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A Survey of the Photographic and
the Filmic in Contemporary Art

Edited by
Edgar Lissel
Gabriele Jutz
Nina Jukić

DE GRUYTER *edition: 'angewandte*

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DE GRUYTER

**GEBHARD SENG MÜLLER—
ANDY BIRTWISTLE**

**BIG PAUL: THE DEATH OF VIDEO AND
THE RETURN OF THE REPRESSED**

Text: Andy Birtwistle and Gebhard Sengmüller

“I believe viewers would rather see an actual scene of a rush hour at Oxford Circus directly transmitted to them than the latest in film musicals costing £100,000.”

Gerald Cock, BBC Director of Television, 1936.¹

The first feasible idea for how a moving image could be broken down into lines and frames, and thus prepared for electrical transmission, was developed in 1883 by the Berlin baker's son and signal engineer Paul Nipkow (1860–1940). His patented Nipkow Disk enabled electro-mechanical television for the first time in history, and in an astonishingly simple way. In the transmitting device a focused beam of light shines through holes arranged in a spiral on a rotating disk. This scans the image object line by line with the resultant moving point of light. The number of holes in the disk corresponds to the number of image lines produced, and the revolutions per second of the perforated disk determines the number of scanned images per second. A photo-electric cell measures the fluctuating brightness that is reflected from the scanned object, transforming the reflected light into an electrical signal with continuously variable strength. This flow of current, which is already the complete television signal, is then transmitted through an electrical conduit to the television receiver.

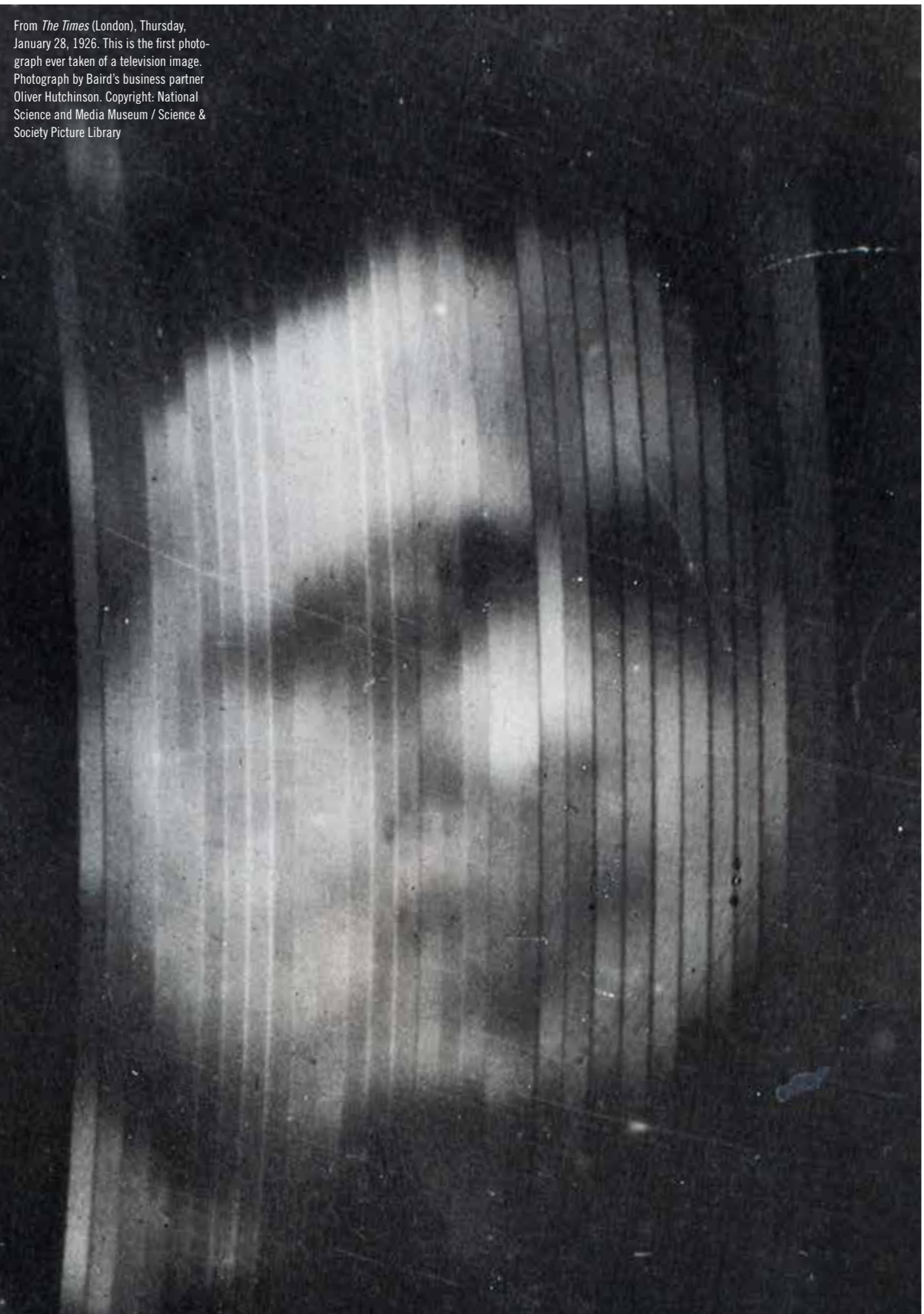
The receiver device is built exactly like the camera: A second Nipkow Disk with the same rotation speed and arrangement of holes is illuminated from behind by a light source. This light source is controlled by the camera signal and flickers in time with the photocell reading the image. Through the holes in the disk, and enlarged by a magnifying glass, the moving image of the scanned object now appears.

