

9 ■ Tunnel Vision

Inner, Outer, and Virtual Space in Science Fiction Films and Medical Documentaries

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Images of tunnels are abundant in both science fiction cinema and medical imagery. In science fiction cinema, the tunnel signifies something virtual and abstract: cyberspace or virtual reality. In medical imagery, on the contrary, it signifies something actual and concrete: the interior of a body. Yet both sets of images are equally virtual and abstract to the spectator.

In this chapter, I argue that the visualization, in science fiction films, of a spectacular ride through cyberspace is in fact a metaphorization based on the human body. At the same time, I suggest that the image of a ride through the body is informed by typical elements of science fiction cinema, such as speed and movement. Thus fictional cinema and medical visualization techniques mutually shape one another. Here, I explore two different representations of the cybertunnel in science fiction film that are based on analogies with the body—specifically, with the nervous system and the womb. Starting from cyberfilms,¹ I assess how the visually similar “ride” in two such different genres as science fiction cinema and medical science informs our imagination of cyberspace as well as our understanding of the body as shot through with technology.

INTO THE MATRIX

With remarkable tenacity, cyberfilms represent the trip into virtual reality as the passage through a tunnel, and they do so to the point where this kind of representation has quickly become a cliché. I use the metaphor of the tunnel in my reading of these images because the films show a rounded, closed-off, tunnel-like space functioning as a passage. The tunnel in this figuration can be seen as a new version of the old topos of the tunnel as a passage from one kind of world to another, such

as we know it from fairy tale and myth. Computer technology enables filmmakers to create virtual tunnels with the use of digital special effects, which spectators find quite overwhelming. From *Tron* (1982), one of the first movies in which characters enter the mainframe of the computer, to such films as *Freejack* (1992), *Lawnmower Man I* (1992), *Hacker* (1995), *Johnny Mnemonic* (1995), *The Cell* (2000), and the trilogy of *The Matrix* (1999, 2003, 2004), virtual reality and the trip into it are represented in conspicuously similar ways.²

The trip into cyberspace is, quite obviously, imaged by computer animation. It is visualized as progress through a twisting tunnel into which the character is sucked at incredibly high speed, a passage lasting usually about one or two minutes. The accompanying sounds are eerie and nonhuman. During the ride through the tunnel, the character is not represented as an actual presence; in other words, the (virtual) camera travels through the tunnel by itself. In these scenes, the absence of any image of the actor's living body is consistent with the view that "the plasticity of the image . . . has overwhelmed the reality of the flesh and its limits" (Sobchack 2004: 50). At the end of the tunnel, the (now virtual) character arrives in an altogether different dimension where cyberspace is represented as pure mind, a cosmic power, or an altered reality. Meanwhile, in most films, the "real" body of the character is shown as having stayed behind in real life. After the character's exhilarating ride through the tunnel, a much quieter and more open virtual space allows him or her to freely move, float, or fly. Nevertheless, this space of virtual reality threatens to trap the character; he or she can disappear into it, disintegrate, fall to pieces, or go mad. Death is often imminent. Finally, the character is either liberated and returned to the real world or is lost in virtual space and dies.

While most tunnel scenes follow this pattern, a distinction can be made in how they are visualized. One tunnel looks like a cybernetic grid, whereas another is closer to an endoscopic image as we know such images from medical visualization techniques. Although the second kind of tunnel is recognizable as an image that takes the inside of the human body as its point of reference, I want to suggest that the tunnel visualized as a cybernetic grid also refers to the human body: that is, to the nervous system.

An example of the trip into cyberspace as a ride into the nervous system can be found in *Freejack*. Two characters, Alex Furlong (Emilio Estevez) and Julie Redlund (Renee Russo), are about to be transported into cyberspace. They stand in the dark, looking with some apprehension at a huge eye that has appeared before them. A wind begins to blow, and uncanny sounds of swishing and screeching are heard. Then computer-generated images take over. The huge eye contracts into a

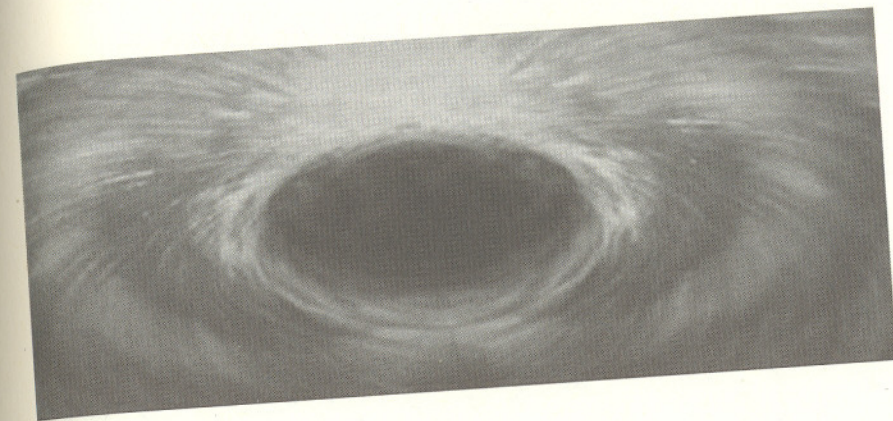


Fig. 9.1. The opening of the tunnel in *Freejack*

black hole (fig. 9.1), and the characters are sucked into the iris. While the swishing and screeching becomes louder, the simulated camera flies through the tunnel at an improbably high speed. The tunnel is visualized with graphic and kinetic images that flash by. After about a minute of this pure simulacrum of a ride through time and space, the camera slows down before being sucked into yet another tunnel and speeding up even more. After another minute, the camera emerges from the computer-generated tunnel, slowly descending into a rocky, alien landscape and zooming in on the stunned faces of Alex and Julie. An image of ripples resolves into the figure of Ian McCandles (Anthony Hopkins), who greets them: "Welcome to my mind."

