Anon. 'Radio Notes & News – Radiolympia'. *Popular Wireless and Television Times* 31, no. 794 (28 August 1937): 579.

Anon. 'Fair Radio Exhibit to Be in Huge "Tube"'. *The New York Times,* 7 February 1938.

Anon. 'Wait for Radiolympia!'. *Radio Times* 60, no. 773 (22 July 1938): 16.

Anon. 'Alexandra Palace goes to Radiolympia'. *Radio Times* 60, no. 777 (19 August 1938): 7.

Anon. 'Progress of Television. Booklet Published by the BBC'. *The Times,* 23 August 1938.

Anon. 'News of the Week: Radiolympia. Television the Focal Point of the Show'. *The Wireless World* 43 no. 8 (25 August 1938): 187.

Anon. 'Impressions from Olympia'. *The Wireless World* 43, no. 10 (8 September 1938): 228.

Anon. 'Britons See New Televisors'. *The New York Sun,* 17 September 1938.

Anon. 'Flats and Chambers'. *The Times,* 27 September 1938.

Anon. 'Pharmacy of the Future Shown at the Fair'. *The New York Times,* 5 February 1939.

Anon. 'Television. It Makes Its Commercial Debut this Spring with World's Fair'. *Life* 6, no. 8, (20 February 1939): 46–50.

Anon. 'Radio Living Room of Tomorrow', *Broadcasting—Broadcast Advertising* 16, no. 9 (May 1939): 71.

Anon. 'A Television Conference'. *The Gramophone*, no. 194 (July 1939): 80–81.

Anon. 'BEST RADIOLYMPIA OPENS TODAY. £5000 Theatre built for 10 days use'. *Daily Herald,* 23 August 1939.

Anon. 'A Discursive Note on Modern Television'. *The Gramophone*, no. 195 (August 1939): 123–124.

Anthony, Scott. *Public Relations and the Making of Modern Britain: Stephen Tallents and the Birth of a Progressive Media Profession* (Manchester: Manchester University Press, 2011).

Anthony, Scott. 'The GPO Film Unit and "Britishness" in the 1930s'. In *The Projection of Britain: A History of the GPO Film Unit*, edited by S. Anthony and J. G. Mansell (Houndmills, Basingstoke, Hampshire UK; New York: Palgrave Macmillan, 2011), 10–17.

Arceneaux, Noah. 'Wanamaker's Department Store and the Origins of Electronic Media, 1910–1922'. *Technology and Culture* 51, no. 4 (2010): 809–828.

Becker, Frank. 'Schneller, Lauter, Schöner? Die Olympischen Spiele von 1936 in Berlin Als Medienspektakel'. In *Medienereignisse der Moderne*, edited by Friedrich Lenger and Ansgar Nünning (Darmstadt: Wissenschaftliche Buchgesellschaft, 2008), 95–113.

Becker, Ron. '"Hear-and-See Radio" in the World of Tomorrow: RCA and the Presentation of Television at the World's Fair, 1939–1940'. *Historical Journal of Film, Radio & Television* 21, no. 4 (2001): 361–378.

Berghoff, Hartmut. 'Enticement and Deprivation: The Regulation of Consumption in Pre-War Nazi Germany'. In *The Politics of Consumption: Material Culture and Citizenship in Europe and America*, edited by Martin Daunton and Matthew Hilton (New York: Berg, 2001), 165–84.

Boddy, William. 'The Amateur, the Housewife, and the Salesroom Floor. Promoting Postwar US Television'. *International Journal of Cultural Studies* 1, no. 1 (1998): 129–142.

Briggs, Asa. *The History of Broadcasting in the United Kingdom. Volume II: The Golden Age of Wireless.* (Oxford: Oxford University Press, 1995).

Burns, Russell W. *British Television: The Formative Years* (London: The Institution of Engineering and Technology, 1986).

Burns, Russell W. *Television: An International History of the Formative Years* (London: Institution of Electrical Engineers, 1998).

Callisthenes, 'The Road of Progress'. *The Times,* 17 February 1936.

Callisthenes. 'The Progress of Television'. *The Manchester Guardian,* 21 September 1937.

Camporesi, Valeria. *Mass Culture and National Traditions: The B.B.C. and American Broadcasting, 1922–1954* (Fucecchio: European Press Academic Pub., 2001).

Dayan, Daniel, and Elihu Katz. *Media Events: The Live Broadcasting of History* (Cambridge, Mass.: Harvard University Press, 1992).

Diller, Ansgar. 'Gross-Veranstaltungen der Rundfunkübertragung: Olympische Spiele in Berlin 1936'. In *Medienwissenschaft. Ein Handbuch zur Entwicklung der Medien und Kommunikationsformen,* edited by Joachim-Felix Leonhard et al. (Berlin: de Gruyter, 2001)*,* 1412–1414.

Dunlap, Orrin E. 'Radio Makes Its Plans to Go to the World's Fair'. *The New York Times,* 22 May 1938.

Eckhardt, Frank. 'Olympia im Zeichen der Propaganda – Wie das NS-Regime 1936 der ersten Medienspiele inszenierte'. In *Medien im Nationalsozialismus*, edited by Bernd Heidenreich and Sönke Neitzel (Paderborn: Schöningh, 2010), 235–251.

Edgerton, Gary Richard. *The Columbia History of American Television* (New York: Columbia University Press, 2007).

Elsner, Monika, Thomas Müller, and Peter M. Spangenberg. 'The Early History of German Television: The Slow Development of a Fast Medium'. *Historical Journal of Film, Radio and Television* 10, no. 2 (1990): 193–219.

Fickers, Andreas. 'Presenting the "Window on the World" to the World: Competing Narratives of the Presentation of Television at the World's Fairs in Paris (1937) and New York (1939)'. *Historical Journal of Film, Radio & Television* 28, no. 3 (2008): 291–310.

Fiss, Karen. *Grand Illusion: The Third Reich, the Paris Exposition, and the Cultural Seduction of France* (Chicago: University of Chicago Press, 2009).

Flanze G., and A. Gehrts. 'Die Fernsehvorführungen der Deutschen Reichspost auf der Internationalen Ausstellung Paris 1937'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehens und Tonfilms* no. 6 (June 1938): 43–46.

Friedberg, Anne. *The Virtual Window: From Alberti to Microsoft* (Cambridge, Mass.; London: MIT Press, 2009).

Gaillard, Isabelle. 'De l'étrange lucarne à la télévision'. *Vingtième siècle. Revue d'histoire* nᵒ 91, no. 3 (2006): 9–23.

Geppert, Alexander C. T., Jean Coffey, Tammy Lau. *International Exhibitions, Expositions Universelles and World's Fairs, 1851–2005: A Bibliography* (Berlin: Freie Universität Berlin, 2006).

Hartley, John. *Uses of Television*. (London; New York: Routledge, 1999).

Hickethier, Knut, with the collaboration of Peter Hoff. *Geschichte des deutschen Fernsehens* (Stuttgart: Verlag J.B. Metzler, 1998).

Jacobs, Jason. *The Intimate Screen: Early British Television Drama* (Oxford; Oxford University Press, 2000).

Kägeler, G. 'Das Fernsehen der Deutschen Reichspost'. In *Amtlicher Führer zur 16. Grossen Deutschen Rundfunk- und Fernseh-Rundfunk-Ausstellung Berlin 1939* (Berlin 1939), 18.

Kessler, Mario. 'Only Nazi Games? Berlin 1936: The Olympic Games between Sports and Politics'. *Socialism and Democracy* 25, no. 2 (2011): 125–143.

König, Wolfgang. *Volkswagen, Volksempfänger, Volksgemeinschaft: 'Volksprodukte' im Dritten Reich, vom Scheitern einer nationalsozialistischen Konsumgesellschaft* (Paderborn: Schöningh, 2004).

Koepnick, Lutz P. 'Fascist Aesthetics Revisited'. *Modernism/Modernity* 6, no. 1 (1999): 51– 73.

Large, David Clay. *Nazi Games: The Olympics of 1936* (New York: W.W. Norton, 2007).

L'Etang, Jacquie. *Public Relations in Britain: A History of Professional Practice in the 20ᵗʰ Century* (Mahwah, NJ: Lawrence Erlbaum, 2004).

Lugon, Olivier. 'Entre l'affiche et le monument, le photomural dans les années 1930'. In *Exposition et médias: photographie, cinéma, télévision*, edited by Olivier Lugon (Lausanne: L'Âge d'Homme, 2012), 79–123.

McCarthy, Anna. *Ambient Television: Visual Culture and Public Space* (Durham, NC: Duke University Press, 2001).

Mandell, Richard D. *The Nazi Olympics* (New York: The MacMillan Company, 1971).

Marchand, Roland. 'The Designers Go to the Fair II: Norman Bel Geddes, The General Motors "Futurama," and the Visit to the Factory Transformed'. *Design Issues* 8, no. 2 (1992): 23–40.

Marchand, Roland. 'The Designers Go to the Fair: Walter Dorwin Teague and the Professionalization of Corporate Industrial Exhibits, 1933–1940'. *Design Issues* 8, no. 1 (1991): 4–17.

Marshall, P. David, Becky Walker, and Nicholas Russo. 'Mediating the Olympics'. *Convergence: The International Journal of Research into New Media Technologies* 16, no. 3 (2010): 263–278.

Marssolek, Inge. '"Aus dem Volke für das Volk." Die Inszenierung der "Volksgemein-schaft" im und durch das Radio'. In *Radiozeiten: Herrschaft, Alltag, Gesellschaft (1924–1960)*, edited by Inge Marssolek and Adelheid von Saldern (Berlin: Verlag für Berlin- Brandenburg, 1999), 121–135.

Medhurst, Jamie. *The Early Years of Television and the BBC* (Edinburgh: Edinburgh University Press, 2022).

Meikle, Jeffrey L. *Twentieth Century Limited: Industrial Design in America, 1925–1939* (Philadelphia: Temple University Press, 1979).

Morris, Peter J. T. '"An Effective Organ of Public Enlightenment": The Role of Temporary Exhibitions in the Science Museum'. In *Science for the Nation: Perspectives on the History of the Science Museum,* edited by Peter J. T. Morris (Basingstoke: Palgrave Macmillan, 2010), 212–250.

Norman, Bruce. *Here's Looking at You: The Story of British Television, 1908–1939* (London: British Broadcasting Corp.: Royal Television Society, 1984).

Nye, David E. *American Technological Sublime* (Cambridge, Mass.: MIT Press, 1996).

Organisationskomitee für die XI. Olympiade Berlin, *The XIth Olympic Games, Berlin, 1936. Official Report* vol. 1. (Berlin: W. Limpert, 1937).

Patterson, Jody. 'Modernism and Murals at the 1939 New York World's Fair'. *American Art* 24, no. 2 (2010): 50–73.

Richter, Heinz. 'Das Fernsehen auf der Berliner Funkschau 1938'. *RAFA* (*Radio, Bildfunk, Fernsehen für alle*) no. 9 (1938): 147–156.

Rydell, Robert W. 'Introduction. Making American (More) Modern. America's Depression Era World's Fairs'. In *Designing Tomorrow: America's World's Fairs of the 1930s*, edited by Robert W. Rydell and Laura Burd Schiavo (New Haven: Yale University Press, 2010), 1–22.

Sandon, Emma. 'La télévision expérimentale à l'Alexandra Palace: La BBC et sa programmation de variétés'. In *Télévision, le moment expérimental: de l'invention à l'institution (1935–1955),* edited by G. Delavaud and D. Maréchal (Rennes: Éditions Apogée, 2011), 163–178.

Sarnoff, David. 'Progress Here and Abroad' (Statement on Arrival in New York on the S. S. Paris, September 25, 1937). In *Pioneering in Television, Prophecy and*

Fulfillment: Excerpts from Speeches and Statements, David Sarnoff (Dept. of Information, Radio Corp. of America, 1948), 31–33.

Sarnoff, David. 'The Birth of An Industry'. In *Pioneering in Television, Prophecy and Fulfillment: Excerpts from Speeches and Statements,* David Sarnoff (Dept. of Information, Radio Corp. of America, 1948), 40–41.

Sarnoff, David. 'The Promise of Intercity Networks'. In *Pioneering in Television, Prophecy and Fulfillment: Excerpts from Speeches and Statements,* David Sarnoff (Dept. of Information, Radio Corp. of America, 1948), 38.

Schiller, Kay, and Chris Young. *The 1972 Munich Olympics and the Making of Modern Germany* (Berkeley: University of California Press, 2010).

Schrage, William. 'Television in Foreign Lands. Even there, Reports Show that the Ballyhoo is Better than the Images'. *The New York Sun,* 24 February 1939.

Shapiro, Danielle. *John Vassos: Industrial Design for Modern Life* (Minneapolis: University of Minnesota Press, 2016).

Silverstone, Roger, Eric Hirsch, and David Morley. 'Information and Communication Technologies and the Moral Economy of the Household'. In *Consuming Technologies: Media and Information in Domestic Spaces*, edited by R. Silverstone and E. Hirsch (London: Routledge, 1992), 15–31.

Slotten, Hugh Richard. *Radio and Television Regulation: Broadcast Technology in the United States, 1920–1960* (Baltimore: Johns Hopkins University Press, 2000).

Steiner, Kilian J. L. 'Die Sonderschau "Fernsehen" im Deutschen Museum'. In *Das Deutsche Museum im Nationalsozialismus: eine Bestandsaufnahme*, edited by Elisabeth Vaupel and Stefan L. Wolff (Göttingen: Wallstein Verlag, 2010), 581–616.

Sterne, Jonathan. 'Television under Construction: American Television and the Problem of Distribution, 1926–62'. *Media, Culture & Society* 21, no. 4 (1999): 503–530.

Suga, Yasuko. 'State Patronage of Design?: The Elitism/Commercialism Battle in the General Post Office's Graphic Production'. *Journal of Design History* 13, no. 1 (2000): 23–37.

Susman, Warren I. 'The People's Fair: Cultural Contradictions of a Consumer Society'. In *Culture as History: The Transformation of American Society in the Twentieth Century*, Warren I. Susman (New York: Pantheon Books, 1984), 211–230.

Tymkiw, Michael. *Nazi Exhibition Design and Modernism* (Minneapolis: University of Minnesota Press, 2018).

Udelson, Joseph H. *The Great Television Race. A History of the American Television Industry, 1925–1941* (Tuscaloosa: University of Alabama Press, 1982).

Winker, Klaus. *Fernsehen unterm Hakenkreuz: Organisation, Programm, Personal* (Cologne: Böhlau, 1994).

Woods, S. John. 'Looking at Television'. *Radio Times* 56, no. 721 (23 July 1937): 10.

Figure 6.1. Display of women and television in the General Electric pavilion, New York World's Fair, 1939.

Source: Marty Wallace Scrapbook, by courtesy of miSci, Museum of Innovation and Science.

6. Gendering Television On and Off Screen

Abstract

The final chapter addresses a crucial question of television's post-war history, namely the medium's construction as a 'feminine' object and family entertainment. As the chapter shows, interwar fairs prepared the medium's transition from the laboratory into so-called 'female' spaces – the home. This transition included renewed cabinet designs fitting into the modern living room, as well as new representations of women on and off screen. While the gendering of television would become particularly evident in the post-war years, the medium's definition as 'female' entertainment began at the end of the 1930s at fairs and in the press. The chapter closes with an 'intermission'; a short intermediate conclusion, which stresses the role of fairs for the normalization of the domestic dispositif.

Keywords: feminist media history; consumer culture; gender script; women's programme; material media history

From the mid-1930s on, the projection of television as a national means of communication reaching (symbolically) the whole country was intrinsically linked to the shaping of television as a domestic medium. In Europe the governmental oversight of broadcasting infrastructures and programming after the opening of a regular service integrated television legally, institutionally, and economically into the national mediascape; in the USA, the corporations' and in particular RCA's hegemony over the airwaves brought the medium into a privately owned, national network. The national, rather just regional, distribution of televisual content was a major issue for the definitive implementation of an economically viable television system, and continued to be at stake after the war.[1] For the

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1   Sterne, 'Television under Construction'.

immediate sale of receivers in the 1930s, the integration of the medium into domestic space was, however, at least as pressing. The launch of a government-sponsored standardized television set in Germany was certainly the most explicit (if unsuccessful) attempt to commercialize television, but the London and New York exhibitions show that industry and broadcasting institutions everywhere *actively* pushed for the implementation of sets in households. At the end of the 1930s, the public presentation of television clearly aimed at the medium's establishment in private space.

This commodification of television as a domestic consumer good was accompanied by and fostered through a new gendering of television. It was reinforced by the medium's association with female spheres, through new, modern design of the television set, as well as through representations of the female body on and off screen. The relocation of television from exhibition spaces to the living room and its redefinition from a spectacular technology to a commodity thus implied shifting relations between the televisual, female consumers, and private space. Feminist television scholarship has a long-standing tradition of rendering visible the social construction of gender, how it relates to domesticity and consumerism, and how television participates in the shaping of gender identities and subjectivites. Lynn Spigel's ground-breaking study from 1992 on the emergence of post-war television discusses the tensions arising from the introduction of television in suburban US households. While the television set came to epitomize the 'family circle' and a harmonious family life, it simultaneously fostered technophobic fears on harmful influences exerted in particular upon children and women; it also threatened the patriarch's place of authority as it potentially turned the *pater familias* into a passive – and supposedly feminized – televiewer. As a number of feminist scholars after her also highlighted, Spigel further-more outlines the importance of women as 'the industry's ideal viewer'.[2] The housewife, imagined by the industry as consumer and manager of the domestic realm, was central to the implementation of the new media in households. Not only did she decide where to place the television set according to her arrangement of the living room, but she was the main addressee of numerous daytime programmes, in which entertainment and consumer education were smoothly interlaced.[3] The function of daytime programming as a new advertisement outlet, where advice for housemakers was synonymous with the promotion of consumer goods, was not limited

2   Such is the title of one of the sections in Chapter 3. Spigel, *Make Room for TV.*
3   Spigel, *Make Room for TV.*

to US commercial television. For British daytime television, Janet Thumim has similarly observed:

> During the latter 1950s afternoon programmes dealing with domestic concerns – cooking, decorating, handcrafts, clothing, child-rearing – and shopping magazines purveying the multiplicity of new products then flooding the market-place were announced, presented and reviewed as being specially for women.[4]

Central to the transition towards the society of mass consumption, post-war television was intimately linked to gendered forms of leisure and labour. During the late 1930s, with television sets only slowly finding their way into the living rooms of (upper class) households and regular programming schedules remaining rare, the intersection of domestic consumption, gender, and new media was less pronounced, but nevertheless already visible. Several dimensions of television's definition as a female technology were brought forward in discourses and displays preparing its domestication. This chapter aims to discuss this gendering of television as a 'feminine' medium by highlighting the various ways it became associated with female spheres and bodies.

Catering to the Female Consumer

Allegedly unaffected by the ongoing processes of urbanization, mechanization, and rationalization, from the nineteenth century onwards the household had been conceived as a female domain, contrasting with masculine public spheres (such as work, politics, and public life more broadly). The particular place of 'home' came to be equated with a specific sex, 'female', and particular moral values, behavioural norms, and economic structures.[5] While this idea of 'separate spheres' continues to define large parts of our contemporary representation of care and labour and thus to exist as a forceful ideology, numerous scholars have also discussed how modernity and its social, economic, and technological changes brought about new possibilities for women in public space. In particular, activities linked to the emergent consumerist culture opened new spaces for female sociability. Shopping and consumption were associated with specifically female

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4   Thumim, 'Women at Work', 218.
5   Cowan, *More Work for Mother*, 18–19. Giles, *The Parlour and the Suburb*, 8–11; Hessler, *"'Mrs. Modern Woman'"*, 195–198.

pleasure, and women were commonly conferred the expertise in matters of taste, trends, and fashion.[6] Department stores provided spheres accessible to women as customers and employees, shaping modern female identities and subjectivities.[7] Disrupting gender-based social and economic organization, modernity, in particular in the form of technological modernization, simultaneously affected the domestic space. The home, Deborah Sugg Ryan argues, became 'both a retreat from the outside world *and* a site of change and experimentation'[8] that included domestic rationalization, technologization, and new consumerist practices. By the interwar period, technological advances such as electrification and the subsequent introduction of household appliances as well as new forms of mass entertainment had transformed the (urban, middle-class) home into a site of leisure for both sexes, while changing the domestic workplace for women. Using the notion of 'domestic modernity' to analyse the intersection of private space with social, cultural, and technological transformations, Judy Giles writes with regard to interwar Britain: 'The home, far from being simply a haven from the demands of modern life or a stifling place from which to escape, became central to the modernity of British life.' [9] Certain technological objects – radio, but also washing machines, refrigerators, and other domestic appliances – became henceforth defined as female products, challenging the view of technology as a 'male' arena.[10] Therefore, if women had played an important role as actors at the 'consumption junction' from the nineteenth century onwards,[11] in the twentieth century they also became experts in domestic technologies.[12]

At the New York radio shows, the displays of broadcasting media along with refrigerators and other consumer electronics can be understood as an attempt to attract a female audience, and to open the fair, a priori dedicated to wireless hams, to a broader audience. In London, the presence of women at Radiolympia was frequently debated from the early 1930s on, and by 1935 Radiolympia had allegedly become a 'women's fair':[13] 'Not many years ago

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6   Nava, 'Modernity's Disavowal'; Rappaport, '"A New Era of Shopping"'; Friedberg, *Window Shopping*, in particular 32–38 and 41–46; Leach, 'Transformations in a Culture of Consumption'; Haupt, 'Konsum und Geschlechterverhältnisse'; Outka, 'Crossing the Great Divides'; Bernold and Ellmeier, 'Konsum, Politik und Geschlecht'.

7   Nava, 'Modernity's Disavowal', 53.

8   Sugg Ryan, *Ideal Homes, 1918–1939*, 21; emphasis mine.

9   Giles, *The Parlour and the Suburb*, 60.

10   Hessler, '"Mrs. Modern Woman"'; Spigel, *Make Room for TV*, 18–35.

11   Cowan, 'The Consumption Junction'.

12   Hessler, *'"Mrs. Modern Woman"'*.

13   'Women's £10,000,000 Radio Show Opens Today'.

women at a wireless exhibition were just the bored companions of men: but men will attend this year's show just as the paying companions.'[14] While this alignment between women and conspicuous consumption certainly translates an ordinary misogyny oriented at women intruding on male sociabilibties, the journalist's observation points to one of the consequences of the commercialization and domestication of radio, and later television, which indeed forced the organizers of industrial fairs traditionally aiming at an audience of male professionals to address a more mixed public.

