

If film is dead, what is cinema?

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The cinema is dead. Long live the cinema! Predictions of the death of cinema have been with us as long as the cinema itself; indeed, Antoine Lumière reportedly informed Georges Méliès in 1895 that ‘the cinema is an invention without a future’.¹ If the invention of the cinema itself prompted speculation on the improbability of its future, so too did the series of technological innovations that transformed it. The coming of sound, for example, was greeted by many critics, filmmakers and theorists as the death knell of the cinema – that is, the end of a certain kind of cinema, the silent cinema, the cinema of montage and expressionistic mise-en-scene, the cinema that André Bazin famously said put its faith in the image.² Rudolf Arnheim, for one, viewed the coming of sound, colour, 3D and widescreen as threats to the purity – to the *art* – of the cinema.³ Arnheim’s cinema was silent, black and white, and square. René Clair famously complained that the coming of sound was ‘quite ruinous’, and that with it ‘the screen has lost more than it has gained. It has conquered the world of voices but lost the world of dreams’.⁴ Along one axis of its development, the cinema threatened to destroy itself through inner technological change; along another, it was the potential victim of other media. Competition from other technologies, notably television and video, was expected to destroy it. During the 1920s, William Fox saw radio and television as potential rivals to the movies, prompting both his interest in sound as cinema’s answer to the threat of radio and his development of a large-screen format (the 70mm Grandeur process) to challenge small-screen television.⁵ Of course the threat from other media has been vastly overstated in traditional histories of Hollywood.⁶ Contemporary scholarship points out that Hollywood quickly sought to exploit radio and (much later) television (and cable) as platforms for advertising its movies and for actual

- 1 James Leo Cahill, ‘... and afterwards: Martin Arnold’s phantom cinema’, *Spectator*, no. 27, special issue ‘Deaths of Cinema’ (2007), p. 19. Tom Gunning, quoting Bernard Chardère, attributes this sentiment to the Lumières’ father Antoine, in ‘Moving away from the index: cinema and the impression of reality’, *Differences*, vol. 18, no. 1 (2007), p. 35.
- 2 André Bazin, *What Is Cinema? Volume I*, ed. and trans. Hugh Gray (Berkeley, CA: University of California Press, 1967), p. 24.
- 3 See Rudolf Arnheim, ‘The complete film’, in *Film as Art* (Berkeley, CA: University of California Press, 1957), pp. 154–57.
- 4 René Clair, ‘The art of sound’, reprinted in Elisabeth Weis and John Belton (eds), *Film Sound: Theory and Practice* (New York, NY: Columbia University Press, 1985), p. 95.
- 5 See John Belton, ‘Fox and 50mm film’, in John Belton, Sheldon Hall and Steve Neale (eds), *Widescreen Worldwide* (New Barnet: John Libbey, 2010), pp. 11–12.
- 6 For a discussion of the threat from television, see Garth Jowett, ‘Television and the motion picture industry’, in *Film: the Democratic Art* (Boston, MA: Little, Brown, 1976), pp. 347–51.

- 7 See Michelle Hilmes, *Hollywood and Broadcasting: from Radio to Cable* (Urbana, IL: University of Illinois Press, 1990), pp. 2–3.
- 8 For a discussion of Universal vs Sony, see James Lardner, *Fast Forward: Hollywood, the Japanese and the VCR Wars* (New York, NY: W. W. Norton, 1987), pp. 99–135.
- 9 See Peter Decherney, *Hollywood's Copyright Wars: from Edison to the Internet* (New York, NY: Columbia University Press, 2012), pp. 169–79.
- 10 Anne Thompson, 'VCRs sending people back to theatres: video use is leading to record box-office boom', *San Francisco Chronicle*, 10 May 1987, p. 29.
- 11 Dan Ackman, 'Movie studios get hip with the future', *Forbes*, 17 August 2001, <<http://www.forbes.com/2001/08/17/0817topnews.html>> accessed 16 September 2014.
- 12 Dziga Vertov, 'Film directors: a revolution', in 'Documents from Lef', trans. Richard Sherwood, *Screen*, vol. 12, no. 4 (1971), p. 52.
- 13 Susan Sontag, 'The decay of cinema', *New York Times*, 25 February 1996, <<http://www.nytimes.com/books/00/03/12/specials/sontag-cinema.html>> accessed 16 September 2014.
- 14 Godfrey Cheshire, 'Part Two of The death of film/The decay of cinema', *New York Press*, 11 August 1999, <<http://nypress.com/part-two-of-the-death-of-film-the-decay-of-cinema/>> accessed 16 September 2014.

programming.⁷ In 1976 Hollywood viewed the videocassette recorder as a threat to its existence and filed suit against Sony and its Betamax recorder for copyright infringement.⁸ The US Supreme Court finally ruled in 1984 on behalf of Sony that home recording was 'fair use'.⁹ Indeed, subsequent events suggested that the VCR actually increased rather than decreased attendance in the movie theatre; by 1987 statistics showed that the popularity of prerecorded videotapes had stimulated a demand for new films, sending spectators back into theatres and creating a box-office boom.¹⁰ By 2001 the VCR, which was then being eclipsed by the DVD, was no longer considered to be 'the death knell of the movie business. Instead it became arguably its savior',¹¹ providing an after-market for consumers who bought or rented prerecorded films that accounted for over half of Hollywood's earnings.