The trip into cyberspace as a ride within the interior of the human body is similar but shows some characteristic differences, as we can see, for example, in the film *Virtuosity* (1995). "You're in my world now!" shouts one of the villains, hurling Parker Barnes (Denzel Washington) into cyberspace against his will. While Parker's worldly body is tied to the computer, his virtual body falls through a virtual city that swirls around him. His screams of fear and horror echo throughout the scene. As he falls through cyberspace, his mind is deleted, as visualized with digital special effects. A great mouth opens, and the virtual camera enters a narrow red tunnel (fig. 9.2), curving and turning while its speed and Parker's screams intensify. Farther down the tunnel, human faces appear, and again the camera is swallowed by a mouth, which gives access to yet another tunnel. The scene switches back to the computer room, where Madison Carter (Kelly Lynch) comes to Parker's

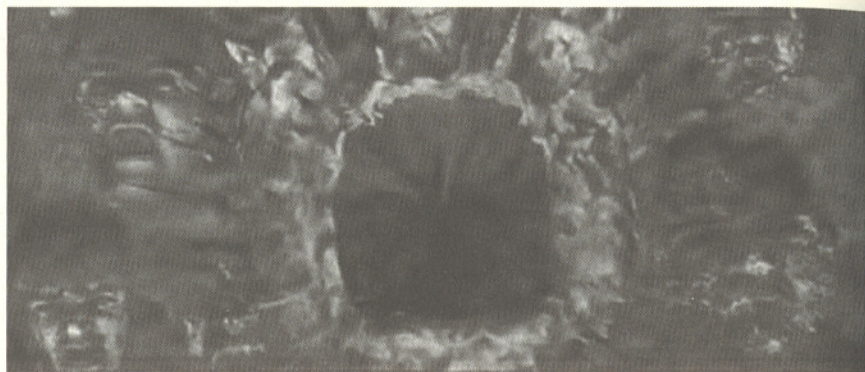


Fig. 9.2. The opening of the tunnel in *Virtuosity*

help by switching off the computer that is deleting his mind and his nervous system. In real life, he sits up. Surprised and in pain, he touches his head.

The main difference between the tunnel visualized as the human nervous system and the tunnel visualized as the interior of the human body has to do with the types of cybernetic images that are used. In the case of the tunnel as nervous system, the images are gridlike or chartlike, smooth, taut, and graphic. The dominant color is blue or green. This kind of tunnel is featured in *Tron*, *Freejack*, *Hacker*, *Johnny Mnemonic*, *The Cell*, and the *Matrix* trilogy. By contrast, the tunnel as endoscopic image is visualized as fleshy, bumpy, fluid, and formless, continually expanding and shrinking in every direction. The color red dominates here. This kind of tunnel is found in *Fortress* (1993), *Ghost in the Machine* (1993), *Tekwar II* (1994), and *Virtuosity*. *Lawnmower Man I* features both kinds of tunnels.

Nevertheless, these distinctive visual modes can be connected through a metaphor that is frequently used for cyberspace: the matrix. The word “matrix,” derived from Latin and related to *mater* (mother), “matrix” originally connoted the womb or a breeding female. It is probably no coincidence that *Virtuosity* features a red, human mouth as the entrance point of the cybertunnel. In mathematics, the term “matrix” refers to a rectangular array of quantities or expressions, or to a gridlike array of elements, especially of data items. We find this kind of representation in the images of the tunnel as a nervous system. Because the nervous system is connected more with the brain than with the womb, the eye features as the entry into the cyber-tunnel in *Freejack*. Here, science fiction cinema borrows extensively from neuro-

science and its insight that the act of representation takes place within the brain through the response patterns of sets of neurons, interpreted as “points in phase spaces,” which have a metric and are visible in figures of sensory and motor grids (Churchland Smith 1986: 452–53). According to this view, cognition can be understood geometrically, as “characterized in terms of phase spaces, vectors, and matrices” (ibid.: 457). The term “matrix,” then, brings together the two different visualizations of the ride into cyberspace. I will come back to this metaphor in connection with my analysis of the tunnel as a trip into the “wetware” of the human body.