This address of female visitors was most explicit at locations directly associated with female activities. Television's display in department stores, for instance, connoted not only the medium's commercialization, but re-inforced its place as part of domestic modernity. In London, in addition to the exhibitions at Selfridges, the encounter between television and female audiences was in particular fostered at the Daily Mail Ideal Home Exhibition, an annual fair dedicated to 'all things domestic'. Established in 1908, the Ideal Home Exhibition (IHE) had been launched by the newspaper *The Daily Mail* and was held annually in April in the exhibition halls at Olympia. Addressing middle-class housewives, its objective was to bind female readers to the publication and to educate female consumers who, as fundamental actors in the mass market, would in return attract new advertisers for the journal.[15] In his analysis of the 'Woman's Page' in the British press at the end of the nineteenth century, D. L. LeMahieu has pointed out the complicity of the media and advertising and retail industries in making 'shopping fashionable' for women of all classes:[16] the IHE, a 'three-dimensional advice manual',[17] transposed these efforts into the exhibition halls and created an event where domesticity and women's work was put on display, shaped, and successfully sold.

The IHE's history has been thoroughly researched by the design historian Deborah Sugg Ryan;[18] more recently, it has also become the focus of television historians. Together with the New York World's Fair, it thus figures among the few events whose relevance for the medium's history has been acknowledged. In her work engaging with feminist television histories and the notion of the televisual 'spectacular', Helen Wheatley emphasizes the gendered framing of television at the IHE, which became particularly visible

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14 'Women's £10,000,000 Radio Show Opens Today'.

15 Sugg Ryan, *The Ideal Home through the 20th Century*, 29–62.

16 LeMahieu, *A Culture for Democracy,* 32–43.

17 Sugg Ryan, *The Ideal Home through the 20th Century*, 21.

18 Sugg Ryan, *The Ideal Home through the 20th Century* and Sugg Ryan 'The Daily Mail Ideal Home Exhibition and Suburban Modernity'.

Television in the Ideal Home

By B. R. Clarke

IT is well known that the *Daily Mail* has consistently encouraged scientific development, and now we have another example of its enterprise in the opportunities which have been given at the numerous visitors to this attractive show.

In the skyscraper flat the receiver is of the mirror drum type, where a black and white picture is shown on a screen about 9 in. × 4 in.
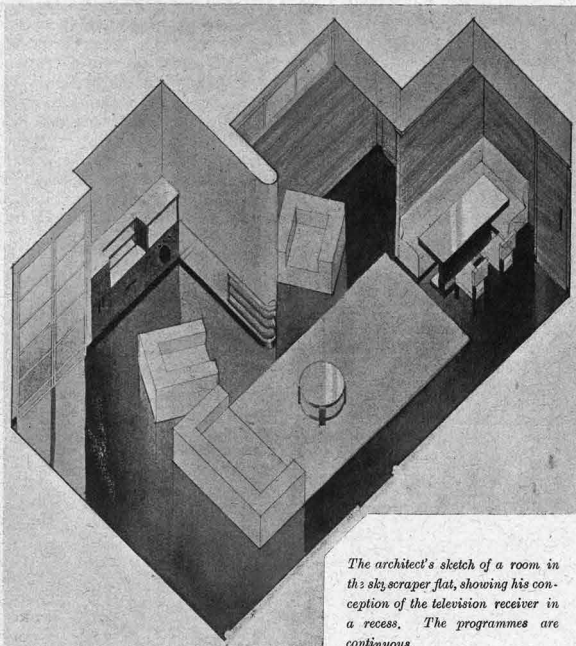
The architect's sketch of a room in the skyscraper flat, showing his conception of the television receiver in a recess. The programmes are continuous.

the Ideal Home Exhibition this month for demonstrations of the most up-to-date models produced by the Baird Television Co.

There are two features of the exhibition in which television plays a part. One is a modernist conception of a skyscraper flat, designed by R. A. Duncan, A.R.I.B.A., an architect of considerable reputation for this class of work, in which a " Televisor " is installed, and another is the fashion theatre, where mannequin parades are introduced by a short demonstration of television. At the entrance to the theatre a stand is reserved for TELEVISION, where copies of the journal are on sale for the benefit of

The " Televisor " is built into a cabinet which matches the furnishing of the room, and which, incidentally, is combined with an all-wave radio receiver, made by Stratton and Son of Birmingham, and with an electric gramophone by Arundell Clarke, and a record cabinet. The whole assembly makes a very neat piece of furniture, and renders possible the grouping of all the electrical entertainment apparatus. This television receiver is of the type that we hope to see on the market before long, and its exhibition at Olympia should do much to create interest among the public to whom screen television is, as yet, not very familiar.

Figure 6.2. The 'sykscraper flat' with its modernist furniture and the television set. 'The architect's sketch of a room in the skyscraper flat, showing his conception of the television receiver in a recess. The programmes are continuous.' Source: 'Television in the Ideal Home', *Television* 6, no. 62 (April 1933): 141.

in the post-war period when television was moved from the 'Miscellaneous section' in the early 1930s to the 'Home furnishing section' after the war. For Wheatley, then, the medium's positioning on the exhibition map reflected its progressive domestication and its integration into private – and female – spaces.[19] In her paper, Deborah Chambers focuses on a design historical perspective and discusses the IHE's role as a promoter of modernist design. With regard to the pre-war period, Chambers underlines in particular radio and television manufacturers' efforts to employ designers packaging the media appliances in 'good' modern design. Mediating between production and consumption, designers were instrumental in paving the way for the acceptance of television as a technology for the home.[20]

The importance of modernist design for the promotion of television at the Ideal Home Exhibition was made explicit in 1933. The first television demonstration at the IHE had been organized by John Logie Baird's company in 1930.[21] While this display resembled the demonstrations made at Radiolympia and was comparatively simple, the decor changed at the IHE three years later when Baird exhibited his 'televisor' in architect R.A. Duncan's 'Skyscraper Flat'. Staged as a tribute to New York and its 'almost unbelievable reality of buildings with hundreds of floors',[22] this exhibit represented 'a modern example of space utilization, which incorporates home television'.[23] The medium met here with 'the last word in modernity'[24] (Figure 6.2.).

The absorption of television in an ultra-modern environment was repeated three years later at the 1936 edition, which included a 'panorama of furnishing' titled 'The Shape of Things to Come'. Presenting the 'past, present, and future' of interior design, the model home of the future was directly inspired by William Cameron Menzies's science-fiction film *Things to Come*, released earlier that same year. This ideal home of the future, built with the help of 'the London Film Productions', which had permitted its film sets to be loaned for the display,[25] imagined television as one appliance among others abolishing the necessity of 'human labour':

19   Wheatley, 'Television in the Ideal Home', 210. See also Wheatley, *Spectacular Television*.
20   Chambers, 'Designing Early Television for the Ideal Home'. For a similar discussion in the US context, see Section 5.3.
21   *Daily Mail Ideal Home Exhibition*, 304. See also Wheatley, *Spectacular Television,* 37–40.
22   'The Skyscraper Flat'.
23   'A Sunny Village of Ideal Homes'.
24   'Notes of the Month'.
25   'The Shape of Things to Come', in *Daily Mail Ideal Homes*, 267. Menzies' film *Things to Come* is an adaptation of H. G. Wells's *The Shape of Things to Come* (1933) and offers a look at a post-apocalyptic world transformed into an ideal society with a technocratic government. Influenced by theories of modern architecture, Menzies and his set designer Vincent Korda

> You will press a button, and on a transparent belt your meal will be delivered straight to your table. Another button attached to your sleeve will enable you to communicate, by radio and television, with the world outside.[26]

Anticipating the 'mobile privatization' described four decades later by Raymond Williams as an ideal of a simultaneously 'mobile and home-centred living',[27] this exhibit promoted essential modern values through futuristic furnishing and interior design. What is more, it staged leisure, modernity and domesticity liberated from the labour of care: in this ideal home of the future, television joined other novelties in creating a private space exempt from the drudgery of domestic work.

Held from the end March to mid-April, the 1936 IHE had opened a few months before the launch of the regular television service at Alexandra Palace (in November 1936), and before the televisual test run at Radiolympia (in late August 1936). Television remained a promise of the future, but as such, it was already projected into domestic space. After the opening of the BBC service, the futuristic appeal of television was replaced by a presentation of its actual production processes. At the 1937 Ideal Home Exhibition, 'a replica of a studio at Alexandra Palace' and a 'viewing theatre'[28] were installed; in 1938, 'the most ambitious and complete Television Show that has ever been staged' opened. Featuring a glass-walled television studio 'designed to specifications laid down by the B.B.C.',[29] the exhibition produced programmes on-site during the non-broadcasting hours. As with Radiolympia a few months later, the exhibition thus offered space for a collective experience of a new medium projected into the home.

Television's Gender Script

The various *mises en scène* and discourses produced at the IHE once more underscore that television's domesticity was discussed, emphasized, and

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designed a future city as an example of modernist urban planning based on vertical constructions and transparent materials. In this urban landscape, television screens, perfectly integrated into private and collective spaces, are used to communicate between individuals and to address the crowd gathered on the street.

26   'The Shape of Things to Come', in *Daily Mail Ideal Homes*, 269.

27   Williams, *Television*, 19. For a discussion of Williams's notion of 'mobile privatization', see Steinmaurer, *Tele-Visionen*.

28   *Daily Mail Ideal Home Exhibition, Olympia, 1937*, 257–258.

29   'Television at the Ideal Home Exhibition'.

constructed, but also that the medium's domestication was directly linked to its gendering. Put on display as part of a broader domestic modernity, television participated in the consumer culture addressing a female public. A crucial dimension of television's gendering concerned the televisual object's materiality and design. Indeed, the most direct way to facilitate the move out of the laboratory and into the domestic universe of consumer technologies was the adaptation of the sets' shape, size, and decor to domestic furniture. Media historian Steve Wurtzler has described the passage from the *performance* of a media technology to its *dissimulation* with regard to the phonograph and the radio set.[30] Both apparatuses, Wurtzler shows, 'had to be successfully integrated into prevailing standards of domestic life' [31] before becoming a domestic device. This integration was in particular supported by 'revisions to the designs of the machines themselves'.[32] The transformation of a spectacular dispositif into a habituated piece of furniture therefore not only affected media content but also the media 'box'. In her research on television and German domestic culture of the 1950s and 1960s, Monique Miggelbrink has suggested the notion of 'becoming-furniture' (*das Möbel-Werden*) to describe the processes that renegotiated the location as well as the appearance of the media 'box'. As Miggelbrink shows, the actual introduction of television within German living rooms intersected with discussions on new tendencies in housing design, which influenced the design of the televisual cabinet.[33] Similarly, Deborah Chambers' analysis of designers as 'cultural intermediaries' stresses this importance of appearance, function, and fashion in transforming a technical artefact into a domestic appliance,[34] which I have already discussed with regard to industrial designer John Vassos's role for reshaping RCA's corporate identity and products (see Section 5.3).

A useful notion to think through the redesigning of the material form from a feminist perspective offers the notion of the 'gender script'. Introduced by feminist historians of technology to describe the inscription of gendered traits in the built artefact, the gender script negotiates gender identities and relations, and distributes objects between – allegedly – masculine and

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30 Wurtzler, *Electric Sounds*, 121–152. See also Sections 1.2 and 5.3.
31 Wurtzler, *Electric Sounds*, 149.
32 Wurtzler, *Electric Sounds*, 139.
33 Miggelbrink, *Fernsehen und Wohnkultur*. The question of the 'right' design of television sets did also preoccupy US post-war consumer industry, when debates continued around television as furniture or as functionalist appliance. See Haralovich, 'Sitcoms and Suburbs'.
34 Chambers, 'Designing Early Television for the Ideal Home'. See also Shapiro, *John Vassos,* for a study of interwar television design.

feminine worlds.[35] Building upon Madeleine Akrich's notion of the 'script' of an artefact, understood as an explicit or implicit representation of users by designers that fuels the object's design, the gender script points to the gendered prescriptions and imaginaries, which structure the conception, production, and uses of an item.[36] The notion thus helps understand the performative dimension of gender as an ongoing process of identity formation and how this process is enmeshed with the material world.

In the case of television sets, a new gender script embracing modifications in design, handling, and size prepared the transition into the household. The German standardized receiver E 1 was in this regard an exemplary object: not larger than a table radio, with only four knobs, it easily blended into the existing furniture and, like the modern radio set, promised uncomplicated technologically mediated leisure. Aiming more directly at upper-class taste, John Vassos's cabinets for the RCA (Figure 5.24), as well as the modern set advertised in the British press communicated the receiver's fit into the sophisticated living room and underlined class distinctions based upon media consumption. Contrary to early television sets, which were designed as technical objects, the commercialized television sets were conceived to smooth into domestic space.

In addition to tasteful design and easy usage, almost all television sets offered the possibility to cover the screen. For receivers with vertical tubes, one could simply close the mirror lid; some TV cabinets featured a wooden blind which one you could draw to hide the screen (as per the GEC advert in Figure 5.6). The E 1 included a vertical blind which covered the relatively small tube in case the set was used for sound transmission only.[37] Switched off, the devices were transformed into decorative furniture whose televisual function was no longer visible. Concealing every aspect of the medium's technology, the cabinet's opaque exterior points to the uneasy status of domestic media technology. More than other electronic consumer durables, radio and television disrupted the traditional separation of inside and outsidespaces, the home and the public sphere. The particular set design allowing the screen to be veiled helped negotiate this disruption by hiding the source of potential turmoil. In her analysis of television sets placed in restaurants and stores, Anna McCarthy observes that the frequent decoration

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35   For an introduction to a feminist history of objects, see Oudshoorn, Saetnan, and Lie's presentation of their exhibition organized in the mid-1990s: 'On Gender and Things'. For a case study, see van Oost, 'Materialized Gender'. Fickers uses the concept of gender script for his discussion of radio set designs. Fickers, 'Design als "Mediating Interface"'.

36   Van Oost, 'Materialized Gender', 195.

37   Winker, *Fernsehen unterm Hakenkreuz*, 203.

around the screens helps 'foil the mute ugliness of the console when it is turned off, softening its blank, faceless stare'. Simultaneously, the decorative arrangement creates a space of 'personal meaning production', where private artefacts turn the television console into a display site for family life, hobbies, and other more or less private matters.[38] Instead of creating a private space in a public environment, the 'switch off' function of screen lids on interwar sets can be understood as a shield defending the private space from the outside world. Hiding the blank surface, the cover protected the privacy and intimacy potentially endangered by television's arrival in the living room: it blinded the screen supposed to bring the world into the home.

Commodifying the Female Body

The easy handling, sleek design, and transformation of a media technology into a decorative item of furniture were part of the commercial strategy to sell interwar television as a consumer good for the domestic space. Promoted in department stores and at exhibitions dedicated to home economics, and sustained by new designs, the feminization of television was further nurtured through representations on and off the screen. With the commercialization of television sets, women began to occupy a central place in the iconography of the new medium.

First, its gendered attributes were underscored in photographs and advertisements showing women operating the sets. If technological artefacts were men's domain, the handling of receivers by women suggested the readiness of these objects for non-technical realms and encouraged women to acquire televisual skills. The feminization of the televisual object through the direct juxtaposition of (attractive) women and television sets repeated earlier advertising strategies for radios, cars, and other modern products.[39] Beyond testifying to television's appropriateness to the domestic space, these depictions of women also served as a decorative element and, by 'embellishing' the object, rendered it more attractive to circulation in the press (Figures 6.1 and 6.3). The emphasis on women's 'to-be-looked-at-ness'[40] not only confirmed their status as objects of desire, it also 'represented their bodies as showcases that perfectly complemented displays of futuristic consumer durables'.[41] The desirability of women's bodies was supposed to

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38   McCarthy, *Ambient Television*, 128–130.

39   Marchand, *Advertising the American Dream*; Hessler, '"Mrs. Modern Woman"', 149–190.

40   Mulvey, 'Visual Pleasure and Narrative Cinema'.

41   Rydell, *World of Fairs*, 117.

Figure 6.3. Gender, class, and television at the 1938 Radiolympia. Source: Daily Herald Archive / Science Museum Group.

rub off on television sets and make *them* the object of (male and female) desire. In this sense, the gender script followed a circular logic: designed to be handled by women, the receivers were confirmed as 'feminine' objects by the act of women handling them.[42]

42   Discussions about the feminization of television in the post-war period have been extensive. See, for instance, Keightley, 'Low Television, High Fidelity'; Parks, 'Cracking Open the Set'.

Secondly, the double commodification of television as an object for purchase and an advertising medium addressing female viewers, which would become a principal characteristic of post-war television, was already laid out in embryonic form within regular programmes. As mentioned at the beginning of Section 5.1, the BBC service tested a variety of genres ranging from concerts to dance, drama, interviews, and so forth. In 1938 and 1939, Radiolympia programming included fashion shows (Figure 6.4) bringing 'more than 120 mannequins before the television camera'.[43] These 'fashion parades', which were 'televised for 15 minutes each evening from the exhibition', were met with 'so much interest [...] that the organizers have arranged to give a special display for women visitors'.[44] Outside the fairs, the fashion parades also constituted a regular feature on the schedule grid and were aired, as was the case for all programmes, in the afternoon and the evening.[45] Such programmes consolidated television's placing in domestic and female space, where leisure and consumption intersected. They pointed towards the growing transformation of the private sphere into a consumer space and further sustained the commodification of women's bodies on and off screen.[46]

As Sarah Arnold has recently discussed in her history of *Gender and Early Television* in the USA and Great Britain, the commodification of women's bodies also had a bearing on the choice of female television announcers. In the case of the BBC, the appointment of Jasmine Bligh and Elizabeth Cowell in 1936 on the one hand strengthened the corporation's appearance as being progressive and attuned to questions of gender politics. On the other hand, the two professionals also acted as 'objects of pleasure rather than figures of authority' as they were meant to represent 'glamour and class'.[47] The earliest female careers on television were thus already guided by the medium's potential to arouse 'erotic sensations', which film critic André

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43   'Television from Radiolympia' (1938).

44   'Mannequins Star on Television Today'.

45   See for instance, 'Televising the Fashions'.

46   In her discussion of early television in Germany, Birgit Schneider highlights the recurrent use of a demonstration film showing two young women's heads. Employed by engineers to test the picture quality, the film had an 'empty' content in the sense that the image served scientific and objective goals not interested in textual information but in the image's materiality. As Schneider argues, the use of female bodies for testing new scientific images can be observed throughout the history of technology. This confirms, she concludes, that machines never are 'just' machines, but part of (patriarchal) culture. Extending her argument to the fashion parades and other displays of female bodies in the mid-1930s, we can assume that these shows also served technicians for the technical evaluation of their devices. Schneider, 'Images-tests'.

47   Arnold, *Gender and Early Television*, 76.

Figure 6.4. Fashion models featured in a 'fashion parade' at Radiolympia 1939. Source: By courtesy of the Alexandra Palace Television Society.

Figure 6.5. The 'Television Girl' beauty contest at the 1939 New York World's Fair. Source: Manuscripts and Archives Division, The New York Public Library.

Bazin would fantasize about in the mid-1950s in his note on television's *érotologie*.[48] The ambivalent status of female bodies and female agency constructed through television becomes even more foregrounded with the beauty contests that regularly accompanied television demonstrations. At the 1928 New York Radio Show, the new 'Miss Radio' introduced at the fair was televised; at the Chicago World's Fair in 1934, a 'Miss Television' was chosen.[49] In London, the 'Come and Be Televised' show featured in 1938 and 1939 winners of beauty pageants along with 'ordinary' people.[50] And the RCA organized a 'Television Girl' contest at the New York World's Fair:

> Contestants will parade at 4pm on each of the three days of the contest on a platform in front of the Cavalcade of the Centaurs in the Amusement Area. The judges will be sitting at television instruments in the RCA building, a distance of three miles away, in the Main Exhibit Area.[51]

The event was well attended and offered fairgoers the opportunity to see the 'girls' and the television camera at close proximity (Figure 6.5). Transmitted over the RCA's network to the RCA building where the pageant's judges were located, any person near a set could watch the contest and see the contestants on display.

Similar to the display window of department stores presenting (artificial) mannequins to female passers-by, television constructed women as display objects and consumers alike.[52] Robert Rydell has underscored the importance of body politics in the corporate imagining of the American future laid out at the New York World's Fair. In numerous beauty contests, fashion shows, and striptease performances, women were put on display, their bodies commodified, and 'dominant gender roles [preserved] well into the future'.[53] Probably the most revealing example of how the projection of the ideal future was closely intertwined with the buttressing of traditional gender hierarchies was industrial designer Norman Bel Geddes's proposition for a 'Peep-Show of

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48   Bazin, 'Contribution', 106.

49   See the finding aids to the Christine J. Bolander-Olson collection, https://findingaids. library.uic.edu/sc/MSBol a78.xml (accessed 25 July 2021). On the 'Television Girls' in the 1930s, see Arnold, *Gender and Early Television*, 59–67.

50   'Miss Jamaica' visited the fair on 25 August 1938; Miss Britain was scheduled to appear on 2 September 1939.

51   'Looking for Beauty through Television.' New York World's Fair 1939–1940 records, Manuscripts and Archives Division, The New York Public Library, Box 712. Folder 22.

52   Ward, *Weimar Surfaces*, 229–230.

53   Rydell, *World of Fairs*, 140.

Tomorrow'.[54] A reversed panopticon, in which the gaze of 384 (male) beholders was directed towards one nude dancer performing on a platform surrounded by mirrors, the 'Crystal Lassies' (as the show would become known) proposed a similar scopic regime as the other, better-known Bel Geddes attraction – General Motors' Futurama.[55] In both cases, the object on display – the female dancer and the modern highway landscape, respectively – was presented to the viewer as a visual commodity to be apprehended from (almost) all angles. For women, the increased liberties promised in the automobile-centred world presented in the Futurama pavilion came at the price of the further commercialization of their bodies everywhere else at the Fair and beyond.

