

FROM *STAR TREK* TO SIRI: (DIS)EMBODIED GENDER AND THE ACOUSMATIC
COMPUTER IN SCIENCE FICTION FILM AND TELEVISION

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A Dissertation

Submitted in Partial Fulfillment of the Requirements for the
Doctor of Philosophy

College of Mass Communication and Media Arts
in the Graduate School
Southern Illinois University Carbondale
August 2013

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DISSERTATION APPROVAL

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for the Degree of

Doctor of Philosophy

in Mass Communication and Media Arts

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AN ABSTRACT OF THE DISSERTATION OF

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FROM *STAR TREK* TO SIRI: (DIS)EMBODIED GENDER AND THE ACOUSMATIC COMPUTER IN SCIENCE FICTION FILM AND TELEVISION

MAJOR PROFESSOR: Dr. Susan Felleman

Recent advancements in voice-interactive technology such as Apple's Siri application, IBM's Watson, and Google's Now are not just the products of innovative computer scientists; they have been directly influenced by fictional technology. Computer scientists and programmers have openly drawn inspiration from Science Fiction texts such as Gene Roddenberry's television show *Star Trek* and Stanley Kubrick's 1968 *2001: A Space Odyssey* in order to create more effective voice-interactive programs. Such comparisons between present-day technology and past Science Fiction (hereafter, Sci-Fi) texts are even more apt than computer scientists seem to have intended; not only are Watson, Siri, and Now real-world versions of fictional computers, but each of them also hides the ways in which the computer is implicitly embodied and gendered by its voice. Real and fictional computers alike are generally voiced by a human: the *Star Trek* computer by Majel Barrett; Hal-9000 by Douglas Rain; and Watson by Jeff Woodman. Mysteriously, both Apple and Google have worked hard to hide the vocal origins of Siri and Now respectively.

But the question remains: why do these programs even have gendered voices? In particular, why is Siri—the digital equivalent of a secretary—female? And why hide their voices' corporeal origins? Aside from technological inspiration, how have the underlying ideological gender assumptions in Sci-Fi texts like *2001* and *Star Trek* influenced the creation of

such programs? What does the fact of the shift from Sci-Fi representations to scientific innovation reveal about the perpetuation of ideological assumptions about gender roles? How do other representations of computer voices confirm or problematize the gendering of computer voices? In this dissertation, I seek to answer these questions by examining the historical, theoretical, and aesthetic trace of the computer voice from *Star Trek* in 1966 to Siri in 2013. The voice-interactive computer, I argue, may be understood as a paradoxically acousmatic character: a disembodied voice that is simultaneously embodied through non-humanoid computer-objects. Through psychoanalytic interpretations, historical contextualizations, and transtextual considerations, I show how representations of acousmatic computers are positioned within narrative texts as gendered subjects, playing out particular gender roles that are situated within each text's historical context.

I attend to the textual problem of location in Sci-Fi by dividing the analyses into two categories: extra-terrestrial and terrestrial. This division is important in understanding the roles of voice-interactive computers, as spaceships provide a uniquely different environment than terrestrial structures such as houses, office buildings, or prisons. Further, spaceships always already imply a womb-like habitat, a mothership that controls and maintains all aspects of the life forms within it; terrestrial computers, on the other hand, tend to connote varying gendered subjectivities and anxieties within historical contexts of technological innovation and cultural change. In this first part, I focus on extra-terrestrial voice-interactive computers in *Star Trek* (Paramount, 1966-1969), *2001: A Space Odyssey* (Stanley Kubrick, 1968), *Dark Star* (John Carpenter, 1974), *Quark* (NBC, 1977-1978), *Star Trek: The Next Generation* (Paramount, 1987-1994), and *Moon* (Duncan Jones, 2010). In the second part, I examine terrestrial computers; these computers may be further divided into two, gendered subsections of masculine and

feminine functions. The texts featuring masculine-voiced computers tend to act as the son to their programmer/creator fathers or, conversely, as all-knowing fathers, thereby reinforcing patriarchal rule. These films, *Colossus: The Forbin Project* (Joseph Sargent, 1970), *THX 1138* (George Lucas, 1971), *Rollerball* (Norman Jewison, 1975), and *Demon Seed* (Donald Cammell, 1977), narrativize cultural and business struggles in the 1970s surrounding militarization and corporatization. I then examine the films of the early 1980s, *TRON* (Steven Lisberger, 1982) and *Electric Dreams* (Steven Barron, 1984), that express a rapidly-changing cultural conception of computers, set in narratives of homosocial struggle. And finally, I discuss computers in the 1990s and 2000s that serve in domestic roles, particularly those texts that feature domestic spaces run by female-voiced computers or, literally, house-wives. These texts, *Fortress* (Stuart Gordon, 1992), *Smart House* (LeVar Burton, 1999), and *Eureka* (SyFy, 2006-2012), position computers as replacements for human women who are absent from the home. Additionally, I examine two texts that feature male servants—*Demon Seed* (an anomaly among representations of domestic servitude) and *Iron Man* (Jon Favreau, 2008). I then return to Siri by examining representations of her programming, voice, and body in popular culture. By thus exploring the representations of gendered acousmatic computers within the context of computer history and changing gender norms, I self-reflexively examine how artificial intelligence may be presented in a gendered context, and how this may reflect changing notions of gender in digital culture.