The cinema has periodically spawned radical attempts from within to overthrow it as an institution, witnessed in manifestos calling for its end or its death. In 1923 Dziga Vertov reiterated the death sentence he had earlier passed without exception on every film from the West.¹² Forty-five years later, in a Vertovian gesture, Jean-Luc Godard proclaimed the end of cinema with his first farewell to the medium in *Weekend* (1968), whose penultimate end-title 'End of Story' is followed by the ultimate title 'End of Cinema'. This was his farewell to narrative cinema, which led to his involvement with Jean-Pierre Gorin in the agit-prop filmmaking collective known as the Dziga Vertov Group. His original farewell was then reprised in his *Éloge de l'amour/In Praise of Love* (2001), an elegy/eulogy for the medium of film, shot half in 35mm and half in digital video. For both Godard and Vertov, narrative cinema was an ideological institution that must come to an end, destroyed by alternative filmmaking practices.

The centenary of cinema's birth prompted further ruminations on contemporary transformations of a once great art. In her 1996 *New York Times* article on the 'decay of cinema', Susan Sontag lamented the limited aspirations of current cinema:

while the point of a great film is now, more than ever, to be a one-of-a-kind achievement, the commercial cinema has settled for a policy of bloated, derivative film-making, a brazen combinatory or recombinatory art, in the hope of reproducing past successes. Cinema, once heralded as the art of the 20th century, seems now, as the century closes numerically, to be a decadent art.¹³

For Sontag the cinema was not dead but it might as well have been, given its 'ignominious, irreversible decline' at the turn of the century.

In 1999, on the heels of Sontag's lament, Godfrey Cheshire wrote a two-part essay on the death of film and the decay of cinema for the *New York Press*. In a semi-reductionist way he presented film/celluloid as a metaphor for the cinema, arguing that the disappearance of film in the wake of digital technology would result in the death of motion pictures as an art form, with cinema becoming more and more like television, featuring sporting events, concerts and other live events.¹⁴ For Cheshire, the shift from film to digital was apocalyptic. 'Film', he wrote,

- 15 See Oliver Lyttleton, 'Sound the death knell (again): a brief history of the death of cinema', 2 October 2012, <<http://blogs.indiewire.com/theplaylist/a-brief-history-of-the-death-of-cinema-100112>> accessed 16 September 2014.
- 16 See John Belton, 'Digital cinema: a false revolution', *October*, no. 100 (2002).
- 17 *Variety*, 9–15 April 2013.
- 18 Jill Goldsmith, 'Kodak files for Chapter 11', 19 January 2012, <<http://variety.com/2012/film/news/kodak-files-for-chapter-11-1118048864/>>; Karen Idelson, 'Reel life in digital world', 2 February 2012, <<http://variety.com/2012/film/news/fuji-to-stop-production-of-film-stock-1118059128/>> both accessed 11 September 2014.
- 19 Ed Meza, 'Digital screens in Europe pass half-way point', *Daily Variety*, 18 January 2012, <<http://variety.com/2012/film/news/digital-screens-in-europe-pass-half-way-point-1118048802/>>; Ray Zone 'Arthouses debate 3D conversion', *Daily Variety*, 11 January, 2012, <<http://variety.com/2012/digital/news/arthouses-debate-3d-conversion-1118048318/>> both accessed 16 September 2014.
- 20 MKPE, 'Digital cinema technology: frequently asked questions', <http://mkpe.com/digital_cinema/faqs/tech_faqs.php#status> accessed 16 September 2014.
- 21 MPAA, 'Theatrical market statistics 2012', <<http://www.mpa.org/wp-content/uploads/2014/03/2012-Theatrical-Market-Statistics-Report.pdf>> accessed 17 September 2014.
- 22 Richard Verrier, 'End of film: Paramount first studio to stop distributing film prints', *Los Angeles Times*, 17 January 2014, <<http://touch.latimes.com/#section/-1/article/p2p-78938624/>> accessed 16 September 2014.
- 23 David Hancock, 'Thanks for the memories: it's the end of an era as 35mm film declines', *Film Journal International*, 23 December 2011, <http://www.filmjournal.com/filmjournal/content_display/news-and-features/features/technology/e3i9d8bb28649c6da4d1d>

is about to disappear over the historical horizon. It will always be a 20th century phenomenon. But guess what? So will you. Everyone old enough to be reading these words is a product of a world whose understandings and self-images were forged in large part by film. When the millennial clock ticks over, we will all be strangers in a strange land, one that belongs to others.

More recently, popular film critics David Denby, David Thompson and Salon's Andrew O'Hehir have all taken up Sontag's complaint that the cinema was a dead or dying artform.¹⁵

The attempts by Cheshire and others to link the death of cinema to the death of film – that is, to the advent of digital cinema – ask that we see this latest technological innovation much as Arnheim saw sound, colour and widescreen, as something that threatens to destroy the art of the cinema. This argument is, to say the least, fairly complicated. Though advocates of digital cinema have repeatedly boasted of its radical novelty, likening it to the coming of sound, for example, it in no way transforms the spectators' experience of the cinema as sound did but simply *simulates* the experience of traditional motion picture film.¹⁶ Its simulation of 35mm film may differ in certain respects from *actual* 35mm film, but its mission is not the destruction of celluloid as a format, even though that may have been its ultimate effect. From the perspective of the history of technological innovation in the cinema, digital cinema is merely the latest in a long line of technological changes.