If televisual programming thus turned women into visual attractions *and* consumers, print advertisements for television sets demonstrated another facet of the construction of the television spectator. With television's commercialization, advertising took over the function of a 'connecting link' between spaces of production and consumption outside the exhibition halls.[56] As Martina Hessler has demonstrated in her cultural history of the introduction of electronic appliances in interwar Germany, advertising played an important role as an agent in processes of technologization and modernization of the private sphere. Vacuum cleaners and refrigerators, for instance, were not yet mass consumer goods in Germany and still sparsely disseminated. Advertisements offered information about the products' benefits as a 'quick guide' to correct – that is, modern – homemaking, while consolidating the link between the appliances and traditional female spaces.[57] Adverts for TV sets performed a similar function of providing information and education in view of the medium's domestication. In New York, the sale of television receivers started around the same time the World's Fair opened.[58] Beyond the actual point of purchase, newspaper ads and leaflets distributed at the Fair promoted the new medium within the setting of elegant – and always exclusively white – domesticity. Photographs of well-dressed couples or ladies convening in a circle around the television set, also frequently used in British ads (see Figure 5.6 above), denoted television reception as a highbrow leisure activity (Figure 6.6). The middle-/upper-class imagery reflecting the high costs of receivers addressed those

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54   This expression was used by one of Geddes's sponsors. Rydell, *World of Fairs*, 141.

55   On the Futurama see, Rydell, *World of Fairs*; Marchand, 'The Designers Go to the Fair II'. For an analysis focusing not on design but on the broader context of eugenics as a way to contextualize Bell Geddes's work, see Cogdell, 'The Futurama Recontextualized'.

56   Cowan, 'The "Industrial Revolution" in the Home', 20.

57   Hessler, '"*Mrs. Modern Woman*", 149–190.

58   'Stores Offer Television'.

Figure 6.6. Advertisement for General Electric, 1939, emphasizing the formal domestic settings projected for television. Source: David Sarnoff Library (Accession AVD.2464.001), Audiovisual Collections and Digital Initiatives Department, Hagley Museum and Library.

readers who were able to afford the set and suggested to everyone that television was a culturally worthy medium. Such displays of conspicuous consumption insisting on class belonging and race (rather than effacing class structure) were common in interwar advertising even during the Great Depression. For Roland Marchand, these 'social tableaux' satisfied 'social fantasies for the wider consumer audience' and, selling new consumer goods, promised an upward move on the social ladder.[59] The projection of television as a medium for the well-to-do tapped into the fantasy of social mobility through consumerism, and aimed at habituating the audience to the new domestic medium.

The overly controlled environment of couples sitting in front of a TV set nevertheless questions the definition of everydayness commonly associated

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59 Marchand, *Advertising the American Dream*, 194–200.

with television. Contrary to radio ads, which from the late 1920s presented radio sets in a variety of domestic settings embedding the technology into daily routines of the people depicted,[60] the television receiver was not yet an object that was 'always there'.[61] These ads confirm that its domestication was not automatic, natural, or undisturbed, but negotiated through, among other things, images of televisual spectatorship. The formal setting deemed suitable for watching television further contrasts with television's early presentations: if the viewers' bodily attitude and focused gaze in these adverts suggested the seriousness of high culture, it also pointed towards a definition of television's spectator conceived in terms of attention and observation, rather than distractedness (even if, as the advertisement promised, television offered 'thrills and excitement'). Whereas radio consumption could be distinguished in (attentive) listening and (distracted) hearing, watching television was, according to critics and advertisers, a unitary activity per se that demanded full concentration:

> The image on the television receiver makes no such compromise. The thing moves; it demands complete attention. You cannot walk away from it, you cannot turn your back on it, and you cannot do anything else except listen while you are looking [...]. We will, in short, look into the mirror of television only so long as the movement upon it is of surpassing interest.[62]

This conception of television as requiring the spectator's full presence had a technological foundation resulting from television's small screen size. But the set's passage from the exhibition hall to the living room and from the mobile to the immobilized viewer was also imagined as creating a new spectatorial posture based on absorbed and concentrated viewing. Contrary to men, however, women would not be the beholder of the gaze; instead, they were always already represented as an object to be looked at, a commodity of visual pleasure for the audience.

How did these gender configurations play out in Nazi Germany? How did media, gender, and domesticity intersect in a context of ideological and material armament? Within the framework of National Socialist consumer

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60   Volek, 'Examining the Emergence of Broadcasting'.

61   Buonanno, *The Age of Television*, 36.

62   Seldes, 'The "Errors" of Television'. Seldes became CBS's chief of television programming the same year he wrote this article. In a similar tone, NYT critic Orrin E. Dunlap wrote in 1939: 'The problem with television is that the people must sit and keep their eyes glued on a screen; the average American family hasn't time for it. Therefore, the showmen are convinced that for this reason, if for no other, television will never be a serious competitor of broadcasting.' Dunlap, 'Act I, Scene I'. See also Boddy, *Fifties Television*, 19–20 for identical post-war discourses.

society and its ideological project to pursue the racist and exclusory goals of Hitler's regime, the attentive viewer depicted in images of the 'Einheits-Fernsehempfänger E 1', aimed as much at consumer education than at political training (Figure 6.7). In the iconographic tradition of the family circle around the *Volksempfänger* (Figure 5.8), the absorbed audience represented a mediating link between the individual and the *Volksgemeinschaft*: through attentive and obedient participation in the national discourse, the isolated family reached its broader community. Within the ideological constellation of the *Volksgemeinschaft*, performed through such representations, private space was always already political, and the familial sphere highly influenced, if not controlled, by the regime.

Similarly, the feminization of consumer electronics through the association of female listeners and modern technology common for radio (and, to a lesser degree, television) cannot be separated from broader discourses about the role of women in National Socialist Germany. While the image of women in Nazi Germany was complex and often contradictory and should not be reduced to the promotion of their maternal role,[63] the representation of radio and television appear to adapt modernist iconography to traditional aesthetics, and to confirm the importance of female domesticity defined in conservative terms. Less glamorous than their British and American counterparts and surrounded rather by traditional than modern interiors, the women in photographs advertising television represented the figure of the young, motherly Germany. Promising to offer comfort from a chaotic present by turning to an eternal past, this National Socialist domesticity performed precise ideological functions. In her work on German interwar radio, Kate Lacey has shown how radio programmes addressed women as consumers consuming in the best interests of the Volk.[64] That is, women's role as purchaser was not only recognized but fostered, while initiatives by women's associations and publicity campaigns linked female consumption to anti-Semitic propaganda, the broader objectives of the national economy, and maternal duties. Gendered discourses in and on new media were thus in line with the racial politics of the regime and the creation of a racially pure *Volksgemeinschaft*, which rewarded individuals for their service to the Reich through 'increased' as well as 'virtual' consumption.[65]

63   For an excellent discussion of trends in gender studies of Nazi Germany, see von Saldern, 'Innovative Trends'.
64   Lacey, *Feminine Frequencies*, 173–192.
65   Berghoff, 'Enticement and Deprivation'. See also Pater, 'Rundfunkangebote'. Pater analyses gender representations in radio programmes and observes that women were not represented as actively shaping the *Volksgemeinschaft*, but rather as sustaining its existence through their unquestioning services (including sending their sons to war.)
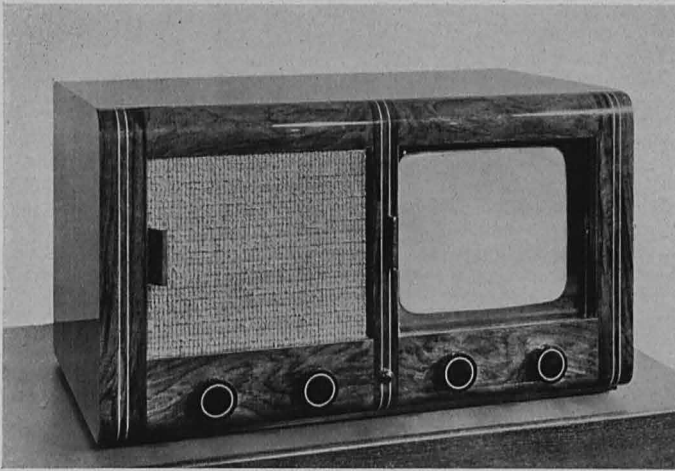
Außenansicht des Einheits-Fernseh-Empfängers (offener Bildschirm)

Der Einheits-Fernseh-Empfänger im Heim

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Figure 6.7. The attentive viewer in front of the television receiver E 1. Source: *Amtlicher Führer zur Großen Deutschen Rundfunkausstellung,* Berlin: Eher, 1939, 21.

Intermission III: Similar Sets, Same TV?

It is estimated that between 20,000 and 25,000 sets were in use in the London area at the end of the 1930s;[66] by August 1939, about 800 sets had been sold in New York.[67] The domestication of television in all three countries was thus largely imaginary or, to adopt Hartmut Berghoff's expression, virtual.[68] At the fairs, the entry of television into the household was nevertheless projected, and by 1939, the domestic receiver occupied a prominent position on the fairgrounds of London, Berlin, and New York. If today we have forgotten the demonstrations of large-screen television or two-way television, this not only reflects historiographical oblivion, but also mirrors efforts that began in the interwar period to commercialize television as a small-screen apparatus for the living room. The exhibitions functioned as the place where the medium's mass distribution as a domestic device was prepared and partially implemented.

The 'streamlining' of heterogeneous artefacts into a particular technological and cultural form happened more or less overtly, and can be defined as the *normalization* of an experimental medium aiming at a stable media identity. Television historian Christina Bartz has used the pairing of normativity and normality to analyse how television was presented to its first users in post-war Germany. The discourses she describes oscillated between presenting television as a *normal* device – that is, a familiar medium described by shared viewing habits – and *normative* guidelines regulating the new practice of TV watching.[69] As my study shows, even before the medium's introduction into the home, the televisual discourses and displays fluctuated between the two poles by projecting normality and simultaneously establishing norms about television's role and uses. They normalized a certain definition of television and prepared its emergence as a domestic mass medium.

Underlying the common efforts to establish television's 'normality' and 'norms' were ideological, political, and institutional differences that affected the medium's definition *and* its presentation at the fairs. RCA's display at the New York World's Fair reflected the broadcasting order and regulatory framework of American television. Pushed by international

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66 Briggs, *Golden Age*, 620.
67 Burns, *Television*, 562.
68 Berghoff, 'Enticement and Deprivation'.
69 Bartz, 'Normativité et normalité'.

and national competition, governmental oversight, and the necessity to at least partially exploit important investments realized over the previous decade, RCA presented television in a remarkable exhibit. One among few American buildings using glass curtain walls,[70] the pavilion in itself was a huge daylight dispositif that promoted openness and suggested to fairgoers that the corporation was willing to reveal the innermost parts of its workings. In the end, however, the pavilion was not very different from NBC's 'opaque' demonstration studio, which had opened in 1938 and continued to be advertised during the fair. Both displays relentlessly pointed back towards the corporation, substituting television's utopia of connectivity through space with a view of brands and products. In this sense, RCA's pavilion laid out the core of television's role yet to come: to be a mass consumer good and an advertising medium. More specifically, the RCA pavilion confirmed what had been evident before the television service was opened, namely that the medium's organization occurred along the same lines as that of radio, as a private and commercial – that is, advertisement-based – enterprise under limited governmental control. The corporation's exhibit at the World's Fair included every aspect of domestic television's infrastructure and technology, from research to broadcasting (via NBC) to set manufacturing and field-testing. RCA did not simply *show* television: RCA *was* television.

While the goals of Radiolympia were fundamentally the same as RCA's primary objective – namely to sell sets and to increase the number of tele-viewers – the means to achieve the mass distribution of television in London were different. Consequently, the message conveyed in the exhibition halls was not exactly identical. Instead of promoting one company as the guardian of the entire television network, the London radio show advertised the cooperation between the public and private sector that had already ensured the success of the British radio system. The two geographical and institutional centres of the BBC – Broadcasting House and Alexandra Palace – staged *en miniature* at the 1939 fair, materialized this idea on the exhibition floor. Dominating the space visually, they, and by extension the BBC, oversaw the companies exhibiting under their watch. As my study of early displays in London has shown, this separation of responsibilities between a broadcaster and manufacturers on the exhibition floor had not always existed. In 1929 the Baird company had displayed its equipment in facilities next to the main halls. Forced to produce programmes in the absence of regular transmissions but also hoping to control the (future) British television market, Baird had installed an entire setup of cameras,

70   Wurts, *The New York World's Fair*, 43.

transmitters, and receivers. In accordance with the public service model regulating the official television service after 1936, the display of television would henceforth be shared between the set manufacturers' booths, the demonstration studios at Radiolympia, and the BBC's facilities at Alexandra Palace. As a broadcasting medium, television transcended the exhibition hall and, instead of being its guest, integrated the fair into its own infrastructure.

Of all three countries, Nazi Germany was the most active in staging television displays. The (eventually futile) coordination of government agencies and the private sector in the launching of a standardized television receiver was a singular attempt to boost domestic media consumption. Germany was also the only country in which the regulatory and institutional framework remained (relatively) uncertain and characterized by internal tensions, ideological contradictions, and an otherwise non-transparent bureaucracy. The fairs offered a temporary remedy to this situation by staging harmonious scenographies and (at least on the surface) coordinated collaborations between manufacturers and the regime.

When the National Socialist Party took power, different companies had already launched research into and displayed non-domestic television. During the first half of the 1930s, Fernseh AG achieved international recognition with its intermediate film system used for large-screen projection. Telefunken regularly exhibited large-screen devices, while continuously improving cathode ray tube technology for small-screen receivers. The reasons for the German industry's interest in non-domestic TV were multiple, and, in the case of large-screen TV, partially linked to the viewing rooms' political function. The practical value of having large-screen television in the *Fernsehstuben* was undeniable: with most sites inappropriately equipped with two or three small-screen sets, the installation of a cinema-like technology promised to enhance the spectatorial experience. The investments in non-domestic apparatuses also prevented the industry from fuelling competition between television and radio, manufactured by the same firms and targeting the same market for consumer electronics. Furthermore, William Uricchio notes that the Reich's economic policies in the mid-1930s supported export activities by German firms and 'structurally encouraged' R&D through subsidies and tax incentives.[71] In this light, the development of large-screen and two-way television systems was a way to control the patents of televisual research potentially destined for the international market. The pursuit of non-domestic forms was finally also linked to the important role the Reichspost, and more specifically its laboratories, had come to play for

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71   Uricchio, 'Television as History', 176.

German interwar television. Until 1934 it was the agency solely responsible for organizing the television exhibitions at the Funkausstellung. It had continuously tinkered with different television systems and developed the two-way television system used for the regular service between different cities of the Reich. These endeavours fuelled German self-representation and materialized 'first and foremost […] an aesthetic-ideological project'[72] sketching out a technological, consumer-friendly future for the Volk. Therefore, despite the limited value of television to broadcast regime-approved information and entertainment, its flexibility served the regime because it created an almost infinite number of images sustaining the Nazi ideology.

This said, it is not my intent to suggest that non-domestic devices were 'more fascist' than domestic receivers: such a claim would not only be a techno-determinist oversimplification, but it is historically false, as a glance at the broad history of non-domestic television shows. It would also be erroneous to insinuate that television's flexibility made the medium a particularly good fit for the National Socialist regime: as I have briefly mentioned in relation to the Olympic Games, the party exploited all possible means of communication, and television was just one – certainly not the most important – among them. Extending a 'tradition' that started before Hitler's coming to power, the display of heterogeneous televisual forms until 1939 reflect complexities of television's history that cannot be reduced to the label 'Nazi propaganda'. As I argue in the Epilogue, interwar television's fluid forms and formats should therefore not be understood as the particularity of a certain period or of a certain institutional and political context. On the contrary, the heterogeneity of interwar dispositifs reveals the medium's most basic identity as an essentially hybrid assemblage.

Works Cited

Anon. *Daily Mail Ideal Home Exhibition, Olympia, 1930. Official Catalogue* (London, 1930).

Anon. 'The Skyscraper Flat by R. A. Duncan, A.R.I.B.A.'. In *Daily Mail Ideal Homes. Catalogue and Review* (London, 1933), 233–235.

Anon. 'A Sunny Village of Ideal Homes'. *The Times*, 17 March 1933.

Anon. 'Notes of the Month'. *Television. The First Television Journal in the World* 6, no. 62 (April 1933): 131.

---

72   Erhard Schütz makes this argument for the *Reichsautbahnen*; Schütz, 'Das "Dritte Reich"'. 145. See also Section 5.2.

Anon. 'Women's £10,000,000 Radio Show Opens Today'. *Daily Herald*, 18 August 1935.

Anon. 'The Shape of Things to Come'. In *Daily Mail Ideal Homes. Catalogue and Review* (London, 1936), 267–269.

Anon. 'Televising the Fashions'. *Radio Times. Television Supplement* 54, no. 700 (26 February 1937): 6–7.

Anon. 'Television from Radiolympia'. *The Times*, 22 August 1938.

Anon. 'Television at the Ideal Home Exhibition'. *The Gramophone* (May 1938): 538–539.

Anon. 'Mannequins Star on Television Today'. *Daily Herald*, 31 August 1938.

Anon. 'Stores Offer Television'. *The New York Sun*, 29 April 1939.

Arnold, Sarah. *Gender and Early Television: Mapping Women's Role in Emerging US and British Media, 1850–1950* (London: Bloomsbury Academic, 2021).

Bartz, Christina. 'Normativité et normalité du discours allemand sur la télévision dans les années 1950'. In *La télévision du téléphonoscope à Youtube: pour une archéologie de l'audiovision*, edited by Mireille Berton and Anne-Katrin Weber (Lausanne: Editions Antipodes, 2009), 197–211.

Bazin, André. 'A Contribution to an *Erotologie* of Television' [1954]. In *André Bazin's New Media*, edited and translated by Dudley Andrew (Oakland: University of California Press, 2014), 105–115.

Berghoff, Hartmut. 'Enticement and Deprivation: The Regulation of Consumption in Pre-War Nazi Germany'. In *The Politics of Consumption: Material Culture and Citizenship in Europe and America*, edited by Martin Daunton and Matthew Hilton (New York: Berg, 2001), 165–184.

Bernold, Monika and Andrea Ellmeier. 'Konsum, Politik und Geschlecht. Zur "Feminisierung" von Öffentlichkeit als Strategie und Paradox'. In *Europäische Konsumgeschichte. Zur Gesellschafts- und Kulturgeschichte des Konsums, 18. bis 20. Jahrhundert*, edited by Hannes Siegrist, Hartmut Kaelble, and Jürgen Kocka (Frankfurt/Main; New York: Campus, 1997), 441–466.

Boddy, William. *Fifties Television: The Industry and Its Critics* (Champaign: University of Illinois Press, 1990).

Briggs, Asa. *The History of Broadcasting in the United Kingdom. Volume II: The Golden Age of Wireless* (Oxford: Oxford University Press, 1995).

Buonanno, Milly. *The Age of Television: Experiences and Theories*, translated by Jennifer Radice (Bristol and Chicago: Intellect Books, 2008).

Burns, Russell W. *Television: An International History of the Formative Years* (London: Institution of Electrical Engineers, 1998).

Burns, Russell W. 'The History of Television for Public Showing in Cinemas in the United Kingdom'. *IEE Proceedings* 132, no. 8 (December 1985): 553–563.

Chambers, Deborah. 'Designing Early Television for the Ideal Home: The Roles of Industrial Designers and Exhibitions, 1930s–50s'. *The Journal of Popular Television* 7, no. 2 (2019): 145–159.

Cogdell, Christina. 'The Futurama Recontextualized: Norman Bel Geddes's Eugenic "World of Tomorrow"'. *American Quarterly* 52, no. 2 (2000): 193–245.

Cowan, Ruth Schwartz. 'The "Industrial Revolution" in the Home: Household Technology and Social Change in the 20th Century'. *Technology and Culture* 17, no. 1 (1976): 1–23.

Cowan, Ruth Schwartz. 'The Consumption Junction. A Proposal for Research Strategies in the Sociology of Technology'. In *The Social Construction of Technological Systems. New Directions in the Sociology and History of Technology*, edited by Wiebe E. Bijker, Thomas Parke Hughes, and T.J. Pinch (Cambridge, MA: MIT Press, 1987), 261–280.

Cowan, Ruth Schwartz. *More Work for Mother: The Ironies of Household Technology from the Open Heart to the Microwave* (New York: Basic Books, 1999).

Dunlap, Orrin E. 'Act I, Scene I'. *The New York Times*, 19 March 1939.

Fickers, Andreas. 'Design als "Mediating Interface". Zur Zeugen- und Zeichenhaftigkeit desRadioapparates'. *Berichte Zur Wissenschaftsgeschichte* 30, no. 3 (2007): 199–213.

Friedberg, Anne. *Window Shopping: Cinema and the Postmodern* (Berkeley: University of California Press, 1994).

Giles, Judy. *The Parlour and the Suburb: Domestic Identities, Class, Femininity and Modernity* (New York: Berg, 2004).

Haralovich, Mary Beth. 'Sitcoms and Suburbs: Positioning the 1950s Homemaker'. *Quarterly Review of Film and Video* 11, no. 1 (1989): 61–83.

Haupt, Heinz-Gerhard. 'Konsum und Geschlechterverhältnisse'. In *Europäische Konsumgeschichte. Zur Gesellschafts- und Kulturgeschichte des Konsums, 18. bis 20. Jahrhundert*, edited by Hannes Siegrist, Hartmut Kaelble, and Jürgen Kocka (Frankfurt/Main; New York: Campus, 1997), 395–410.

Hessler, Martina. *'Mrs. Modern Woman': Zur Sozial- und Kulturgeschichte der Haushaltstechnisierung* (Frankfurt: Campus, 2001).

Hilmes, Michele. *Hollywood and Broadcasting: From Radio to Cable* (Champaign: University of Illinois Press, 1999).

Keightley, Keir. 'Low Television, High Fidelity: Taste and the Gendering of Home Entertainment Technologies'. *Journal of Broadcasting & Electronic Media* 47, no. 2 (2003): 236–259.

Lacey, Kate. *Feminine Frequencies: Gender, German Radio, and the Public Sphere, 1923 1945* (Ann Arbor: University of Michigan Press, 1996).

Leach, William R. 'Transformations in a Culture of Consumption: Women and Department Stores, 1890–1925'. *The Journal of American History* 71, no. 2 (1984): 319–342.

LeMahieu, D. L. *A Culture for Democracy: Mass Communication and the Cultivated Mind in Britain between the Wars* (Oxford: Oxford University Press, 1988).

