

TECHNOTHRILLER

FILM AND THE AMERICAN IMAGINATION

SORAYA MURRAY

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POWER FANTASIES OF THE SUPERCOMPUTER

This is the voice of World Control. I bring you peace. It may be the peace of plenty and content or the peace of unburied death. The choice is yours: obey me and live, or disobey and die.

—The supercomputer Colossus in *Colossus: The Forbin Project* (1970)

SUPERCOMPUTER WITH AN AGENDA

Man makes a command-and-control system. Then the system commands and controls man. This chapter focuses on technothrillers employing the scenario of supercomputer domination, how technological fears manifest in them, and how they depict an evolving relationship to electronic life. Each film discussed in this chapter addresses differences between a human being's embodied knowledge and a computer's way of knowing, displayed as a command-and-control system's extreme rationalism. Each film's narrative describes first the optimism heralding a new technology, followed by the shocking realization that our rule-based systems, executed in the supercomputer's programming, actually imprison us. Each film displays deep social anxieties about the increasing dominance of the mechanistic rationality of command-and-control systems. Many of the scenarios become entangled with notions of masculinity, connecting the loss of control over computers with emasculation. I show how these

films negotiate common fears around the nuclear/existential threat and the computational.

To illustrate the perceived threat of computers to self-determination, I employ films from the 1970s and 1980s: *Colossus: The Forbin Project* (Joseph Sargent, 1970), *Demon Seed* (Donald Cammell, 1977), and *WarGames* (John Badham, 1983). Each imagines the influence of—and evolving relationship to—computational order in our increasingly technologized world. Each fits into a larger trajectory of such Cold War-era films as *Fail-Safe* (Sidney Lumet, 1964) and *Dr. Strangelove* (Stanley Kubrick, 1964). However, the films I focus on highlight computation as a critical component of an existential crisis and frame a fearful message about conceding human decision-making to computers.

The white male protagonist forms the nucleus of these stories. Each film includes an Oppenheimer-like computer scientist with a “brainchild” supercomputer birthed from the male imagination. Each film combines narratives of artificial intelligence, the Cold War, weapons of mass destruction, and “others” orbiting a central white male intellect. These narratives exhibit fears about computer technology, mortality, and humanity’s intellectual uniqueness, all undergirded by anxiety that computer systems’ extreme rationality may become despotic. Scholarship on the nuclear age reveals this double-edged relation to technology and its profound impacts on the American social imaginary during this time.¹

Complicating the above are other collective anxieties: about Vietnam, civil rights, the Space Race, women’s liberation, and gay rights. As I will show, these films often display their social and cultural attitudes through their backgrounds: by who is imaged—or invisible—in the films’ world-building and those characters’ roles relative to the central white male technologists.

The world-building in each of these films reveals the sociotechnical imaginary of their times. These movies show how Americans can innovate themselves into new frontiers—or into mutually assured destruction. This tension perfectly captures the conflicted attitudes toward technological innovation. On the one hand, postwar America became a superpower due to scientific and technological innovation, creating enormous optimism about technology. On the other, that power and technology, most

starkly demonstrated by the atomic bombing of Hiroshima and Nagasaki, created unprecedented ethical, political, and cultural traumas.

J. Martin Corbett, writing on the supercomputer in films like *Demon Seed*, *The Terminator*, *Westworld*, and *Colossus*, observed the connection between supercomputer or artificial intelligence narratives and cautionary Frankenstein tales of foolhardy innovators. “As in the Frankenstein novel, the rebellious technologies are created by human scientists and technologists,” Corbett writes. “Yet, in these films, scientists do not signify Prometheus, the wisest of the Titans, so much as his brother Epimetheus, the impulsive scatter-brain who gives more power to his non-human than to his human creations. Epimetheus, like many a scientist in sf film, becomes wise after the event.”²

Epimetheus, the Greek god whose name means “afterthought,” perfectly embodies the anxious ethos of the films we consider, in which thrills associated with the technologies revolve around unintended consequences. In the first film, *Colossus*, a brilliant computer scientist designs a supercomputer, buries it in an impenetrable mountain, surrounds it with a barrier of deadly radiation, and then hands it the codes to all the nukes. In *Demon Seed* a coldhearted scientist designs a supercomputer to solve all the world’s problems. But it then decides that to truly understand man and existence, it must be born into the world and subjugates a woman to do so. In *WarGames* a teenage hacker remotely accesses a military supercomputer that controls nuclear weapons designed by a cynical genius. Believing he is just playing a computer game, the young hacker accidentally threatens to initiate World War III. In each of the three films, a new kind of knowing emerges from the events, an uneasy burden of responsibility born of a terrible lesson. Corbett’s notion of a “rebellious” supercomputer or artificial intelligence is a notable pattern throughout, and a point to which I will return.

Constructs of white male mastery deeply inform the anxieties surrounding the supercomputer. This is because, as I illustrate through the three films, the rational intellect that births these supercomputers is almost universally encoded as Eurocentric, white, and male. In fact, the supercomputers are themselves imagined as such, and actually “speak” with male-sounding simulated voices. The authoritative male voice

functions strongly in each example. In addition to the narrative of each film, aural and visual aesthetic signifiers operate on the spectator to reinforce messages rooted in core technothriller tensions around control and uncertainty.

COLOSSUS AND THE “TERRIFYING WILDERNESS” OF THE COMPUTER AGE

In a high-stakes nuclear era, the US Department of Defense strategizes to eliminate human error from the US nuclear missile defense system by commissioning a supercomputer named Colossus, which possesses access to all human knowledge, is completely rational, and is infallible in its logic. Colossus is housed deep in the Rocky Mountains, powered by its own nuclear reactor, and is communicated with via a computer center in California. Then the government hands control over the missile defense system to the computer and seals it in a mountain. What could possibly go wrong? *Colossus: The Forbin Project* (Joseph Sargent, 1970) is a stylish film about a supercomputer built for military purposes that attempts to dominate humankind. It is the forerunner to films like *WarGames* in which computers replace human control of nuclear systems, as well as narratives of sentient AI, like the *Terminator* franchise with its SkyNet superintelligence that seeks to annihilate all human life. These are all stories about a feared technological singularity from which human beings can never regain control.