THE TUNNEL AS NERVOUS SYSTEM

The image of tunneling into cyberspace conceived as a nervous system is based on an analogy between the computer and the human brain. This is typical of cyberculture, which is all too happy to postulate a sustained analogy between the computer network and the human nervous system. Scientists who have had a huge impact on cyberculture, such as Hans Moravec and Marvin Minsky, believe that in the future it will be possible to plug a computer or implant a chip directly into the human nervous system or the brain (Dery 1996), whether to download or upload information. Equations are made between computer software and the brain, between computer hardware and the body, and between the Internet and the mind. These equations are founded on certain strands in neurophilosophy that harbor materialist views of man as a machine, and especially of the brain as a machine—for example, Churchland (1984: 113, 120), who seems to place almost no distance between himself and “functionalist AI [artificial intelligence] theorists” when he claims, “If machines do come to simulate all of our internal cognitive activities, to the last computational detail, to deny them the status of genuine persons would be nothing but a new form of racism.” Such outrageous claims point, at best, to a reductionist view of the human body and subjectivity and, at worst, to an irresponsible and apolitical attitude toward the role of technology, an attitude perhaps best described in the words of Virilio (1998: 182) as representing a form of “delirious technical fundamentalism.” Churchland does not work from the standpoint of cyborg complexity, as it has been advocated by feminist scholars like Donna Haraway, but from what Bennett and Hacker (2003: 355, 366) describe as “ontological reductionism,” the belief that all human behavior can be explained by neuroscientific theory, if not yet, then in the not too distant future.

Let us not forget that the presupposed equivalence between the structure of the

brain and that of the computer is, as Hayles (1999) reminds us, fundamentally metaphorical. The analogy sustains a false binary opposition between mind and body, or between information and materiality, where the mind is understood as not being embodied, and the body is understood as being mere material flesh. In this context, mind always rules over matter. Moreover, there is continuous slippage between the mind as something spiritual (or virtual) and as something more physical that is situated in the human brain. In neurophilosophy, interestingly, this slippage is willfully turned into an equation (mind = brain) both by Churchland (1984) and by Churchland Smith (1986). Whereas Churchland, however, subscribes to the metaphor of brain as computer, Churchland Smith (1986: 459) dismisses that metaphor as "fundamentally wrong" and "a trifle thin," especially in relation to the function of memory. Thus the metaphor of brain as computer is contested in neuroscience, especially in more recent evaluations of the field, where the metaphor hardly figures at all. For example, Bennett and Hacker (2003: 432) discuss the computer-as-brain metaphor only in an appendix, where they convincingly argue that such metaphors "are poor ones" and are even "a bizarre suggestion," mostly because the computer-as-brain metaphor does not allow for enough complexity and holds on to a misconception of the self as an immaterial substance.

By contrast, the popular genre of science fiction has not been too much hindered by such theoretical niceties. Cyberfilms enthusiastically embrace the analogy between mind and computer. In *Johnny Mnemonic*, for example, the hero, Johnny (Keanu Reeves), downloads data into his brain, temporarily deleting part of his personal memory. In *Virtuosity*, a person's mind, when plugged into a computer, can be either enhanced or distorted. In *The Cell*, people have the scary ability to enter into one another's brains and memories. In *The Matrix*, Neo (again Keanu Reeves) inserts a diskette and, in just a few minutes, learns Eastern ways of combat. These are all neat, almost bodiless, man-machine exchanges.³

Here we touch on one of the main characteristics of cyberculture: its celebration of disembodiment and immateriality, as many critics have aptly remarked (Bukatman 1993; Dery 1996; Hayles 1999; Sobchack 2004). In films dealing with virtual reality, characters are temporarily liberated from the constraints of the body and are therefore freely able to cross time and space. The design of the images—for example, the disembodied point of view from inside the tunnel, or the transparency of bodies in virtual space—makes it possible to deduce a strong desire to transgress physical boundaries, or even to leave the material body behind altogether. The tunnel ride suggests the euphoria of becoming pure mind. In this respect, it is striking how clean the representations of such trips are: the character, free of the

body, falls, flies, or floats virtually through space. These films are keen to avoid any carnality in virtual reality. The virtual apparently excludes the material "wetware" of the body. The spectacular virtual-reality fights in the *Matrix* trilogy are the most extravagant example of this utter freedom from physical constraints.

Thus the trip into virtual reality signals a flight from the flesh. In the pop culture of cyberpunk and science fiction, the posthuman subject is rapidly dematerializing. The desire to transcend the body resounds time and again in utopias concerned with information and communication technologies, which give shape and content to such concepts as cyberspace and virtual reality. Cyberfilms envisage virtual reality as one way to actualize the desired state of immateriality and disembodiment.

MEATSPACE

In scenes of virtual reality, the fantasy of the ultimate trip is caught in the Western duality of body and mind. In a double shift, the mind is first split from the body, as if the mind were not itself embodied, and then it is valued much more highly than the flesh.⁴ The extent of the negative attitude toward the body can be grasped from texts produced in a cybercultural context. Cybertexts, whether fictional or theoretical, refer to the body as a living hell from which one can be liberated through virtual reality. Gibson (1984: 6), for example, writes in his novel *Neuromancer* about the "bodiless exultation of cyberspace" from which the character Case falls back into "the prison of his own flesh." Heim (1991: 64) writes, "Suspended in computer space, the cybernaut leaves the prison of the body and emerges in a world of digital sensation." And John Barlow believes that "the Net is somehow going to free us from the tyranny of the body . . . ; by going digital we can break free of the prison of the flesh" (cited in Zaleski 1997: 35; emphasis added). In this context, the euphoria of cyberspace is opposed to the pain and suffering of the body in ruins in "meatspace."