McCarthy, Anna. *Ambient Television: Visual Culture and Public Space* (Durham, NC: Duke University Press, 2001).

Marchand, Roland. *Advertising the American Dream: Making Way for Modernity, 1920–1940* (Berkeley: University of California Press, 1985).

Marchand, Roland. 'The Designers Go to the Fair: Walter Dorwin Teague and the Professionalization of Corporate Industrial Exhibits, 1933–1940'. *Design Issues* 8, no. 1 (1991): 4–17.

Marchand, Roland. 'The Designers Go to the Fair II: Norman Bel Geddes, The General Motors "Futurama," and the Visit to the Factory Transformed'. *Design Issues* 8, no. 2 (1992): 23–40.

Miggelbrink, Monique. *Fernsehen und Wohnkultur. Zur Vermöbelung von Fernsehgeräten in der BRD der 1950er- und 1960er-Jahre* (Bielefeld: transcript, 2018).

Mulvey, Laura. 'Visual Pleasure and Narrative Cinema'. *Screen* 16, no. 3 (1975): 6–18.

Nava, Mica. 'Modernity's Disavowal. Women, the City and the Department Store'. In *Modern Times: Reflections on a Century of English Modernity*, edited by Mica Nava and Alan O'Shea (London: Routledge, 1996), 38–76.

Oudshoorn, Nelly, Ann Rudinow Saetnan, and Merete Lie. 'On Gender and Things: Reflections on an Exhibition on Gendered Artifacts'. *Women's Studies International Forum* 25, no. 4 (2002): 471–483.

Outka, Elizabeth. 'Crossing the Great Divides: Selfridges, Modernity, and the Commodified Authentic'. *Modernism/Modernity* 12, no. 2 (2005): 311–328.

Parks, Lisa. 'Cracking Open the Set: Television Repair and Tinkering with Gender 1949 1955'. *Television & New Media* 1, no. 3 (2000): 257–278.

Pater, Monika. 'Rundfunkangebote'. In *Zuhören und Gehörtwerden. Bd.1, Radio im Nationalsozialismus. Zwischen Lenkung und Ablenkung*, edited by Inge Marssolek and Adelheid von Saldern (Tübingen: Edition Diskord, 1998), 129–241.

Rappaport, Erika. '"A New Era of Shopping": The Promotion of Women's Pleasure in London's West End, 1909–1914'. In *Cinema and the Invention of Modern Life*, edited by Vanessa R. Schwartz and Leo Charney (Berkeley: University of California Press, 1995), 130–155.

Rydell, Robert W. *World of Fairs: The Century-of-Progress Expositions* (Chicago: University of Chicago Press, 1993).

Schneider, Birgit. 'Images-tests télévisuelles et points d'images aux débuts de la télévision allemande'. In *La télévision du téléphonoscope à Youtube: pour une archéologie de l'audiovision*, edited by Mireille Berton and Anne-Katrin Weber (Lausanne: Editions Antipodes, 2009), 275–302.

Schütz, Erhard. 'Das "Dritte Reich" als Mediendiktatur: Medienpolitik und Modernisierung in Deutschland 1933 bis 1945'. *Monatshefte* 87, no. 2 (1995): 129–150.

Seldes, Gilbert. 'The "Errors" of Television'. *Atlantic Monthly* (May 1937): 531–541.

Shapiro, Danielle. *John Vassos: Industrial Design for Modern Life* (Minneapolis: University of Minnesota Press, 2016).

Spigel, Lynn. *Make Room for TV: Television and the Family Ideal in Postwar America.* (Chicago: University of Chicago Press, 1992).

Steinmaurer, Thomas. *Tele-Visionen: zur Theorie und Geschichte des Fernsehempfangs* (Innsbruck and Vienna: Studienverlag GmbH, 1999).

Sterne, Jonathan. 'Television under Construction: American Television and the Problem of Distribution, 1926–62'. *Media, Culture & Society* 21, no. 4 (1999): 503–530.

Sugg Ryan, Deborah. 'The Daily Mail Ideal Home Exhibition and suburban modernity, 1908- 1951'. Ph.D., University of East London, 1995.

Sugg Ryan, Deborah. *The Ideal Home through the 20th Century: The Daily Mail Ideal Home Exhibition* (London: Hazar. 1997).

Sugg Ryan, Deborah. *Ideal Homes, 1918–39: Domestic Design and Suburban Modernism* (Manchester University Press, 2018).

Thumim, Janet. 'Women at Work: Popular Drama on British Television, 1955–1960'. In *Small Screen, Big Ideas: Television in the 1950s*, edited by Janet Thumim (London; New York: I.B. Tauris, 2002), 207–222.

Uricchio, William. 'Television as History: Representations of German Television Broadcasting, 1935–1944'. In *Framing the Past: The Historiography of German Cinema and Television*, edited by Bruce Arthur Murray and Chris Wickham (Carbondale: Southern Illinois University Press, 1992), 167–196.

Uricchio, William. 'Contextualizing the Broadcast Era: Nation, Commerce, and Constraint'. *The Annals of the American Academy of Political and Social Science* 625, no. 1 (2009): 60–73.

Van Oost, Ellen. 'Materialized Gender: How Shavers Configure the Users' Femininity and Masculinity'. In *How Users Matter: The Co-Construction of Users and Technology*, edited by Nelly Oudshoorn and Trevor J. Pinch (Cambridge, MA and London: MIT Press, 2003), 193–208.

Volek, Thomas W. 'Examining the Emergence of Broadcasting in the 1920s through Magazine Advertising'. *Journal of Radio Studies* 2, no. 1 (1993): 99–122.

Von Saldern, Adelheid. 'Innovative Trends in Women's and Gender Studies of the National Socialist Era'. *German History* 27, no. 1 (2009): 84–112.

Ward, Janet. *Weimar Surfaces: Urban Visual Culture in 1920s Germany* (Berkeley: University of California Press, 2001).

Wheatley, Helen. 'Television in the Ideal Home'. In *Television for Women: New Directions*, edited by Rachel Moseley, Helen Wheatley, and Helen Wood (Abingdon and New York: Routledge, 2016), 205–222.

Wheatley, Helen. *Spectacular Television: Exploring Televisual Pleasure* (New York: I.B. Tauris, 2016).

Williams, Raymond. *Television: Technology and Cultural Form* (London: Routledge, 1974).

Winker, Klaus. *Fernsehen unterm Hakenkreuz: Organisation, Programm, Personal* (Cologne: Böhlau, 1994).

Wurts, Richard. *The New York World's Fair, 1939/1940: In 155 Photographs* (New York: Dover Publications, 1977).

Wurtzler, Steve J. *Electric Sounds: Technological Change and the Rise of Corporate Mass Media* (New York: Columbia University Press, 2007).

Epilogue: Television Experiments, Past and Present

Abstract
The epilogue argues that the normalization of a domestic medium at the end of the 1930s should not lead us to neglect alternative strands of television's development that favour complementary social configurations and spatial arrangements. Rather than understanding interwar television as an exception in television's history, its multiple dispositifs point to the medium's essential experimentality.

Keywords: interwar television new media; television studies; experimental media

The domestication and the gendering of television at fairs would define the medium's identity for decades to come. However, this normalization of the domestic apparatus is neither the end of the story nor the end of experiments with alternative televisual forms. As Russell W. Burns's research on British collective television indicates, the Baird Television company (associated with Gaumont-British), as well as Scophony, a German-British firm with links to the radio manufacturer Ekco, tested television transmissions in movie theatres after the opening of the BBC's service. By September 1939, a total of five movie theatres with altogether over 8,900 seats had been equipped with the Baird large-screen apparatus.[1] Regarding the United States, film historians have taught us that large-screen TV was actively pursued by Hollywood. Already in the late 1930s, the Paramount studios affiliated themselves with DuMont, and after the war, most of the studios sought to collaborate with the radio industry in matters of television and installed theatre television in movies houses: by the end of 1952, over 100 theatres

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1   Burns, 'The History of Television for Public Showing'; Singleton, *The Story of Scophony*.

had purchased television systems.² Furthermore, while television displays were brought to a halt due to the outbreak of World War II, research on television applications continued behind closed doors in collaboration with US and European armies and navies. Although not immediately successful, military-backed R&D fostered the distribution of a new dispositif, namely the closed-circuit. Early CCTV systems were first used for experiments with teleguided weaponry; very rapidly, they were introduced in factory halls, corporate offices, classrooms, and public spaces, where they served – and continue to serve – the automation, rationalization, and surveillance of the industry, science, and society more broadly.³ Last, but not least, sprawling across platforms and devices, digital television again questions the medium's domestic essence and once more brings to the fore its far-reaching adaptability.

The normalization of *domestic* television thus occurred in parallel with a continuous diversification of televisual forms and formats, which extended the medium's heterogeneity beyond the interwar period. Although many of these applications remained marginal from an economic point of view,⁴ they emphasize television's intermedia links with radio and cinema, and more generally its broad spectre of uses and images. They show that interwar television's fundamental hybridity was less the consequence of the medium's 'newness' than an essential characteristic of a medium always 'in flow'.

Such an understanding of television as a profoundly flexible medium puts into question all too clear-cut distinctions between the so-called novelty phase and the medium's subsequent institutionalization. It allows to shine a new light on historiographical models concerning the emergence of new media, such as the 'two births' model proposed by cinema historians André Gaudreault and Philippe Marion. For Gaudreault and Marion, new media go through a transformation corresponding to

2   Gomery, 'Failed Opportunities'; Hilmes, *Hollywood and Broadcasting*; Kitsopanidou, 'Electronic Delivery of Alternative Contents'; Boddy, 'Revisiting Postwar Theater Television'. Anna McCarthy has revised the common assumption that this collective form of TV declined after the mid-1950, when Hollywood abandoned theatre television, and has argued that theatre television constituted an important part of the Black public sphere from the 1950s to the 1970s. McCarthy, '"Like an Earthquake!"'. Recently, Ariel Rogers has stressed the multiplicity and mobility of cinema *and* television screens in the 1930s, in Rogers, *On the Screen.*

3   Weber '"L'œil électrique" et "la torpille volante"'; see Hughes, *Television at Work* for a book-length study of television's use in corporate America; Murray, 'The New Surgical Amphitheater' analyses CCTV in the medical context; also Meyer, *Eidophor* for a detailed analysis of the large-screen CCTV projector.

4   The history of two-way television is a particularly salient example of 'failed' or marginal inventions, see Lipartito, 'Picturephone and the Information Age'.

a processual demarcation of their identity. The medium's 'first birth' describes its appearance in public space as a yet-to-be-defined means of communication, during which the borrowings from and entanglements with pre-existing media are particularly pronounced. A medium's 'second birth' corresponds to the stabilization of its identity, which is sustained by recognizable institutional structures and relative economic solidity.[5] Television's flexibility, explicit in the many nineteenth-century schemes as well as in the multiple interwar dispositifs, would be the result of the medium's 'first birth'. Its 'second birth', then, corresponds to the moment of the stabilization of a homogeneous – and domestic – identity in the post-war era. While Gaudreault and Marion's model helps to frame different moments of television's emergence, it also risks veiling those dispositifs that are continuously pushed to the fringes by the dominant media assemblage *and* by historiography. It indeed leaves little room for alternatives to institutionalized media, which favour complementary social configurations and spatial arrangements. Applied to television's history, it tends *in fine* to construct the domestic dispositif as the frame of reference against which all other *televisions*[6] are gauged.

In order to decentre the historiographical narrative from its focus on domestic applications, I join television scholars Judith Keilbach and Markus Stauff who understand the medium's history as an 'ongoing experiment'. Instead of delineating successive phases delimited by changes and 'revolutions', Keilbach and Stauff highlight the constant transformation at the core of television forms and practices.[7] They make the case that we best understand television as an 'experimental system', defined as a 'heterogeneous constellation of theories, objects, instruments and practices redefining each other constantly'.[8] For Keilbach and Stauff, television as a whole consists of a moving assemblage, within which the different components – be they technical, aesthetic, economic, – are continually rearranged by the actors using it. Their study emphasizes that even during the so-called 'era of

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5   Gaudreault and Marion, 'A Medium Is Always Born Twice …'. For a recent discussion and productive use of Gaudreault and Marion's proposal, see Galili, *Seeing by Electricity*.
6   See Lotz, The *Television Will Be Revolutionized*, 78.
7   Keilbach and Stauff, 'When Old Media Never Stopped Being New'.
8   Keilbach and Stauff, 'When Old Media Never Stopped Being New', 83. To think about televisual experiments, Keilbach and Stauff draw upon the work by the historian of science Hans-Jörg Rheinberger. Rheinberger analyses the way knowledge is generated through scientific manipulations, and argues that the instruments used in laboratories and the object studied by scientists cannot be separated: the latter – an *a priori* unknown entity – is being formed and reveals itself only through the scientist's intervention within the framework of its experience.

constraint.[9] allegedly immutable broadcasting organizations unremittingly adapted their practices and procedures to changing technologies, economics, or public demand. As is evident in the emblematic case of the moon landing's live transmission in 1969, the institutions embraced experimentation on several levels; from testing television's expansion into space to the address of a global audience, the event redefined the medium's realm of possibilities. Drawing upon numerous examples from the post-war period, Keilbach and Stauff thus invite us to contextualize interwar television's specific 'experimentality' as much as the recent transformations of television in the digital era. The digital multi-platforms appear henceforth less as a deviation from the domestic norm than the expression of the medium's elemental flexibility, for which interwar displays provide an additional proof.

Finally, Keilbach and Stauff's definition of television as an experimental system reverberates with the notion of the dispositif I have used in this book, as both designate a hybrid constellation of machines, ideas, and people. The four dispositifs I have unearthed were ongoing experiments with television's meaning, spectatorial address, and spatial arrangements. They were intimately linked to the act of displaying; showing television meant experiencing, apprehending, defining, and delineating it, be it as a two-way communication device, a variation of cinema's collective spectacles, or as audiovisual broadcast medium for the home, as a spectacular, reflexive, live, or daylight dispositif. The medium's conception and its forms were co-generated by its showcasing, which repositioned its material parts and attributed a particular place to visitors and viewers. Therefore, while the 1920s and 1930s are sometimes called television's 'experimental' phase (that follows the nineteenth-century 'speculative' period), this experimentality not only designates a particular moment of the medium's history, but brings to the fore the long durée of its ongoing transformations. In other words, the normalization of a domestic (daylight) dispositif towards the end of the 1930s must be understood as a further manipulation of television's fluid identity, rather than the final push in delivering 'TV'.

In concluding this book, I would like to return to what, in some ways, constitutes the backbone of my study, namely the photographs of television before TV. These images, often transmitted without any information about their author or the context of their reception and circulation, are unstable sources and subject to the interpretation of the researcher. Despite their indexicality and apparent immediate presence, they do not provide direct

9   Uricchio, 'Contextualizing the Broadcast Era'.

Figure 0.2. Radiolympia girls with a cathode television tube at Radiolympia 1936.

Source: Photograph by Bishop Marshall. Daily Herald Archive / Science Museum Group.

access to the past; they are aesthetic, material, and cultural objects with their own history and mediality. The significant amount of visual historical data now accessible online has rendered these issues even more critical inasmuch as the photographs are removed from their original context, and included in databases organized by metadata that provide apparent effortless answers to these concerns.[10] If photographs are thus sometimes considered problematic material for historical research, they are also a source of playful thinking. These mass-produced artefacts offer a means to approach the past through unexpected details and unlooked-for information. Revealing always more than what they are meant to depict, such images document things that standard histories would not retain. Among the many images I have consulted for my research, there is one of which I am particularly fond (Figure 0.2). Portraying two young 'Radiolympiagirls' and a large cathode ray tube, the image epitomizes the role of women and their bodies in the commodification and domestication of consumer electronics

10   Furthermore, the commercialization and privatization of large picture libraries raises issues of control and access to historical material, which shapes the historian's work. See Tucker, 'Entwined Practices'. On the history of 'image banks' in the twentieth century, see Blaschke, *Banking on Images*.

at radio fairs.[11] It tells the story of how a 'masculine' technology was literally gendered as a 'female' tool – here for the application of make-up. Using the technological object to powder her face, the young woman on the right manipulates television's 'empty' image to see her own reflection. Staged for the photographer's lens and the viewers gaze, her gesture thus also captures what I have argued here: that even without programmes, television before TV was not without content.

Works Cited

Anon. 'Preview of Radiolympia'. *Daily Herald*, 26 September 1936.

Blaschke, Estelle. *Banking on Images: From the Bettmann Archive to Corbis* (Leipzig: Spector Books, 2016).

Boddy, William. 'Revisiting Postwar Theater Television'. *Media Industries Journal* 7, no. 2 (2020), online, https://doi.org/10.3998/mij.15031809.0007.201.

Burns, Russell W. 'The History of Television for Public Showing in Cinemas in the United Kingdom'. *IEE Proceedings A* (*Physical Science, Measurement and Instrumentation, Management and Education, Reviews*) 132, no. 8 (1985): 553–563.

Galili, Doron. *Seeing by Electricity. The Emergence of Television, 1878 – 1939* (Durham, NC: Duke University Press, 2020).

Gaudreault, André, and Philippe Marion. 'A Medium Is Always Born Twice …'. *Early Popular Visual Culture* 3, no. 1 (2005): 3–15.

Gomery, Douglas. 'Failed Opportunities: The Integration of the U.S. Motion Picture and Television Industries'. *Quarterly Review of Film Studies* 9, no. 3 (1984): 219–228.

Hilmes, Michele. *Hollywood and Broadcasting: From Radio to Cable* (Champaign, IL: University of Illinois Press, 1999).

Hughes, Kit. *Television at Work: Industrial Media and American Labor* (Oxford and New York: Oxford University Press, 2020).

Keilbach, Judith, and Markus Stauff. 'When Old Media Never Stopped Being New: Television's History as an Ongoing Experiment'. In *After the Break. Television Theory Today*, edited by Marijke de Valck and Jan Teurlings (Amsterdam: Amsterdam University Press, 2013), 79–98.

Kitsopanidou, Kira. 'Electronic Delivery of Alternative Contents in Cinemas before the Digital Era: The Case of Theater Television in the US Exhibition Market in the 1940s and 1950s'. *Mise Au Point. Cahiers de l'association française des*

---

11   These two women were most certainly employed for the entertainment programme accompanying the 1936 Radiolympia exhibition and were probably part of the 'fifty juvenile dancing girls' show organized at the broadcasting theatre. See 'Preview of Radiolympia'.

enseignants et chercheurs en cinéma et audiovisuel, no. 4 (2012), online, https:// journals.openedition.org/map/775 (accessed 25 July 2021).

Lipartito, Kenneth. 'Picturephone and the Information Age: The Social Meaning of Failure'. *Technology and Culture* 44, no. 1 (January 2003): 50–81.

Lotz, Amanda D. *The Television Will Be Revolutionized* (New York: New York University Press, 2007).

McCarthy, Anna. '"Like an Earthquake!" Theater Television, Boxing, and the Black Public Sphere'. *Quarterly Review of Film and Video* 16, no. 3–4 (1997): 307–323.

Meyer, Caroline. *Der Eidophor: Ein Grossbildprojektionssystem zwischen Kino und Fernsehen 1939–1999* (Zürich: Chronos, 2009).

Murray, Susan. 'The New Surgical Amphitheater: Color Television and Medical Education in Postwar America'. *Technology and Culture* 61, no. 3 (2020): 772–797.

Rogers, Ariel. *On the Screen: Displaying the Moving Image, 1926–1942* (New York: Columbia University Press, 2019).

Singleton, Thomas. *The Story of Scophony* (London: Royal Television Society, 1988).

Tucker, Jennifer, in collaboration with Tina Campt. 'Entwined Practices: Engagements with Photography in Historical Inquiry'. *History and Theory* 48, no. 4 (2009): 1–8.

Uricchio, William. 'Contextualizing the Broadcast Era: Nation, Commerce, and Constraint'. *The Annals of the American Academy of Political and Social Science* 625, no. 1 (2009): 60–73.

Weber, Anne-Katrin. '"L'œil électrique" et "la torpille volante": pistes pour une histoire du drone à partir de l'histoire télévisuelle'. *A contrario* n° 29, no. 2 (2019): 81–98.

Full Bibliography

Archival Collections and Research Libraries

A Century of Progress records, Special Collections and University Archives, University of Illinois at Chicago

Alexandra Palace Television Society, London

Bayerische Staatsbibliothek, Munich

BBC Photo Library

BBC Written Archives Centre, Caversham Park, Reading

British Library, London

BT Archives, London

Daily Herald Photographic Archive, Science Museum Group

Das Bundesarchiv, Lichterfelde-Berlin

David Sarnoff Research Center Records, Hagley Museum and Library, Wilmington, DE

Deutsches Rundfunkarchiv DRA, Frankfurt

Deutsche Staatsbibliothek, Berlin

Deutsches Technikmuseum, Berlin

Earls Court & Olympia Collection, London Metropolitan Archives

ETH-Bibliothek, Swiss Federal Institute of Technology Zurich

General Electric Company, miSci, Museum of Innovation and Science, Schenectady, NY

George H. Clark Radioana Collection, Archives Center, National Museum of American History, Smithsonian Institution, Washington

John Vassos Papers, Archives of American Art, Smithsonian Institution, Washington

New York World's Fair 1939–1940 records, Manuscripts and Archives Division, The New York Public Library

Pavek Museum of Broadcasting, Sankt Louis Park, Minnesota

The New York Public Library

Ullstein Bild, Berlin

Journals and Newspapers

Berliner Zeitung am Mittag

Broadcast News, RCA Publication

Die Sendung

Europa-Stunde

Fernsehen. Zeitschrift für Technik und Kultur des gesamten elektrischen Fernsehwesens

Funk-Stunde
Funkbastler
Intercine
Popular Wireless, followed in 1934 by Popular Wireless and Television Times
Projection Engineering
Radio News
Radio Retailing
Radio Times
Radio World
Radio-Bern / Radio-Basel
Shelf Appeal
Telefunken-Zeitung
Television News
Radio Review and Television News
Television: The World's First Television Journal, followed in 1934 by Television: The
    First Television Journal in the World
The Gramophone
The New York Sun
The New York Times
The Observer
The Times
The Wireless and Electrical Trader. Radio Wholesalers' Guide
The Wireless Engineer and Experimental Wireless
Völkischer Beobachter
Wireless Constructor
Wireless World and Radio Review
Zeitschrift der Fernseh A.G.