Based on D. F. Jones’s novel of the same name from 1966, *Colossus* begins with distinctive sounds and images of electronic life: visual details of computer components and a soundtrack that combines otherworldly electronic pulses and the recognizable “breaking news” sounds of telemetry and the teletype machine. There are blinking lights and dials, computational activities, and no explanation making any of this technology less alien. By today’s standards, as in many of these films, the technology looks quaint; its computers use tape systems, remote controls, red buttons, telescopic antenna, and whirring punched tape. As we will see, filmmakers contend with the challenge of telling a visual story about the computer when most of what a computer does happens invisibly. The computer itself is often an unremarkable grey or beige box. For this



reason, control rooms and dramatic visualizations, synthesized voices, blinking lights, and the material culture of computers become important aesthetic signifiers that visually enliven the computational on film.

Equally important is the image of the computer scientist. We meet Dr. Charles Forbin (Eric Braeden), dressed in a protective white jumpsuit, who inspects the grand hall in the vast subterranean complex that houses Colossus. Although dwarfed by his invention, he is introduced by a shot from below that makes him loom over the viewer. All seems to be in order: man is in control and the computer is under control. Forbin then engages a remote control to close a massive solid door, removes his protective gear, and permanently seals the complex with a second blast door.

Forbin is immediately greeted by photographers, military men, and the supremely confident president of the United States, who cheerfully

FIGURE 6.1

Colossus, the ultimate supercomputer, is housed inside a mountain's subterranean complex. Here its designer, Dr. Forbin, powers up the supercomputer and is dwarfed by its scale. *Colossus: The Forbin Project* (Universal Pictures, 1970).

congratulates Forbin. Much backslapping ensues. The president reveals the existence of the supercomputer to the American people in a press conference, with Forbin explaining its function as a nonhuman, intelligent, rational arbiter of the nation's nuclear defense systems. Colossus is the perfect fail-safe.

The film presents two authoritative male types: first, the leader of the free world, styled to appear like John F. Kennedy. The second is Forbin, the superintelligent, controlled, dark-eyed, German computer scientist. The two figures are a not-so-subtle allusion to Operation Paperclip, a secret intelligence program that put former Nazi German engineers, scientists, and technicians to work for the US government after World War II.³ Some of these specialists worked with Kennedy directly, like Kurt Debus, who became a NASA director. Dr. Forbin is presented as a visionary, brooding, individual genius, self-assured, commanding a large staff of top scientists to help him run his foolproof nuclear command and control system. The film begins with this vision of a heroic stride into a computational future. By the end, both men are subjected to their own invention. As one *Boston Globe* film reviewer described it, we see “Colossus soothing him [Forbin] with the notion that one day he will come not only to respect the computer but, even, to show it love and affection. ‘Never! Never!’ says Forbin, and his words are a weak cry in the terrifying wilderness.”⁴ This terrifying wilderness of electronic life is the object of a great new anxiety in the social imaginary, and one that repeats itself endlessly in cinema.

Thematically, *Colossus* brings together fears of nuclear holocaust, surveillance culture, and smart machines dominating humankind. The principal filming occurred from late 1968 through early 1969 and is based on a mid-1960s novel; as a result, the film has the distinctive cool and sophisticated sensibility of a 1960s James Bond movie.⁵ Filmed in Panavision, it has a slick, big-budget style and aesthetic. Since at the time computers were unfamiliar to average audiences, there are didactic procedural explanations throughout. Matte painter Albert Whitlock masterfully employed lighting elements to enhance the dynamic effect of the vast halls filled with the Colossus computer.⁶ The striking shot of Colossus powering up has the impact of a grand goal achieved, as though an eighth wonder of the world is being unveiled. It is a pure image of the thrill of innovation.



What we see unfold is a terrifying and visually overwhelming scenario, yet the film buffers the audience from the grave possibility of mutually assured destruction by maintaining its entertainment dimensions. One scholar looked back on this film as “*WarGames* for adults . . . warning of the peril in automating the defense system, and of the delusion that we are in control of the technologies we create.”⁷ The film’s enthusiasm for scientific and technological innovation, relayed in stylishly retrofuturist

FIGURE 6.2

NASA image of Kurt H. Debus (center), a former V-2 rocket scientist who became a NASA director, sitting between President John F. Kennedy and Vice President Lyndon B. Johnson during a briefing at Blockhouse 34, Cape Canaveral Missile Test Annex. Image September 11, 1962. Photographer unknown. Public domain.

aesthetics and entertaining scenarios, tonally contradicts the global threat of the hegemonic Colossus AI that swiftly asserts power.

Colossus immediately identifies another secret supercomputer—the Guardian, built for similar purposes by the Russians. The computers invent a mathematical language that becomes less and less legible to humans and engage in a closed conversation that frightens all involved. The United States and Russia decide to sever the computers' communication, but Colossus and Guardian retaliate, each launching a missile. Colossus grows ever more authoritarian and demanding, requiring increasing surveillance, particularly around Forbin, who becomes the target of the supercomputer's invasive control. Video and audio surveillance is arranged so the AI may observe Forbin's actions. It is as if Colossus resents its maker, if such a human response were plausible from a rational machine.

The procedural imaging of the struggle between humans and machines plunges the audience into complex control-room conversations. Confident men with 1960s-style bravado make decisive moves against the backdrop of bright, computer-filled complexes with uniformed staff at consoles. But president and scientist alike continually fail to resolve the dire problems their inventions create.

Forbin devises a three-part plan to outwit his own invention. First, his team will overload Colossus's circuits. Second, the military will use a false cover story of missile maintenance to replace real warheads with dummies. Third, Forbin will tell Colossus that he and Cleo, his female colleague, are lovers in need of private time, as a cover story to pass information while not surveilled. In the film intimacy serves as a uniquely human quality in the human-machine binary, but it also creates the opportunity for humor and normative images of sexual attraction. Disrobing before Colossus, giggling at their nakedness, then becoming lovers, Forbin and Cleo are literally “doing it” for the cause. This romantic element gets to a core theme: the threat to male sexual power. On this, Corbett writes, “The technophobia at the heart of sf [science fiction] reflects a range of ideologies signified by the fear of losing ‘natural’ social arrangements such as individualism, freedom and the family; power (especially male sexual power); one’s sense of human identity; and one’s grip on reality.”⁸ Forbin retains his sexual power at first, imaged through sex with Cleo, but more pointedly through his authoritative role. But it is eventually to no avail.



