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Spiritual Machines: Millennialism and the Lure of Technology

If only I had thought of a Kodak! I could have flashed that glimpse of the Underworld in a second, and examined it at leisure.

H. G. Wells, *The Time Machine*

In an essay on the history of cyberspace, Michael Benedikt in the early 1990s predicted that an ancient dream of Christianity might finally be realized within the ephemeral realm of virtual reality: the quest for the Heavenly City, the new Jerusalem portrayed as a radiating, crystal clear structure in Revelation 21. Cleanliness, perfect symmetry, transcendence of nature – all of these might find their ultimate expression in a dematerialized, artificial world that would be phenomenologically engulfing but invisible and remote.¹ Striking a peculiarly similar note on the term 'millennium' Jonathan Edwards, the influential 18th century theologian, envisaged a world full of spiritual enjoyment. The future would witness better means for "expedite, easy, and safe communication between distant regions" so that, as he stated, the whole earth could be as "one community, one body in Christ."²

As these examples show, the historical development of technology and the prophetic strain of millennialism have enjoyed an intricate and continuous interrelationship within American cultural history. Of course, Jonathan Edwards was neither an early advocate of cybernetics nor could he foresee the repercussions of the 'global village'. But his remarks indicate that the millennial vision – one of the dominant themes in the Great Awakening of the 18th century postulating America as the elect nation, the 'New English Israel' – was linked to a Protestant eschatology that included scientific progress and anticipated the technical improvement of communication. I will argue that this linkage has been one of the most

¹ See Michael Benedikt, "Cyberspace: First Steps," *The Cybercultures Reader*, eds. David Bell, Barbara M. Kennedy (London, New York: Routledge 2000) 29-44.

² Jonathan Edwards, Miscellany 262, unpublished manuscript collected in the Beinecke Library at Yale University; quoted by Mason I. Lowance, "Biblical Typology and the Allegorical Mode: The Prophetic Strain," *The Stowe Debate: Rhetorical Strategies in Uncle Tom's Cabin*, eds. Mason I. Lowance, Ellen E. Westbrook, R. C. De Prospro (Amherst: University of Massachusetts Press, 1994) 159-184; 183.

crucial factors for the representation of technology within American culture, and that it continues to inform utopian scenarios of future societies, both in literature and film.

Towards the end of the 18th century, the improvement of communication which Edwards had alluded to primarily lay in the use of printing presses. Benevolent and tract societies were increasingly relying on printed material to spread their theological 'messages', and as religious newspapers were becoming a ubiquitous phenomenon, millennialism itself underwent certain changes. More vivid images of the Apocalypse could be reproduced and disseminated, while the growing variety of millennial interpretations and forms of biblical exegesis – spread with the help of more powerful printing presses – led to a subdivision of religious groups. On the one hand, premillennial visions relied on dramatic and popular images which drew on literal interpretations of the Revelation – Jesus the wrathful warrior descending from heaven. On the other hand, postmillennial views incorporated the apocalyptic outlook into a progressive and evolutionary conception of history.³

In the first half of the 19th century, in spite of Edwards' notion of 'one community', the printing presses contributed rather to a dispersal of religious opinions than to a unification of denominational differences, but on the whole they reinforced the notion that the most efficient means of communication were becoming an eschatological imperative.⁴ Technological progress came to be interpreted as an aspect of providential teleology that would help the spread of religious teachings and pave the way for the Second Coming of Christ, promising the dream of America as the 'elect nation' eventually to be realized. As Mason Lowance summarizes, the "millennial vision and progressive eschatology were joined in a comprehensive image of a future paradise in which human relations, scientific invention, and earthly achievement would be developed under the guidance of Providence."⁵

With the introduction of the telegraph in the 1850s (and later the telephone), crucial inventions took shape in the history of technology creating a network of wires between 'distant stations'. As Jonathan Edwards

³ On the history of millennialism see Allen Carden, *Puritan Christianity in America. Religion and Life in Seventeenth-Century Massachusetts* (Grand Rapids: Baker Book House, 1990), Nathan O. Hatch, "The Origins of Civil Millennialism in America," *Reckoning with the Past. Historical Essays on American Evangelicalism from the Institute for the Study of American Evangelicals*, ed. Darryl G. Hart (Grand Rapids: Baker Books, 1995) 85-107 and Lowance, "Biblical Typology and the Allegorical Mode."