Online Ressources

https://digital.hagley.org/
https://lantern.mediahist.org/
https://digitalcollections.nypl.org/
https://www.scienceandsociety.co.uk/
https://worldradiohistory.com/

Primary Sources

Anon. *Grand Opening Festival: Programme and Book of Words* (London: Burt & Co., 1873).

Anon. 'Seek to Consolidate Two Fall Radio Shows'. *The New York Times*, 30 May 1926.

Anon. 'Only One Radio Show'. *The New York Times*, 22 June 1926.

Anon. 'Television' *Nature* 118, no. 2957 (3 July 1926): 18–19.

Anon. 'Television Sets for Sale. New Department at Selfridge's'. *The Times*, 21 February 1928.

Anon. 'Television Sets for Sale'. *The Times*, 21 February 1928.

Anon. 'Baird Puts Television on Sale; Opening Branch in Selfridge's'. *The New York Times*, 21 February 1928.

Anon. 'Was bringt die Deutsche Funkausstellung 1928?'. *Schweizerische Radiozeitung / Radio-Bern* 5, no. 35 (1928): 565.

Anon. 'Broadcast Scene and Sound'. *The New York Times*, 21 June 1928.

Anon. 'Funk-Schau Vorschau'. *B.Z. am Mittag*, 4 August 1928.

Anon. 'Eröffnung der Funk-Ausstellung. Der Festakt am Kaiserdamm'. *B.Z. am Mittag*, 31 August 1928, cover page.

Anon. 'Die Schau der neuen Möglichkeiten. Vergangenheit, Gegenwart und Zukunft an der Funk-Ausstellung'. *B.Z. am Mittag*, 1 September 1928.

Anon. 'Impressions of the Berlin Show'. *The Wireless World* 13, no. 11 (12 September 1928): 306–310.

Anon. 'World Radio Fair Will Open Monday'. *Evening Post*, 15 September 1928.

Anon. 'Edison Opens Radio Show Monday'. *The New York Sun*, 15 September 1928.

Anon. 'CROWDS ATTEND RADIO EXHIBIT – Television Exhibit Leads in Popular Interest'. *The New York Sun*, 18 September 1928.

Anon. 'Television Thrills Radio Show Crowd'. *The New York Times*, 21 September 1928.

Anon. 'Editorial'. *Television: The World's First Television Journal* 1, no. 8 (October 1928): 3–4.

Anon. 'Editorial. Television at Olympia'. *Television: The World's First Television Journal* 1, no. 9 (November 1928): 3.

Anon. 'The Fifth Annual Radio World's Fair'. *Radio News* 10 no. 6 (December 1928): 542, 577.

Anon. 'Port Exposition to Open Tomorrow at Armory'. *The Times-Union Albany*, April 5, 1929.

Anon. 'Television to Feature Post Show at Armory'. *The Albany Citizen*, April 5, 1929.

Anon. '300,000 Visit N.Y. Show, See 1930 Design'. *Radio World* 16, no. 2 (28 September 1929), 20.

Anon. 'Show Highlights in Picture'. *The New York Sun*, 28 September 1929.

Anon. 'Television at the Berlin Exhibition'. *Television: The World's First Television Journal* 2, no. 20 (October 1929): 379–389.

Anon. 'Die grosse Londoner Radio-Ausstellung'. *Schweizerische Radiozeitung / Radio-Bern* 6, no. 41 (4 October 1929): 539.

Anon. 'Television at the Berlin Exhibition'. *Television: The World's First Television Journal* 2, no. 21 (October 1929): 379–389.

Anon. *Daily Mail Ideal Home Exhibition, Olympia, 1930. Official Catalogue* (London, 1930).

Anon. 'Die Funkausstellung zeigt… Eine Gebrauchsanweisung'. *B.Z. am Mittag*, 8 August 1930.

Anon. 'Albert Einstein'. *Funk-Stunde* 1930, no. 33 (15 August 1930), cover page.

Anon. 'Was wir in Witzleben sehen und hören werden'. *B.Z. am Mittag*, 21 August 1930.

Anon. 'Seen at the Show'. *Popular Wireless* 17, no. 432 (13 September 1930): 736.

Anon. 'Londoner National Radio Exhibition 1930'. *Radio Berlin* 8, no. 19 (1930): 914.

Anon. 'Facts about the Radio World's Fair'. *The New York Sun*, 20 September 1930.

Anon. 'Off to A Flying Start'. *Radio Retailing* 12, no. 4 (October 1930): 44–45, 71.

Anon. 'Radio World's Fair Opens'. *The New York Sun*, 21 September 1931.

Anon. 'Television to Link Theaters in Test'. *The New York Times*, 14 October 1931.

Anon. 'Television Demonstrated in Store Window'. *Television News* 1, no. 6 (January-February 1932): 435.

Anon. 'Funkausstellung eröffnet'. *B.Z. am Mittag,* 19 August 1932.

Anon. 'Two Units Needed for Vision'. *The New York Sun*, 17 September 1932.

Anon. 'Al Smith Faces Televisor'. *The New York Sun,* 24 September 1932.

Anon. 'Television at Radiolympia'. *Television: The First Television Journal in the World* 5, no. 55 (September 1932): 247–248.

Anon. 'The Skyscraper Flat by R. A. Duncan, A.R.I.B.A.'. In *Daily Mail Ideal Homes. Catalogue and Review* (London, 1933), 233–235.

Anon. 'A Sunny Village of Ideal Homes'. *The Times,* 17 March 1933.

Anon. 'Notes of the Month', *Television. The First Television Journal in the World* 6, no. 62 (April 1933): 131.

Anon. 'Car Demand Keeps High'. *The New York Times,* 9 July 1933.

Anon. 'Television Device Shown'. *The New York Times,* 11 July 1933.

Anon. 'A Day for Each Group'. *The New York Sun*, 16 September 1933.

Anon. 'Radio Exposition Opens at Garden'. *The New York Sun*, 20 September 1933.

Anon. 'Opening of Radio City, New York'. *Nature,* no. 132 (30 December 1933): 998–999.

Anon. 'New Art in Radio. A Celebrated Designer Joins Staff of RCA Victor Company'. *Broadcast News,* no. 10 (February 1934): 21.

Anon. *Amtlicher Führer. Grosse Deutsche Funk-Austellung Berlin 1934* (Berlin: Franz Eher GmbH, 1934).

Anon. 'Special Exhibits'. In *Radiolympia. National Radio Exhibition 1934: Official Catalogue* (London: Radio Manufacturers' Association, 1934): 160.

Anon. 'Loewe Television Demonstrated in London'. *Television: The First Television Journal in the World* 7, no. 79 (September 1934): 391–392.

Anon. 'The Television Committee in Germany'. *Television: The First Television Journal in the World* 7, no. 82 (December 1934): 538.

Anon. 'World Television Rush Is On!'. *Radio World* 16 (February 1935): p. 4.

Anon. 'Fernsehen im Ausland'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehwesens und des Tonfilms* 6, no. 1 (February 1935): 10–11.

Anon. 'Televiewer'. *The Times,* 18 April 1935.

Anon. 'Choose Alexandra Palace for British Television Station'. *Chicago Daily Tribune*, 4 April 1935.

Anon. 'Der Fernsehbetrieb in Berlin eröffnet'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehwesens und des Tonfilms* 6, no. 2 (April 1935): 13–16.

Anon. 'Der neue Fernsehaufnahmewagen der Reichsrundfunkgesellschaft'. *Funk-Stunde* 12, no. 21 (May 1935): 838.

Anon. 'Jeder soll Fernsehen'. *Funk-Stunde* 12, no. 22 (22 May 1935): 879.

Anon. 'Fernsehkongress im Zeichen der Rundfunkeinheit'. *NS-Funk* no. 24 (1935): 2.

Anon. 'Fernsehen: 8. Grossmacht'. *Funk-Stunde* 12, no. 24 (7 June 1935): 959.

Anon. 'London Television Station Chosen'. *The Times,* 7 June 1935.

Anon. 'Der erste Fernseh-Aufnahmewagen nach dem Zwischenfilmverfahren'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehwesens und des Tonfilms* 6, no.5 (July 1935): 49–51.

Anon. 'The "Telepathovox"'. *Popular Wireless and Television Times* 27, no. 691 (August 1935): 694.

Anon. 'B.Z.-Bilder'. *Berliner Zeitung am Mittag*, 16 August 1935.

Anon. 'Mystery Radio Brain'. *Daily Herald*, 18 August 1935.

Anon. 'Women's £10,000,000 Radio Show Opens Today'. *Daily Herald*, 18 August 1935.

Anon. 'The Editor's Chat'. *Wireless and Television Review*, Special Exhibition Number 2, no. 9 (August 1935): 3.

Anon. 'Das erste Fernseh-Ja-Wort'. *Funk-Stunde*, no. 34 (August 1935): 1367.

Anon. 'Der Deutsche Paul Nipkow'. In *Amtlicher Führer zur 12. Grossen Deutschen Rundfunkausstellung Berlin 1935* (Berlin, 1935), 35.

Anon. 'Television Race Gets Hotter'. *Radio World* 17 (September 1935): 5–6.

Anon. 'The Shape of Things to Come'. In *Daily Mail Ideal Homes. Catalogue and Review* (London, 1936), 267–269.

Anon. '13. Grosse Deutsche Rundfunkausstellung in Berlin'. *Der Film* 21, no. 35 (August 1936): n. pag.

Anon. 'Fernsehen bei den Olympischen Spielen 1936'. *Fernsehen und Tonfilm. Zeitschrift fürTechnik und Kultur des Fernsehwesens und des Tonfilms* 7, no. 8 (August 1936): 57–59.

Anon. 'First Television Broadcast'. *The Times*, 26 August 1936.

Anon. 'Am Pavillion unter dem Volkssender: Bielefelder spielten für den Volkssender'. *Westfälische Neuste Nachrichten*, 2 September 1936.

Anon. 'The Sideshows at Olympia: Popularity of the Television Demonstrations'. *The Wireless World: The Practical Radio Journal* 39, no. 10 (4 September 1936): 271.

Anon. 'All-Wave Sets at Radiolympia'. *The Times*, 5 September 1936.

Anon. 'Radio Show Ends: New Records Set'. *The New York Times*, 20 September 1936.

Anon. 'Preview of Radiolympia'. *Daily Herald*, 26 September 1936.

Anon. 'Special Exhibits'. In *Official Catalogue of the National Radio Exhibition, Olympia* (London: Radio Manufacturers' Association, 1936): 154.

Anon. 'Television Receivers'. *The Times*, 9 February 1937.

Anon. 'Televising the Fashions'. *Radio Times. Television Supplement* 54, no. 700 (26 February 1937): 6–7.

Anon. 'Russland, Italien, Deutschland: Die drei Kolossalen'. *Das Werk* 24 (1937): 341–344.

Anon. *Die Fernsehschau der deutschen Reichspost auf der internationalen Ausstellung Paris 1937 / La section de la télévision à l'exposition internationale de Paris 1937 / Television Show by the Deutsche Reichspost at the International Exhibition Paris 1937* (Berlin: Deutsche Reichspost) 1937.

Anon. 'R.C.A. to Exhibit in Fair Building. Television will be Feature'. *The New York Times*, 18 June 1937.

Anon. 'Fernsehen 1937'. *Funk-Stunde*, no. 33 (15 August 1937): 3.

Anon. 'Prelude to Radiolympia'. *Radio Times. Television Supplement* 56, no. 724 (13 August 1937): 16.

Anon. 'Secrets of the Radio Show'. *The Observer*, 22 August 1937.

Anon. 'Big Money Radio Show'. *Daily Herald*, 25 August 1937.

Anon. 'Outdoor Television'. *The Times*, 26 August 1937.

Anon. 'Television Demonstrations'. In *The National Radio Exhibition. Radiolympia: Official Catalogue* (London: Radio Manufacturers' Association, 1937), 148–149.

Anon. 'Free Television Theater Opened in London Store'. *Chicago Daily Tribune*, 26 August 1937.

Anon. 'Radio Notes & News – Radiolympia'. *Popular Wireless and Television Times* 31, no. 794 (28 August 1937): 579.

Anon. 'Watching a Radio Shadow Show'. *The New York Times*, 24 October 1937.

Anon. 'Fair Radio Exhibit to Be in Huge "Tube"'. *The New York Times*, 7 February 1938.

Anon. 'No Theatre at Radiolympia'. *The Wireless and Electrical Trader* 54 (7 May 1938): 193.

Anon. 'Television at the Ideal Home Exhibition'. *The Gramophone* (May 1938): 538–539.

Anon. 'Wait for Radiolympia!'. *Radio Times* 60, no. 773 (22 July 1938): 16.

Anon. 'Eröffnung der Fernsehsprechverbindung Berlin-München'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehwesens und Tonfilms,* no. 8 (August 1938): 58–59.

Anon. 'Wie öffnet man Austern... an der Rundfunkausstellung bei 30 Grad im Schatten'. *Berliner Zeitung*, 12 August 1938.

Anon. '1938-Teleolympia'. *Television and Short-Wave World* 11, no. 126 (August 1938): 458

Anon. 'Alexandra Palace goes to Radiolympia'. *Radio Times* 60, no. 777 (19 August 1938): 7.

Anon. 'Progress of Television. Booklet Published by the BBC'. *The Times*, 23 August 1938.

Anon. 'News of the Week: Radiolympia. Television the Focal Point of the Show'. *The Wireless World* 43 no. 8 (25 August 1938): 187.

Anon. 'Television To-Day'. In *The National Radio Exhibition Radiolympia: Official Catalogue* (London: RMA, 1938), 37–41.

Anon. 'Impressions from Olympia'. *The Wireless World* 43, no. 10 (8 September 1938): 228.

Anon. 'Britons See New Televisors'. *The New York Sun*, 17 September 1938.

Anon. 'Flats and Chambers'. *The Times,* 27 September 1938.

Anon. 'Television from Radiolympia'. *The Times*, 22 August 1938.

Anon. 'A Television Radio Show'. *The Manchester Guardian*, 24 August 1938.

Anon. 'Mannequins Star on Television Today'. *Daily Herald,* 31 August 1938.

Anon. 'Pharmacy of the Future Shown at the Fair'. *The New York Times,* 5 February 1939.

Anon. 'Television. It Makes Its Commercial Debut this Spring with World's Fair'. *Life* 6, no. 8, (20 February 1939): 46–50.

Anon. 'Stores Offer Television'. *The New York Sun*, 29 April 1939.

Anon. 'Radio Living Room of Tomorrow'. *Broadcasting—Broadcast Advertising* 16, no. 9 (May 1939): 71.

Anon. 'Danish Heir Happy as Plain Sightseer'. *The New York Times,* 4 May 1939.

Anon. 'CBS to Ask Criticism of Public on Television'. *Broadcasting / Broadcast Advertising* (May 1939): 22.

Anon. 'A Television Conference'. *The Gramophone*, no. 194 (July 1939): 80–81.

Anon. 'This Month's Great Show'. *The Observer*, 13 August 1939.

Anon. 'BEST RADIOLYMPIA OPENS TODAY. £5000 Theatre built for 10 days use'. *Daily Herald*, 23 August 1939.

Anon. 'A Discursive Note on Modern Television'. *The Gramophone*, no. 195 (August 1939): 123–124.

Arnheim, Rudolph [sic]. 'Seeing Afar Off'. *Intercine* 7, no. 2 (February 1935): 71–82.

Bachmann, I.G. 'Fernsehen fürs Volk'. In *Amtlicher Führer zur 12. Grossen Deutschen Rundfunkausstellung Berlin 1935* (Berlin, 1935), 44–46.

Bull, William. 'A Message from the Rt. Hon. Sir William Bull, Bt., F.S.A.'. In *Official Catalogue of the National Radio Exhibition, Olympia, 1929* (London: Radio Manufacturers' Association, 1929), 13.

Callisthenes. 'Television. First Public Demonstration'. *The Times*, 24 March 1925.

Callisthenes, 'The Road of Progress'. *The Times,* 17 February 1936.

Callisthenes. 'The Progress of Television'. *The Manchester Guardian,* 21 September 1937.

Century of Progress, Inc., ed. *Official Catalog of Exhibits in the Division of the Basic Sciences, Hall of Science.* (Chicago: The Exposition, 1933).

Century of Progress, Inc., ed. *Official Guide. Book of Fairs* (Chicago: The Exposition, 1933).

Dunlap, Orrin E. 'Varied News and Comment Heard at the Radio Shows'. *The New York Times*, 20 September 1925.

Dunlap, Orrin E. *The Outlook for Television* (New York; London: Harper & Bros., 1932).

Dunlap, Orrin E. 'Sarnoff Scans the Radio World'. *The New York Times,* 27 October 1935.

Dunlap, Orrin E. 'Radio Makes Its Plans to Go to the World's Fair'. *The New York Times,* 22 May 1938.

Dunlap, Orrin E. 'Act I, Scene I'. *The New York Times*, 19 March 1939.

Eck, Bernhard. 'Fernsehen – ganz gross! Beim Fernsehsender Paul Nipkow zu Gast'. *Völkischer Beobachter*, no. 216 (4 August 1937): 7.

Eckersley, Peter P. 'What I Thought of the Show'. *Popular Wireless* 18, no. 434 (4 October 1930): 153–154.

Flanze G., and A. Gehrts. 'Die Fernsehvorführungen der Deutschen Reichspost auf der Internationalen Ausstellung Paris 1937'. Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehens und Tonfilms no. 6 (June 1938): 43–46.

Fleming, Ambrose. 'Short Names for Television: From the President'. *Journal of the Television Society* 2 (March 1935): 24.

Gradenwitz, Alfred. 'A Special Article on Germany's Television'. *Popular Wireless and Television Times* (6 October, 1934): 110.

Hadamovsky, Eugen. 'Reichssendeleiter Hadamovsky: Die Mission des Fernsehfunks'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehwesens und des Tonfilms* 6, no. 2 (1935): 15–16.

Hirosé, Arthur P. 'What the Wise Dealer Will Sell this Year'. *Radio Retailing* 17, no. 2 (February 1933): 14–15.

Jilberg, W. 'Ein Jahrzehnt Bildtelegrafie und Fernsehen Telefunken–Karolus'. *Telefunken-Zeitung* 14, no. 65 (November 1933): 18–19.

Kägeler, G. 'Das Fernsehen der Deutschen Reichspost'. In *Amtlicher Führer zur 16. Grossen Deutschen Rundfunk- und Fernseh-Rundfunk-Ausstellung Berlin 1939* (Berlin 1939), 18.

Kette, Georg. 'Was hat uns die Fernseh-Abteilung der Berliner Funkausstellung gezeigt?'. *Fernsehen. Zeitschrift für Technik und Kultur des gesamten elektrischen Fernsehwesens* 1, no. 1 (1930): 28–32.

Kette, Georg. 'Das Fernsehen auf der Berliner Funkausstellung 1932'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehwesens und des Tonfilms* 3, no 4 (October 1932): 193–205.

Kette, Georg. 'Funkausstellungs-Bericht'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehwesens und des Tonfilms* 5, no. 5 (1934): 51–60.

Kette, Georg. 'Fernsehen auf der Rundfunkausstellung 1935'. *Fernsehen und Tonfilm. Zeitschrift für Technik und Kultur des Fernsehwesens und des Tonfilms* 6, no. 7 (1935): 61–68.

K. M., 'Sonderschau des Tonfilms'. *B.Z. am Mittag*, 21 August 1931.

Larsen, Egon. 'Fernseher in Sicht!'. *Film und Volk: Organ des Volksfilmverbandes* 2, no. 4 (1929) [Reprint: Köln: Prometh 1978]: 9–10.

Lescarboura, Austin C. 'Radiovision Bids for Public Favor'. *Projection Engineering* 2, no. 6 (June 1930): 15–17.

National Broadcasting Company (NBC). *America's First Television Tour: Demonstrating [and] Describing the Art and Science of Seeing at a Distance* (New York: National Broadcasting Co., 1939).

Neuburger, Albert. 'Möbel oder nicht Möbel?'. *Berliner Zeitung am Mittag*, 8 September 1928.

Neub[u]rger, Albert. 'The Karolus System of Television'. *Television: The World's First Television Journal* 1, no. 8 (1928): 35.

Neuburger, Alfred. 'Am Fernseh-Sprecher'. *Berliner Zeitung*, 7 September 1929.

Neuburger, Albert. 'Die Funkausstellung – eine Tonschau'. *B.Z. am Mittag,* 21 August 1931.

Norman, R. C., 'A Message from the B.B.C. to Radiolympia 1938'. In *The National Radio Exhibition. Radiolympia. Official Catalogue* (London: RMA, 1938), 11.

Nichols, Lewis. 'A White Way Revolution: Theatres, Movies and Radio Are All Changing and Each is Borrowing Talents and Theories from the Others'. *The New York Times,* 16 June 1935.

Organisationskomitee für die XI. Olympiade Berlin, *The XIth Olympic Games, Berlin, 1936. Official Report* vol. 1. (Berlin: W. Limpert, 1937).

Plugge. 'Tonfilmtheater, Tonfilmherstellung und Fernsehen auf der Funk- und Phonoschau Berlin 1931'. In *Funkalmanach. Offizieller Ausstellungskatalog zur*

Grossen Dt. Funkausstellung und Phonoschau Berlin 1931 (Berlin: Rothgiesser und Diesing, 1931), 43.

Regen, Bernard R., and Richard R. Regen, *German-English Dictionary for Electronics Engineers and Physicists with a Patent-Practice Vocabulary* (Ann Arbor: 1946).

Reith, John. 'A Message from the B.B.C. to The National Radio Exhibition, 1935'. In *Official Catalogue of the Tenth National Radio Exhibition Olympia* (London: Radio Manufacturers' Association, 1935), 15.

Rhein, Eduard. *Wunder der Wellen: Rundfunk und Fernsehen dargestellt für jedermann* (Berlin: Ullstein, 1935).

Reyner, J. H. 'Television at the Empire Exhibition: How the New Art was Introduced to South Africa'. *Wireless World* 39, no. 16 (16 October 1936): 399.

Ruttmann, Walter. 'Prinzipielles zum Tonfilm'. *Film und Volk* 2, no. 2 (December/January 1927/28): 1–2.

Sarnoff, David. 'Progress Here and Abroad' (Statement on Arrival in New York on the S. S. Paris, September 25, 1937). In *Pioneering in Television, Prophecy and Fulfillment: Excerpts from Speeches and Statements,* David Sarnoff (Dept. of Information, Radio Corp. of America, 1948), 31–33.