ACKNOWLEDGEMENTS

When I arrived at SIU, I knew very little about cinema, but I had a passion for psychoanalytic theory and the desire to devote my career to watching movies and television. I was automatically paired up with Susan Felleman, who began as my professor, supervisor, and advisor, but quickly became my mentor and, most importantly, my academic mother. Thank you, Sue, for guiding me through the last four years; for inspiring me to care about film theory, even when students don't; for advocating for me when others didn't think I had the ability or background necessary to finish this degree; for giving me harsh feedback when I needed it and a hug when I needed that, too; for working with me on draft after draft and inviting me to read your work as well; and for showing me that feminism is just as important to intellectual work as it is to everyday life. I'm so fortunate to have been your graduate student.

This dissertation also wouldn't have been possible without the help of the other members of my committee. Thanks to Walter Metz, for challenging my ideas every step of the way, constantly reminding me to stand up for my own work, encouraging me to teach to the best of my abilities, and helping me discover the fun side of film studies in our weekly film reviews; to Jay Needham, for insisting that PhDs can make art, too, and for encouraging me to shut off my brain and just make something beautiful; to Michele Leigh, for refusing to listen to me when I said I didn't want to do historical research and for helping me figure out how to battle the snakes at the defense; and to Liz Klaver, for challenging me to explain my ideas in the clearest, broadest way possible and for being a fellow Literature person in the room. To all four of you, I thorough appreciate all your feedback, chats, cooking, and book loans.

And finally, I have to say thank you to my family and friends. First, Sophie Hall, Shaheen Shorish, and Matt Blessing, I probably wouldn't have starved to death without the food you

brought me, but I might have gone a little mad if you hadn't have insisted on visiting me while you were at it. You've been my eternal cheerleaders, and I love you for it. Second, There are two Drs. Faber in my immediate family, my father (the original Dr. Faber), and my brother. Getting a PhD seemed expected, but for a woman to do so in my family is an accomplishment, and my brother and father have cheered me along the whole way and now have welcomed me into their ranks with open arms. And third, an especially big thank you to my mother, who named me after Queen Elizabeth I, one of the most powerful and intelligent women in history. My mother, above anyone else, has been the biggest inspiration to me; she watched *Star Trek* with me when I was young, let me sit in front of the TV all day and night because she saw that it was my main passion in life, kept me going when I wanted to give up on school, and taught me that smart women like us can do anything. Thanks, Mom. I hope I've lived up to my namesake!

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CHAPTER 1

INTRODUCTION: THE VOICE OF ARTIFICIAL INTELLIGENCE

“I’m just a humble virtual assistant.”
(Siri, May 29, 2013)

On October 4, 2011, Apple, Inc. released Siri, an artificially intelligent personal assistant application that can recognize speech and respond with a friendly female voice.¹ Available for use on a variety of Apple devices, Siri blends a natural language system with the digital equivalent of a secretary: a user may ask “her” to search the internet, check the weather, dictate appointments, e-mails, and text messages. In the latest version, the program’s responses have been updated to include conversational phrases, making the interaction with the app significantly more like talking to an actual person. She even seems to have a sense of humor: upon writing this introduction, I told Siri I love her, and she responded, “All you need is love. And your iPhone.”

Although she is arguably the most widely available, Siri is not the only recent voice-interactive program to enter the realm of the popular imagination. In February 2011, IBM demonstrated its breakthrough in artificial intelligence when the Watson computer became the first artificially intelligent contestant on *Jeopardy!*, successfully defeating two reigning champions of the game show, Ken Jennings and Brad Rutter. In May 2013, Google officially released its own version of Siri, Google Now, available on the Android smartphone platform. But these recent advancements in voice-interactive technology are not just the products of innovative computer scientists; they have been directly influenced by fictional technology. IBM

¹ Siri was originally released with iOS 5.0 and included five language settings: American, British, and Australian English; French; and German. In this initial release, the British and French voices were male. Currently, there are nineteen world dialect settings available, only two of which have male voices: British English and French (excluding Canadian French). Thus, since its release, Siri has always been predominately female. Although the range of voice options is an intriguing point of analysis, it is outside the scope of this dissertation, and I will focus primarily on the American English version of Siri’s voice.