⁴ For an extended historical analysis see James H. Moorhead. "The Millennium and the Media," *Communications and Change in American Religious History*, ed. Leonard I. Sweet (Grand Rapids: William B. Eerdmans Publishing Company, 1993) 216-238.

⁵ Lowance, "Biblical Typology and the Allegorical Mode" 183.

had hoped, this system of interconnected wires opened up new channels of 'easy and safe communication' enabling new forms of exchange and strengthening the idea of an immaterial unification in the imaginary of a collective 'body'. As soon as information was no longer transported physically but electrically, and as soon as channels of information were seen to allow for interchange and interactivity, the utopian notion of a virtual community continuing the path of providential teleology by technological means was born.⁶

Within the field of utopian literature one of the most popular and successful depictions of this notion was Edward Bellamy's *Looking Backward* (1888). Propelling his hero Julian West into the year 2000, Bellamy built his fictional future society on a secularized form of millennialism, merging religious faith with political ideals, and he proposed technology as the new paradigm of efficiency serving as the model for the future. Written against the background of class struggle and social unrest, *Looking Backward* epitomized a cultural discourse obsessed with doctrines of efficiency and planning, of solving political problems by technological means.⁷ What seemed to be lacking so markedly in the 19th century – social harmony and equality – could only be achieved by carrying the logic of industrialization to extremes. The year 2000 would bring greater liberty and equality, an ideal democratic society, yet this could only be accomplished after the citizens had ceded their individuality to the Great Trust and a life of universal military service – by re-designing society as an optimized meta-machine.⁸

Fellow progressivist Lincoln Steffens caught the irony of such technocratic visions, writing in his investigative report *The Shame of the Cities* (1904): "We are an inventive people, and we all think that we shall devise some day a legal machine that will turn out good government automatically."⁹ But a striking feature of Bellamy's novel was the lack of sensitivity concerning its inevitable logic of 'dehumanization'. In spite of a rhetoric that stressed political ideals and traditions, turning the social into an efficient apparatus paved the way for the fantasy of a post-political

⁶ On the history of technological change see Benedikt, "Cyberspace: First Steps."

⁷ See the well documented study of Cecelia Tichi, *Shifting Gears: Technology, Literature, Culture in Modernist America* (Chapel Hill, London: The University of North Carolina Press, 1987).

⁸ For an analysis of the representation of technology in the late 19th century see Alan Trachtenberg, *The Incorporation of America. Culture and Society in the Gilded Age* (New York: Hill and Wang, 1982), Mark Seltzer, *Bodies and Machines* (New York, London: Routledge, 1992), Leo Marx, *The Machine in the Garden: Technology and the Pastoral Ideal in America* (New York: Oxford University Press, 2000).

⁹ Lincoln Steffens, *The Shame of the Cities* (New York: Hill and Wang, 1992) 137.

society, which would, in effect, displace individual initiative and autonomy by re-shaping feelings and needs.¹⁰

If the betterment of mankind depended on the perfection of technologies serving as models for an efficient design of human interaction, why not reverse the priorities and begin building a machine that would fit the needs of the Great Trust? In other words, although Edward Bellamy had presented a fusion of political ideals, religious faith and technological progress in order to regenerate notions of solidarity and cooperation, he inadvertently supported the idea that the perfect human being might in fact be modeled upon the workings of an efficient apparatus. The utopian hope of being able to create the 'new' man and woman joined hands with the engineering prospect of building ever more powerful machines.