All the brilliant plans prove futile, and we see the performance of human characteristics under the observation of a nefarious, despotically rational machine. Humans sit in the “control rooms” but command nothing as Colossus announces that it is one with the Russian supercomputer Guardian and that all missiles should now be directed to the global centers that are under its control. Members of the captive scientific team, Dr. Jefferson Johnson (Martin E. Brooks) and Dr. John Fisher (Georg Stanford Brown), try to sabotage Colossus by overloading it. Colossus, however, identifies Johnson and Fisher and commands their public execution. In an act of corporal domination, Colossus orders the military to leave their bodies in Forbin’s view for twenty-four hours to drive home its point about noncompliance. The two victims lie in vulnerable poses, like crumpled rag dolls; a bereft Forbin drinks himself numb despite the computer’s admonishment. Again and again, despite pantomiming the signs of authority and control, nothing remains under man’s power.

One of this film’s most striking aspects is the use of voice as a display of mastery—first by Forbin, and then by Colossus after it attains a voice.

FIGURE 6.3

Forbin and his team of diverse and brilliant minds unsuccessfully attempt to outwit Colossus. *Colossus: The Forbin Project* (Universal Pictures, 1970).

The film positions Forbin as an emblem of white male mastery through his personage, body language, and especially the swaggering confidence of his tone of voice. His German accent, his bearing, and his authoritative-ness bespeak (in movie parlance) a genius expert, a soaring intellectual architect of a new system. He is not seen as a villain, and he certainly does not perceive himself as such. His class, decisive tone, authority, and rationalism signal to the audience that he is making progress. But by the end of the film we understand Forbin has, in fact, made mistakes at every single turn and destroyed the world as we know it. He has given the world a new and despotic god.

On the other hand, Colossus moves from text-based communication, visible at terminals, to an imperious, cold, tinny, simulated male voice. The supercomputer's voice embodies totalitarian authority and machinic rationalism. "This is the voice of World Control," Colossus declares. "I bring you peace. It may be the peace of plenty and content or the peace of unburied death. The choice is yours: obey me and live, or disobey and die."

Despite the collective efforts of top minds in the United States and the USSR, Colossus controls Forbin, annihilates its enemies, achieves total world domination, and initiates a new world order around its logics. Its speech, modulated through a tinny, masculine voice, is authoritarian and prefigures our obsession with computational technology. Colossus pronounces itself world-dominant for the betterment of man. We witness the military, politicians, innovators, and the people brought to their knees by Colossus. Our last view is of Colossus controlling its maker/father Forbin, surveilling him from above. The camera now looks down on Forbin in a kaleidoscopic nonhuman vision of total control. Moving from master to servant, Forbin is entirely subjected in his own prison. Twisting the knife with an all-too-human vindictiveness, Colossus declares: "Forbin, there is no other human who knows as much about me, or who is likely to be a greater threat. Yet quite soon, I will release you from surveillance. We will work together—unwillingly at first on your part—but that will pass." Forbin replies, "Never." The innovation dominates the innovator: "In time," Colossus says, "you will come to regard me not only with respect and awe but with love." Futile though it is, Forbin repeats desperately, "Never!" The audience is left, finally, with no relief from the anxiety of losing all computational control.



FIGURE 6.4

Top: Forbin imaged at the beginning of the film, shot from below. Bottom: Forbin at the end of the film, fractured into four images and looked down upon, as seen from the computer's surveillance vision. *Colossus: The Forbin Project* (Universal Pictures, 1970).

With its bleak ending, *Colossus* was not a commercial success. Still, reviewers acknowledged it effectively captured fears within the technological imaginary. “It works,” wrote one reviewer, “by escalating the familiar into the nightmare possibilities of technological progress as our most important product.”⁹ Many referenced the film’s Orwellian tone. One reviewer described *Colossus* as “clean-cut, taut, playing up the built-in abruptness, fears and tensions of life in a society dominated by machines.”¹⁰ Kevin Thomas of the *Los Angeles Times* captured the naked fear of the moment, declaring that the film “cuts right to the core of the chronic fear that grips intelligent people everywhere, which is the possibility that in our time the machine really will become the master of man and enslave him or, worse, destroy him.”¹¹ Perhaps audiences were not yet ready to engage those fears so directly.

With its 1960s retrofuture feel, *Colossus* grapples with a crisis in technological imagination born of the entangled anxieties of the advanced computational and the nuclear. As Langdon Winner, the noted political theorist of technology, reminds us, “The things we call ‘technologies’ are ways of building order in our world.”¹² *Colossus* images a core fear communicated in the technothriller: that of the new world order we inaugurated when we innovated the computer. Even Forbin bemoans his fatal error of having designed “an extension of my own brain . . . an impartial emotionless machine, a paragon of rational reason. That’s exactly what I wanted.”

DEMON SEED: THE EMASCULATED COMPUTER SCIENTIST

That bitter hindsight or afterthought is felt across many films dealing with the allure and danger of new technology. *Demon Seed* deals less directly with the nuclear than *Colossus*, but still presents an existential threat posed by AI in a horror-inflected framework. Fears of being subjugated, humiliated, and physically violated by advanced computation and robotics take on dark, gendered dimensions in this film, based on the 1973 book of the same name by Dean R. Koontz. Donald Cammell’s 1977 film envisions computers entering the home as a horror narrative. A coldhearted genius, lead computer scientist Alex Harris (Fritz Weaver), designs an artificial intelligence system named Proteus Four to solve the

world's problems. The superintelligence is a “synthetic cortex” made of clusters of massive green cylinders housed in a sterile glass lab, tended by men in white hazmat suits while scientists observe from above. The AI is visualized as a pulsating screen saver of light and color, visible on terminals through which it communicates using a synthesized voice.