But Cheshire's equation of cinema with celluloid has informed the popular perception of a series of recent announcements in the press concerning the demise of 35mm film and its related technology. *Variety*, a paper that has long supported the transition to digital cinema, has not quite written the obituary for 35mm film, though a 2013 cover image of a dumpster full of motion picture film with the caption 'The Reel Ending' comes pretty close.¹⁷ As the industry's newspaper of record, *Variety* has duly noted that Eastman Kodak had filed for bankruptcy under Chapter 11, that Fuji would also cease its production of motion picture film in Spring 2013, and that Aaton, Panavision and Arriflex had ceased making 35mm cameras.¹⁸ By January 2012, over fifty-two per cent of all European screens had become digital and, as Ray Zone reported, 'by the end of 2011, more than 50,000 cinemas worldwide were equipped with digital cinema projectors (twice as many as 2010) and 55% of those were 3D-enabled'.¹⁹ By mid 2011, fifty per cent of the more than 39,500 US screens had become digital,²⁰ and in its theatrical market statistics for 2012, the Motion Picture Association of America reported that 33,129 of the USA's 39,918 screens were digital.²¹ In a more recent update of these statistics, the *Los Angeles Times* noted on 17 January 2014 that, according to statistics provided by the National Association of Theatre Owners, 'ninety-two percent of [the] 40,045 screens in the U.S. have converted to digital'. This leaves about eight per cent of US screens equipped to show movies only on film.²²

In the USA, the major distributors have announced that they would cease to distribute films domestically on 35mm film by the end of 2013.²³ That prediction (or threat) would seem to have come to pass. On 17 January 2014

- 61f39d3e90700a> accessed 16 September 2014.
- 24 Cited in Verrier, 'End of film'.
- 25 See the 'Vaguely threatening letter from 20th Century Fox' thread on *Film-Tech Forums*, <<http://www.film-tech.com/ubb/t16/t000949.html>> accessed 16 September 2014.
- 26 Dan Doperalski, 'Drive-ins in digital bind', *Daily Variety*, 8 February 2012, <<http://variety.com/2012/film/news/drive-ins-in-digital-bind-1118049857/>>; David Bordwell, 'Pandora's digital box: in the multiplex', 1 December 2011, <<http://www.davidbordwell.net/blog/2011/12/01/pandoras-digital-box-in-the-multiplex/>> both accessed 16 September 2014. See also 'Sony Digital Cinema virtual print fee program available through March 31, 2013', 24 September 2012, <https://pro.sony.com/bbsccms/assets/files/mkt/digicinema/presreleases/Sony_VPF_Program_Announcement_FINAL-9-24.pdf> accessed 16 September 2014.
- 27 Beth Jinks, 'Kodak moments just a memory as company exits bankruptcy', 3 September 2013, <<http://www.bloomberg.com/news/2013-09-03/kodak-exits-bankruptcy-as-printer-without-photographs.html>>; Matthew Daneman, 'Small movie theatres struggle with switch to digital', *USA Today*, 23 July 2013, <<http://www.usatoday.com/story/money/business/2013/07/23/digital-films-theaters/2580353/>> both accessed 16 September 2014.
- 28 Goldsmith, 'Kodak files for Chapter 11'.
- 29 Idelson, 'Reel life in digital world', p. 1.
- 30 Rick Altman, *Silent Film Sound* (New York, NY: Columbia University Press, 2004), pp. 15–23.

the *Los Angeles Times* reported that Paramount had 'become the first major studio to stop releasing movies on film in the United States'.²⁴ *Anchorman 2* (Adam McKay, 2013) was its final release on both film and video, while its *The Wolf of Wall Street* (Martin Scorsese, 2013) became the first major studio film released solely in digital format.

The projected date for the disappearance of film prints internationally is the end of 2015. On 9 November 2011, Twentieth Century Fox wrote a letter to exhibitors advising them to convert to digital as soon as possible, as within two years it would no longer supply them with 35mm prints and would cease paying Virtual Print Fees (VPFs).²⁵ The recent growth in the number of digital screens is due, in part, to this deadline that distributors have set for the payment of VPFs, a fee paid to theatres that convert to digital projection to help them defray the associated costs. Exhibitors had to convert by September 2012 (or 31 March 2013 for Sony VPF customers) if they wished to receive payments, as after this date they would no longer be eligible for conversion funds from that pot of money.²⁶

Yet 35mm film is still not quite dead. In 2013 – one year and \$129 million in lawyers' fees later – a restructured Kodak emerged from bankruptcy and has committed itself to continue producing 35mm motion picture negative and positive film until at least 2017. It has returned as an 'entirely new company' that focuses on 'printing technology for corporate customers, touch-screen sensor components for smartphones and computer tablets, and film for the movie industry'.²⁷ Although camera owners have abandoned film for digital, Kodak still sells billions of feet of 35mm motion picture film each year.²⁸ *Variety* estimates that between fifty and seventy per cent of commercial motion pictures are still shot on film, and a number of major filmmakers – including Steven Spielberg, Christopher Nolan, Clint Eastwood, J. J. Abrams and Zack Snyder – would rather shoot on 35mm film than on digital.²⁹ But even those directors – who prefer film to digital understand that by 2015, in whichever format their work is shot it will be distributed in digital copies. To all intents and purposes the era of 35mm film is over. But if film is dead, what about the cinema?