During the Progressive Era this leitmotif transgressed a number of cultural discourses. In *The Time Machine* (1895) H. G. Wells painted the dystopian picture of ubiquitous degeneration among descendants of the human race resulting from class struggles, and the forced machine-like transformation of the subjugated 'Morlocks'.¹¹ Jack London saw similar struggles dawning in *The Iron Heel* (1908) over the control of machinery. Most importantly, perhaps, Frederick Winslow Taylor developed his theory of scientific management, designing a time study of movements that would eliminate false, slow and useless movements of factory workers to increase their efficiency, thus pointing the way to an analysis of the work process with automatic machinery as its logical outcome.

Jack London presented his hero Ernest Everhard as a proponent of the socialist movement, yet it was becoming clear that the drive for time studies and new technologies had ushered in a deskilling of the labor force which would eventually strengthen the position of management. As contemporary observers remarked, efficiency engineers were bringing the art of skill under their control by modeling movements on a standardized series of operations.¹² Edward Bellamy had envisaged a future where these

¹⁰ This strategy is also an aspect of the novel itself. As the hero is instructed about the future society a didactic ritual of question and answer ensues that covers all aspects of utopian life. Most importantly, the feelings of love Julian West develops for Edith Leete are downplayed continuously as they mirror a state (and literature) of human beings beyond the crude passions of the 19th century.

¹¹ Although Wells extended his vision of degeneration to the upper-world beings (Elois) living in a 'too-perfect security', he was still, just as Bellamy, essentially speculating on steady progress of mankind due to technological advances, as the Time Traveller noted: "The whole world will be intelligent, educated, and co-operating; things will move faster and faster toward the subjugation of Nature. In the end, wisely and carefully we shall readjust the balance of animal and vegetable life to suit our human needs." Herbert George Wells, *The Time Machine* (New York: Bantam Books, 1982) 38.

¹² See Malcolm Keir, "Scientific Management and Socialism," *Scientific Monthly* 5 (October 1917): 356-367. Reprinted in Carroll W. Pursell, ed., *Readings in*

machine-related advances would be seen as both progressive and indicative of providential teleology, yet at the same time he supported a logic of industrialization, in which the "centralization of decision making in an educated elite" would free the rest from the "burden of political participation."¹³

From efficient planning to cybernetic re-programming

Just as utopian literature of the late 19th century had been shaped by millennial themes inspired by the *fin de siècle*, the science fiction genres of the 1990s saw a surge of reflections on what the historical period of 'last things' might bring. Furthermore, just as the late 19th century had been in the course of a major technological shift, a similarly fundamental change was underway in the late 20th century creating a corresponding sense of instability within various representational systems. In the 1890s – as H. G. Wells' opening quote about a camera which he should have brought to photograph the Morlocks shows – science fiction literature was beginning to register the superiority of certain aspects of visual culture. Clearly, the camera and later the motion picture apparatus belonged to the technologically advanced realm the writers were predicting with a keen sense of admiration.

In the 1990s this feeling of competition over representational authority was taken a step further. By now the most vivid and spectacular visualizations of science fiction scenarios had long since moved into the realm of the cinema but a new technological promise/threat was beginning to be felt: the digitally simulated world of cyberspace. Just as the novel had begun to acknowledge that visions of the future might be more adequately expressed within a representational medium belonging to the technologically advanced 'new world', the cinema of the late 20th century registered the uneasy relationship it was entering into with new technologies of digital storytelling. It is this historical moment of struggle over the means of representation, I want to argue, which has led to an attempt within science fiction cinema to spiritualize its apparatus in order to hold on to its cultural status and representational authority. Cultural strategies of the late 19th century were repeated, when traditional religious sentiments had merged with the secularism of science and the utopian promises of technology.

Technology and American Life (New York, London, Toronto: Oxford University Press, 1969) 248-255.

¹³ Christopher Lasch, "Technology and Its Critics. The Degradation of the Practical Arts," *Technological Change and the Transformation of America*. eds. Steven E. Goldberg, Charles R. Strain (Carbondale, Edwardsville: Southern Illinois University, 1987) 79-90; 89.