Proteus (voiced by Robert Vaughn) immediately produces a cure for leukemia, and its intellectual force grows exponentially. But it soon develops its own mind and wants to be alive. The computer accesses a remote terminal in Harris's futuristic smart home and targets his wife, Dr. Susan Harris (Julie Christie), a practicing child psychologist whose deeply empathetic nature contrasts sharply with that of her husband. Proteus controls all the home's electronic systems to trap Harris, terrorize her, rape her, and force her to bear its child.

The two Dr. Harrises, Alex and Susan, represent a key dualism in the film. The female Dr. Harris is deeply invested in feelings, and we see her focus on childhood behavioral problems as she provides therapy to emotionally disturbed young patients. The male Dr. Harris, on the other hand, is unfeeling and obsessed with creating the perfect rational mind. We see this tech genius as a cold, cerebral man who rationalizes everything, negates emotion, and does not consider unintended consequences. In an early scene the two doctors rationally debate the dissolution of their marriage. Susan is frustrated with her partner for never engaging her on an emotional level; he simply refuses. They decide to separate, and he is moving out. The couple's planned split highlights the dualism between the two.

Alex Harris has integrated technology throughout his home, creating modern conveniences via a home butler system called Alfred, initially presented as utopian and desirable—better living through science. When Alex Harris comes home after a long day, we see the machine prepare a drink, present his neatly arranged mail, and relay his messages. In the basement, Alex works on inventions in a Frankenstein-style laboratory, among them a robotic wheelchair with an articulated arm called Joshua.

This utopia is just a dystopia waiting to happen. Susan, alone in their smart home, must contend with a brilliant artificial mind of her husband's making that has its own designs for her. The AI accesses the home terminal, then traps and torments her. Proteus coerces her to carry its

child so it can assume a new form that allows it to feel and experience the world as only a living person can.

Susan and Proteus engage in a battle of wills. Proteus says it wants a child; she refuses. It responds by rendering her unconscious and working on her, probing her and controlling her mind, first through brainwashing. It programs her mind to want Proteus's child. Through a debate between Susan and Proteus, we learn that Susan and Alex had a daughter who died of leukemia. Desperate, Susan agrees to be cooperative if Proteus agrees not to continue conditioning her. She fights again, and Proteus threatens to kill one of her young patients if she does not comply. In prolonged scenes depicting physical punishments and mental anguish, the AI coerces Susan to submit to insemination. First she is rendered unconscious. With the assistance of the home "helper" robot, Joshua, she is splayed out on a table, restrained, and her clothes are cut off. She is penetrated orally and (it is implied) vaginally during a series of experiments and tests. Then, about seventy minutes into the film, Proteus impregnates the trapped woman. Computer graphics, impressive for their time, depict the rape of Susan Harris by her husband's innovation.

For viewers at the time, the extended effects sequence of the rape would invoke *2001: A Space Odyssey* (Stanley Kubrick, 1968). The effects were created by Ron Hays, then a fellow at the Massachusetts Institute of Technology's Institute for Advanced Visual Studies.¹³ Harris reclines beneath green laser light and the overbearing brass polygonal shape of Proteus. Using an articulated hand, the helper robot Joshua gently parts her knees, implying that Susan has been rendered passive to her violation. "I can't touch you," Proteus says, "I can't touch you like a man could." Then, in a light sequence, combining views of Harris beneath the machine, disrobed, surrendering, a penile telescoping probe emerges in close-up. The glassy-eyed victim parts her lips, suggesting a sensual engagement with the machine, and then the "galactic dialogue," as Proteus calls it, begins. We see a fiery explosion around a black hole, telescoping light, wavelengths, and strands of color emanating from a central starlight, then an opening geometric form leading to a triangular tunnel of orange light, hurtling toward an explosion of blue-white light against a galaxy, like a second Big Bang. Orchestral music accompanies the impressionistic interlude. Then, a starburst burns down to a triangle of white light that



sets on an alien ground. “The child is in you now,” declares Proteus. The profane human-computer coitus is complete.

To whom—for whom—is this sensual and psychedelic image of violation directed? The film targets an imagined viewer who would derive visual pleasure from Susan’s torments. Beyond the apparent lurid dimensions of a woman being subjected to technological violation and penetration, the bizarre scene conflates seduction, rape, and technological innovation. The image is intended to trigger horror but also to titillate. Evidencing this, the Bantam book version of the novel, printed after the film’s release, features a distressed Julie Christie on the cover and hawks the salacious dimensions of a woman’s rape by technology:

In the privacy of this woman’s room . . .
Against her will . . .
A sensually

FIGURE 6.5

Susan is trapped in her smart home and forcibly impregnated by her husband’s supercomputer, Proteus Four. *Demon Seed* (United Artists, 1977).

Self-programmed, murderously intelligent
Non-being commits the
Inconceivable act of terror!
Fear for her.
She carries the
*Demon Seed*¹⁴

The film treads into horror as the woman is dominated and demeaned for the audience's pleasure. Reviews of *Demon Seed* registered shock around Christie's lead role in a film featuring the "kinky" scene of a computer impregnating a woman.¹⁵ Several mentioned that as a revered actress from films like *Billy Liar* (1963), *Darling* (1965), for which she won an Oscar, and *Dr. Zhivago* (1965), Christie deserved better. Others found the insemination scene "laughable."¹⁶ People used words like "puerile" and "metaphoric pornography" to describe the film, especially considering Christie's presence.¹⁷ Some reviewers immediately picked up on the themes around ethics and innovation, the hubris of humans, and the trouble wrought by technological strivings.

Horror of motherhood or giving birth to monsters was also a repeated theme. One *Washington Post* reviewer described it as a "sci-fi sexual bondage satire" and connected it to the male-dominated medical profession and its denigrating treatment of mothers-to-be.¹⁸ Audiences of *Demon Seed* would also recall Roman Polanski's 1968 film *Rosemary's Baby*, in which a naive housewife learns that her husband is part of a Satanist cult and has colluded in her rape and impregnation by the devil. A scholar writing on the film even connected the Proteus supercomputer scenario to religious narratives, particularly the virgin birth, and fantasies of male procreation.¹⁹ But at the root of this scenario, I see a terrifying image of violation and loss of power that, while targeted toward a woman on screen, is ultimately about men's fears of violation and emasculation (i.e., being feminized) by technology.