Whereas Nipkow only sketched out this idea in the nineteenth century as a possibility—and was never able to implement it practically—in 1926 the Scottish inventor John Logie Baird succeeded in constructing a functional mechanical television system with a camera and screen based on Nipkow's idea. Baird called his invention the *Televisor*. By the end of the 1930s, however, developments in electronic scanning had rendered Nipkow's invention a dead technology, consigned in most accounts of the medium to history.

With the installation *Big Paul* Gebhard Sengmüller takes a fictive detour along the path of media history and constructs a *Televisor* for modern times. *Big Paul* is a functional electro-mechanical television system, which retains the original Nipkow Disk but enlarges it to a diameter of 1.5 meters, thus substantially increasing the number of transmittable image lines and therefore also the achievable image resolution. This means that for the first time a system of television is created which retains Nipkow's original idea but allows it to function in contemporary quality. At the same time, the installation shows an apparatus that—like cinema film and the phonograph, but unlike electronic television—can be comprehended and immediately experienced by the viewer.

Big Paul features two nearly identical apparatuses connected by a short length of cable. Each consists of a large, rapidly rotating disk protected by a steel cage, and each disk has 240 small holes bored into it and arranged in a spiral. One apparatus forms the camera and transmitter side of the installation, the other the receiver and screen side. Technically *Big Paul* largely follows Baird's original *Televisor*, and although the Nipkow Disk is extremely enlarged and the number of lines of video increased, the original manner of generating and rendering images is retained. Here a beam of light shining through holes on a rotating disk scans the face of an exhibition visitor standing in front of the transmitting apparatus. A photo-sensor generates a signal that passes to the receiver apparatus through a cable. A second visitor, looking through the rotating disk on the receiver, sees a small but high resolution live image of the transmission. The main difference to the historical model is the much more defined image and the seemingly unrealistic size of the installation. Yet this system is also as transparent as possible and set up to be looked into, so that its basic mechanism is revealed.

From *The Times* (London), Thursday, January 28, 1926. This is the first photograph ever taken of a television image. Photograph by Baird's business partner Oliver Hutchinson. Copyright: National Science and Media Museum / Science & Society Picture Library