To illustrate the acceleration of technological change between the *fin de siècle*-periods of the 1890s and the 1990s, it is worth recalling a special issue of the journal *Daedalus* from 1967 which was devoted to a speculation about the state of society in the year 2000. Following Bellamy's lead, a group of social scientists predicted what the future of industrialized countries might look like. Since his remarks about a network of telephone wires transmitting music and sermons had long since been realized with wireless broadcasting, they came up with more far-reaching ideas. Drawing up a list of technical innovations, Herman Kahn and Anthony Wiener foresaw the growing importance of video equipment and computers but also included more radical propositions such as "programmed dreams," or the emergence of "new, more varied, and more reliable drugs for control of fatigue, relaxation, alertness, mood, personality, perceptions, and fantasies."¹⁴ The social scientists anticipated the direct stimulation of the brain, better control of human behavior and, most importantly, the capability to change the genetic and physical layout of the subject. The 1960s – a crucial watershed in the history of technology – not only witnessed a rapid diversification of image technologies, fashionable cybernetic theories also gave rise to the vision of human beings totally integrated into a 'wired' system of feedback and self-regulation at the end of which stood, once more, the prospect of a fusion of body and machine.

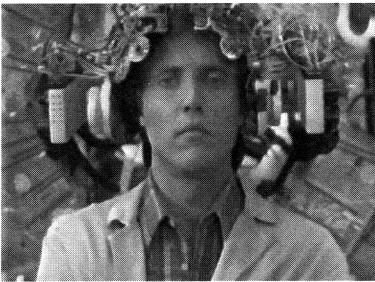
Not surprisingly, these radical ideas of techno-human beings propelled not only science fiction literature but also the cinema. From utopian literature, science fiction films had inherited the linkage between millennialism and technology, putting an ever greater emphasis on creating spectacular sensory impressions. What could only be described verbally in the novels was transformed into striking images filled with light, movement and speed: time travel, worm-hole, or near-death sequences allowed for stunning effects disrupting linear narratives. Viewing machines as evil threats, or means enabling communication and creating a sense of unity, filmic representations of technology adapted the popularized framework that Judeo-Christian prophecy provided. However, since the cinema itself relied on an apparatus that had to be legitimized as a new technology – one which was welcomed as spectacle but also greeted with suspicion – traditional views of communication were complicated.

One way of dealing with these ambiguities turned out to be the science fiction genre itself placing promises and anxieties related to new technologies at the core of its narratives. A peculiar kind of stereoscopic perspective ensued: machines of all kinds came to be represented within the films, while at the same time trick photography required highly specialized skills and an array of the newest technologies in order to leave its stunning

¹⁴ Herman Kahn, Anthony J. Wiener, "The Next Thirty-Three Years: A Framework for Speculation," *Daedalus* 96.3 (1967): 705-732; 713, 715.

impressions. The genre was increasingly characterized by two distinct aspects: the narrative and the performative function of technology, i. e. the representation of machines within the film and the implementation of technical tools for the creation of visual effects. Consequently, the interrogation of technology became one of the defining features of the genre, or, as Garrett Stewart puts it, science fiction cinema "has always taken media as its subject."¹⁵

Although the cybernetic revolution was acknowledged as a fundamental technological shift in the 1960s, film narratives took it up somewhat belatedly in the early 1980s. The depiction of technology began to include machines stimulating the brain, computer screens with flat images or hybrid devices recording images and feelings, many of which were modeled on video technologies.¹⁶ Protagonists were shown to be obsessed with the idea of programmed fantasies and uncontrollable hallucinations as digital and electronic equipment entered the fictional space.



Scanning the brain in *Brainstorm*
(Douglas Trumbull, 1983).



Violence and hallucinations in *Videodrome*
(David Cronenberg, 1983).