Sarnoff, David. 'The Birth of An Industry'. In *Pioneering in Television, Prophecy and Fulfillment: Excerpts from Speeches and Statements,* David Sarnoff (Dept. of Information, Radio Corp. of America, 1948), 40–41.

Sarnoff, David. 'The Promise of Intercity Networks'. In *Pioneering in Television, Prophecy and Fulfillment: Excerpts from Speeches and Statements,* David Sarnoff (Dept. of Information, Radio Corp. of America, 1948), 38.

Schäffer, Immanuel. *Wesenswandel der Ausstellung: ein Überblick über das deutsche Ausstellungswesen und die Ausstellungsarbeit des Instituts für Deutsche Kultur- und Wirtschaftspropaganda* (Berlin: Daenell, 1938).

Schick, Adolf. 'Funkaustellung und Berliner Messegedanke'. In *Funk-Almanach. Offizieller Katalog 1924* (Berlin: Rothgiesser & Diesing AG, 1924), 19.

Schick, Adolf. 'Die wachsende Funkstadt am Kaiserdamm'. In *Funkalmanach. Offizieller Ausstellungskatalog zur Grossen Deutschen Funkausstellung Berlin 1930,* (Berlin: Rothgiesser & Diesing AG, 1930), 15.

Schrage, William. 'Television in Foreign Lands. Even there, Reports Show that the Ballyhoo is Better than the Images'. *The New York Sun,* 24 February 1939.

Schröter, Fritz. 'Versuche zur optischen Ergänzung des Rundfunks'. *Telefunken-Zeitung* 8, no. 45–46, (1927): 41.

Simmel, Georg. 'The Berlin Trade Exhibition'. *Theory, Culture & Society* 8, no. 3 (1991 [1896]): 119–123.

Sombart, Werner. 'Die Ausstellung'. *Morgen: Wochenzeitschrift für deutsche Kultur* 9, no. 28 (February 1908): 249–256.

Traub, Ernest H. '1933 Berlin Radio Exhibition'. *Journal of the Television Society* (December 1933): 237.

Traub, Ernest H. 'Television at the Berlin Radio Exhibition, 1935'. *Journal of the Television Society* 2 (December 1935): 53–61.

Traub, Ernest H. 'Television at the Berlin Radio Exhibition, 1936'. *Journal of the Television Society* 2, no. 6 (December 1936): 181–187.

Trenton, Leslie. 'NOW! Where Do We Go from Here?'. *Television: The World's First Television Journal* 2, no. 21 (November 1929): 451–453.

T. S., 'In and Around Radiolympia'. *The Gramphone* 13, no. 148 (September 1935): 165.

Woods, S. John. 'Looking at Television'. *Radio Times* 56, no. 721 (23 July 1937): 10

Secondary Sources

Aasman, Susan, Andreas Fickers, and Joseph Wachelder, eds. *Materializing Memories: Dispositifs, Generations, Amateurs* (New York; London; Oxford: Bloomsbury, 2018).

Abramson, Albert. *Electronic Motion Pictures: A History of the Television Camera* (Berkeley: University of California Press, 1955).

Abramson, Albert. *The History of Television, 1880 to 1941* (Jefferson, NC: McFarland, 1987).

Ades, Dawn, David Britt, and Tim Benton, eds. *Art and Power: Europe under the Dictators 1930–45 : The XXIII Council of Europe Exhibition* (London: South Bank Centre, 1995).

Albera, François, and Maria Tortajada, eds. *Cinema beyond Film. Media Epistemology in the Modern Era* (Amsterdam: Amsterdam University Press, 2010).

Albera, François, and Maria Tortajada, 'Introduction to an Epistemology of Viewing and Listening Dispositifs'. In *Cinema Beyond Film: Media Epistemology in the Modern Era,* edited by François Albera and Maria Tortajada (Amsterdam: Amsterdam University Press, 2010), 9–22.

Albera, François, and Maria Tortajada. 'Le dispositif n'existe pas!'. In *Ciné-dispositifs: spectacles, cinéma, télévision, littérature*, edited by François Albera and Maria Tortajada (Lausanne: L'Âge d'Homme, 2011), 13–38.

Aldridge, Mark. *The Birth of British Television: A History* (New York: Palgrave Macmillan, 2011).

Anderson, Benedict. *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London: Verso Editions/NLB, 1983).

Andriopoulos, Stefan. 'Psychic Television'. *Critical Inquiry* 31, no. 3 (2005): 618–637.

Anthony, Scott. 'The GPO Film Unit and "Britishness" in the 1930s'. In *The Projection of Britain: A History of the GPO Film Unit*, edited by Scott Anthony and

James G. Mansell (Houndmills, Basingstoke, Hampshire UK; New York: Palgrave Macmillan, 2011), 10–17.

Anthony, Scott. *Public Relations and the Making of Modern Britain: Stephen Tallents and the Birth of a Progressive Media Profession* (Manchester: Manchester University Press, 2011).

Arceneaux, Noah. 'Wanamaker's Department Store and the Origins of Electronic Media, 1910–1922'. *Technology and Culture* 51, no. 4 (2010): 809–828.

Arnold, Sarah. *Gender and Early Television: Mapping Women's Role in Emerging US and British Media, 1850–1950* (London: Bloomsbury Academic, 2021).

Aynsley, Jeremy. *Designing Modern Germany* (London: Reaktion, 2009).

Balbi, Gabriele. (2017). 'Deconstructing "Media Convergence": A Cultural History of the Buzzword, 1980s–2010s'. In *Media Convergence and Deconvergence*, edited by Sergio Sparviero, Corinna Peil, and Gabriele Balbi (London and New York: Palgrave Macmillan): 31–51.

Bannister, Jennifer Burton. 'From Laboratory to Living Room: The Development of Television in the United States, 1920–1960'. Ph.D. Carnegie Mellon University, 2001.

Bao, Weihong. *Fiery Cinema: The Emergence of an Affective Medium in China, 1915–1945* (Minneapolis, London: University of Minnesota Press, 2015).

Barthes, Roland. *Mythologies*, transl. Annette Lavers (New York: Noonday Press, 1972 [1957])

Bartz, Christina. 'Normativité et normalité du discours allemand sur la télévision dans les années 1950'. In *La télévision du téléphonoscope à Youtube: pour une archéologie de l'audiovision*, edited by Mireille Berton and Anne-Katrin Weber (Lausanne: Editions Antipodes, 2009), 197–211.

Baudry, Jean-Louis. 'Ideological Effects of the Basic Cinematographic Apparatus'. *Film Quarterly* 28, no. 2 (1974): 39–47.

Bazin, André. *What Is Cinema?* (Berkeley; Los Angeles; London: University Press Group, 2005).

Bazin, André. 'A Contribution to an *Erotologie* of Television' [1954]. In *André Bazin's New Media*, edited and translated by Dudley Andrew (Oakland: University of California Press, 2014), 105–115.

Beauchamp, Kenneth Georg. *Exhibiting Electricity*. (London: IET, 1997).

Becker, Frank. 'Schneller, Lauter, Schöner? Die Olympischen Spiele von 1936 in Berlin als Medienspektakel'. In *Medienereignisse der Moderne*, edited by Friedrich Lenger and Ansgar Nünning (Darmstadt: Wissenschaftliche Buchgesellschaft, 2008), 95–113.

Becker, Ron. '"Hear-and-See Radio" in the World of Tomorrow: RCA and the Presentation of Television at the World's Fair, 1939–1940'. *Historical Journal of Film, Radio & Television* 21, no. 4 (2001): 361–378.

Beier, Rosmarie, and Martin Roth, eds. *Der Gläserne Mensch, eine Sensation. Zur Kulturgeschichte eines Ausstellungsobjekts* (Stuttgart: G. Hatje, 1990).

Benjamin, Walter. 'Paris, Capital of the Nineteenth Century', Exposé of 1939. In *The Arcades Project*, translated by Howard Eiland and Kevin McLaughlin (Cambridge; London: The Belknap Press, 1999), 14–26.

Benjamin, Walter. *The Arcades Project*, edited by Rolf Tiedemann, trans. Howard Eiland and Kevin MacLaughlin (Cambridge, Mass.: Belknap Press, 1999).

Bennett, Tony. 'The Exhibitionary Complex'. *New Formations*, no. 4 (1988): 73–102.

Bennett, Tony. *The Birth of the Museum: History, Theory, Politics* (London: Routledge, 1995).

Benson-Allott, Caetlin. *The Stuff of Spectatorship: Material Cultures of Film and Television* (Berkeley: University of California Press, 2021).

Berenstein, Rhona J. 'Acting Live: TV Performance, Intimacy, and Immediacy (1945–1955)'. In *Reality Squared. Televisual Discourse on the Real,* edited by James Friedman (New Brunswick, NJ: Rutgers University Press, 2002), 25–49.

Berghoff, Hartmut. 'Enticement and Deprivation: The Regulation of Consumption in Pre-War Nazi Germany'. In *The Politics of Consumption: Material Culture and Citizenship in Europe and America*, edited by Martin Daunton and Matthew Hilton (New York: Berg, 2001), 165–84.

Berghoff, Hartmut, and Uwe Spiekermann, eds. *Decoding Modern Consumer Societies* (New York: Palgrave Macmillan, 2012).

Bernold, Monika, and Andrea Ellmeier. 'Konsum, Politik und Geschlecht. Zur "Feminisierung" von Öffentlichkeit als Strategie und Paradox'. In *Europäische Konsumgeschichte. Zur Gesellschafts- und Kulturgeschichte des Konsums, 18. bis 20. Jahrhundert*, edited by Hannes Siegrist, Hartmut Kaelble, and Jürgen Kocka (Frankfurt/Main; New York: Campus, 1997), 441–466.

Berton, Mireille, and Anne-Katrin Weber. 'Télé-Visions: une introduction à l'histoire des dispositifs télévisuels'. In *La télévision du téléphonoscope à Youtube: pour une archéologie de l'audiovision*, edited by Mireille Berton and Anne-Katrin Weber (Lausanne: Editions Antipodes, 2009). 13–32.

Berton, Mireille. 'The "Magism" of Cinema and Imaginary Spiritism in France at the Beginning of the Twentieth Century'. *Early Popular Visual Culture* 13, no. 2 (2015): 113–33.

Berton, Mireille. *Le médium (au) cinema* (Geneva: Georg Editions, 2021).

Blaschke, Estelle. *Banking on Images: From the Bettmann Archive to Corbis* (Leipzig: Spector Books, 2016).

Boddy, William. 'The Rhetoric and Economic Roots of the American Broadcasting Industry'. *Cinetracts* 6, no. 2 (1979): 37–54.

Boddy, William. *Fifties Television: The Industry and Its Critics* (Champaign: University of Illinois Press, 1990).

Boddy, William. 'Archaeologies of Electronic Vision and the Gendered Spectator'. *Screen* 35, no. 2 (1994): 105–122.

Boddy, William. 'The Amateur, the Housewife, and the Salesroom Floor. Promoting Postwar US Television'. *International Journal of Cultural Studies* 1, no. 1 (1998): 129–142.

Boddy, William. *New Media and Popular Imagination: Launching Radio, Television, and Digital Media in the United States* (Oxford; New York: Oxford University Press, 2004.)

Boddy, William. 'Revisiting Postwar Theater Television'. *Media Industries Journal* 7, no. 2 (2020), online, https://doi.org/10.3998/mij.15031809.0007.201.

Boillat, Alain. 'Faire pour la vue ce que le téléphone fait pour l'ouïe. Rencontres entre l'image et la voix dans quelques anticipations de la télévision'. In *La télévision du téléphonoscope à Youtube: pour une archéologie de l'audiovision*, edited by Mireille Berton and Anne-Katrin Weber (Lausanne: Editions Antipodes, 2009), 77–97.

Bolter Jay David, and Grusin Richard. *Remediation. Understanding New Media.* (Cambridge, MA: MIT Press, 1999).

Bottomore, Stephen. 'The Panicking Audience?: Early Cinema and the 'Train Effect''. *Historical Journal of Film, Radio, and Television* 19, no. 2 (1999): 177–216.

Bourdon, Jérôme. 'Comment écrire une histoire transnationale des médias ?'. *Le Temps des medias* 2, no. 11 (2008): 164–81.

Bowden, Sue, and Avner Offer. 'Household Appliances and the Use of Time: The United States and Britain Since the 1920s'. *Economic History Review* 47, no. 4 (1994): 725–748.

Bowden, Sue, and Avner Offer. 'The Technological Revolution That Never Was: Gender, Class, and the Diffusion of Household Appliances in Interwar England'. In *The Sex of Things: Gender and Consumption in Historical Perspective*, edited by Victoria de Grazia and Ellen Furlough (Berkeley: University of California Press, 2008), 244–274.

Bressler, Eva Susanne. *Von der Experimentierbühne zum Propagandainstrument. Die Geschichte der Funkausstellung von 1924 bis 1939* (Cologne: Böhlau, 2009).

Briggs, Asa. *The History of Broadcasting in the United Kingdom. Volume II: The Golden Age of Wireless* (Oxford: Oxford University Press, 1995).

Buonanno, Milly. *The Age of Television. Experiences and Theories*, translated by Jennifer Radice (Bristol, UK; Chicago, IL: Intellect Books, 2008).

Burns, Russell W. 'The History of Television for Public Showing in Cinemas in the United Kingdom'. *IEE Proceedings* 132, no. 8 (1985): 553–563.

Burns, Russell W. *British Television: The Formative Years* (London: Institution of Electrical Engineers, 1986).

Burns, Russell W. 'The Contributions of the Bell Telephone Laboratories to the Early Developments of Television'. *History of Technology* 13 (1991): 181–213.

Burns, Russell W. 'Prophecy into Practice: The Early Rise of Videotelephony'. *Engineering Science & Education Journal* 4, no. 6 (1995): 33–40.

Burns, Russell W. *Television: An International History of the Formative Years* (London: Institution of Electrical Engineers, 1998).

Burns, Russell W. *John Logie Baird, Television Pioneer* (London: Institution of Electrical Engineers, 2000).

Caldwell, John Thornton. *Televisuality: Style, Crisis, and Authority in American Television*. (New Brunswick, NJ: Rutgers University Press, 1995).

Camporesi, Valeria. *Mass Culture and National Traditions: The B.B.C. and American Broadcasting, 1922–1954* (Fucecchio: European Press Academic Pub., 2001).

Casetti, Francesco. *The Lumière Galaxy: Seven Key Words for the Cinema to Come* (New York: Columbia University Press, 2015).

Chambers, Deborah. 'The Material Form of the Television Set'. *Media History* 17, no. 4 (2011): 359–75.

Chambers, Deborah. 'Designing Early Television for the Ideal Home: The Roles of Industrial Designers and Exhibitions, 1930s–50s'. *The Journal of Popular Television* 7, no. 2 (2019): 145–159.

Cogdell, Christina. 'The Futurama Recontextualized: Norman Bel Geddes's Eugenic "World of Tomorrow"'. *American Quarterly* 52, no. 2 (2000): 193–245.

Colomina, Beatriz. 'The Media House'. *Assemblage*, no. 27 (1995): 55–66.

Colomina, Beatriz. *Privacy and Publicity: Modern Architecture as Mass Media* (Cambridge, Mass.: MIT Press, 1996).

Couldry, Nick, and McCarthy, Anna. 'Introduction. Orientations: Mapping MediaSpace'. In *MediaSpace: Place, Scale, and Culture in a Media Age,* edited by Anna McCarthy and Nick Couldry (London; New York: Routledge, 2004), 1–18.

Cowan, Ruth Schwartz. 'The "Industrial Revolution" in the Home: Household Technology and Social Change in the 20th Century'. *Technology and Culture* 17, no. 1 (1976): 1–23.

Cowan, Ruth Schwartz. 'The Consumption Junction. A Proposal for Research Strategies in the Sociology of Technology'. In *The Social Construction of Technological Systems. New Directions in the Sociology and History of Technology*, edited by Wiebe E. Bijker, Thomas Parke Hughes, and T. J Pinch (Cambridge, Mass.: MIT Press, 1987), 261–280.

Cowan, Ruth Schwartz. *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1999).

Crafton, Donald. *The Talkies: American's Cinema Transition to Sound, 1926–1931* (Berkeley: University of California Press, 1999).

Dayan, Daniel, and Elihu Katz. *Media Events: The Live Broadcasting of History* (Cambridge, Mass.: Harvard University Press, 1992).

Debluë, Claire-Lise. *Exposer pour exporter : culture visuelle et expansion commerciale en Suisse (1908–1939)*. (Neuchâtel, Switzerland: Éditions Alphil-Presses Universitaires Suisses, 2015).

Debluë, Claire-Lise, and Olivier Lugon, eds. 'Photographie et Exposition'. Special issue of *Transbordeur : Photographie, Histoire, Société* (Paris : Macula, 2018).

De Grazia, Victoria. 'Amerikanisierung und wechselnde Leitbilder der Konsum-Moderne (consumer-modernity) in Europa'. In *Europäische Konsumgeschichte. Zur Gesellschafts- und Kulturgeschichte des Konsums, 18. bis 20. Jahrhundert*, edited by Hannes Siegrist, Hartmut Kaelble, and Jürgen Kocka (Frankfurt a.M.; New York: Campus, 1997), 109–137.

Delavaud, Gilles. 'Le dispositif télévision. Discours critique et création dans les années 1940 et 1950'. In *La Télévision du téléphonoscope à YouTube. Pour une archéologie de l'audiovision*, edited by Mireille Berton and Anne-Katrin Weber (Lausanne: Editions Antipodes, 2009), 229–248.

Delavaud, Gilles, and Denis Maréchal, eds. *Télévision: le moment expérimental* (Paris: Apogée, 2011).

Diller, Ansgar. 'Gross-Veranstaltungen der Rundfunkübertragung: Olympische Spiele in Berlin 1936'. In *Medienwissenschaft. Ein Handbuch zur Entwicklung der Medien und Kommunikationsformen,* edited by Joachim-Felix Leonhard et al. (Berlin: de Gruyter, 2001)*, 1412–1414.

Diller, Ansgar. *Rundfunkpolitik im Dritten Reich*, vol. 2 of series *Rundfunk in Deutschland* edited by Hans Bausch (Munich: Deutscher Taschenbuch Verlag, 1980).

Eckhardt, Frank. 'Olympia im Zeichen der Propaganda – Wie das NS-Regime 1936 der ersten Medienspiele inszenierte'. In *Medien im Nationalsozialismus*, edited by Bernd Heidenreich and Sönke Neitzel (Paderborn: Schöningh, 2010), 235–251.

Edgerton, Gary R. *The Columbia History of American Television* (New York: Columbia University Press, 2007).

Ellis, John. *Seeing Things: Television in the Age of Uncertainty* (London; New York: I. B. Tauris, 2000).

Ellis, John, and Dana Mustata, eds. 'Material Histories of Television'. Special Issue of *View. Journal of European Television History and Culture* 8, no. 15 (2019).

Elsaesser, Thomas. 'Film History as Media Archaeology'. In *Film History as Media Archaeology* (Amsterdam: Amsterdam University Press, 2016), 71–100.

Elsner, Monika, Thomas Müller, and Peter M. Spangenberg. 'The Early History of German Television: The Slow Development of a Fast Medium'. *Historical Journal of Film, Radio and Television* 10, no. 2 (1990): 193–219.

Ericson, Staffan, Kristina Riegert, and Patrik Aker. 'Introduction'. In *Media Houses: Architecture, Media and the Production of Centrality*, edited by Staffan Ericson and Krisitna Riegert (New York: Peter Lang, 2010)*, 1–18.

Feuer, Jane. 'The Concept of Live Television: Ontology as Ideology.' In *Regarding Television: Critical Approaches, an Anthology*, edited by E. Ann Kaplan ([Frederick, MD.]: University Publications of America, 1983), 12–22.

Fickers, Andreas, and Frank Kessler. 'Techno-Nationalist Tales of Glory and Failure: Writing the History of Inventions in Early Film and Television,' paper delivered at the Fourth Media in Transition Conference, MIT, 2005, online http://web.mit.edu/comm-forum/legacy/mit4/papers/fickers%20kessler.pdf (accessed 25 July 2021).

Fickers, Andreas. 'Design als "Mediating Interface". Zur Zeugen- und Zeichenhaftigkeit des Radioapparates'. *Berichte Zur Wissenschaftsgeschichte* 30, no. 3 (2007): 199–213.

Fickers, Andreas. *'Politique de la grandeur' versus 'Made in Germany'. Politische Kulturgeschichte der Technik am Beispiel der PAL-SECAM-Kontroverse* (Munich: R. Oldenbourg, 2007).

Fickers, Andreas. 'Presenting the "Window on the World" to the World. Competing Narratives of the Presentation of Television at the World's Fairs in Paris (1937) and New York (1939)'. *Historical Journal of Film, Radio & Television* 28, no. 3 (2008): 291–310.

Fickers, Andreas, and Frank Kessler. 'Narrative topoi in Erfindermythen und technonationalistische Legendenbildung: Zur Historiographie der Erfindung von Film und Fernsehen'. In *Mythos–Helden–Symbole: Legitimation, Selbst- und Fremdwahrnehmung in der Geschichte der Naturwissenschaften, der Medizin und der Technik*, edited by Siegfried Bodenmann (Munich: Meidenbauer, 2009), 71–86.

Fickers, Andreas. 'Seeing the Familiar Strange: Some Reflections about Actants, Actors and Arenas of Transnational Media History'. *Medien & Zeit : Kommunikation in Vergangenheit und Gegenwart* 26, no. 4 (2011): 16–24.

Fickers, Andreas, and Catherine Johnson, eds. *Transnational Television History: A Comparative Approach* (London: Routledge, 2012).

Fickers, Andreas. 'Television: Histories from Scarcity to Abundance'. In *Handbook of Communication History*, edited by Peter Simonson, Janice Peck, Robert T. Craig, and John P. Jackson (London, New York: Routledge, 2013), 239–256.

Fickers, Andreas, and Anne-Katrin Weber, eds. 'Archaeologies of Tele-Visions and -Realities'. Special Issue of *VIEW. Journal of European Television History and Culture* 4, no. 7 (2015).

Fickers, Andreas, and Anne-Katrin Weber. 'Editorial: Towards an Archaeology of Television'. *VIEW. Journal of European Television History and Culture* 4, no. 7 (2015): 1–7.