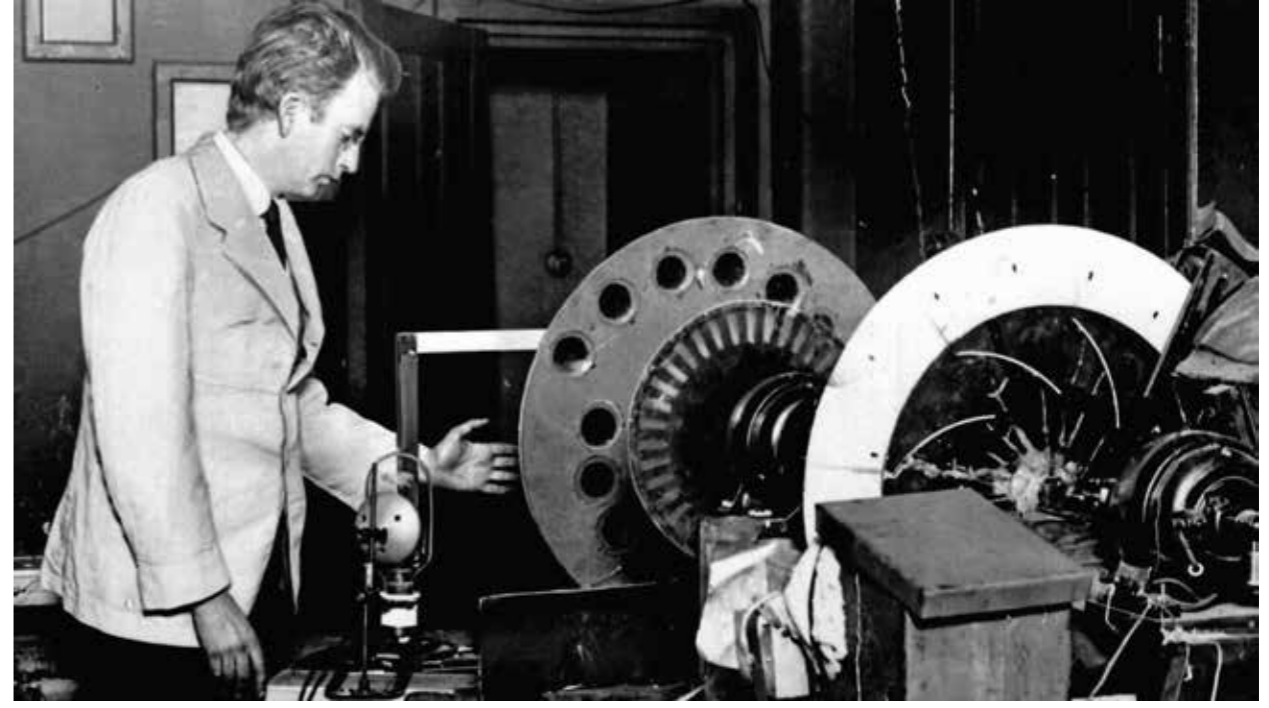


Sengmüller's media archaeological reanimation of mechanical television can be seen to make a critical intervention in contemporary art practice at a particular moment in the evolution of video's identity. Although *Big Paul* makes no direct reference to cinema, the significance of its reclamation of a dead form of television can be usefully understood by situating it within a contemporary audiovisual environment, in which cinematic modes of representation are in the process of obscuring or erasing forms of visibility unique to video. Writing in 1996 on the differences between cinema and video, John Belton proposed that the two media are defined, in part, by their relationship with one another. Furthermore, he argued, this relationship is characterized by its mutability:

[T]he existence of cinema forces us to rethink our notions of video [...] this mutual codefinition is a continuous process; it takes place over time, and, as a result, our understanding of film and video is constantly changing. What they mean at any given point in time is the product of the unique relationship of each technology not only to the other but to a field of different representation formats that is itself constantly changing.²

At certain points in history distinctions between television and cinema, and film and video, may appear to have been clearly defined, and within an art context an interest in their ontological essences can be seen to have motivated the pursuit of "film as film," as well as the focus on medium specificity that marked much of the early video work of the 1960s and 70s. In an age of media convergence, however, such distinctions may no longer be so easily drawn, as we witness what appears to be a blurring or blending of two formerly distinct audiovisual forms. Hence, television has become increasingly cinematic, while the phrase "the end of celluloid" signals cinema's widespread adoption of video technology. Within this context Sengmüller's work, which refers us to the early history of television, also returns us to Belton's observation that the medium of video, our understanding of it, and what it represents are all subject to change and always have been. If the most recent of these mutations has been facilitated largely by developments in digital technology, it does not follow, however, that these are best understood through reference to a simplified distinction between the analog and the digital. Rather, notions of media convergence and specificity might usefully be considered by way of the evolving relationship between cinematic and televisual forms of visibility and their respective modes of representation. And it is this relationship that *Big Paul* illuminates through Sengmüller's pursuit of an alternative (and fictive) history of television, resulting in what might be described as video's "return of the repressed."