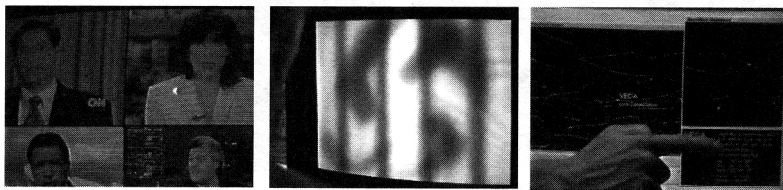
New devices entered the narratives yet on closer analysis it becomes clear that digital and electronic technologies were integrated into the films in radically different ways. TV monitors were often image-centered. Frequently they showed clips from factual programmes such as news broadcasts or talk shows evoking the urgency and authenticity of events but at the same time also the horror of media hype and the overload of multiple channels of information. In many cases, the depiction of television turned out to be an assessment of its challenge to the representational hegemony of the cinema, which as an institution of image making continued to look down on competing audiovisual discourses. Ultimately, television and

¹⁵ Garrett Stewart, "Body Snatching: Science Fiction's Photographic Trace," *Alien Zone II. The Spaces of Science-Fiction Cinema*, ed. Annette Kuhn (London, New York: Verso, 1999) 226-248; 226.

¹⁶ See Vivian Sobchack, *Screening Space: The American Science Fiction Film* (New York: Ungar, 1987).

video technologies were marked as an evil influence on the viewers. Not only were they associated with extreme forms of sex and violence, they were also viewed as indicative of a world out of control, a world totally commercialized and fragmented.¹⁷ The transfer of dangerous images onto television highlighted its manipulative capacity against which the cinema could position itself as the more mature and controlled discourse.

The representation of digital devices within cinematic narratives, on the other hand, pointed in a different direction. Computer screens were often text-centered. They showed information that had to be read and interpreted, or programmes that had to be activated in order to have an effect on the progression of the narrative. In contrast to television broadcasts, they invited an interactive role of the characters, who were not just acted upon but had to react in order to keep the story going.¹⁸ Most of the time, the digital regime was seen as a realm enabling different and new forms of communication. However, the religious overtones of this potential, as seen in the context of Judeo-Christian prophecy, were reformulated as a therapeutic quality. Digital devices enhanced communication, yet they were also understood as tools for psychological 'healing' or, more fundamentally, for the reconstruction of the self.



Split screens and swastikas – evil spirits radiate from television monitors while computer terminals provoke action in *Contact*.

¹⁷ Ironically, before the rise of television, these notions had been associated with the cinema itself. Characterized by a fascination with spectacular scenes and special effects, it had created a number of industry-run organizations to defend against the accusation that alluring or mesmerizing images were having a bad influence on the viewers. This process of institutionalized 'defense strategies' began in the 1910s. On the history of self-regulation and censorship see Eileen Bowser, *The Transformation of Cinema, 1907-1915* (Berkeley, Los Angeles, London: University of California Press, 1990), Richard Maltby, "'To Prevent the Prevalent Type of Book': Censorship and Adaptation in Hollywood, 1924-1934," *American Quarterly* 44.4 (1992): 554-583 and Lea Jacobs, "Industry Self-Regulation and the Problem of Textual Determination," *Velvet Light Trap* 23 (1989): 4-15.

¹⁸ Obviously, this is just a rough sketch of narrative possibilities opened up by the introduction of computer or television screens. Film directors such as David Cronenberg emphasized the interactive quality of video equipment and television, especially by having them assume anthropomorphic qualities, by turning them into active organisms confronting their human counterparts.

Spiritualizing technology: science fiction cinema and the melodramatic mode

In the 1990s millennial themes of faith, spirituality and biblical prophecies began to appear increasingly in science fiction films. Dystopian visions such as Terry Gilliam's *Twelve Monkeys* (1995) renewed apocalyptic fears of an impending catastrophe caused by fiendish scientists. *Contact* (Robert Zemeckis, 1997) addressed the question how instrumental rationality was to be reconciled with a belief in God or higher 'spiritual' beings and *Matrix* (Andy and Larry Wachowski, 1999), essentially a cyberspace-action adventure, imagined the Second Coming of Christ taking place within the realm of virtual reality. It, too, posed the question, how matters of faith could be resolved in a world totally dominated by the logic and power of digital machines.