Fickers, Andreas, and Pascal Griset. *Communicating Europe: Technologies, Information, Events*. (London: Palgrave Macmillan UK, 2019).

Fiss, Karen. *Grand Illusion: The Third Reich, the Paris Exposition, and the Cultural Seduction of France* (Chicago: University of Chicago Press, 2009).

Forty, Adrian. 'Wireless Style: Symbolic Design and the English Radio Cabinet 1928–1933'. *Architectural Association Quarterly* 4 (1972): 22–31.

Friedberg, Anne. *The Virtual Window: From Alberti to Microsoft* (Cambridge, Mass.; London: MIT Press, 2009).

Friedberg, Anne. *Window Shopping: Cinema and the Postmodern* (Berkeley: University of California Press, 1994).

Führer, Karl Christian. 'A Medium of Modernity? Broadcasting in Weimar Germany, 1923–1932'. *Journal of Modern History* 69, no. 4 (1997): 722–753.

Gaillard, Isabelle. 'De l'étrange lucarne à la télévision'. *Vingtième siècle. Revue d'histoire* nº 91, no. 3 (2006): 9–23.

Galili, Doron. 'Tom Swift's Three Inventions of Television. Media History and the Technological Imaginary'. *VIEW. Journal of European Television History and Culture* 4, no. 7 (2015): 54–67.

Galili, Doron. *Seeing by Electricity. The Emergence of Television, 1878 – 1939* (Durham, NC: Duke University Press, 2020).

Gall, Alexander. 'Wunder der Technik, Wunder der Natur. Zur Vermittlungsleistung eines medialen Topos'. In *Wunder. Poetik und Politik des Staunens im 20. Jahrhundert*, edited by Alexander C.T. Geppert and Till Kössler (Berlin: Suhrkamp, 2011), 270–304.

Ganz, Cheryl. *The 1933 Chicago World's Fair: Century of Progress* (Champaign: University of Illinois Press, 2008).

Gassert, Philipp. 'Amerikanismus, Antiamerikanismus, Amerikanisierung. Neue Literatur zur Sozial-, Wirtschafts- und Kulturgeschichte des amerikanischen Einflusses in Deutschland und Europa'. *Archiv für Sozialgeschichte* 39 (1999): 531–561.

Gaudreault, André, and Philippe Marion. 'A Medium Is Always Born Twice ...'. *Early Popular Visual Culture* 3, no. 1 (2005): 3–15.

Geddes, Keith, with Gordon Bussey. *The Setmakers: A History of the Radio and Television Industry* (London: British Radio & Electronic Equipment Manufacturers' Association, 1991).

Geppert, Alexander C.T., Jean Coffey, and Tammy Lau. *International Exhibitions, Expositions Universelles and World's Fairs, 1851–2005: A Bibliography*. https://library.fresnostate.edu/sites/all/assets/doc/scrc/worldfairs/ExpoBibliography3ed.pdf (accessed 28 February 2021).

Geppert, Alexander C.T. 'Exponierte Identitäten? Imperiale Ausstellungen, ihre Besucher und das Problem der Wahrnehmung, 1870–1930'. In *Nationalismen in Europa: West- und Osteuropa im Vergleich*, edited by Ulrike von Hirschhausen and Jörn Leonhard (Göttingen: Wallstein, 2001), 181–203.

Geppert, Alexander C.T. 'Welttheater: Die Geschichte des europäischen Aus-
    stellungswesens im 19. und 20. Jahrhundert. Ein Forschungsbericht'. *Neue
    politische Literatur* 47, no. 1 (2002): 10–61.

Geppert, Alexander C. T. *Fleeting Cities: Imperial Expositions in Fin-de-Siècle Europe*
    (New York: Palgrave Macmillan, 2010).

Giedion, Sigfried. *Space, Time, and Architecture: The Growth of a New Tradition.*
    3rd ed. (Cambridge: Harvard University Press 1954 [1941]).

Giles, Judy. *The Parlour and the Suburb: Domestic Identities, Class, Femininity and
    Modernity* (New York: Berg, 2004).

Gitelman, Lisa. *Always Already New: Media, History and the Data of Culture* (Cam-
    bridge, Mass.; London: MIT Press, 2008).

Goebel, Gerhart. 'Das Fernsehen in Deutschland bis zum Jahre 1945'. *Archiv für
    Post- und Fernmeldewesen* 5, no. 5 (1953): 259–340.

Gomery, Douglas. 'Failed Opportunities: The Integration of the U.S. Motion Picture
    and Television Industries'. *Quarterly Review of Film Studies* 9, no. 3 (1984): 219–228.

Gooday, Graeme. 'Re-writing the "Book of Blots": Critical Reflections on Histories
    of Technological "Failure"'. *History and Technology* 14, no. 4 (July 1998): 265–291.

Greenhalgh, Paul. *Ephemeral Vistas: The Expositions Universelles, Great Exhibitions
    and World's Fairs, 1851–1939* (Manchester University Press, 1988).

Gripsrud, Jostein. 'Television, Broadcasting, Flow: Key Metaphors in TV Theory'.
    In *The Television Studies Book*, edited by Christine Geraghty and David Lusted
    (London: Arnold, 1998), 17–32.

Grossbölting Thomas. *'Im Reich der Arbeit': Die Repräsentation gesellschaftlicher
    Ordnung in den deutschen Industrie- und Gewerbeausstellungen 1790–1914* (Mu-
    nich: Oldenbourg, 2008).

Gunning, Tom. 'The Cinema of Attractions. Early Film, Its Spectator and the Avant-
    Garde'. In *Early Cinema. Space, Frame, Narrative* edited by Thomas Elsaesser
    (London: BFI, 1990), 56–62.

Gunning, Tom. 'The Aesthetic of Astonishment: Early Film and the (In)credulous
    Spectator'. In *Viewing Positions: Ways of Seeing Film*, edited by Linda Williams
    (New Brunswick, NJ: Rutgers University Press, 1995), 114–133.

Gunning, Tom. 'Re-Newing Old Technologies: Astonishment, Second Nature, and the
    Uncanny in Technology from the Previous Turn-of-the-Century'. In *Rethinking
    Media Change: The Aesthetics of Transition*, edited by David Thorburn and Henry
    Jenkins (Cambridge: MIT Press 2003), 39–60.

Gunthert, André. 'La voiture du peuple des seigneurs: Naissance de la Volkswagen'.
    Vingtième Siècle. Revue d'histoire, no 15 (1987): 29–42.

Hachtmann, Rüdiger. '"Die Begründer der amerikanischen Technik sind fast lauter
    schwäbisch-allemannische Menschen": Nazi-Deutschland, der Blick auf die
    USA und die "Amerikanisierung" der industriellen Produktionsstrukturen im

"Dritten Reich"'. In *Amerikanisierung: Traum und Alptraum im Deutschland des 20. Jahrhunderts*, edited by Alf Lüdtke, Inge Marssolek, and Adelheid von Saldern (Stuttgart: Franz Steiner Verlag 1996), 37–66.

Hansen, Miriam. 'The Mass Production of the Senses: Classical Cinema as Vernacular Modernism'. *Modernism/modernity* 6, no. 2 (1999): 59–77.

Haralovich, Mary Beth. 'Sitcoms and Suburbs: Positioning the 1950s Homemaker'. *Quarterly Review of Film and Video* 11, no. 1 (1989): 61–83.

Hartley, John. *Uses of Television*. (London; New York: Routledge, 1999).

Harvey, David. *Justice, Nature and the Geography of Difference* (Cambridge, Mass.: Wiley-Blackwell, 1997).

Haupt, Heinz-Gerhard. 'Konsum und Geschlechterverhältnisse'. In *Europäische Konsumgeschichte. Zur Gesellschafts- und Kulturgeschichte des Konsums, 18. bis 20. Jahrhundert*, edited by Hannes Siegrist, Hartmut Kaelble, and Jürgen Kocka (Frankfurt/Main; New York: Campus, 1997), 395–410.

Herbert, Stephen, ed. *A History of Early Television*. Vol. 2. (London: Routledge, 2004).

Herbst, Ludolf. *Das nationalsozialistische Deutschland 1933–1945* (Frankfurt am Main: Suhrkamp, 2005).

Hessler, Martina. *'Mrs. Modern Woman': Zur Sozial- und Kulturgeschichte der Haushaltstechnisierung* (Frankfurt: Campus-Verlag, 2001).

Hickethier, Knut, with the collaboration of Peter Hoff. *Geschichte des deutschen Fernsehens* (Stuttgart: Verlag J.B. Metzler, 1998).

Hilmes, Michele. *Hollywood and Broadcasting: From Radio to Cable* (Champaign: University of Illinois Press, 1999).

Hilmes, Michele. *Network Nations: A Transnational History of British and American Broadcasting* (New York: Routledge, 2011).

Hobsbawm, E.J. and T.O. Ranger, eds., *The Invention of Tradition* (Cambridge and New York: Cambridge University Press, 1983).

Hoff, Peter. 'German Television (1935–1944) as Subject and Medium of National Socialist Propaganda'. *Historical Journal of Film, Radio and Television* 10, no. 2 (1990): 227–240.

Honeycombe, Gordon. *Selfridges. Seventy-Five Years. The Story of the Store, 1909–1984* (London: Park Lane Press, 1984).

Hughes, Kit. *Television at Work: Industrial Media and American Labor* (Oxford, New York: Oxford University Press, 2020).

Huhtamo, Erkki, and Jussi Parikka, eds. *Media Archaeology: Approaches, Applications, and Implications*. (Berkeley: University of California Press, 2011).

Huhtamo, Erkki. 'Dismantling the Fairy Engine. Media Archaeology as Topoy Study'. In *Media Archaeology: Approaches, Applications, and Implications*, edited

by Erkki Huhtamo and Jussi Parikka (Berkeley: University of California Press, 2011), 27–47.

Jacobs, Jason. *The Intimate Screen: Early British Television Drama* (Oxford: Oxford University Press, 2000).

Jenkins, Henry. *Convergence Culture: Where Old and New Media Collide* (New York: New York University Press, 2008).

Jowett, Garth. 'Dangling the Dream? The Presentation of Television to the American Public, 1928–1952'. *Historical Journal of Film, Radio and Television* 14, no. 2 (1994): 121–145.

Keightley, Keir. 'Low Television, High Fidelity: Taste and the Gendering of Home Entertainment Technologies'. *Journal of Broadcasting & Electronic Media* 47, no. 2 (2003): 236–259.

Keilbach, Judith, and Markus Stauff. 'When Old Media Never Stopped Being New: Television's History as an Ongoing Experiment'. In *After the Break. Television Theory Today*, edited by Marijke de Valck and Jan Teurlings (Amsterdam: Amsterdam University Press, 2013), 79–98.

Kern, Stephen. *The Culture of Time and Space, 1880–1918* (Cambridge, MA: Harvard University Press, 2003 [1983]).

Kessler, Frank. 'La cinématographie comme dispositif (du) spectaculaire'. *Cinémas* 14 (2003): 21–34.

Kessler, Mario. 'Only Nazi Games? Berlin 1936: The Olympic Games between Sports and Politics'. *Socialism and Democracy* 25, no. 2 (2011): 125–143.

Ketterer, Ralf. *Funken-Wellen-Radio: zur Einführung eines technischen Konsumartikels durch die deutsche Rundfunkindustrie 1923–1939* (Berlin: Vistas, 2003).

Kitsopanidou, Kira. 'Electronic Delivery of Alternative Contents in Cinemas before the Digital Era: The Case of Theater Television in the US Exhibition Market in the 1940s and 1950s'. *Mise Au Point. Cahiers de l'association française des enseignants et chercheurs en cinéma et audiovisuel*, no. 4 (2012), online, https://journals.openedition.org/map/775 (accessed 28 February 2021).

Kleinecke-Bates, Iris, ed. 'Material Cultures of Television'. Special Issue of *Journal of Popular Television* 7, no. 2 (2019).

Kniestedt, Joachim. 'Die historische Entwicklung des Fernsehens. Zur Eröffnung des Deutschen Fernsehrundfunks vor 50 Jahren in Berlin'. *Archiv für das Post- und Fernmeldewesen* 37 (1985): 185–239.

Koepnick, Lutz P. 'Fascist Aesthetics Revisited'. *Modernism/modernity* 6, no 1 (1999): 51–73.

König, Gudrun M. *Konsumkultur: Inszenierte Warenwelt um 1900* (Vienna: Böhlau Verlag, 2009).

König, Wolfgang. 'Adolf Hitler vs. Henry Ford: The *Volkswagen*, the Role of America as a Model, and the Failure of a Nazi Consumer Society'. *German Studies Review* 27, no. 2 (2004): 249–268.

König, Wolfgang. *Volkswagen, Volksempfänger, Volksgemeinschaft: 'Volksprodukte' im Dritten Reich, vom Scheitern einer nationalsozialistischen Konsumgesellschaft* (Paderborn: Schöningh, 2004).

L'Etang, Jacquie. *Public Relations in Britain: A History of Professional Practice in the 20th Century* (Mahwah, NJ: Lawrence Erlbaum, 2004).

Lacey, Kate. *Feminine Frequencies: Gender, German Radio, and the Public Sphere, 1923–1945* (Ann Arbor: University of Michigan Press, 1996).

Lacey, Kate. 'Radio in the Great Depression. Promotional Culture, Public Service, and Propaganda'. In *Radio Reader: Essays in the Cultural History of Radio*, edited by Michele Hilmes and Jason Loviglio (New York: Routledge, 2001), 21–40.

Laermans, Rudi. 'Learning to Consume: Early Department Stores and the Shaping of the Modern Consumer Culture (1860—1914)'. *Theory, Culture & Society* 10, no. 4 (1993): 79–102.

Large, David Clay. *Nazi Games: The Olympics of 1936* (New York: W.W. Norton, 2007).

Leach, William R. 'Transformations in a Culture of Consumption: Women and Department Stores, 1890–1925'. *The Journal of American History* 71, no. 2 (1984): 319–342.

LeMahieu, D. L. *A Culture for Democracy: Mass Communication and the Cultivated Mind in Britain Between the Wars* (Oxford: Oxford University Press, 1988).

Lenk, Carsten. *Die Erscheinung des Rundfunks: Einführung und Nutzung eines neuen Mediums 1923–1932* (Opladen: Westdeutscher Verlag, 1997).

Lipartito, Kenneth. 'Picturephone and the Information Age: The Social Meaning of Failure'. *Technology and Culture* 44, no. 1 (2003): 50–81.

Lotz, Amanda D. *The Television Will Be Revolutionized* (New York: New York University Press, 2007).

Luckhurst, Kenneth W. *The Story of Exhibitions* (London; New York: Studio Publications, 1951).

Lüdtke, Alf. 'Ikonen des Fortschritts. Eine Skizze zu Bild-Symbolen und politischen Orientierungen in den 1920er und 1930er Jahren in Deutschland'. In *Amerikanisierung: Traum und Alptraum im Deutschland des 20. Jahrhunderts*, edited by Alf Lüdtke, Inge Marssolek, and Adelheid von Saldern (Stuttgart: Franz Steiner Verlag, 1996), 199–210.

Lugon, Olivier. 'La photographie mise en espace. Les expositions didactiques allemandes, 1925–1945'. *Études photographiques*, no. 5 (1998), 97–118.

Lugon, Olivier. 'Dynamic Paths of Thought. Exhibition Design, Photography and Circulation in the Work of Herbert Bayer'. In *Cinema Beyond Film: Media*

Epistemology in the Modern Era, edited by François Albera and Maria Tortajada (Amsterdam: Amsterdam University Press, 2010), 97–117.

Lugon, Olivier, ed. *Exposition et médias: photographie, cinéma, télévision* (Lausanne: L'Âge d'homme, 2012).

Lugon, Olivier. 'Entre l'affiche et le monument, le photomural dans les années 1930'. In *Exposition et médias: photographie, cinéma, télévision*, edited by Olivier Lugon (Lausanne: L'Âge d'Homme, 2012), 79–123.

McCarthy, Anna. '"Like an Earthquake!" Theater Television, Boxing, and the Black Public Sphere'. *Quarterly Review of Film and Video* 16, no. 3–4 (1997): 307–323.

McCarthy, Anna. 'From Screen to Site: Television's Material Culture, and Its Place'. *October* no. 98 (2001), 93–111.

McCarthy, Anna. *Ambient Television: Visual Culture and Public Space* (Durham, NC: Duke University Press, 2001).

Magoun, Alexander B. *Television: The Life Story of a Technology* (Baltimore: Johns Hopkins University Press, 2009).

Makropoulos, Michael. 'Die infrastrukturelle Konstruktion der "Volksgemeinschaft". Aspekte des Autobahnbaus im nationalsozialistischen Deutschland'. In *Vernunft – Entwicklung – Leben. Schlüsselbegriffe der Moderne*, edited by Ulrich Brökling, Stefan Kaufmann, and Axel T. Paul (Munich: Wilhem Fink Verlag, 2004), 185–203.

Mandell, Richard D. *The Nazi Olympics* (New York: The MacMillan Company, 1971).

Marchand, Roland. *Advertising the American Dream: Making Way for Modernity, 1920–1940* (Berkeley: University of California Press, 1985).

Marchand, Roland. 'The Designers Go to the Fair: Walter Dorwin Teague and the Professionalization of Corporate Industrial Exhibits, 1933–1940'. *Design Issues* 8, no. 1 (1991): 4–17.

Marchand, Roland. 'The Designers Go to the Fair II: Norman Bel Geddes, The General Motors "Futurama," and the Visit to the Factory Transformed'. *Design Issues* 8, no. 2 (1992): 23–40.

Marchand, Roland. *Creating the Corporate Soul: The Rise of Public Relations and Corporate Imagery in American Big Business* (Berkeley: University of California Press, 1998).

Marshall, P. David, Becky Walker, and Nicholas Russo. 'Mediating the Olympics'. *Convergence: The International Journal of Research into New Media Technologies* 16, no. 3 (2010): 263–278.

Marsch, Ulrich. *Zwischen Wissenschaft und Wirtschaft: Industrieforschung in Deutschland und Grossbritannien 1880–1936* (Paderborn: F. Schöningh, 2000).

Marssolek, Inge, and Adelheid von Saldern, eds. *Radiozeiten: Herrschaft, Alltag, Gesellschaft (1924–1960)* (Potsdam: Verlag für Berlin-Brandenburg, 1999).

Marssolek, Inge. '"Aus dem Volke für das Volk". Die Inszenierung der "Volksgemeinschaft" im und durch das Radio'. In *Radiozeiten: Herrschaft, Alltag, Gesellschaft (1924–1960)*, edited by Inge Marssolek and Adelheid von Saldern (Berlin: Verlag für Berlin-Brandenburg, 1999), 121–135.

Marssolek, Inge. 'Radio Days: Radio und Alltag in Deutschland und den USA'. In *Radio Welten: politische, soziale und kulturelle Aspekte atlantischer Mediengeschichte vor und während des Zweiten Weltkriegs*, edited by Michaela Hampf and Ursula Lehmkunl (Münster: LIT 2006), 16–42.

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

Medhurst, Jamie. 'Mea Maxima Culpa: John Reith and the Advent of Television'. *Media History* 25, no. 3 (2019): 292–306.

Medhurst, Jamie. *The Early Years of Television and the BBC* (Edinburgh: Edinburgh University Press, 2022).

Meikle, Jeffrey L. *Twentieth Century Limited: Industrial Design in America, 1925–1939* (Philadelphia: Temple University Press, 2001).

Melnick, Ross. *American Showman: Samuel 'Roxy' Rothafel and the Birth of the Entertainment Industry, 1908–1935* (New York: Columbia University Press, 2012).

Meyer, Caroline. *Der Eidophor: Ein Grossbildprojektionssystem zwischen Kino und Fernsehen 1939–1999* (Zürich: Chronos, 2009).

Miggelbrink, Monique. *Fernsehen und Wohnkultur: Zur Vermöbelung von Fernsehgeräten in der BRD der 1950er- und 1960er-Jahre* (Bielefeld: transcript, 2018).

Mills, Mara. 'The Audiovisual Telephone: A Brief History'. In *Handheld? Music Video Aesthetics for Portable Devices*, edited by Henry Keazor (Heidelberg: ART-Dok, 2012), 34–47, accessible online: http://archiv.ub.uni-heidelberg.de/artdok/2016 (accessed 25 July 2021).

Morris, Peter J. T. '"An Effective Organ of Public Enlightenment": The Role of Temporary Exhibitions in the Science Museum'. In *Science for the Nation: Perspectives on the History of the Science Museum,* edited by Peter J. T. Morris (Basingstoke: Palgrave Macmillan, 2010), 212–250.

Morton, David, and Joseph Gabriel. *Electronics. The Life Story of a Technology* (Baltimore: The Johns Hopkins University Press, 2007).

Mosco, Vincent. *The Digital Sublime: Myth, Power, and Cyberspace* (Cambridge, Mass.: MIT Press, 2005).

Mühl-Benninghaus, Wolfgang. *Das Ringen um den Tonfilm: Strategien der Elektro und der Filmindustrie in den 20er und 30er Jahren* (Düsseldorf: Droste Verlag, 1999).

Mulvey, Laura. 'Visual Pleasure and Narrative Cinema'. *Screen* 16, no. 3 (1975): 6–18.

Murray, Susan. *Bright Signals: A History of Color Television* (Durham, NC: Duke University Press, 2018).

Murray, Susan. 'The New Surgical Amphitheater: Color Television and Medical Education in Postwar America'. *Technology and Culture* 61, no. 3 (2020): 772–797.

Nash, Eric. *Manhattan Skyscrapers* (New York: Princeton Architectural Press, 1999).

Natale, Simone. 'There Are No Old Media'. *Journal of Communication* 66 (2016): 585–603.

Natale, Simone. *Supernatural Entertainments: Victorian Spiritualism and the Rise of Modern Media Culture* (University Park, Penn.: Penn State University Press, 2016).

Nava, Mica. 'Modernity's Disavowal. Women, the City and the Department Store'. In *Modern Times: Reflections on a Century of English Modernity*, edited by Mica Nava and Alan O'Shea (London: Routledge, 1996), 38–76.

Noble, David F. *America by Design: Science, Technology, and the Rise of Corporate Capitalism* (Oxford: Oxford University Press, 1977).

Norman, Bruce. *Here's Looking at You: The Story of British Television, 1908–1939* (London: Royal Television Society, 1984).