Resuscitating and reanimating a dead technology for the twenty-first century, Sengmüller's *Big Paul* uncompromisingly foregrounds the material apparatus of video image production. The scale of the installation, and its sheer mechanical presence, confront the viewer in a way that makes the apparatus supporting the transmission and reception of video images highly visible and audible, territorializing the space in which the work is installed. Here the material technology of image transmission competes with the video image itself for the viewer's attention. In a phenomenological account of human-machine relations the philosopher Don Ihde expresses the commonly-held view that technology works best when it effaces itself, suggesting: "the better the machine the more 'transparency' there is," in the sense that, "it itself does not become objectified or thematic."³ In *Big Paul* Sengmüller engineers the opposite effect, relocating the hardware

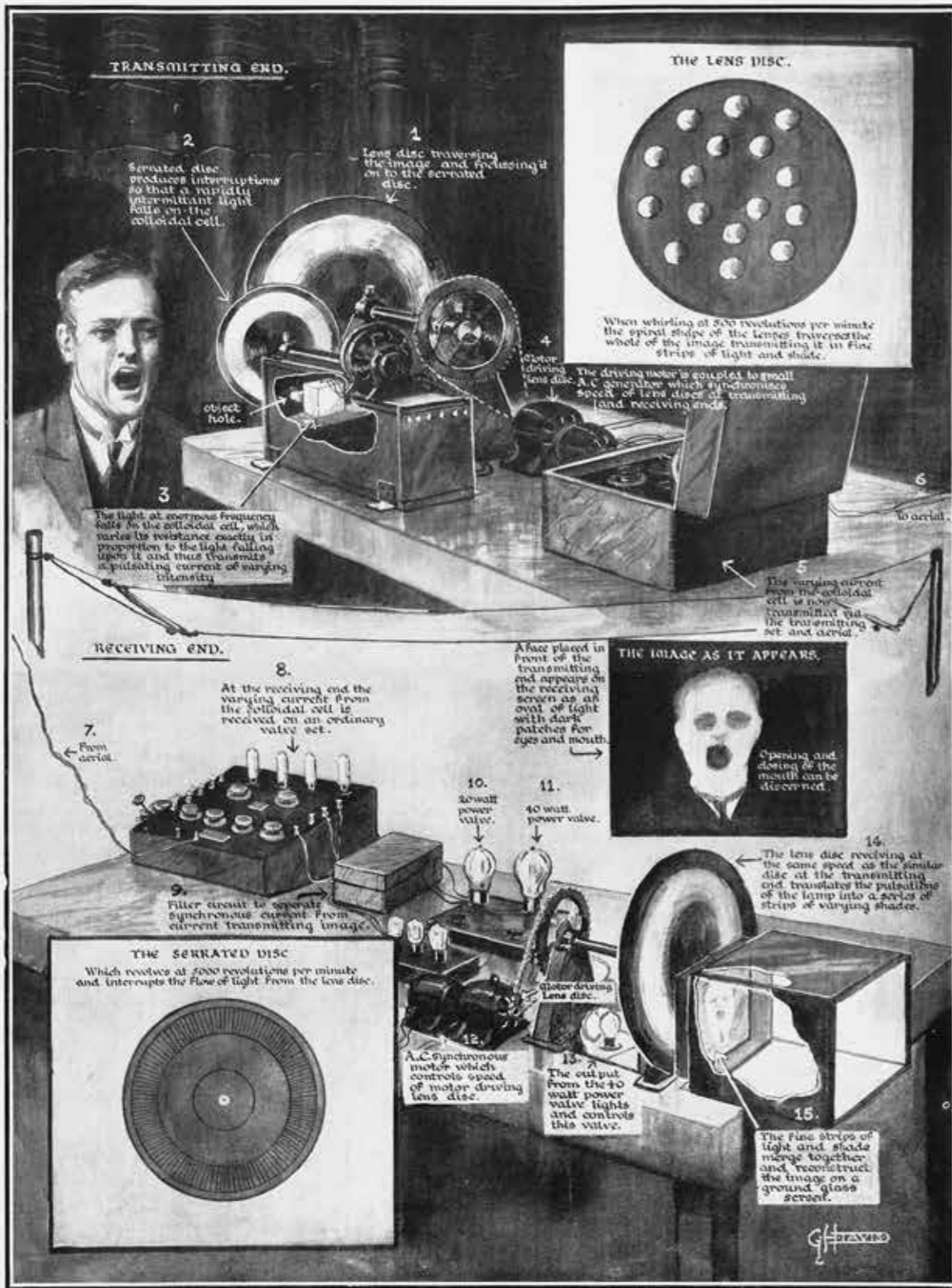


top
John Logie Baird demonstrates a prototype of his mechanical television system (1924). Copyright: Daily Herald Archive / National Science and Media Museum / Science & Society Picture Library

bottom
Baird Televisor, 1929 (replica by Denis Asseman, 2008)
Copyright: Auction Team Breker, Cologne, Germany, 2018

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A Successful Attempt To See By Wireless
Illustration by George Horace Davis, from *The Graphic* magazine, published February 28, 1925. The illustration explains John Logie Baird's mechanical television system.





A SUCCESSFUL ATTEMPT TO SEE BY WIRELESS

Mr. J. L. Baird, who demonstrated the transmission of moving Shadow-graphs by wireless early this year, is now perfecting a machine designed to transmit actual images. In the Baird system of television the light is projected on to a sensitive cell by means of a system of lenses revolving on a disc at 500 revolutions per minute. Passing through a serrated disc whirling round at 5000 revolutions per minute, the light is interrupted, and next falls on a colloidal cell invented by Mr. Baird and is