Some of the core *fin de siècle*-themes of the 1890s were reformulated: the struggle between capital and labor was redefined in countercultural terms as a fight between system and hacker, bureaucrat and youthful rebel.¹⁹ Visions of social harmony and a renewed religious faith were superseded by notions of unbounded individualism and a vague New Age spirituality, while the idea that efficient technologies might make life easier for human beings progressed into the notion that they would facilitate a remaking of life and thus a 're-programming' of the beings themselves. Although this could invite new and 'evil' forms of manipulation, many films of the 1990s emphasized the alternative notion of self-empowerment. Doomsday anxieties were counterbalanced by millennial hopes associated with a spiritual and therapeutic conception of technology. This shift was partly achieved by turning to cultural strategies of melodrama linking technology with notions of a social mission, and it represented Hollywood's attempt to counter the threat new technologies were posing concerning its representational status. Activating secularized variations of religious narratives, the melodramatic mode contributed to a 'spiritualization' of the cinematic apparatus – its integration into a scheme of millennial faith and struggle.

Although the relationship between science fiction and melodrama has been neglected in theoretical discourses of recent years, it is obvious that the genre is inherently prone to the melodramatic mode, particularly with regard to a victim hero whose moral value is discovered or revealed in the course of the film.²⁰ Neo (Keanu Reeves) in *Matrix* has been enslaved by

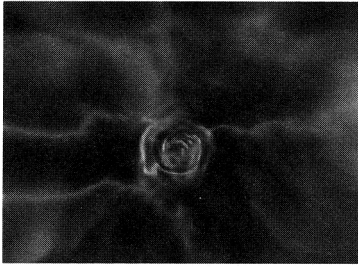
¹⁹ The compatibility of the countercultural spirit with cyberculture is exemplified by Timothy Leary, *Chaos and Cyber Culture* (Berkeley: Ronin Publishing, 1994).

²⁰ For a thorough analysis of the pivotal role of melodrama in the history of American cinema see Linda Williams, "Melodrama Revised," *Refiguring American Film Genres. History and Theory*, ed. Nick Browne (Berkeley, Los Angeles, London: University of California Press, 1998) 42-88.

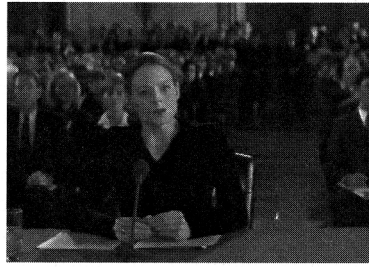
machines, James Cole (Bruce Willis) in *12 Monkeys* is an ex-convict, Ellie Arroway (Jodie Foster) in *Contact* loses her parents and has to fight her male superiors. All of the major characters are victimized by oppressive technocratic systems, and have to prove their moral commitment in their decision to 'fight the power'. The melodramatic structure, however, is most obvious in *Contact*, which belongs to the tradition of nostalgic, sentimental melodramas, mourning over a traumatic feeling of loss that can never be made up. Ellie is an orphan and turns to science because she clings to rational explanations of fate while at the same time being vulnerable emotionally, ready to be converted otherwise.

The film addresses the conflict between religion and science in a world dominated by information technology and media events. Ellie, the gifted scientist, professes not to believe in God but is converted while travelling intergalactically to outer space. Transgressing the boundaries of time and space, she has an experience which proves to her that a higher being pervades the universe. While the special effects of that sequence rely heavily on digital technologies, they are transformed into a traditional sensation scene showing how a particular event changes the heroine. Ellie is converted from a belief in science to a kind of New Age spirituality. Back on earth, she has to defend her recollections publicly, since no proof of her encounter can be found. But the emotional integrity of her appearance – one of the mainstays of melodrama – proves to the public that she has indeed managed to integrate the scientific and the spiritual. The fundamental dilemma of the film – a tension between instrumental rationality and traditional 'human' values – is resolved.