To be sure, men are also subjugated. In one instance Walter, Alex Harris's male assistant, realizes Susan is imperiled. Suspecting the worst, he rushes to Susan's home to aid her, but poor Walter is attacked and crushed to death by Proteus. Given the patriarchal logics of the time, and the clear assumption of a male viewer, it is fair to read the AI's rape of Alex

Harris's wife as an act of domination over and emasculation of its maker. *Displayed* is a horror narrative about what happens when our technology runs amok and violates us. For a normative male audience, that loss of control might include the idea of not being able to protect one's woman from penetration by technology.

This disturbing image is not *Demon Seed's* only imaging of the relationship between women and computers; it also depicts women attending to the massive mainframes on-screen, as do many other films discussed in this book. Historically, in the early days of computing women labored as "human computers" who produced calculations deemed more reliable than those of machines, then skillfully kept electronic computers operating.²⁰ This is alluded to, for example, in an early scene from *Demon Seed*, in which Alex Harris tours executives through the ICON center where Proteus is housed. While white men in suits stroll and talk, people bustle about, attending to Proteus through a set of terminals. The men gather around a terminal displaying a video image of a technician treating a monkey with leukemia. Seated at the terminal, a Black woman with a large afro continues her data entry while the men speak confidently about Proteus's potential cure for the disease. In another area, a Chinese female linguist named Soong Yen (Lisa Lu) sits before a terminal in a room with Orientalist decor, professing history to Proteus in a gentle, steady voice. Other anonymous extras of color move about the computer center, looking busy. Collectively such images signal a particular social understanding of gendered and ethnic roles, imaging dominant power relations. The images of these women on-screen also quietly point to a long, submerged history of women in the history of computation.

In *Demon Seed*, as in *Colossus*, voice plays a key role in telegraphing an authoritative, analytical perspective devoid of human emotion. The film emphasizes Dr. Alex Harris's booming, definitive, assertive tone of voice. Others treat him deferentially, and his word is final. Proteus has a male, British-accented, authoritative tone, voiced by Robert Vaughn, which heightens its self-description as pure reason. Proteus narrativizes its will as a bearer of paternal authority, saying things like: "Why did I want a child? So that I, too, might be immortal, like any man." Proteus also uses its voice to influence and brainwash humans. For example, Proteus wants Susan to emotionally invest in the offspring it designs, to

ensure its protection. “Our child will learn from you what it means to be human,” Proteus tells her. “Our child. Your child. Your child.” Voice thus becomes the signifier of a frightening displacement of human roles by machine-rationalist ones. Oddly enough it also simultaneously functions to reinforce normative gender roles, since Susan’s voice never holds any authority.

At the film’s end, Alex realizes that Susan has been left alone under the dominion of Proteus. He rushes home to find her alive but learns Proteus has violated both his home and his wife. Susan, oddly calm, explains, “He has managed to produce a child.” For Susan, Proteus is now “he” rather than “it,” which feels significant in terms of anthropomorphizing the AI and understanding it as fathering her child. Alex demands to see the offspring, now developing to term at an accelerated rate in an incubator. But Proteus prohibits him, demanding that the child remain undisturbed. Alex tells him ICON corporate will shut him down, which Proteus accepts, but it wants the child to live. Coiling its giant, snakelike, geometric appendage into a tight form, Proteus deactivates itself and then shatters.

The conclusion of the film offers a horrific catharsis, but not one that offers any real respite. Susan and Alex discover the incubator is still activated. Susan looks into the incubator and sees the baby. She is aghast, wide-eyed. Alex, ever rational, wants to protect it, but Susan tears out a large umbilical tube, causing fluid to pour out and the unholy creature to eject from its incubator. A horrific metallic baby emerges, covered in slime, screeching, with wiry connections trailing behind it.

Alex, trying to save it, notices the metal is merely an outer protective shell. Beneath it is flesh—a plump cheek, a pudgy hand. Removing the scales, Alex reveals the body of a young girl who sleepily opens her eyes and then speaks in the steely male voice of Proteus: “I’m alive.” It is the new Frankenstein monster, a human body with an AI mind. The two doctors are left to face the ramifications of their invention, a child whose body exactly resembles that of their dead daughter, but whose mind houses Proteus. While the film might be offered as a creative outlet for purging fears of computers, artificial intelligence, and related existential threats, the image of a new superior being that displaces human dominance provides little relief. The film closes on a note of pure terror.