converted into a current of varying intensity. The pulsating current is then transmitted in the ordinary way to the receiving station, and, being amplified, controls a lamp whose light, passing through the lenses of another revolving disc, traverses a ground glass screen on which the image is reproduced by a series of line strips of varying shades. At present the invention is in its infancy, but already it is possible to note the person at the transmitting end winking or opening his mouth—a distinct advance.

of media technology to the foreground of the viewer's perceptual experience. As Sengmüller explains, "[...] transpose 'figure' and 'ground', so to speak: the media mechanism that normally provides the content and otherwise remains in the background, here becomes the foreground and the spectacle."²⁴ This effect is achieved, in part, by the mesmerizing rotation of the oversized Nipkow disks, and also by the intense and inescapable mechanical drone that fills the gallery when the installation is operating. In Sengmüller's hands Nipkow's invention becomes a lethal piece of kinetic sculpture that presents a potential health and safety risk to gallery visitors. His solution has been to encase *Big Paul* in large steel cages, similar to those used on industrial installations. This factory aesthetic serves to further heighten the viewer's awareness of television as a machine—a material assemblage—rather than focusing wholly on the image produced, as is perhaps our usual experience of the medium.

In contrast to the power and solidity of the installation's mechanical elements, the video image generated by *Big Paul* is modest and insubstantial. Visibly deformed by the circular path of the Nipkow disk's scanning pattern, the 240 vertical lines that constitute *Big Paul*'s flickering images appear on a screen measuring only four by six centimeters. The resulting image is comically out of scale with both the hardware and effort required to produce it. Generating images through mechanical rather than electronic scanning, *Big Paul* resurrects a lost form of video whose very unfamiliarity inscribes its material qualities on the spectator's consciousness in a way that is unlikely to be the case with contemporary high definition digital video, aspiring as the latter does to a noiseless, immaterial transparency.