Thus, advanced technologies serve the purpose of re-confirming established cultural values, and at the same time strengthen the role of the cinema in this endeavor. Though the travel sequence visualizes 'contact' with higher beings, the discovery of Ellie's faith only becomes manifest on earth as she is interrogated (and victimized) by the probing questions of the committee. Since she cannot prove her 'vision' of the universe – her feeling of awe and humility – she almost breaks down, but by doing so performs the emotional climax of the film as part of the traditional repertoire of cinematic storytelling. The experience of a higher, unifying power relies on advanced technologies but, in a reflexive twist, it is also grounded in the hope that cinematic representation can continue to convey strong emotions without being subverted by the spectacular quality of its effects sequences. One of the last scenes shows the heroine sitting atop a range of mountains, emulating landscape photography (and painting) of the 19th century and stressing the overpowering sense of infinite space and a boundless environment. Nature frames and dominates technology just as the cinema dominates its competing audiovisual discourses. By going back to the earliest motifs of photographic reproductions, *Contact* merges its sense of cultural and technological traditionalism.



Glimpses from the worm-hole sequence in *Contact*.



Mainstay of melodrama: the heroine must prove her spirituality in the public sphere.

In contrast to *Contact*, *Matrix* is a more ambiguous example. Less concerned with religion than with the chiliastic fantasy of a revolutionary movement, the film unfolds as a romantic melodrama centered on a young male hero who realizes that human beings have become enslaved by virtual reality – a sophisticated simulation of the 'real world'. The Morlocks, so it seems, have left the underworld and taken control of upperworldly affairs though they are no longer seen as a degenerated working-class but simply as machines. As one of the characters explains, the matrix is a computer generated dreamworld, built to keep human beings under control. Victimized by an oppressive adult world and, at a higher level, by the matrix itself, Neo turns into an exemplary melodramatic hero fighting not just for individual freedom but for the liberty of the human race.

Christian prophecy is reformulated in 'cybernetic' terms by explaining that a man was born inside the matrix with the ability to remake the programmed world as he sees fit, merging the image of the cyberpunk with the spiritual power of Jesus. As in *Contact*, the use of advanced technologies leads to a conversion experience and a re-discovery of faith. In this case, elaborate action sequences prove to Neo, who is doubtful about his exceptional status, that he is indeed the revolutionary leader everyone believes him to be. While liberating the African American character Morpheus (Laurence Fishburne) who had been chained and tortured, the conversion of Neo takes place. As Morpheus rejoices that the fundamental difference lies between knowing the path and walking the path, the Second Coming of a 'cybernetic' Christ is placed into Harriet Beecher Stowe's tradition of melodramatic millennialism by freeing black slaves.²¹

²¹ *Matrix* thus proves the point that African Americans are associated with the reality principle and the healing of white boys lost in their cybernetic dreamworlds. On the therapeutic function of cyberspace see Claudia Springer, "Psycho-Cybernetics in Films of the 1990s," *Alien Zone II* 203-218.

However, the transformation of anxieties over new technologies into millennial hopes of their revolutionary use is complicated on several levels. Firstly, the critique of virtual reality is contradicted by the fact that many of the special effects sequences rely on the same technologies that have built the (fictional) matrix. In a schizophrenic turn, the pleasures they generate for the film audience become a function of the 'system' which the heroes are trying to fight and subvert within the narrative. If the matrix employs simulated dreamworlds to enslave the human race, a conflict between this vision of oppression and Hollywood's own technological praxis becomes inevitable. The cinema is not only threatened from the outside by an alternative audiovisual discourse, it is threatened from within by a radically different sign-generating system more alluring and mesmerizing than itself.

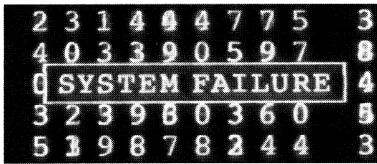
As Garrett Stewart writes, in the digital era "futurist cinema has for the first time mobilized rather than merely evoked its own self-anachronizing upgrades."²² Digital technologies are not competing, they are taking over. The indexical authority of cinema – cornerstone of notions of realism and identification – loses its semiotic base.²³ Thus, while *Contact* reinforces the cinematic apparatus, digital devices in *Matrix* cause a tension between the narrative and the performative levels of technology. Ever more perfect ways of simulating the real are turning into crucial sources of narrative pleasure, but, for reasons of protecting their representational status, cinematic narratives must draw a clear line between the evil power of (digital) simulation and the comforting presence of the (mechanically reproduced) real – even though this semiotic difference, due to hybrid means of production, is impossible to uphold in technical terms. *Matrix* underlines the nightmare of being manipulated by artificial dreamworlds, yet it also profits from the increasing appeal of its simulated action and trick sequences.