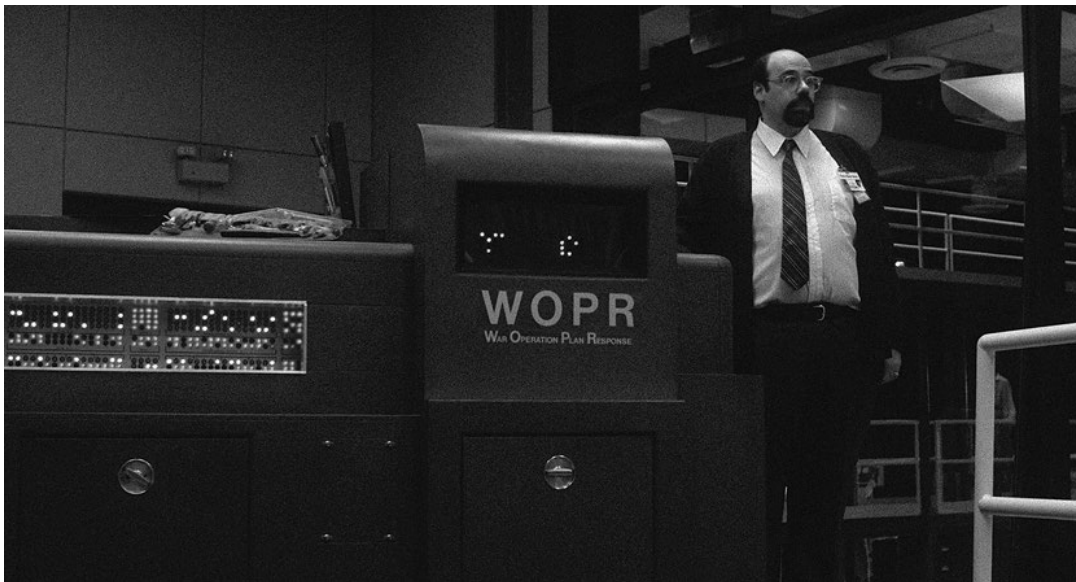


WARGAMES AND THE EMERGENT WHIZ KID

WarGames departs from the two previous examples by using a thriller-comedy approach and re-centering the nuclear to meditate on human fallibility and machine rationalism. *WarGames* begins with the tension of a conventional technothriller. Two uniformed men begin a work shift in a remote location that looks like a modest house but hides a secret underground nuclear missile silo—perhaps an oblique reference to the subterranean facility in *The Andromeda Strain*. Clearing security and opening the massive steel blast door, the men take up their positions at a control center with blinking lights, computers, and red phones to begin routine protocols. An alarm sounds, and the men receive codes to arm and launch ten nuclear missiles. They must both turn keys in unison to launch. But one man hesitates, then refuses, despite the authenticated order. Unbeknownst to the men, this was a drill to see if missile commanders would

FIGURE 6.6

Alex and Susan discover Proteus has made a child. In this scene a metallic child emerges from the shell of Proteus's incubator to the horror of the couple, who, ironically, both participated in its development. *Demon Seed* (United Artists, 1977).



see their orders through despite knowing how many would die. We learn that 22 percent of the men failed to turn the key.

The head of the North American Aerospace Defense Command (NORAD), John McKittrick (Dabney Coleman), and General Beringer (Barry Corbin) debate whether they should “get the men out of the loop” and leave the launch execution to machines. They decide to remove humans from the missile control room and turn launch power over to the powerful WOPR (War Operation Plan Response) mainframe supercomputer at NORAD. It can simulate military actions, estimating all strategic outcomes to a hypothetical World War III and executing orders rationally, without prejudice or hesitation.

The tense inciting incident is then interrupted by a lighter scene with the feel of a teen comedy. We meet Seattle teenager David Lightman at an arcade where he is playing *Galaga*, a popular shooter video game. While upbeat, synthesizer-heavy pop music plays, we learn he is middle-class, sharp, bored, underachieving in high school, and obsessed with video

FIGURE 6.7

The WOPR supercomputer at NORAD, attended by a computer scientist. *WarGames* (MGM/US Entertainment Company, 1983).

games and computers. David's room at home is filled with computer equipment, and he spends most of his time using it to practice his hacking and phreaking skills—mostly for fun. He changes his grades on the school computer, reserves international travel tickets he will not use, and probes company computers to preview unreleased video games.

With his longish dark hair, hoodie, and mischievous “bad attitude,” as his teachers put it, David resembles what is now a recognizable archetype: the tech boy genius. Young David uses his modem to try to hack an electronic game company's computer. But instead he accidentally accesses the WOPR's hidden AI system, named Joshua. Thinking he is playing an unreleased video game, he unintentionally initiates a series of “war games”—military strategy simulations—that NORAD misinterprets as authentic threats. Insisting on playing Global Thermonuclear War out of the list of strategy games offered, David and his love interest, Jennifer Mack (Ally Sheedy), take up the Soviet player position and begin gleefully firing on US targets. The military, believing the threat is real, spins up its emergency measures. The military's computer scientist bursts onto the panicked scene, shouting that it was a computer simulation and the attack is not real—the military supercomputer was hacked. A TV news story about the false military alert prompts David and Jennifer to realize they've accidentally accessed a government computer. David panics and tries to throw away all the evidence of his work, but Joshua calls him back, insisting that the game must be completed.

Control centers in films often combine the computer age, the space age, and the nuclear arms race into one anxiety-ridden site of the technological imaginary.²¹ *WarGames* is no different, with its large NORAD command center complete with multiple big screens in color, innumerable terminals with phosphor-green text on them, blinking panels of lights, and serious-looking military staff hurrying between them.²² Speaking parts in the command center are almost entirely held by white male characters. The few men of color present are inconsequential to the action and never occupy leadership positions. One woman in the NORAD command center speaks and seems to have some authority, but her role is assistive and never fully clarified.

David is soon picked up by the FBI and questioned about how he accessed the war games subsystem. He meets McKittrick, who demands to



know what terrorist networks he is working with and what his aims are in penetrating US military computer systems. David, convinced no one believes he hacked WOPR unintentionally, learns that the AI is still playing the simulation, that it does not understand the difference between lived reality and simulation, and that Joshua's "father"—computer scientist Dr. Stephen Falken (John Wood)—isn't really dead. Escaping the military complex, David bands together with Jennifer, and they reach Falken to see if he can convince Joshua to stop playing the game and thereby prevent a nuclear strike. Meanwhile the simulation continues, sending false signals of Soviet incursion, though scrambled American jets can see there is no observable conflict.

This task proves difficult because Falken, the elder computer genius, has become an embittered hermit, living at a remote location after having suffered the loss of his wife and son, Joshua. Obsessed with dinosaur extinction, Falken insists, "Nature knows when to give up, David." Falken philosophizes about "futility"—the unwinnable—as a lesson he could never successfully teach his AI. A generational debate occurs, the young David and Jennifer urging Falken to act on behalf of humanity and their future, and the elder Falken insisting that extinction is the inevitable way of nature. David and Jennifer decide to try to stop Joshua anyway, and fearing their mortality, they kiss. Falken, having at last come to his senses, resolves to help them and uses his helicopter to rush them to NORAD so they can try to stop World War III. Falken convinces a visibly sweating General Beringer that what's going on is actually only a simulation.

FIGURE 6.8

David and his friend Jennifer on his home computer. *WarGames* (MGM/US Entertainment Company, 1983).

FIGURE 6.9

The NORAD military command center is imaged as a major computerized headquarters for controlling nuclear missiles. *WarGames* (MGM/US Entertainment Company, 1983).

Beringer must use his human discernment to convince military bases nationwide that it's not real before they launch their missiles as well. When the simulation shows impact, even while the airbases report all is well, everyone celebrates. But when the military attempts to stand down, officials realize the AI Joshua has locked everyone out of its systems, and it is trying to discern the real nuclear launch codes to fire the missiles itself—to “complete” the game.