Nye, David E. *American Technological Sublime* (Cambridge, MA: MIT Press, 1996).

Oudshoorn, Nelly, Ann Rudinow Saetnan, and Merete Lie. 'On Gender and Things: Reflections on an Exhibition on Gendered Artifacts'. *Women's Studies International Forum* 25, no. 4 (2002): 471–483.

Outka, Elizabeth. 'Crossing the Great Divides: Selfridges, Modernity, and the Commodified Authentic'. *Modernism/Modernity* 12, no. 2 (2005): 311–328.

Parikka, Jussi. *What Is Media Archaeology?* (Cambridge; Malden: Polity, 2012).

Parks, Lisa. 'Cracking Open the Set: Television Repair and Tinkering with Gender 1949–1955'. *Television & New Media* 1, no. 3 (2000): 257–278.

Pater, Monika. 'Rundfunkangebote'. In *Zuhören und Gehörtwerden. Bd.1, Radio im Nationalsozialismus. Zwischen Lenkung und Ablenkung*, edited by Inge Marssolek and Adelheid von Saldern (Tübingen: Edition Diskord, 1998), 129–241.

Patterson, Jody. 'Modernism and Murals at the 1939 New York World's Fair'. *American Art* 24, no. 2 (2010): 50–73.

Pegg, Mark. *Broadcasting and Society, 1918–1939* (Beckenham: Croom Helm, 1983).

Petzold, Hartmut. 'Zur Entstehung der elektronischen Technologie in Deutschland und den USA. Der Beginn der Massenproduktion von Elektronenröhren 1912–1918'. *Geschichte und Gesellschaft* 13 (1987): 340–367.

Peukert, Detlev. *Alltag unterm Nationalsozialismus* (Informationszentrum Berlin, Gedenk- und Bildungsstätte Stauffenbergstrasse, 1981).

Popp, Richard. 'Machine-Age Communication: Media, Transportation, and Contact in the Interwar United States'. *Technology and Culture* 52, no. 3 (2011): 459–484.

Posener, Julius. *Hans Poelzig: Reflections on His Life and Work* (Cambridge, MA: The MIT Press, 1992).

Rappaport, Erika. '"A New Era of Shopping": The Promotion of Women's Pleasure in London's West End, 1909–1914'. In *Cinema and the Invention of Modern Life*, edited

by Vanessa R. Schwartz and Leo Charney (Berkeley: University of California Press, 1995), 130–55.

Rieger, Bernhard. *Technology and the Culture of Modernity in Britain and Germany, 1890–1945* (Cambridge, U.K.; New York: Cambridge University Press, 2005).

Roberts, Ivy. *Visions of Electric Media: Television in the Victorian and Machine Ages* (Amsterdam: Amsterdam University Press, 2019).

Robson, Neil. 'Living Pictures out of Space: The Forlorn Hopes for Television in pre–1939 London'. *Historical Journal of Film, Radio & Television* 24, no. 2 (2004): 223–232.

Rogers, Ariel. *On the Screen: Displaying the Moving Image, 1926–1942* (New York: Columbia University Press, 2019).

Ross, Corey. *Media and the Making of Modern Germany. Mass Communications, Society, and Politics from the Empire to the Third Reich* (Oxford; New York: Oxford University Press, 2008).

Ruppert, Wolfgang. 'Plädoyer für den Begriff der industriellen Massenkultur'. In *Europäische Konsumgeschichte. Zur Gesellschafts- und Kulturgeschichte des Konsums (18.–20. Jahrhundert)* edited by Hannes Siegrist, Hartmut Kaelble, and Jürgen Kocka (Frankfurt/Main; New York: Campus, 1997), 563–582.

Rydell, Robert W. *All the World's a Fair: Visions of Empire at the American International Expositions, 1876–1916* (Chicago: University of Chicago Press, 1987).

Rydell, Robert W. *World of Fairs: The Century-of-Progress Expositions* (Chicago: University of Chicago Press, 1993).

Rydell, Robert W. 'Introduction. Making American (More) Modern. America's Depression-Era World's Fairs'. In *Designing Tomorrow: America's World's Fairs of the 1930s*, edited by Robert W. Rydell and Laura Burd Schiavo (New Haven: Yale University Press, 2010), 1–22.

Rydell, Robert W., and Laura Burd Schiavo, eds. *Designing Tomorrow: America's World's Fairs of the 1930s* (New Haven: Yale University Press, 2010).

Sandon, Emma. 'La télévision expérimentale à l'Alexandra Palace: La BBC et sa programmation de variétés'. In *Télévision, le moment expérimental: de l'invention à l'institution (1935–1955)*, edited by Gilles Delavaud and Denis Maréchal (Rennes: Éditions Apogée, 2011), 163–178.

Scannell, Paddy, and David Cardiff. *A Social History of British Broadcasting*, Vol. 1, 1922–1939 (Oxford: Basil Blackwell, 1991).

Schildt, Axel. 'Das Jahrhundert der Massenmedien'. Ansichten zu einer künftigen Geschichte der Öffentlichkeit'. *Geschichte und Gesellschaft* 27, no. 2 (2001): 177–206.

Schiller, Kay, and Chris Young. *The 1972 Munich Olympics and the Making of Modern Germany* (Berkeley; Los Angeles; London: University of California Press, 2010).

Schmidt, Uta C. 'Der Volksempfänger. Tabernakel moderner Massenkultur'. In *Radiozeiten: Herrschaft, Alltag, Gesellschaft (1924–1960)*, edited by Inge Marssolek

and Adelheid von Saldern (Potsdam: Verlag für Berlin-Brandenburg, 1999), 136–159.

Schneider, Birgit. 'Images-tests télévisuelles et points d'images aux débuts de la télévision allemande'. In *La télévision du téléphonoscope à Youtube: pour une archéologie de l'audiovision*, edited by Mireille Berton and Anne-Katrin Weber (Lausanne: Editions Antipodes, 2009), 275–302.

Schneider, Irmela. 'Konzepte vom Zuschauen und vom Zuschauer'. In *Medienkultur der 50er Jahre. Diskursgeschichte der Medien nach 1945*, edited by Irmela Schneider and Peter M. Spangenberg (Göttingen: Vandenhoeck + Ruprecht, 2002), 245–69.

Schrenk, Lisa D. *Building a Century of Progress: The Architecture of Chicago's 1933–34 World's Fair* (Minneapolis: University of Minnesota Press, 2007).

Schrenk, Lisa D. 'Industry Applies. Corporate Marketing at A Century of Progress'. In*, Designing Tomorrow: America's World's Fairs of the 1930s,* edited by Robert W. Rydell and Laura Burd Schiavo (New Haven: Yale University Press, 2010), 23–40.

Schütz, Erhard. 'Zur Modernität des '"Dritten Reiches"'. *Internationales Archiv für Sozialgeschichte der Literatur (IASL)* 20, no. 1 (1995): 116–136.

Schütz, Erhard. 'Das "Dritte Reich" als Mediendiktatur: Medienpolitik und Modernisierung in Deutschland 1933 bis 1945'. *Monatshefte* 87, no. 2 (1995): 129–150.

Schütz, Erhard, and Eckhard Gruber. *Mythos Reichsautobahn: Bau und Inszenierung der 'Strassen des Führers', 1933–1941* (Berlin: Ch. Links Verlag, 1996).

Schwartz, Vanessa R. *Spectacular Realities. Early Mass Culture in Fin-de-Siècle Paris* (Berkeley: University of California Press, 1999).

Sconce, Jeffrey. *Haunted Media: Electronic Presence from Telegraphy to Television* (Durham, NC: Duke University Press, 2000).

Scott, Peter. 'The Determinants of Competitive Success in the Interwar British Radio Industry'. *The Economic History Review* 65, no. 4 (2012): 1303–1325.

Secrest, James D. *EIA 50. Electronic Industries Association: The First Fifty Years, a History of the Electronic Industries Association* (Electronic Industries Association, 1974).

Sewell, Philip W. *Television in the Age of Radio: Modernity, Imagination, and the Making of a Medium* (New Brunswick, NJ: Rutgers University Press, 2014).

Shand, James D. 'The Reichsautobahn: Symbol for the Third Reich'. *Journal of Contemporary History* 19, no 2 (1984): 189–200.

Shapiro, Danielle. *John Vassos: Industrial Design for Modern Life* (Minneapolis: University of Minnesota Press, 2016).

Shiers, George. 'Early Schemes for Television'. *IEEE Spectrum* 7, no. 5 (May 1970): 24–34.

Siegrist, Hannes. 'Konsum, Kultur und Gesellschaft im modernen Europa'. In *Europäische Konsumgeschichte. Zur Gesellschafts- und Kulturgeschichte des Konsums, 18. bis 20. Jahrhundert*, edited by Hannes Siegrist, Hartmut Kaelble, and Jürgen Kocka (Frankfurt a.M.; New York: Campus, 1997), 13–48.

Siegrist, Hannes, Hartmut Kaelble, and Jürgen Kocka, eds. *Europäische Konsum-geschichte. Zur Gesellschafts- und Kulturgeschichte des Konsums, 18. bis 20. Jahrhundert.* (Frankfurt/Main; New York: Campus, 1997).

Silverstone, Roger, Eric Hirsch, and David Morley. 'Information and Communication Technologies and the Moral Economy of the Household'. In *Consuming Technologies: Media and Information in Domestic Spaces*, edited by R. Silverstone and E. Hirsch (London: Routledge, 1992), 15–31.

Singleton, Thomas. *The Story of Scophony* (London: Royal Television Society, 1988).

Slotten, Hugh Richard. *Radio and Television Regulation: Broadcast Technology in the United States, 1920–1960* (Baltimore: Johns Hopkins University Press, 2000).

Spigel, Lynn. *Make Room for TV: Television and the Family Ideal in Postwar America* (Chicago, Ill: University of Chicago Press, 1992).

Spigel, Lynn, and Jan Olsson, eds. *Television after TV: Essays on a Medium in Transition* (Durham, NC; London: Duke University Press, 2004).

Stadel, Luke. 'Television as a Sound Medium, 1922–1994' PhD, Northwestern University, 2015.

Staiger, Janet, and Sabine Hake, eds. *Convergence Media History* (New York; London: Routledge, 2009).

Stashower, Daniel. *The Boy Genius and the Mogul: The Untold Story of Television* (New York: Broadway Books, 2002).

Staudenmaier, John M. 'The Perils of Progress Talk: Some Historical Considerations'. In *Science, Technology, and Social Progress*, edited by Steven L. Goldman (Bethlehem, PA: Lehigh University Press, 1989), 268–293.

Stearns, Peter N. 'Stages of Consumerism: Recent Work on the Issues of Periodization'. *The Journal of Modern History* 69, no. 1 (1997): 102–117.

Steiner, Kilian J. L. 'Die Sonderschau "Fernsehen" im Deutschen Museum'. In *Das Deutsche Museum im Nationalsozialismus: eine Bestandsaufnahme*, edited by Elisabeth Vaupel and Stefan L. Wolff (Göttingen: Wallstein Verlag, 2010), 581–616.

Steiner, Kilian J. L. *Ortsempfänger, Volksfernseher und Optaphon: die Entwicklung der deutschen Radio- und Fernsehindustrie und das Unternehmen Loewe, 1923–1962* (Essen: Klartext, 2005).

Steinmaurer, Thomas. *Tele-Visionen: zur Theorie und Geschichte des Fernsehempfangs* (Innsbruck; Vienna: Studienverlag GmbH, 1999).

Sterling, Christopher H., and John M. Kittross, *Stay Tuned. A History of American Broadcasting*, Third Edition (Mahwah, N.J.: Lawrence Erlbaum Associates, 2002).

Stern, Robert H. 'Regulatory Influences upon Television's Development: Early Years under the Federal Radio Commission'. *American Journal of Economics and Sociology* 22, no. 3 (1963): 347–62.

Stern, Robert H. 'Television in the Thirties: Emerging Patterns of Technical Development, Industrial Control and Governmental Concern'. *American Journal of Economics and Sociology* 23, no. 3 (1964): 285–301.

Sterne, Jonathan. 'Television under Construction: American Television and the Problem of Distribution, 1926–62'. *Media, Culture & Society* 21, no. 4 (1999): 503–530.

Sterne, Jonathan. *The Audible Past: Cultural Origins of Sound Reproduction* (Durham, NC: Duke University Press, 2003).

Streeter, Thomas. *Selling the Air: A Critique of the Policy of Commercial Broadcasting in the United States* (Chicago: University of Chicago Press, 1996).

Suga, Yasuko. 'State Patronage of Design?: The Elitism/Commercialism Battle in the General Post Office's Graphic Production'. *Journal of Design History* 13, no. 1 (2000): 23–37.

Sugg Ryan, Deborah. 'The Daily Mail Ideal Home Exhibition and Suburban Modernity, 1908–1951.' Ph.D, University of East London, 1995.

Sugg Ryan, Deborah. *The Ideal Home through the 20th Century. The Daily Mail Ideal Home Exhibition* (London: Hazar. 1997).

Sugg Ryan, Deborah. *Ideal Homes, 1918–39: Domestic Design and Suburban Modernism* (Manchester University Press, 2018).

Susman, Warren I. 'The People's Fair: Cultural Contradictions of a Consumer Society'. In *Culture as History: The Transformation of American Society in the Twentieth Century*, Warren I. Susman (New York: Pantheon Books, 1984), 211–230.

Thompson, Emily. 'Machines, Music, and the Quest for Fidelity: Marketing the Edison Phonograph in America, 1877–1925'. *The Musical Quarterly* 79, no. 1 (1995): 131–171.

Thorburn David, and Jenkins Henry. 'Introduction: Towards an Aesthetics of Transition'. In *Rethinking Media Change: The Aesthetics of Transition*, edited by David Thorburn and Henry Jenkins, (MIT Press, 2004), 1–16.

Thorburn, David, and Brad Seawell eds. *Rethinking Media Change: The Aesthetics of Transition* (Cambridge, Mass.: MIT Press, 2004).

Thumim, Janet. 'Women at Work. Popular Drama on British Television, 1955–1960'. In *Small Screen, Big Ideas: Television in the 1950s,* edited by Janet Thumim (London; New York: I.B. Tauris, 2002), 207–222.

Tucker, Jennifer, in collaboration with Tina Campt. 'Entwined Practices: Engagements with Photography in Historical Inquiry'. *History and Theory* 48, no. 4 (2009): 1–8.

Turquety, Benoît. *Inventing Cinema: Machines, Gestures and Media History* (Amsterdam: Amsterdam University Press, 2019).

Tymkiw, Michael. *Nazi Exhibition Design and Modernism* (Minneapolis: Univiversity of Minnesota Press, 2018).

Udelson, Joseph H. *The Great Television Race. A History of the American Television Industry, 1925–1941* (Tuscaloosa: University of Alabama Press, 1982).

Uricchio, William. 'Introduction to the History of German Television, 1935–1944'. *Historical Journal of Film, Radio and Television* 10, no. 2 (1990): 115–22.

Uricchio, William. *Die Anfänge des Deutschen Fernsehens: Kritische Annäherungen an die Entwicklung bis 1945* (Berlin: Walter de Gruyter, 1991).

Uricchio, William. 'Television as History: Representations of German Television Broadcasting, 1935–1944'. In *Framing the Past: The Historiography of German Cinema and Television*, edited by Bruce Arthur Murray and Chris Wickham, (Carbondale: Southern Illinois University Press, 1992), 167–196.

Uricchio, William. 'Television, Film and the Struggle for Media Identity'. *Film History* 10, no. 2 (1998): 118–127.

Uricchio, William. 'There's More to the Camera Obscura than Meets the Eye'. In *Arrêt sur image, fragmentation du temps. Aux sources de la Culture visuelle moderne*, edited by François Albera, Marta Braun, and André Gaudreault (Payot: Lausanne, 2002), 103–117.

Uricchio, William. 'Television's Next Generation: Technology / Interface / Flow'. In *Television after TV: Essays on a Medium in Transition*, edited by Lynn Spigel and Jan Olsson (Durham, NC: Duke University Press, 2004), 163–182.

Uricchio, William. 'Phantasia and Technè at the Fin-de-Siècle'. *Intermédialités: Histoire et théorie des arts, des lettres et des techniques* no. 6 (2005): 27–42.

Uricchio, William. 'Television's First Seventy-Five Years: The Interpretive Flexibility of a Medium in Transition'. In *The Oxford Handbook of Film and Media Studies*, edited by Robert Kolker (Oxford: Oxford University Press, 2008), 289–293.

Uricchio, William. 'Contextualizing the Broadcast Era: Nation, Commerce, and Constraint'. *The Annals of the American Academy of Political and Social Science* 625, no. 1 (2009): 60–73.

Vallotton, François, and Anne-Katrin Weber, eds. *Towards an Expanded History of Television* (infoclio, 2021), https://livingbooksabouthistory.ch/en/book/towards-an-expanded-history-of-television.

Van Oost, Ellen. 'Materialized Gender: How Shavers Configure the Users' Femininity and Masculinity'. In *How Users Matter: The Co-Construction of Users and Technology*, edited by Nelly Oudshoorn and Trevor J. Pinch (Cambridge, MA, and London: MIT Press, 2003), 193–208.

Volek, Thomas W. 'Examining the Emergence of Broadcasting in the 1920s Through Magazine Advertising'. *Journal of Radio Studies* 2 (1993): 99–122.

Von Saldern, Adelheid. 'Innovative Trends in Women's and Gender Studies of the National Socialist Era'. *German History* 27, no. 1 (2009): 84–112.

Von Saldern, Adelheid. '*Volk* and *Heimat* Culture in Radio Broadcasting during the Period of Transition from Weimar to Nazi Germany'. *The Journal of Modern History* 76, no. 2 (June 2004): 312–346.

Ward, Janet. *Weimar Surfaces: Urban Visual Culture in 1920s Germany*. (Berkeley; Los Angeles, London: University of California Press, 2001).

Wasson, Haidee. 'Electric Homes! Automatic Movies! Efficient Entertainment!: 16mm and Cinema's Domestication in the 1920s'. *Cinema Journal* 48, no. 4 (2009): 1–21.

Weber, Anne-Katrin. 'Recording on Film, Transmitting by Signals. The Intermediate Film System and Television's Hybridity in the Interwar Period'. *Grey Room* 56 (2014): 6–33.

Weber, Anne-Katrin. 'Television as New Media: Raymond-Millet's *Télévision: Oeil de Demain* (1947) and the Politics of French Experimental TV'. *NECSUS. Journal of European Media Studies* (Spring 2019), https://necsus-ejms.org/television-as-new-media-raymond-millets-television-oeil-de-demain-1947-and-the-politics-of-french-experimental-tv/ (accessed 25 July 2021).

Weber, Anne-Katrin. '"L'œil électrique" et "la torpille volante": pistes pour une histoire du drone à partir de l'histoire télévisuelle'. *A contrario* n° 29, no. 2 (2019): 81–98.

Welch, David. *The Third Reich: Politics and Propaganda*, Second Edition (London; New York: Routledge, 2002).

Welch, David. 'Nazi Propaganda and the *Volksgemeinschaft*: Constructing a People's Community'. *Journal of Contemporary History* 39, no. 2 (2004): 213–238.

Wheatley, Helen. 'Television in the Ideal Home'. In *Television for Women: New Directions*, edited by Rachel Moseley, Helen Wheatley, and Helen Wood (Abingdon, Oxon; New York, NY: Routledge, 2016), 205–222.

Wheatley, Helen. *Spectacular Television: Exploring Televisual Pleasure* (I.B.Tauris, 2016).

White, Mimi. 'The Attractions of Television. Reconsidering Liveness'. In *Media Space: Place, Scale, and Culture in a Media Age,* edited by Nick Couldry and Anna McCarthy (New York: Routledge, 2004), 75–94.

Wildt, Michael. *Hitler's* Volksgemeinschaft *and the Dynamics of Racial Exclusion: Violence against Jews in Provincial Germany, 1919–1939* (New York: Berghahn Books, 2012).

Williams, Raymond. *Television: Technology and Cultural Form* (London: Routledge, 2003).

Winker, Klaus. *Fernsehen unterm Hakenkreuz: Organisation, Programm, Personal* (Cologne: Böhlau, 1994).

Woods, S. John. 'Looking at Television'. *Radio Times* 56, no. 721 (23 July 1937): 10

Wurts, Richard. *The New York World's Fair, 1939/1940: In 155 Photographs* (New York: Dover Publications, 1977).

Wurtzler, Steve J. *Electric Sounds: Technological Change and the Rise of Corporate Mass Media* (New York: Columbia University Press, 2007).

Wythoff, Grant (ed.) *Perversity of Things: Hugo Gernsback on Media, Tinkering, and Scientifiction* (Minneapolis: University of Minnesota Press, 2016).

Zielinski, Siegfried, *Audiovisions: Cinema and Television as Entr'actes in History* (Amsterdam: Amsterdam University Press, [1989] 1999).

Zimmermann, Yvonne. 'Advertising and the Apparatus: Cinema, Television, and Out-of-Home Screens'. In *Advertising and the Transformation of Screen Cultures*, edited by Bo Florin, Patrick Vonderau, and Yvonne Zimmermann (Amsterdam: Amsterdam University Press, 2021), 155–194.

Index

Television before TV rethinks the history of interwar television by exploring the medium's numerous demonstrations organized at national fairs and international exhibitions in the late 1920s and 1930s. Building upon extensive archival research in Britain, Germany, and the United States, Anne-Katrin Weber analyses the sites where the new medium met its first audiences. She argues that public displays offered spaces where television's symbolic, cultural, political, and social definitions were negotiated and eventually stabilized; for the historian, the exhibitions therefore constitute crucial events to understand not only the medium's pre-war emergence, but also its subsequent domestication in the post-war years. Designed as a transnational study, her book highlights the multiple circulations of artefacts and ideas across borders of democratic and totalitarian regimes alike. Richly illustrated with 100 photographs, *Television before TV* finally emphasizes that even without regular programmes, interwar television was widely seen.

Anne-Katrin Weber is a television historian with a special interest in non-institutional televisual uses and technologies. Her work is at the intersection of media history and archaeology, science and technology studies, and exhibition studies. She holds a PhD from the University of Lausanne, Switzerland, and is currently a NOMIS Fellow at *eikones. Centre for the Theory and History of the Image* (University of Basel). Her research has been published in English and French; she has edited several journal issues and volumes.

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