If Sengmüller's media archaeological installation resurrects and resuscitates Nipkow's invention for the age of high definition television, then *Big Paul* might be understood to stake a new place for the video image in an audiovisual landscape that is becoming increasingly cinematic—a landscape that is not limited to mainstream television but is also encountered within the darkened spaces of the white cube. Claims for a contemporary expansion of cinematic visibility may at first seem counterintuitive, given that so much has been made of the so-called "death of cinema."²⁵ Central to the discourse on this topic has been the decline of celluloid, whereby cinema's photographic identity is seen to have been radically threatened by digital technology's electronic image. The latter has impacted not only on the way in which cinema's moving images are recorded but also how they are edited, post-produced, distributed, and exhibited—each one a nail in the coffin for a particular form of cinema now understood to be in terminal decline, if not already deceased. When feature films are shot on Arrri, Alexa, or Red Epic digital cameras, edited on Avid Media Composer, projected digitally in cinemas, or distributed and viewed online, then cinema has undoubtedly become digital. Put another way, in the digital age cinema becomes a form of video.

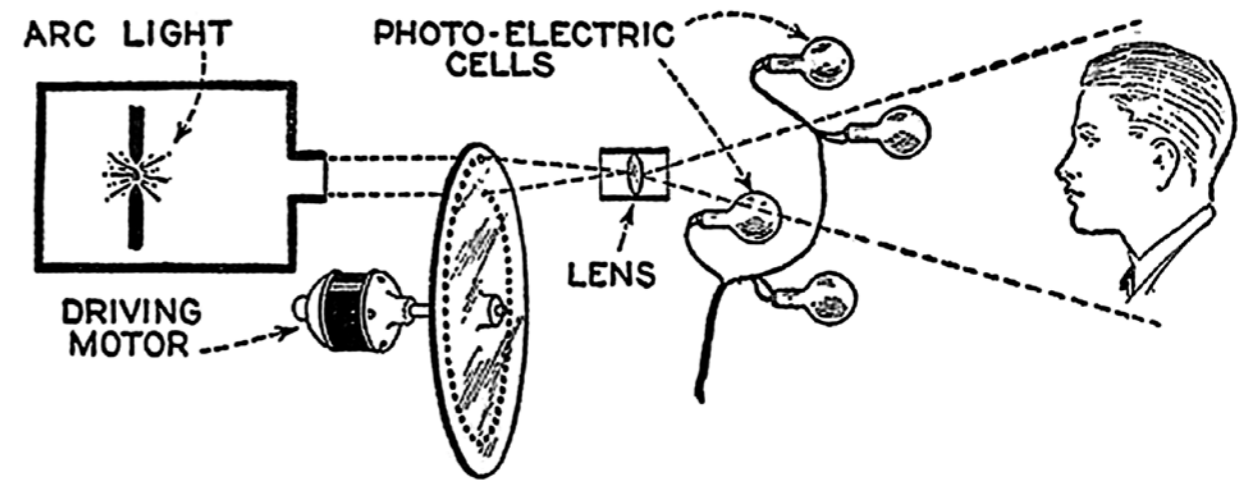
What we witness, as a result, is video's own death—not as a technology (since it is in fact thriving) but rather as a specific mode of representation and a form of visibility. The development of increasingly high definition video and the adoption of a now commonplace 16:9 aspect ratio for television are but two of the ways in which the electronic moving image has consciously aspired to a cinematic aesthetic. Although John T. Caldwell has identified the 1980s as a period when broadcast television actively sought to emulate the production values and visual codes of Hollywood film,²⁶ video's dream of becoming cinematic became particularly evident with the widespread introduction of digital technology a decade later. Marketing professional Digital Betacam equipment in the 1990s, the Sony Corporation emphasized the capacity of their video cameras to achieve filmic effects,²⁷ while camcorders sold for amateur use during this period also evidence

the lure of the cinematic through the inclusion of 16:9 cropping and “Movie Mode” on some models. In more recent times the use of digital single-lens reflex cameras, such as the Canon 5D, has further promoted and supported the widespread adoption of a cinematic aesthetic built on video technology. Here the use of prime lenses capable of delivering a film-like restricted depth of field has led to a particularly noticeable change in the video image—the cinematic sensibility that results finding its way even into television news coverage. In 2012, for example, a series of news reports from rebel-held areas in Syria broadcast by the BBC featured shots with a noticeably shallow depth of field, along with other effects that are more familiar from photography and cinema than the tradition of television news reporting. These included the use of extreme wide angle lenses, improvised tracking shots, long cross-fades between shots in a montage sequence, and time-lapse cinematography.⁷ Thus, we witness something of a paradox: As the technology supporting of the vast majority of moving image production moves from celluloid to video (“the death of cinema”), the aesthetics of video begin to transform radically, transmuting under the gravitational pull of cinematic audiovisuality.