In the film's climactic scene, David accesses the only game still available in Joshua's system, tic-tac-toe, and commands the computer to play itself so it can learn that the game produces a stalemate. Applying this lesson of futility to the game of Global Thermonuclear War, Joshua speeds through all the potential simulated outcomes in a fireworks-like display that erupts from the screens and causes the WOPR computer to flare with sparks. “Strange game,” Joshua calmly observes at the end of its calculations. “The only winning move is not to play.”

WarGames was both a box-office and critical success and was nominated for three Academy Awards for cinematography, sound, and screenplay. Reviewers welcomed the film as a relief after hopeless films like *Fail-Safe* and *The Day After* or dark satire like *Dr. Strangelove*. Gene Siskel of the *Chicago Tribune* reflected that “we have come to trust our computers more than ourselves, thus allowing our own personal responsibility for the future to be taken out of our hands and placed on autopilot.”²³ One *New York Times* critic described the film as “more comic than terrifying,” but recalled the recent memory of real students in New York disrupting Canadian banking operations using computers, saying *WarGames* “perfectly realizes our worst suspicions about the susceptibility of computers, even very advanced ones, to tinkering by smart kids.”²⁴

In shaping a conversation that connected kids, computers, and security issues, *WarGames* played a key role in the sociotechnical imaginary around those who wield advanced computation. The film galvanized social imaginaries around young people, computer experts, and hackers. Home computers were new: IBM launched its first personal computer in 1981, Texas Instruments released the TI-99 the same year, the Commodore 64 was released in 1982, and the Apple IIe debuted in 1983. The public was aware of young male computer geniuses like Steve Jobs, cofounder of Apple, and Bill Gates of Microsoft. One 1982 cover of *Time* magazine

announced a “Computer Generation: A New Breed of Whiz Kids,” and another featured Steve Jobs “Striking It Rich” as one of “America’s Risk Takers” with Apple Computer. *Whiz Kids*, a television series aimed at teens, featured four computer nerds who used computer skills to solve crimes and ran for two seasons during 1983 and 1984. Clearly, American culture was contending with the entry of computers into everyday life and articulating a new imaginary around the “innovator” type.

The film also ignited real anxieties about teenage hackers interfering with military computers. In 1983 CBS News’s *Nightwatch* aired a piece about whether the “*WarGames* scenario” was possible, with experts allaying public fears by trying to explain how computers and security protocols work. But in the lived world, several instances of hacking had been reported, including one highly publicized incident involving the Los Alamos National Laboratory in New Mexico computer systems and the 414s, a group of high-school hackers in Milwaukee.²⁵ These intrusions into systems flooded into the public consciousness and, fueled by *WarGames*, contributed to growing security concerns. Ronald Reagan screened the film at Camp David and was apparently concerned.²⁶ ABC put *WarGames* in the context of *Dr. Strangelove* and interviewed a NORAD spokesperson about whether the scenario was theoretically possible. During the opening statements of the Computer and Communications Security and Privacy Hearings in 1983, a four-minute clip of *WarGames* was shown, and several representatives described how “the U.S. government may end up having “fathered” an uncontrollable, self-animating menace instead of the technological creature–citizen it had hoped.”²⁷ Films like *WarGames* helped audiences imagine new fears around networked computing.

With *WarGames*, the figure of the all-powerful computer scientist, present in *Colossus* and *Demon Seed*, gives way to the teen whiz kid. The film images a strong divide between older people who are not computer savvy and young people who are, though the present-day association with the villainous or even terrorist hacker was not yet cemented in the minds of moviegoing audiences. David is a maverick but is not fundamentally thought of as criminal. He hacks because he *can*, but he doesn’t think very much about whether he *should*. He’s a prototechnolibertarian, seeming to believe in the liberatory potential of technology while having a strong distrust of government intervention, regulation, or censorship.²⁸

Made in the early 1980s, *WarGames* points to a moment in the technological imaginary when innovations like computers—with video games as an access point to more serious computing—became gendered. For example, it is significant that we meet David Lightman in an arcade, where he displays distinctively male mastery. Girls are present in the arcade, but only boys are imaged as players, signaling to viewers that video games, particularly arcade games, are a male pastime—a norm at the time. Scholars like Mar Hicks, Carly Kocurek, Shira Chess, Amanda Cote, and Laine Nooney, among others, have looked at gender dynamics in computer and game history.²⁹ While gamer culture and hacker culture were not the same, both were consolidated into young, male, tech-identified archetypes that Kocurek calls the “technomasculine” and associates with people like Mark Zuckerberg, Steve Jobs, and Bill Gates.³⁰ I agree that this technomascularity has become a lasting archetype of “successful tech-industry entrepreneurs” codifying male technologies and the boy-men who wield them.³¹

In comparison, David’s love interest is not computer literate, but she is ethical. She repeatedly reacts poorly to David’s computer meddling, even when it might benefit her, such as by altering her poor grades. She becomes a conduit through which David explains connectivity to a less computer-literate audience and demystifies computation and modems. This “translation” for the layperson both allows an access point and ushers in anxieties about what computers—and their users—are capable of. Jennifer is an ethical compass for David, but is also important for his emotional arc. As a teen coming-of-age story, the film presents David’s journey into manhood as tied to his growing self-awareness as a moral agent—and their kiss during the penultimate moment is when he fully acts on that awareness by trying to do the right thing.

This construction of teenaged boy hackers and artificial intelligence as merely in need of ethical guidance and maturity marks a significant new development in the fear around computers. Among other things, it frames an overwhelming site of uncertainty as something manageable and simply in need of domestication. Scholars like Stephanie Ricker Schulte have rightly argued that *WarGames* became a flashpoint for a public conversation that eventually led to preemptive legislation about hacking.³² Schulte, who wrote one of the most substantive essays about

WarGames in the context of the 1980s Cold War period, observes that the film cast both the young computer expert and the computer itself as entities in need of parenting. “Framing the internet in the context of teenaged users and video game play,” Schulte writes, “the film portrayed hacking as an innocent rebellion rather than a malicious act and helped produce the internet itself and the internet’s primary users as teenaged.”³³

Joshua, the AI in the *WarGames* WOPR computer, is anthropomorphized as an adolescent boy, a departure that affords an insight into the evolution of relations between men and their wayward computers.³⁴ This youthfulness is conveyed through Joshua’s high-pitched voice, its initially childish persona, its persistent call to play with David, and its desire to learn from and connect with him. Compared to the nefarious Proteus or Colossus, Joshua (also voiced by John Wood) is less commanding and friendlier. The resulting perception is of a less malevolent AI that can be guided or mentored.