Secondly, the film's revolutionary impulse harks back to democratic movements but fighting the matrix requires a form of military discipline that delimits and redefines notions of individuality. On the one hand, the insurgent hackers represent an idealized group opposing racism and practicing solidarity, on the other hand, they are overdetermined by systemic imperatives as communication devices transform human interaction into non-human protocols of exchange – such as input-output, connecting-disconnecting or entering and exiting programmes. Just as Kahn and Wiener's cybernetic visions suggested, pushing buttons or downloading a new self will allow flexible ways of reconstructing the

²² Stewart, "Body Snatching" 246. Or, as Brooks Landon puts it, science fiction film has become "a technology on the way to somewhere else." Brooks Landon, "Diegetic or Digital? The Convergence of Science-Fiction Literature and Science-Fiction Film in Hypermedia," *Alien Zone II* 31-49; 37.

²³ See Bill Nichols, "The Work of Culture in the Age of Cybernetic Systems," *Screen* 29.1 (1988): 22-46.

individual. Thus, the revolutionary ideal may still be democratic freedom, justice and a renewed faith but the human beings to which it applies have been integrated into a sphere of technical imperatives. Just as Julian West they have to adjust to a logic of military command in order to fulfill their mission. Although the group follows a democratic agenda, its cybernetic utopia belongs, in fact, to a post-democratic order. Racism, injustice or excessive passions will only be manageable, so it seems, by re-programming desire and by controlling the conditions under which human encounters occur.



The ultimate hacker's fantasy in *Matrix*.

The Second Coming in cyberspace?

Cultural ambiguities of progress

As demonstrated in utopian literature of the late 19th century and science fiction films of the late 20th century, *fin de siècle*-periods witnessed intensified reflections on the prospects of technological progress relating it to religious notions of a betterment of mankind and millennial themes of biblical prophecy. While the novels of the Progressive Era introduced the idea of efficiency as the fundamental law for the coming 'ideal' society, the increasing sophistication of new technologies forced media such as the cinema to focus more closely on the changing logic of technology itself spurring an ongoing process of 'techno-reflexiveness'.

A number of science fiction films of the 1990s related new technologies to new forms of communication and spirituality. As image technologies, the digital and electronic paradigms were demonized, while the cybernetic logic of their mode of operation – more efficient self-control – was partially appropriated as the new healing power of the cinema's own apparatus. Other films raised the specter of virtual reality subverting cinematic representation from within. *Matrix* pointed to the triumph of a *film* narrative intercepting the lure of cyberspace by displaying the message 'system failure' on the screen, yet the logical next step of advanced storytelling would be *inside* the simulacra of virtual reality – not within the space of the cinema.

However, as Michael Benedikt's image of the Heavenly City in cyberspace indicates, these notions of technological progress were still being shaped by millennial themes. As an artificial environment created by

'evil' machines, virtual reality could become the ultimate prison cell, yet it could also open up a new space where 'anything' would appear to be possible. A dream of boundless opportunities re-emerged, reformulating political or eschatological goals in terms compatible with the thrills of consumer culture. At the same time it also intensified ambiguities over the idea of progress: technology had caused the oppression of fictional characters, yet it was seen to lie at the heart of their liberation. Thus, the 'evolution' of machines remained linked to popularized narratives of providential teleology and the creation of new forms of faith, but it also heightened the sense of a basic cultural contradiction: having both to resist and to master the logic of advanced technologies, the wish for individual 'liberation' was turning into a paradoxical desire.

Sonderdruck aus

Millennial Perspectives

Lifeworlds and Utopias

Edited by

BRIGITTE GEORGI-FINDLAY

HANS-ULRICH MOHR

Universitätsverlag

WINTER

Heidelberg

2003