In his book *Silent Film Sound*, Rick Altman introduces the concept of 'crisis historiography' as a means of understanding technological change. Altman argues that the identity of a new technology is not fixed: the cinema, for example, is not a single stable object of study but a site where its identity is always under construction. For Altman, the identity of a new technology is both socially and historically contingent: it depends on the way users develop and understand it. In other words, it is suffering an identity crisis (thus the term 'crisis historiography') whereby its initial identity is subject to redefinition.³⁰ Thomas Edison's phonograph, for example, was designed for one purpose – the recording of business dictation – but was transformed by its users to accomplish something else – the recording of music. This unintended use spawned the phonograph industry.

Indeed, the invention of the cinema began with the phonograph. Edison's cylinder phonograph was invented in 1877 but then languished on the

inventor's shelf until 1888 when it was 'perfected'. That same year Edison filed a caveat – 'an intention to develop an invention' – with the Patents' Office for a motion picture device. In it, he announced:

I am experimenting upon an instrument which does for the Eye what the phonograph does for the Ear, which is the recording and reproduction of things in motion. ... The illusion is complete and we may see & hear a whole Opera as perfectly as if actually present although the actual performance may have taken place years before.³¹

Modelled on his earlier invention, the prototype of Edison's moving image machine looked and operated remarkably like the phonograph. It consisted of a rotating cylinder designed to record and play back a sequence of microphotographs arranged in a spiral (like grooves) around the circumference of a drum driven by a hand-cranked feed screw.³² A lens for filming and viewing occupied a position similar to that of the phonograph's recording stylus/playback horn.

Although Edison and his assistant, W. K. L. Dickson, soon abandoned this design because it did not work, the concept of the cinema as an extension of the phonograph remained. Edison's Kinetoscope, when it was commercially exploited in April 1894, combined recorded images with recorded sound in the form of music. The music was loosely synchronized to the images, played back on an Edison phonograph and heard through stethoscope-like ear tubes. Even more importantly, the marketing of Edison's new invention borrowed a trick from that of the phonograph. Edison's films were exhibited in Kinetoscope parlours on banks of peep-show machines, recalling the arcade-like phonograph parlours designed to exploit that device commercially in the late 1880s.³³ But others reimagined Edison's invention, adapting it for projection on a large screen, transforming Edison's individual viewers into mass audiences. With projection, the cinema moved to new spaces – the legitimate theatre, the lecture hall, vaudeville and the fairground – and took on features of other public amusements that occupied those spaces – the lantern slide show, the lecture and the vaudeville or sideshow attraction – becoming the 'cinema of attractions' that, as Tom Gunning observes, characterizes pre-1908 filmmaking practice.³⁴ During the first few years of this period the technology itself emerged as an attraction, as spectators did not come to see individual films but instead the machines – the Cinematographe, the Vitascope and the Biograph – that projected them.³⁵

From the perspective of Altman's crisis historiography, the cinema's identity is always in crisis; it must continually redefine itself in an ever-changing landscape of new imaging and sound technologies. Digital cinema is merely the latest instance of that protean landscape. But the identity crises brought on by previous periods of technological change, such as sound, colour and widescreen, have played out somewhat differently with digital cinema. For the most part it was not the cinema that experienced an identity crisis but the new technology of digital imaging which sought to

31 See Harold G. Bowen, 'Thomas Alva Edison's early motion picture experiments', in Raymond Fielding (ed.), *A Technological History of Motion Pictures and Television* (Berkeley, CA: University of California Press, 1967), p. 92.

32 Ibid.

33 Paul Spehr, *The Man Who Made Movies: W. K. L. Dickson* (New Barnet: John Libbey, 2008), pp. 307–8.

34 Tom Gunning, 'The cinema of attractions: early film, its spectator, and the avant-garde', *Wide Angle*, vol. 8, nos 3/4 (1986), pp. 63–70.

35 Ibid., p. 66.

appropriate the identity of the cinema by simulating 35mm motion picture film. In other words, the cinema remained more or less stable during the so-called digital revolution, and it was the newer digital technology that found itself adapting to the older paradigm. But a legitimate question does arise from this story of identity crisis: is what remains after digital technology simulates film still ‘the cinema’?

There are several ways of answering this question. One of them involves revisiting familiar debates about indexicality, which for many film theorists functions as a crucial term in defining the cinema and establishing boundaries between analog and digital cinema. According to C. S. Peirce, a photographic image shares an existential bond with its referent: it is produced through contact with it.³⁶ A digital image, on the other hand, supposedly breaks that bond through a process in which light is translated into zeroes and ones. If the cinema is defined in terms of its indexicality, then digital cinema is not really cinema. The discourse on indexicality – which has been extensively explored elsewhere – strikes me as ultimately nondeterminative in any definition of what the cinema is or is not.³⁷ A brief review of those debates will hopefully make this clear. In the era of new media and digital imaging technologies, film theory has attempted to rethink notions of indexicality. For Thomas Binkley and David Rodowick digital imaging breaks the crucial existential bond that exists between image and object because it translates the appearance of its referents into numbers.³⁸ Niels Niessen explores Rodowick’s argument that links the advent of digital to the ‘disappearance of a certain kind of cinematic experience’ – ‘the projection of a photographic filmstrip in a theatrical setting’.³⁹ Rodowick locates the origins of that disappearance in a ‘weakening’ of indexicality in digital cinema,⁴⁰ but Niessen views this ‘disappearance’ or ‘weakening’ not as a death but as a form of decay. For Tom Gunning digital imaging is indexical, resembling the operations of Peirce’s thermometer, which indexes the temperature in numbers,⁴¹ while for Mark Wolf indexicality ‘can be present to different degrees and in different kinds of linkages to the referent’.⁴² Wolf argues that indexicality is better understood as *indexicalities*. Each indexicality is indexical to a varying degree and, more importantly, in a different way to its referents. The analog photograph emerges as the ‘most’ indexical, more or less directly referencing a profilmic event; the digital photograph is ‘less’ indexical – on a sliding scale of indexicality – depending on the number of pixels, or the resolution of the image. Its relation to its referent is mediated by algorithms, quantization and/or fractal compression. Computer-generated imagery – including simulations – is the least indexical. There is no real-world or profilmic event to which such imagery refers; instead, it references data sets. In effect, Wolf’s discussion of indexicality shifts the focus of discourses about indexicality from whether or not an image is indexical to *what it is indexical of*.