It is important to draw attention to the gender dynamics involved in this negative view of the body in cyberculture. Apart from the fact that I don't share this disgust for the body—after all, the body can also be a source of multiple pleasures—its feminine connotations are denied and repressed. As critics have argued, contrary to dominant representations in cyberpunk literature or cyberfilms, the posthuman subject is always already embodied, and its relation to gender is often problematic (Hayles 1999; Braidotti 2002). Balsamo (1996: 123) writes, "From a feminist perspective, it is clear that the repression of the material body belies a gender bias in the supposedly disembodied (and gender-free) world of virtual reality."

Because the physical, material flesh is depicted as a female body, the desire to transcend that body points to a negative view of femininity. Therefore, in the discourses of cyberculture, the desired transcendence of the body in virtual reality can be read as a flight not only from the flesh but also from femininity.

THE TUNNEL AS WOMB

The flight from femininity is complicated, however, by contemporary culture's preoccupation with visually representing space, whether that space is real or virtual, physical or cosmic. Haraway (1992: 305) has offered a reading of science through a map, or "semiotic square," in which she presents four regions of analysis: "A" (real space), "not-A" (virtual space), "B" (outer space), and "not-B" (inner space). I want to suggest that in current visual culture these different kinds of spaces are collapsed. Because of virtual space's very virtuality, and hence because of its uncertain parameters and its fundamental ambiguity, it may be open to possible confusion with real space, outer space, and inner space. For one thing, science fiction films have shifted the conventional concern with outer space to a concern with virtual space, often conflating the two in the process. For another, the inability to distinguish between real space and virtual space is very much the theme of films on virtual reality, such as the *Matrix* trilogy or *eXistenZ*. Nevertheless, what concerns me more specifically in the image of the "tunnel" is the collapse between virtual space and inner space. As mentioned at the beginning of this chapter, the trip into virtual reality is shown as a passage through a rounded, closed-off space that looks like a tunnel. Images like these are familiar to us from such medical visualization techniques as endoscopy, although science fiction films and medical visualization techniques display these images at very different speeds. Thus the trip into cyberspace is, visually speaking, uncannily similar to a trip into the human body. The images of the eye in *Freejack* (and in *The Cell*) and of the mouth in *Virtuosity*, as points of entry into the tunnel, underscore this metaphor.

Feminist scientists have shown how the scientific urge to unravel the secrets of nature is predicated on a gendered perspective whereby the male mind penetrates the inner mysteries of nature, inevitably depicted as female. Keller (1985: 31), who has traced this prevailing gendered perspective through the history of science, writes: "Laid bare of her [Nature's] protective covering, exposed and penetrated even in her 'innermost chambers,' she is stripped of her power. Her secrets have become knowable." While Keller's groundbreaking work exposed the highly gendered, sexualized metaphors of science, other feminist critics have been keen to expose sim-

ilar practices in medicine, especially where the new reproductive technologies are concerned. Imaging technologies capable of probing inside the womb and making the inside of the female body visible have been at the heart of public debates about the new reproductive technologies (for example, "test tube babies") as well as about abortion. Feminist activists and scholars have been active in these debate for the past two decades. Many have performed critical analyses of the power of visualization techniques and their implications for the politics of reproduction in a culture that quickly became fascinated with fetal images (Petchesky 1987; Franklin 1991; Hartouni 1992; Stabile 1992). Other feminist scholars have been concerned with how imaging technologies inscribe science, at women's expense (Treichler, Cartwright, and Penley 1998). The female body is imaged as a mere vessel for the fetus, which gains autonomy while the mother is obliterated in a visual act of disappearance. She has become, as it were, a tunnel through which the fetus travels.

The feminist critique of science and medicine can be set against the background of feminist philosophy in the 1970s. Luce Irigaray is critical of a Western tradition in which the speculum, a concave mirror, is believed to expose the secret of female sexuality to the male subject; the instrument may allow the eye to penetrate the interior, but it produces "anamorphoses by the conjunction of curvatures" and "impossible reflected images, maddening reflections, parodic transformations" (Irigaray 1985: 144). Female sexuality will remain forever a mystery. For Irigaray, the speculum is a metaphor for the production of female subjectivity as fundamentally "Other" and "interior."⁵

It seems that some documentary makers have taken feminist criticisms seriously. As Bryld and Lykke show in chapter 6 of this volume, a U.S. version of the Swedish documentary *The Miracle of Love* altered significant parts of the original narrative, making the story less romantic and less male-dominated. The same can be said of the famous BBC documentary series *The Human Body: The Incredible Journey from Birth to Death* (1998),⁶ which takes great care to give the mother-to-be full narrative and visual space in the episode on conception and pregnancy. Thus the documentary tries to avoid objectifying the woman, instead making her a subject in her own story of life. It also reverses the old sperm-meets-egg story at the microscopic level, telling instead a story similar to that of the Egg Queen (see chapter 6).