This same transmutation also impacts upon the use and perception of video in the gallery. The widespread adoption of video projection by both curators and artists means that increasingly rarely is anything but historical work displayed on video monitors out of choice rather than necessity. With projection becoming the norm, the technology of video within the gallery environment has been rendered virtually invisible, particularly when projectors, decreasing in size and increasing in power, are mounted on gallery ceilings. In this environment the spectator is drawn like a moth to the light of the screen, regularly encountering large-scale high definition images that transpose something of the cinema to the white cube. Compare this, then, with the contemporary resurgence of 16 mm film in the gallery, wherein projectors and loopers are placed on conspicuous display, and in which the whirr of the projector often radiates throughout the space where the installation is situated. Writing on Tacita Dean’s 16 mm installation *Bubble House* (1999), Simon Schama describes “the purr of the projector [as] an intrinsic musical undertone” in a piece that “had none of the slick virtuality of video art.”⁸ The virtuality that Schama describes—signaling a kind of contemporary dematerialization of video—is a far cry from the origins and early development of video art. In Nam June Paik’s groundbreaking 1963 show at the Galerie Parnass TV sets modified by the artist assumed a sculptural form, rendering visible a key dimension of television’s technological materiality (image on page 99, bottom). In this respect, Sengmüller’s *Big Paul* returns us not only to television’s past but also to the origins of video art. Here, once again, we have the opportunity to look into the source of light rather than looking with it. The effect is to rematerialize video at a point in time when its cinematic (dis)guise begins to obscure a mode of visuality unique to the medium, and formerly characteristic of it.

The history of the medium suggests that what is understood at any particular moment as video is subject to change and that the viewer’s perception of it, as well as its meaning, also mutate over time. As Belton suggests, these meanings and perceptions are informed by video’s changing relationship with other forms of representation, including cinema. Thus, we might ask the question, if the qualities and meanings attributed to video have always been in the process of transformation, what is it precisely that *Big Paul* reclaims, and what is at stake in this return of the repressed?

The notion of liveness is perhaps central to understanding television and video’s particular mode of visuality and is, of course, what Gerald Cock, BBC Director of Television, was celebrating in 1936 in his comment above. Sengmüller’s installation reminds us



top
How image scanning with the Nipkow Disk and photo-electric cells works. Illustration from *Radio News* from April 1928 (detail).

bottom
Nam June Paik at his *Exposition of Music – Electronic Television*, Galerie Parnass, Wuppertal, March 11–20, 1963. Photo: George Maciunas (1931–1978) Copyright: New York, Museum of Modern Art (MoMA). Gelatin silver print, image: 48 × 47.9 cm; sheet: 60.7 × 50.5 cm. The Gilbert and Lila Silverman Fluxus Collection Gift. Acc. n.: 2396.2008. © 2018. Digital image, The Museum of Modern Art, New York / Scala, Florence

page 100, top
Big Paul
Gebhard Sengmüller, installation, as of June 2018. A light beam scans the object to be televised. Copyright: Gebhard Sengmüller

page 100, bottom
Big Paul
Gebhard Sengmüller, installation, as of June 2018. Looking through the spinning Televisor disk, the image is reproduced. Copyright: Gebhard Sengmüller



that television developed originally as a form of transmission—in contrast to cinema, whose photographic roots locate it as a means of recording. Thus, the medium's prefix “tele” aligns it with the telephone and the telegraph, both of which enabled the virtually instantaneous transmission of a signal over distance. In shrinking television's etymological “seeing from afar” to the constrained space of the gallery, Sengmüller comically foregrounds the liveness of transmission, whereby a person looking into the screen on *Big Paul's* receiving device is likely to be in close physical proximity to, and acutely aware of, the subject of the image standing less than two meters away.