In its simulation of analog imaging, digital imaging actually engages in a form of iconicity that confounds any simple understanding of indexicality,

- 36 See C. S. Peirce, *Philosophical Writings of Peirce*, ed. Justus Buchler (New York, NY: Dover, 1955), pp. 102, 108.
- 37 Discussions of indexicality can be found in Philip Rosen, ‘Old and new: image, indexicality and historicity in the digital utopia’, in *Change Mummified: Cinema, Historicity, Theory* (Minneapolis, MN: University of Minnesota Press, 2001), pp. 301–49; Mary Ann Doane, ‘The indexical and the concept of medium specificity’, *Differences*, vol. 18, no. 1 (2007), pp. 128–52; Martin Lefebvre, ‘The art of pointing: on Peirce, indexicality and photographic images’, in James Elkins (ed.), *Photography Theory* (New York, NY: Routledge, 2007), pp. 220–44; D. N. Rodowick, ‘Lost in translation’, in *The Virtual Life of Film* (Cambridge, MA: Harvard University Press, 2007), pp. 110–24; Stephen Prince, *Digital Visual Effects in Cinema: the Seduction of Reality* (New Brunswick, NJ: Rutgers University Press, 2012), pp. 50–53, 148–53.
- 38 Timothy Binkley, ‘Camera fantasia: computed visions of virtual realities’, *Millennium Film Journal*, nos 20/21 (1988/89), pp. 10–11.
- 39 Niels Niessen, ‘Lives of cinema: against its “death”’, *Screen*, vol. 52, no. 3 (2011), p. 309.
- 40 Quoted in *ibid.*, p. 310.
- 41 Tom Gunning, ‘What’s the point of an index? Or, faking photographs’, *Nordicom Review*, nos 1/2 (2004), p. 40. I would argue, against Gunning, that what is indexical about a thermometer is the column of mercury that moves in response to its contact with heat, not the numbers on the side of the tube.
- 42 Mark Wolf, *Abstracting Reality: Art, Communication and Cognition in the Digital Age* (Lanham, MD: University Press of America, 2000), p. 261.

because it is indexicality itself that digital imaging mimics. In the realm of computer-generated imagery, digital artists carefully construct an apparently profilmic scene out of bits and bytes. The nonexistent referent acquires an existence thanks to the iconic abilities of digital artists and their software. In the particular instance of computer graphic imaging (CGI), indexicality exists, if at all, only as an *effect* of the digitally produced image. It is only indexical in a hallucinatory sense – as a consequence of its resemblance to an imagined referent. As I have argued elsewhere, indexicality is only one of many criteria that define the cinema.⁴³ Its problematic status in digital cinema should in no way constitute the death of cinema as a technology, institution or social practice.

At any rate, indexicality would seem to provide just one more continuity that connects analog and digital cinema. The advent of digital cinema, in other words, does not mark the death of traditional cinema but its resurrection in digital form. But given the cinema's flexibility as a medium, does it not then run the risk of continually redefining itself out of existence? Should there be a point where one must acknowledge that this or that particular version of cinema is no longer cinema?

One answer to this question might be found by turning to apparatus theory, and in particular to Anne Friedberg's seminal essay 'The end of cinema', which seeks to apply models of the cinematic apparatus to the technology of new media.⁴⁴ Writing in 1997, Friedberg argues that the cinema has been 'transformed by', 'embedded in' and possibly 'lost in' the new media technologies that surround it.⁴⁵ For Friedberg, changes in the apparatus have eroded the definition of cinema. An advertisement for movies on a CD-ROM provides her with the opportunity to illustrate the erosion in meaning of the classic features of the cinematic apparatus – screen, film, spectator. Screens have become 'display and delivery formats', film a 'storage medium' (like videotape, computer discs or servers), and spectators 'users with an interface'.⁴⁶ In the advertisement, spectators in the form of computer keys look on as the robot Maria comes to life in Fritz Lang's *Metropolis* (1926). Cinema, once the inhabitant of a motion picture theatre on whose screen it was displayed, has migrated to the television and computer screen, not to mention its subsequent (post-1997) invasion of the smaller, more mobile screens of iPads and smartphones. In the process of its multimediatisation, the cinema has lost its identity as a medium – its medium specificity. Along with other media, the cinema has been transformed into a digital soup of zeroes and ones. In support of this reading, Friedberg quotes media scholar Friedrich Kittler, who explains that 'the general digitization of information and channels erases the difference between individual media'.⁴⁷

The bulk of Friedberg's essay traces the erosion of the cinema as a medium back to predigital technologies – television, the VCR, cable and the remote control – all of which function to transform the traditional conditions of spectatorship. The title, 'The end of cinema', would seem to be unambiguous, and Friedberg's trajectory of erosion from public motion

43 John Belton, 'Psychology of the photographic, cinematic, televisual and digital cinematic image', *New Review of Film and Television Studies*, vol. 12, no. 3 (2014), pp. 241–44.