The Human Body is an excellent showcase for the latest medical visualization techniques. The series presents a "journey" through life in seven episodes of fifty minutes each, narrated by Robert Winston. I find the series most extraordinary for its bold, intimate, spiritual portrait of death in a culture that increasingly fears the process of ageing and dying, but the fame of the series is due to the novelty of many

of its visualization techniques (and, of course, to the engaging personality of Winston). Indeed, Winston often refers with excitement to showing something “for the first time,” or to things “never before seen on television,” or to taking the camera to “places where it has never been before.” And the DVD of the series, following the custom established with movies, comes with an extra DVD that deals with “the making of” *The Human Body*, a series eminently proud of its scientific innovations, its visual technologies, and its computer graphics.

What concerns me here is how so many of the visualization techniques used in the series produce the image of a tunnel by way of an endoscope (fig. 9.3), described as a “minitelescope,” moving through the bowel, going into the eye or the ear, exploring the womb, traveling along the penis or an artery or a gland, or following the optic nerve right through the brain. Other techniques and tools that appear in the series are scanning electron microscopy, magnetic resonance imaging, ultrasound imaging, time-lapse photography, time-slice camera work (involving 120 cameras on a frame), infrared cameras, and heat-sensitive cameras. The images are enhanced by computer graphics, sometimes involving a crew of dozens of people working for three days or for as long as several months. Each episode of *The Human Body* features between three and five tunnel images, with a total of some twenty-five in the series as a whole giving views of the interior of the body (fig. 9.4). Some of these images are virtual, in the sense that they were produced by digital animation, and some are real, that is, based on endoscopy or other visualization techniques.⁷

In both cases, the imagery is often, if not always, remarkably abstract and “unreal,” a quality that places this imagery visually close to the computer-generated images of the cybertunnel in science fiction films. Many microscopic, endoscopic, and other scopic images yield disturbing, abject imagery of which a science fiction or horror movie would be proud. In fact, the images cannot be read by a medically illiterate spectator—that is to say, by most of us. They must be fully explained by the narrator and visually enhanced with computer graphics. But contemporary spectators of science fiction movies are already familiar with images of the tunnel as a passage through space, whether real or virtual, inner or outer.

An important aspect of tunnel imagery is its function of representing a passage, which indicates movement. In “real” life, the tunnel is a means of transporting a vehicle from one place to another; in a cyberfilm, a digital tunnel transports a character from earth to cyberspace. In a medical documentary, the “tunnel” is not so much a means of transport as a vessel or tube placed within the human body and traversed by a camera (or another visualization tool) for the spectator’s “edutainment”—not unlike what happens in a nature documentary that charts foreign territory. The