It should be pointed out, however, that television's sense of liveness and immediacy is not limited only to live transmission but is also perceived as a distinctive feature of recorded video. As Belton puts it, “for the average viewer, it is impossible to distinguish between a ‘live’ broadcast and a videotaped recording of it.”⁹ Thus all video, whether live or recorded, whether broadcast television or video art, has a temporal quality that distinguishes it from photography's indexical sense of pastness, and thus cinema. Video's characteristic present-tense sense of “nowness” is undoubtedly due in part to its cultural associations, and in particular with television; but according to Belton this quality might also have a technological basis, due to the scanned nature of the electronic image: “Video images are always in the process of their own realization. Their association with immediacy and presentness is partly because they are always in the process of coming in to being.”¹⁰ While it is true that cinema has made its own claims to the present tense,¹¹ this is complicated by photography's ontological status as a record of the past—its complex form of temporality signaled by the phrase “this was now.”¹² Hence, when video aspires to emulate the cinematic, its sense of liveness is one of the qualities that is it often sacrificed (particularly when video mimics film's characteristic 24 frames per second “flicker”). However, it is precisely this experience of “nowness” that is embodied and foregrounded in *Big Paul's* resurrection of mechanical television.

Jussi Parikka has proposed that media archaeology involves “thinking the new and the old in parallel lines,”¹³ and it is this simple formulation that suggests the potential for Sengmüller's work to make an intervention into the contemporary audiovisual environment rather than simply revisiting the past. Sengmüller's reanimation of a dead technology is purposefully framed within an alternative history of television. In documentation accompanying the installation Sengmüller sketches a convincing, but fictional, account of the development of mechanical television, proposing that rather than being abandoned in the 1930s Nipkow's system remained in use until the 1960s in “developing countries within the Soviet sphere of influence.”¹⁴ Thus, Sengmüller creates a counterfactual history that eases the re-emergence of mechanical television into the contemporary audiovisual environment. Rather than dealing with technological change in a linear, teleological and purely historical manner, *Big Paul* situates the present state of video, and our perception of it, within currents of ongoing change. And what is at stake here is precisely the way in which modes of visibility inform representation and the spectator's perception of that representation. To take one example, if the sense of liveness and presentness associated with video is lost from television news coverage, then as viewers we may become further distanced—and insulated—from what is represented on the screen. In reclaiming a specific mode of visibility that is currently in the process of being forgotten, *Big Paul's* otherness creates a vantage point from which we can observe the way in which video's visual qualities, and what they mean, have not only changed historically, but continue to do so.





Big Paul
Gebhard Sengmüller,
installation as of June 2018
Installation view (scanner and Televisor disks)
Copyright: Gebhard Sengmüller

Thanks to Aileen Dering for English translations of parts of the text.

1. Gerald Cock, "Looking Forward – A personal forecast of the future of television," *Radio Times* 53, no. 682 (Oct. 23, 1936), pp. 6–7.
2. John Belton, "Looking Through Video: The Psychology of Video and Film," in *Resolutions: Contemporary Video Practices*, eds. Michael Renov and Erika Suderburg (Minneapolis: University of Minnesota Press, 1996), pp. 61–72, here p. 62.
3. Don Ihde, "The Experience of Technology: Human-Machine Relations," *Cultural Hermeneutics* 2 (1974): pp. 267–279, here p. 272.
4. Gebhard Sengmüller, "Big Paul brochure," http://gebseng.com/11_big_paul/big_paul_brochure.pdf (accessed on Oct. 22, 2018).
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7. News at Ten, BBC 1, Jan. 20 and Feb. 24, 2012.
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9. Belton, "Looking Through Video," p. 66.
10. *Ibid.*, p. 67.
11. Pier Paolo Pasolini, "Observations on the Long Take," *October* 13 (summer 1980): pp. 3–6.
12. Laura Mulvey, *Death 24x a Second: Stillness and the Moving Image* (London: Reaktion Books, 2006), p. 57.
13. Jussi Parikka, *What is Media Archaeology?* (London: Polity, 2012), p. 2.
14. Sengmüller, "Big Paul brochure."