44 Anne Friedberg, 'The end of cinema: multi-media and technological change', in Christine Gledhill and Linda Williams (eds), *Reinventing Film Studies* (London: Arnold, 2000), pp. 438–52.

45 *Ibid.*, p. 439.

46 *Ibid.*, p. 440.

47 *Ibid.*, p. 439; from Friedrich Kittler, 'Gramophone, film, typewriter', *October*, no. 41 (1986), p. 102.

picture theatre to private home viewing on television via cable, DVD, Blu-ray or streaming video is fairly compelling. It clearly informs any concern for the future of the cinema in an era of small-screen presentation, but in reaching this conclusion Friedberg tends to ignore the basic facts of the cinema's survival as cinema in the form of its big-screen presentation in motion picture theatres. There are over 43,000 screens in the USA and Canada alone, which in 2013 sold 1.34 billion tickets to spectators, and in the process earned \$10.92 billion.⁴⁸ Even if most of the theatres and the prints shown in them are digital, is this phenomenon not cinema? Is the apparatus involved in theatrical presentation not cinematic?

Thomas Elsaesser argues that digital cinema represents a radical transformation of the traditional apparatus in that digital technology, as an apparatus, is essentially 'a technology of signal conversion and data transmission'.⁴⁹ Elsaesser argues that the fixed apparatus of traditional cinema gives way, with digital cinema, to a 'discourse network' that 'does away with cinema as a unique technology of imaging'. With digital cinema the visible is reduced to 'a mere interface for our convenience'.⁵⁰ I would counter that the digital apparatus, in its simulation of the traditional cinematic apparatus – in its production of that 'interface' – maintains an all-important continuity between analog and digital technologies, a continuity that is violated when 'digital cinema' is displayed on nontheatrical platforms.

If the transformation of the cinematic apparatus outlined by Friedberg is symptomatic of the erosion of the cinema's identity, could not the relative stability of the more traditional apparatus in the theatre become the means for fixing that identity in the era of multimedia digital soup? If the apparatus for the delivery of films to the public on television or new media platforms in the home and elsewhere has changed dramatically, can we say the same for that apparatus in the motion picture theatre, which seems to have remained more or less constant over the past 118 years?⁵¹ Friedberg's argument ultimately returns us to considerations of the basic cinematic apparatus and its role in stabilizing the identity of the cinema as a technology.

The apparatus is a concept that combines two French terms: *l'appareil*, the basic technological machinery for recording and reproducing sound and images; and *le dispositif*, the basic psychological, social and ideological machinery that informs the spectator's relationship with the film.⁵² The focus of my essay here is primarily on *l'appareil*, although the discussion is necessarily bound up with consideration of *le dispositif*. Indeed these two axes of the apparatus remain in constant tension with one another, as changes in the technological machinery of the apparatus generate changes in its psychological, social and ideological function. The term *dispositif* refers to the overall function of the apparatus, which is the disposition or arrangement of forces that inform the operations of the apparatus in its basic role – the production of subjects. Michel Foucault describes the *dispositif* as 'discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions – in short, the said as much as the unsaid'.⁵³

48 See National Association of Theatre Owners, 'Annual US/Canada box office grosses', <<http://natoonline.org/data/boxoffice/>> accessed 17 September 2014.

49 Thomas Elsaesser, 'Digital cinema and the apparatus: archeologies, epistemologies, ontologies', in Bruce Bennett, Marc Furstenau and Adrian MacKenzie (eds), *Cinema and Technology: Cultures, Theories, Practices* (Houndmills: Palgrave MacMillan, 2008), p. 238.

50 Ibid. p. 235.

51 Elsaesser has a fascinating argument in which he posits the existence of five different cinematic apparatuses (not just one), beginning with the more familiar apparatus of Christian Metz, Jean-Louis Baudry and Stephen Heath, and including Lisa Cartwright's scientific and medical apparatus, Paul Virilio's and Friedrich Kittler's surveillance and military apparatus, Gilles Deleuze's sensory-motor-schema apparatus, and Kevin Kelly's sensing and monitoring apparatus. See *ibid.*, p. 232.

52 See Martin Lefebvre and Annie Van den Oever, 'Revisiting Christian Metz's "apparatus theory": a dialogue', in Annie Van den Oever (ed.), *Techné/Technology: Researching Cinema and Media Technologies, their Development, Use and Impact* (Amsterdam: University of Amsterdam Press, 2014).

53 Quoted in Giorgio Agamben, *What Is an Apparatus and Other Essays*, trans. David Kishik and Stefan Pedatella (Stanford, CA: Stanford University Press, 2009), p. 2; from Michel Foucault, *Power/Knowledge: Selected Interviews and Other Writings, 1972–77*, ed. C. Gordon (New York, NY: Pantheon Books, 1980), pp. 194–96.