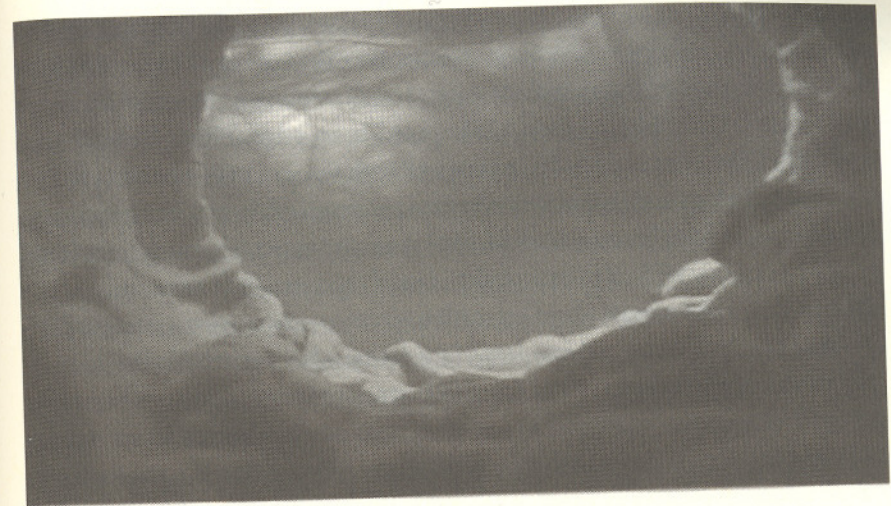


Fig. 9.3. Endoscopy in *The Human Body*

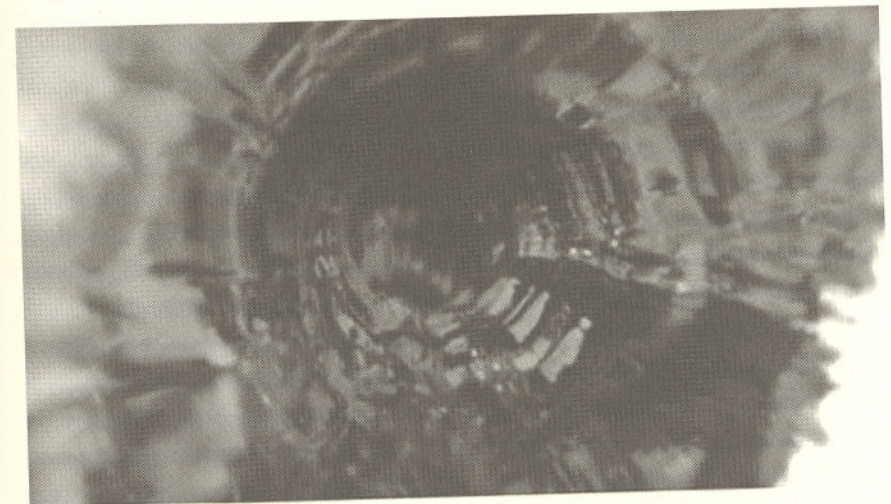


Fig. 9.4. An abstract “tunnel” in *The Human Body*

tunnel metaphor used in this chapter is closely related to a notion introduced by Sawchuk (2000: 14), for whom the ever-expanding field of visual media that offer anatomical images as entertainment points to a "biotourism" by which the inner body is spatialized and made into a "bioscape," in an act that links the body with geography. *The Human Body* fits in very well with the idea of biotourism; in fact, Winston often uses such travel-related terms as "journey," "trip," and "ride," as in comments about the "journey through life," or about "muscular contractions [that] propel [sperm] on its final ride through the man's body and into the woman's." He also regularly visits remote places on earth in order to demonstrate certain aspects of the human body, in visual mimicry of the technical journey inside the body. At one point, he even turns up on a roller coaster at an amusement park, as a metaphor for the "roller-coaster experience of puberty," a period when hormones are responsible for enormous changes in the body. When the roller coaster enters a dark tunnel, the documentary cuts to a tunnel inside the body, not specifying what it is showing but confirming the conflation between inner and outer space.

As feminist critics have pointed out, many medical visualization techniques were initially developed to open the womb up for inspection. Pictures of the inside of the womb have become part and parcel of Western popular culture, not least because of the books and films of Lennart Nilsson (see chapter 6, this volume). In the popular mind, then, images of the inside of the human body are first and foremost images of the womb. As a result, spectators may consciously or unconsciously transfer the image of the womb onto any endoscopic image of any other organ. I, for example, remember being struck by the similarity between medical visualizations of the womb and endoscopic images of the stomach when I saw the Australian cyber-artist Stelarc present his *Stomach Sculpture* (Stelarc 2000; Zylinska 2002). Medical visualization techniques demonstrate the extent to which the interior of any body is made up of "empty" space.⁸

Baert (2001) has argued that space and the body alike are figures of the feminine. The fact that the inner space of the body can be traversed, and visualized, doubly feminizes the human body. Its secrets have now become knowable: not only is the interior of the human body made visible, its interior consists mostly of cavities. Thus medical visualization techniques defy one of the defining characteristics of sexual difference in the biosciences: the notion of the female body as an empty vessel; the documentary shows that the male body is equally vacuous. This is not to say that medical documentaries don't continue to foreground sexual difference; which they do, both in their narrative structure and in their commentary; rather, it is to say that visual techniques belie and undermine linguistic forms of narration.

Not only have feminist critics turned their attention to medical visualization techniques, feminist artists have also used these techniques to question issues of embodiment. In Wendy Kirkup's film *Echo* (2000), for example, Kirkup takes more than twenty minutes to "map" her own body through ultrasound imaging technology. This visualization is a welcome break from the short "rides" offered in cyberfilms and medical documentaries because it takes time to fully explore the body in its complex layering. In taking this approach, the artist refuses to subject her body to the fragmentation of medical imagery or the disembodiment of cyberfilms. Yet Kirkup does not present a holistic view of the feminine body, because the exposure of its "bits of life" is still fully mediated by visual and medical technologies. Moreover, the art project that used this film consisted of simultaneous projections of the film, via satellite, onto the facades of buildings in Glasgow and Newcastle, to conflate the boundaries between inner and outer space, body and city, private and public. As Baert (2001: 59) argues, the visually and aurally striking artwork called *Echo* was "an intervention into the cultural imaginary of the female body and into powerful 'masculine' technologies," one that reworked the ways in which medical documentaries treat sexual difference. The film *Echo* traces the processes of materialization and visualization of the human body, producing complex images of technocorporeality.

FLIGHT FROM THE FLESH

So far, I have been arguing for the topos of the tunnel as a dominant representation of virtual or inner space. I have traced two sets of visual similarities: one, in science fiction films, between the tunnel as used in trips into cyberspace and as used in trips through the human body; and another, in medical visualization techniques, between images of the womb and images of other internal organs. If we bring these two sets of similarities together, it follows that the tunnel in cyberfilms can be read as affording a ride into the womb, whereas the trip through the human body can be read as a ride into virtual reality. In other words, inner and virtual space are collapsed in contemporary visual culture, which also implies that inner and outer space are no longer separate, and that the real cannot be distinguished from the virtual. We are confronted with a visualization of cyberspace that is based on the inner space of the maternal body, in a pop technoculture that privileges disembodiment. Popular culture's hijacking of this theme indicates a break between science's material "bits of life" and their immaterial representation in science fiction. How are we to understand this contradiction? I want to suggest that this paradox may indicate, as it were, a "return of the repressed."