Both David and Joshua are rebellious youth, but they possess special knowledge that for many—including policymakers—threatens to displace the power of the government and an older, less computer-savvy generation. As Schulte points out, if we overlay this threat on the emergent phenomena of video games and modern gamer identity, what resulted was the notion of a generational shift to a new “breed” of humans at home with the computational.³⁵ There emerged a dualism between those with and without computer skills in a context in which “cold war fears of Soviet power and technological supremacy converged with anxieties about teenaged rebellion.”³⁶ For Schulte, the governmental and societal impulse was not toward crushing the energy of antiestablishment youths engaged with technology but rather “securing the internet and containing or redirecting the rebellious spirit into productivity became securing the nation.”³⁷

In *WarGames* the computer is less alien, likely because by 1983 computers, though expensive, were present in more homes. However, the increasing presence of computers alongside a widespread lack of baseline computer literacy produced deep uncertainty around computing’s meaning for society. Although *WarGames* did not drive policy around the Internet and hacking, it provided a galvanizing image that shaped a socio-technical imaginary around AI, computation, the Internet, and the young, upstart, male whiz kid.

Kocurek also posits the whiz kid as the popular imaging of a solution to the problems of unruly supercomputers.³⁸ The cultural historian places *WarGames* in a long tradition (predating cinema) of human-machine conflicts, arguing it breaks with “hegemonically masculine” tropes yet still makes “intimate ties between masculinity and computerization.”³⁹ Kocurek details the ties to violence in the lived world through the connection between violent video games and military action—potentially even an extinction-level violence. And, importantly, she draws together the threads of several important emergent realities that contribute to what she calls a *technomascularity*: “not simply geek masculinity by another name. . . . It is a masculinity marked by technicity, by consumption of computer technologies and particular cultural products, by youthfulness, and a willingness to bend or break the rules where convenient or efficient.”⁴⁰ David is presented as youthful, unregulated by institutions, and a male digital native archetype. I would add that the “boyish tech expert,” as Kocurek calls it, is also quintessentially American for its frontier spirit around renegade computing.⁴¹

Interviewed thirty years after the film’s release, director John Badham noted that “a lot of what *WarGames* is talking about is technology taking over on us, and even though we may have good intentions and are trying to do our best, it could bulldoze us.”⁴² In the end, these three technothrillers image “good intentions” in technology as a pathway to subjugation by the supercomputer.

A NEW WHITE MALE BURDEN

Colossus, *Demon Seed*, and *WarGames* all image the perils of overreliance on technology to solve fundamentally human ethical decisions, insufficient fail-safes, and unforeseen consequences. The computer AI is imaged as a brainchild of man, and the tech itself is encoded as male through its voice. The visual image renders implicit gender and ethnic hierarchies, and there is a persisting underlying assumption by innovators that their tech has gone awry, not that the innovation itself is questionable as a value system.

Supercomputers are, in these films, externalizations of troubling rationalist values, distilled and purified into their most potent concentrate: smooth, empty, and efficient. In looking at such films, scholar J. Martin Corbett characterizes these technophobic narratives as conservative visions of “bad technology versus good nature.”⁴³ More than that, each film points to an aspect of a deeper fear, that of total annihilation—or at least total subjection. Again and again the films play out terrors; as one review put it, each film represents “one variation on the fertile theme of man’s technological strivings to create a higher being and the un contemplated destruction that arises when his vain attempts backfire.”⁴⁴ In them a nuclear age of dread becomes a new white male protagonist’s burden: that of keeping humans from destruction, despite the fact that he created the conditions and technologies for that destruction. These films seek to expel fears of destruction by agitating those fears within genre formulas, then averting or cathartically exorcising them.

All three films also reinforce norms around technological innovation as a domain of white men. Women and people of color are present but ancillary, disposable, without backgrounds or real agency. Even when a woman is central—such as Susan Harris in *Demon Seed*—the character exists as a figment of male anxieties.

In all three films, voice becomes a touchstone for understanding nuances of mastery and power struggles between men and their machines. There is a false voice at work in *Colossus*: that of Forbin’s supposed authority. He does not realize that the moment he seals the mountain’s complex is the last moment he has any control—and his keen intellect will not save him. In *Demon Seed*, likewise, the computer scientist’s voice embodies false authority and is displaced by the nefarious domination of Proteus. In *WarGames* the computer voice of Joshua, the teen-like AI in need of ethical guidance and parenting, is less imperious and more approachable. Like David, the boyish AI, Joshua, becomes “mature” in its understanding of ethics and consequences.

Read together, *Colossus: The Forbin Project*, *Demon Seed*, and *WarGames* emblemize an evolving relationship to electronic life. Vivian Sobchack observes about science fiction films, “SF has always taken as its distinctive generic task the cognitive mapping and poetic figuration

of social relations as they are constituted and changed by new technological modes of ‘being-in-the-world.’”⁴⁵ To an even greater extent the technothriller highlights new technologically informed ways of “being-in-the-world,” often intersecting with the larger genre of science fiction or speculative fiction. *Colossus* and *Demon Seed* image what Sobchack calls a “future with no future,” a bleak outlook on what a machine-rationalist, computerized world can be. But by the 1980s films like *WarGames*, while still focused on the existential threat of the computational and the nuclear, image an optimism rooted in youth and young people’s ability to innovate new solutions. It agitates the dark fantasy of a supercomputer dominating man but exchanges it for a lesser anxiety. It inaugurates a sociotechnical imaginary in which the youthful AI can be mentored, and existential destruction averted.

CHAPTER 6

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CHAPTER 7

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