- 54 Agamben, *What Is an Apparatus*, pp. 14, 13.
- 55 Jean-Louis Baudry, 'Ideological effects of the basic cinematographic apparatus', *Film Quarterly*, vol. 28, no. 2 (1974–75), p. 45.
- 56 Friedberg, 'The end of cinema', pp. 438–39.
- 57 See Baudry's sketch of the apparatus in his 'Ideological effects of the basic cinematographic apparatus', in Philip Rosen (ed.), *Narrative, Apparatus, Ideology: a Film Theory Reader* (New York, NY: Columbia University Press, 1986), p. 288.
- 58 Stephen Heath, 'On screen, in frame: film and ideology', in *Questions of Cinema* (Bloomington, IN: Indiana University Press, 1981), p. 1.
- 59 Gordon Hendricks, *The Edison Motion Picture Myth* (Berkeley, CA: University of California Press, 1961), p. 116.
- 60 For a discussion of the effects of widescreen on Heath's notion of the apparatus, see John Belton, 'Spectator and screen', in *Widescreen Cinema* (Cambridge, MA: Harvard University Press, 1992), pp. 183–87.

Giorgio Agamben uses *dispositif* to denote 'literally anything that has in some way the capacity to capture, orient, determine, intercept, model, control, or secure the gestures, behaviors, opinions, or discourses of living beings'. He opposes 'living beings' to the 'apparatus in which human beings are incessantly captured'.⁵⁴ For Foucault and Agamben the *dispositif* is oppressive, and figured most succinctly in the prison or the madhouse. Jean-Louis Baudry's notion of the cinematic apparatus as a form of Plato's cave speaks to this notion,⁵⁵ but I would argue that the cinema is neither a prison nor a madhouse, and that the cinematic apparatus cannot be productively understood in terms of Agamben's opposition between 'living beings' and the forces of containment and oppression. Rather, like the novel or the theatre, the cinema is a site where aesthetic machinery provides its subjects/spectators with an aesthetic experience.

Although most discussions of the technological machinery of the apparatus include the camera and camera lens and their operations, it is often the architectural site of the theatre itself that has been used as a model for illustrating the basic apparatus in terms of projector/film, screen and spectator. This, for example, is the model that Friedberg uses in her discussion of the *Metropolis* CD-Rom,⁵⁶ and while Baudry does concern himself with the operations of the camera and the role of Renaissance perspective in the positioning of the spectator, he also tends to favour the site of consumption as a paradigm for the operations of the basic apparatus.⁵⁷ In other words, apparatus theory defines the cinema architecturally as a configuration of three elements: projector/film, screen and spectator. If this notion of the apparatus stabilizes the cinema as cinema, then the transformations of the apparatus noted by Friedberg and others can be understood as destabilizations of cinema – as a *faux* cinema, not the *real* cinema. I would like to use that definition to talk about where the cinema begins and ends in an attempt to retrieve the cinema as an object of study for contemporary scholars and students.

For Stephen Heath, cinema begins with the fixing of the screen and the positioning of spectators in front of it.⁵⁸ Before that historical moment we might assume that the cinema did not exist; but, as we know, motion pictures *did* exist before Heath's screen. Motion pictures began around 1891, as tiny, one-and-a-half-inch images visible on the glass screen of a peep-show device called the Kinetoscope, which accommodated one viewer at a time.⁵⁹ The cinema began around 1895 to 1896, when those same images were projected 'life-size' onto a screen for a mass audience. Nearly sixty years later, those life-size images – roughly sixteen by twenty feet – became bigger than life with the advent of widescreen, big-screen cinema in the form of Cinerama, CinemaScope, VistaVision, Todd-AO and other new formats that offered screen dimensions of twenty-three by sixty-five feet or larger.⁶⁰ With widescreen and stereo sound, the cinematic experience became immersive, a selling point used to distinguish it from nontheatrical experiences such as television.

The scandal of apparatus theory has been its blindness to technological change. The apparatus constructed by Heath and Baudry of projector/film,

61 Elsaesser alludes to this omission in his discussion of archaeologies of precinematic technologies that stress photography but ignore sound, in 'Digital cinema and the apparatus', p. 233.

62 Heath, 'Narrative space', p. 35.

63 Miriam Hansen, 'Early cinema, late cinema: transformations of the public sphere', in Linda Williams (ed.), *Viewing Positions: Ways of Seeing Film* (New Brunswick, NJ: Rutgers University Press, 1995), pp. 135, 198. For Hansen, Grand Theory has become obsolete, like other artefacts of the 1970s such as bell-bottom jeans and platform shoes.

64 Friedberg, 'The end of cinema', pp. 441–43.

65 Hansen, 'Early cinema, late cinema', p. 136.

screen and spectator is the apparatus of the silent cinema. One might be generous and assume that Heath and Baudry both meant to include sound, but I can find no reference to speakers or sound in their work on the apparatus.⁶¹ Colour might be understood as introducing no apparatical change in the presentation of motion pictures, especially when it comes to subtractive colour technologies that can be displayed in theatres on conventional projection equipment. But widescreen cinema and stereo sound represent huge transformations of the basic cinematic apparatus and have routinely been ignored in apparatus theory – even by Friedberg, who at least attempts to rethink apparatus theory in terms of new media but ignores the changes in the theatrical apparatus discussed above. Heath insisted that the conditions of spectatorship that existed in 1896 when the screen was fixed in place remained more or less constant until the present (he was writing in 1981). He argued that the film frame, unlike the frame in painting, was limited to a 1.37:1 aspect ratio or to 'a number of such ratios'.⁶² Heath has, at the very least, understated the situation. The widescreen revolution in the 1950s exploded the limits of the 1.37:1 screen and changed the basic conditions of spectatorship, which shifted from semi-passive consumption to active participation.