The exhilarating ride into cyberspace can be understood as a desire to unite with the matrix, as Springer has argued. Here, the original meaning of the word "matrix" (womb) comes to mind once again. Read in a Freudian light, this return to the matrix is quite ambivalent, a "simultaneous attraction and dread evoked by the womb" (Springer 1996: 59). The fantasy of getting rid of the body, of sheer weightlessness, is often accompanied by dissolution of the consciousness in virtual reality. Through the human fusion with electronics, consciousness melts into the matrix of cyberspace—a fusion that "popular culture frequently represents as a pleasurable experience" (ibid.: 58). In a later article, Springer (1999) returns to the idea of cyberspace as maternal substitute, understanding cyberspace to be a fantasy of the mother's plenitude. Although I support this view, I think that the notion of the matrix can be expanded if it is read through Irigaray (1985). Plant (1995, 1997), referring to Irigaray's ideas, has explored some of the feminist implications of cyberspace as matrix. She sketches the age-old dream of transcendence as a male desire to be redeemed from physical matter, a desire interpreted by Irigaray as a flight from the mother. Plant refers to the metaphor of the matrix as womb but does not explore it further. Therefore, let me return to Irigaray.

In her exposition on Plato's cave, Irigaray (1985) refers throughout to the womb as the matrix.⁹ The cave metaphorically signifies the origin of life, the maternal-feminine. In order to shed his chains and step out of the cave into light and reason, the male prisoner must literally turn his back on his maternal-material origins. Irigaray criticizes the male tendency to forget and repress those origins. According to her, undoing this forgetting requires an enormous revolution; to actually remember, let alone value, these origins is a nearly impossible feat. The male prisoner pays rather a high price for leaving the cave and acquiring his freedom from the maternal-feminine: he is not allowed to remember the cave, let alone nurture any desire to return to it. Thus loss of maternal origins implies first of all a loss of memory. Because the maternal and the material are always intertwined, this original loss also entails a painful repression of the enfleshed body. This is not without its consequences. Irigaray (ibid.: 273) points out that the male prisoner, once freed, suffers "dizziness, dazzlement" and even "aphasia."

I want to argue that the trip into virtual reality can be read as the desire to return to maternal-feminine origins. That desire is by its very nature both subconscious and ambivalent. The male character wants to transcend the constraints of his body, that wet, abject meat. Hurlled into cyberspace, he experiences the momentary euphoria of becoming pure mind. At the same time, cyberspace in all its unpredictable fluidity reminds the character of that which he was supposed to forget forever: the womb

of origin. The character then panics and becomes desperate to set himself free once again from the maternal-feminine, and to return to his own body and his own world.

The despair of the male character when he realizes that he is trapped in a maternal-feminine space can be seen in the tortuous tunnels, which are indeed both dizzying and dazzling. In that maternal-feminine cyberspace, men are no longer able to speak but cry out in jubilation (Jobe in *Lawnmower Man I*) or pain and fear (Alex in *Freejack*, during the mind transplant). It is significant that all tunnel scenes are without dialogue. Screams are the only human sound we hear. Consider the tunnel ride in *Virtuosity*, described earlier: Parker screams while his mind and nervous system are being deleted, and the accompanying sound effects make his screams even more frightening. Aphasia, indeed.

Classical cinema is predicated on the nonsignifying female cry (Silverman 1988); in genres like science fiction and horror, however, men are increasingly the ones who cry out in fear or pain. These films unwittingly provide insights into the dangers of forgetting the body, of denying the flesh, of leaving the feminine behind. The return of the repressed is visualized in sinuous, tortuous, vertiginous tunnels, as indicators of the maternal-feminine. The flesh demands its due; the tunnel threatens to swallow the character. Again, *Virtuosity* serves as a point of reference here, although the digitized mise-en-scène holds for many of the other tunnel scenes as well. The turning and twisting imagery, together with the accelerating speed and the eerie sound effects, make the tunnel into a surging vortex, where the character hovers between euphoria and agony, between delirium and terror. The desire to lose the self by entering the matrix and leaving the body behind is a fundamentally ambivalent one because the original mother-womb not only gives life but also takes it away. The cyberfantasy is simultaneously claustrophobic and ecstatic; pleasurable and painful. Alongside the euphoria and utopia of liberation from the body we see fear and dread of the body's or the mind's final demise.

In my reading of science fiction films, the material groundings of the body are never really lost, in spite of cyberculture's deployment of special-effects overdoses to market an artificial technobody. The least I can claim here is the living body's simultaneous erasure from and inscription in contemporary technoculture.

CONCLUSION

In this chapter, I have traced a particular visualization that has become a trope in current visual culture: a tunnel ride through a confined space. In science fiction films, this space is an outer, virtual one, an indication of cyberspace. In medical docu-

mentaries, such images represent the interior of the human body. Both genres feed on each other, and the result is, on the one hand, a metaphorization of cyberspace as the inside of a human mind or body in cyberfilms and, on the other hand, the virtualization of the inner space of the human body in medical documentaries.

This mutual exchange of imagery and technology points to three issues. First, it reveals the extent to which the human body has been reconfigured and remediated in contemporary visual culture. The proliferation of discourses surrounding the body has been well documented in cultural studies, feminist studies, and science and technology studies (this volume testifies to that development). Images of the tunnel, as I have analyzed them in this chapter, indicate many conflicting ideas and desires regarding the human body. The desire for disembodiment, so manifest in cyberculture, is first undermined by the equation of the computer with the mind, the brain, or the nervous system. It is further undermined by the image of cyberspace as the inner space of the maternal body. Both metaphors, summed up by brain and womb, indicate a return of carnality at the very heart of a cyberculture that desperately wants to rid itself of human physicality. Moreover, the proliferating visualization techniques that open the human body up to control, scrutiny, and surveillance point to an interest in the body that borders on morbid fascination.

Second, the desire for disembodiment and the proliferation of images of the body are two sides of the same coin in a culture where inner and outer space, not to mention real and virtual space, can hardly be told apart anymore. Inside out and outside in are collapsed in an imaginary space, which is ambiguous to the extent that the real and the virtual are thoroughly confused. Science fiction films have shifted their focus from outer space to virtual space, often conflating the two in the process, but they also foreground the failure of the characters, and sometimes even the audience, to distinguish between real space and virtual space. Moreover, as the images found in medical documentaries and science fiction films feed increasingly on one another, virtual space and inner space become visually analogous and equivalent. Whereas the semiotic square of Haraway (1992) carefully distinguishes among inner, outer, real, and virtual space, I want to argue that in contemporary visual culture this square has become a Gordian knot.

Third, in a visual culture dominated by digital technology, visualization becomes more and more a synonym for virtualization. Virilio (1998: 115) has pointed out that the conquest of space goes hand in hand with the conquest of the image. In this respect, it is quite remarkable that science fiction films and medical documentaries alike are seeking, in the image of the tunnel, to conquer a particular space:

cyberspace, or the interior of the human body. The conquest of that "final frontier" is purely visual, in the sense that it is a quest for visualizing spaces—inner, outer, real, virtual. Space is there to be rendered as an image—in the particular cases that I have highlighted, as an image that looks like a tunnel. The tunnel enables the visualization of space as a passage. Space, whether body space or cyberspace, apparently can be shown only as something to be crossed, routed, and traversed. Thus it is movement that makes space "visualizable." Not only does digital imagery conflate different kinds of spaces, as I have argued throughout this chapter, but immense speed also collapses time and space. In that sense, the visual is always in the process of becoming the virtual. It may not be an exaggeration, however, to claim that the opposite is also true: the virtual is always in the process of becoming the visual.

NOTES

1. I use the term "cyberfilms" to designate a subgenre of science fiction movies that take the world of cyberspace and virtual reality as their theme. In this chapter, I treat the terms "cyberspace" and "virtual reality" as synonyms.

2. In addition to the films just mentioned, I have found this specific representation of virtual reality in *Brainstorm* (1983), *Fortress* (1993), *Ghost in the Machine* (1993), *Tekwar II* (1994), and *Virtuosity* (1995). The abundance of tube images in *What The Bleep Do We Know?* (2004) points to stereotyped New Age representations of time travel. The iconography of the tunnel is not entirely new to science fiction films; the best-known and earliest tunnel is undoubtedly the one featured in the psychedelic trip at the end of 2001, *A Space Odyssey* (1968), which set the standard for the visualization of space travel for a long time to come. *Contact* (1997) features an extended trip into the cosmos as a ride through a tunnel at breathtaking speed. Claustrophobic tunnel-like constructions can also be seen in the spaceships of the *Alien* films. Virtual

tunnels are found at times outside science fiction—for example, in *Being John Malkovich* (1999). By now, the cybernetic image of the tunnel has become so standardized in visual culture that Windows Media Player, included with Microsoft XP and other versions of the Windows operating system, offers several such images as accompaniments to music played on a personal computer. The tunnel is also a recurring visual theme in MTV's "Idents," short films or animations linking television programs and featuring the channel's logo.

3. Only the film *eXistenZ* (1999) escapes the mind-body binarism by focusing on physicality: the porthole in the spine where a game pod can be plugged in. Also, instead of enhancing the human body with technology, the film turns this proposition around: technology is made of flesh, to the point of absurdity. In this respect, the film is more loyal to the genre of horror than to that of cyberpunk.

4. The Canadian director David Cronenberg is one of only a few filmmakers who

explore fear of and disgust at the feminization of men, by visually lingering on penetrations of the male body—for example, the vaginallike opening up of Max Renn in *Video-drome* (1983), or the anuslike “bioport” in the body of Ted Pikul in *eXistenZ*.

5. Cheetham and Harvey (2002), in their exploration of the cave as a trope in contemporary art and other cultural discourses, also refer to Irigaray’s reading of Plato’s cave as a gendered metaphor.

6. Produced and directed by Richard Dale and others, and presented by Robert Winston, this 1998 series won many prizes. The DVD was released in 2001. In 2000, the BBC produced the series *Superhuman: The Awesome Power Within*, also narrated by Winston.

7. For an excellent critique of the impact of medical visualization techniques and their

production of the “transparent body,” see van Dijck (2005b).

8. I place “empty” in quotation marks because many organs need to be emptied of their contents before a camera can travel through them, or before they can be seen and imaged through other techniques.

9. The link between virtual reality and Plato’s cave has often been noted; see, for example, Cavallaro (2000: 28) on the development of the “cave” in virtual technology. Cavallaro describes the term “cave” as “redolent of Plato’s philosophy,” referring as it does to “a system that uses a pointer, worn by a guide for a small group of people, in a dome wherein virtual images are projected.” The notions of simulacrum and projection also play an important role; for Hillis (1999: 137), virtual technologies “participate in a metaphysics of light as old as Plato’s cave.”