If the narrow screen fixed or positioned the spectator, the soundtrack functioned in a similar manner. Monaural sound coming from one or a handful of speakers placed behind the screen aligned the sound – most significantly the voice – with the images, fixing the audience in a way similar to that accomplished by the screen. But stereo sound not only multiplies the number of sound channels that emanate from behind the screen, it extends them to a battery of surround speakers far beyond the screen's edge. Dialogue, for the most part, remains centred behind the screen, but music and sound effects pull the spectator's attention in a variety of different directions, pushing the relationship between image and sound beyond the conventional borders of Heath's essentially silent, small-screen apparatus.

In 'Early cinema, late cinema: transformations of the public sphere', Miriam Hansen argues that the 1970s apparatus theory of Heath, Baudry and others created a notion of the spectator that mummified the passive spectator of classical cinema just as spectatorship was changing in response to new technologies of media consumption, ranging from television to video, cable and satellite technologies that 'have displaced the cinema as the only and primary site of film consumption' by the delivery of content to domestic (rather than theatrical) spaces.⁶³ For Friedberg, 'the end of cinema' can be traced to the same or similar new technologies: television, the VCR, the remote control and cable television.⁶⁴ Hansen argues that this erosion in our notion of what the cinema was mirrored a larger transformation from an old mass culture (existing between 1920 and 1960), a monolithic entity that operated on a standardized, assembly-line model of mass production for mass consumption, to a new system of postmodern and globalized cultures characterized by an 'increased privatization of the modes and venues of consumption' and based on diversification and heterogeneous appeals.⁶⁵

- 66 Randall Stross, 'Yes, Norma Desmond, the pictures are getting small again', *New York Times*, 8 July 2012, <http://www.nytimes.com/2012/07/08/technology/movie-screens-small-to-big-to-small-again-digital-domain.html?_r=0> accessed 17 September 2014.
- 67 Chloe Albanesius, 'Netflix eats up to 32 percent of US bandwidth during peak times', *PC*, 27 October 2011, <<http://www.pcmag.com/article2/0,2817,2395372,00.asp>>; Gary Levin, 'Nielsen says 38% of Americans use Netflix', *USA Today*, 19 September 2013, <<http://www.usatoday.com/story/life/tv/2013/09/18/netflix-hulu-amazon-nielsen-viewership-data/2831535/>>; 'Netflix accounted for one-third of downstream internet traffic in September', *The Hollywood Reporter*, 27 October 2011, <<http://www.hollywoodreporter.com/news/netflix-one-third-downstream-internet-traffic-254266>> all accessed 17 September 2014.
- 68 Levin, 'Nielsen says 38% of Americans use Netflix'.
- 69 See LCD TV Association, 'LCD TV Matters', vol. 5, no. 1 (2013), pp. 6ff, <http://www.veritasetvisus.com/LCDTVA/LCDTVA-16_%202013.pdf> accessed 17 September 2014.
- 70 Siegfried Kracauer, 'Cult of distraction: on Berlin's picture palaces', in *The Mass Ornament: Weimar Essays*, ed. and trans. Thomas Y. Levin (Cambridge, MA: Harvard University Press, 1995), p. 326.

We have today come full circle from Edison's Kinetoscope. Contemporary motion pictures are now regularly consumed privately or semi-privately on small video screens ranging from domestic television sets to hand-held mobile devices. *Screen Digest* reported that US viewers would pay to watch 3.4 billion movies online in 2012.⁶⁶ During peak hours of internet use, Netflix and Hulu accounted for almost sixty per cent of all traffic, with Netflix streaming representing thirty-eight per cent of that figure, Hulu eighteen per cent and Amazon Instant Video thirteen per cent.⁶⁷ 'Among Netflix users, 48% watch on a computer screen (up from 44% last year); 23% watch on a smartphone (up from 11%); 15% watch on their iPad, way up from 5% last year.'⁶⁸ At the high end of the nontheatrical viewing apparatus – or, more properly, apparatuses – is the widescreen HD television, ranging from thirty to sixty inches in size diagonally. Industry analysts predict that by 2016, twelve per cent of all HDTVs will be from sixty to 110 inches in width,⁶⁹ with mobile hand-held devices such as the standard smartphone ranging from four to five-and-a-half inches in width.

The cinema consists of more than just an apparatus, it is an *experience* of the apparatus. Our experience of a motion picture will vary according to the size of the screen on which it is viewed. We must begin to explore the differences among the experiences we have with images and sounds on those screens. The cinema is constantly changing in tandem with changes to its basic technology, constantly redefining itself. One need only point to the phenomenon of stereo sound in the cinema to underscore the dramatic significance of such changes. Watching *Jurassic Park* in 5.1 digital sound in DTS in a THX-certified theatre is a decidedly more immersive experience than seeing and hearing it on a laptop with two channels of sound – not to mention the impoverished experience of watching it on a mobile phone with monaural sound. The mobile phone gives new meaning to Siegfried Kracauer's notion of consumption in a state of distraction.⁷⁰ If the film playing on these new digital platforms is the same film that once played on a forty-foot screen in a movie theatre, it is also *not* the same. The term 'cinema' runs the risk of losing any meaning it might still have if it encompasses such devices as iPads, tablets and smartphones. Apparatus theory, for all its faults, has given us a definition of cinema. The cinema is the projection on a screen of life-size – or bigger than life-size – images before an audience; everything else is movies.