scientist and co-creator David Ferucci has compared Watson to the computer featured in the television series *Star Trek*, “where the input can be expressed in human terms and the output is accurate and understandable” (Kroeker 15); Apple’s original 1987 design for a Siri-like program² was based on HAL-9000, the computer in Stanley Kubrick’s 1968 film *2001: A Space Odyssey* (Rosen); and Google Now was originally called Majel, after Majel Barrett, the actress who performed the computer voice in all five *Star Trek* series and eleven films (Langley). Such comparisons between present-day technology and past Science Fiction (hereafter, Sci-Fi) texts are even more apt than computer scientists seem to have intended; not only are Watson, Siri, and Now real-world versions of fictional computers, but each of them also hides the ways in which the computer is implicitly embodied and gendered by its voice. Real and fictional computers alike are generally voiced by a human: the *Star Trek* computer by Majel Barrett; Hal-9000 by Douglas Rain; and Watson by Jeff Woodman. Mysteriously, both Apple and Google have worked hard to hide the vocal origins of Siri and Now respectively, although the British newspaper *The Telegraph* has reported that UK Siri is the voice of “Daniel,” a commonly used digital voice program originally voiced by the human actor Jon Briggs (Warman).

But the question remains: why do these programs even have gendered voices? In particular, why is Siri—the digital equivalent of a secretary—female? And why hide their voices’ corporeal origins? Aside from technological inspiration, how have the underlying ideological gender assumptions in Sci-Fi texts like *2001* and *Star Trek* influenced the creation of such programs? What does the fact of the shift from Sci-Fi representations to scientific innovation reveal about the perpetuation of ideological assumptions about gender roles? How do other representations of computer voices confirm or problematize the gendering of computer

² Apple did not, in fact, invent Siri as she currently exists; she was created by a research team at Siri, Inc. and purchased by Apple, Inc. in 2007. However, as Rosen points out in her *Atlantic* article, “Siri and Her Girls,” Apple had been attempting to design a personal assistant program since the late 1980s.

voices? In this dissertation, I seek to answer these questions by examining the historical, theoretical, and aesthetic trace of the computer voice from *Star Trek* in 1966 to Siri in 2013.

Despite the fact that computer scientists today draw inspiration from Sci-Fi, artificial intelligence research pre-dates the first non-literary Sci-Fi representation of voice-interactive computers, the central computer on the U.S.S. Enterprise in *Star Trek*, which premiered in 1966. In his groundbreaking 1950 article, “Computing Machinery and Intelligence,” Alan Turing asked, “Can machines think?” To answer this, he devised the “imitation game,” now known as the Turing Test: a computer passes the test if an interrogator can’t tell whether it is human or computer, based on typewritten answers. At the time, there was no computer that could pass the test because computers were essentially room-sized calculators, incapable of human-like thinking processes. In 1956, a group of mathematicians and scientists came together at Dartmouth College for the Summer Research Project on Artificial Intelligence. This was not only the first use of the term “artificial intelligence,” it also became the genesis of a new strand of research that continues today. Although the terms “computer” and “artificial intelligence” are often used interchangeably, they have been envisioned by researchers as more akin to “body” and “brain,” respectively. Both cybernetics and AI research attempted to create computers based on human brain processing, but “[i]nstead of modeling brains in computer hardware—the central goal of cybernetics—AI sought to mimic minds in software [...]. They placed the emphasis of formal-mechanical modeling on the side of the formal, the disembodied, the abstract—on the side of the mind rather than that of the brain” (Edwards 239; 240-1). A central problem of AI research, then, has been in determining what intelligence means and how to represent it in a recognizable way, beyond physiological brain functions.

This is a complex problem, because there is a significant difference between *seeming to be* intelligent and actually *being* intelligent. In his 1966 survey of AI research, Donald G. Fink wrote:

Take, for example, the often-quoted definition: “Artificial intelligence: Behavior by a machine that, if exhibited by a human, would be called intelligent.” Without further qualification, this simple and attractive definition can lead to much confusion. If we did not know how the high-fidelity phonograph works we might think it intelligent because it exhibits a highly intelligent form of human behavior, the ability to speak meaningfully. But the phonograph, as we happen to know, merely reproduces the unalterable pattern of speech waveforms embedded in the grooves of its record. It is not designed to make any contribution whatever to the form or the content of its recorded message. Quite to the contrary, it is designed to avoid any such contribution; that is, to be as faithful as possible in reproducing its input data without change. Such rote recitation, however “human” in form, can hardly qualify as intelligence. (213)

Today’s AI programs, such as Siri, do give off the impression of intelligence, as they interact verbally with their users, rather than just reciting stored data. Of course, programs are not humans, they are representations of human intelligence, but recent research into Human-Computer Interactions (HCI) focuses on how and whether people perceive intelligence in computers. In his article, "Anthropomorphism on Trial," Jeffrey Morgan posits that one necessary precondition of effective HCI is anthropomorphism, or projecting human personality traits onto an object-computer. In the case of real-world AI such as Siri, programs are designed according to this principle of anthropomorphism. It is easier to interact with an object if we

ascribe human personality and intelligence traits to it in a way that encourages us to believe—or, at the very least, suspend disbelief—that its object "body" actually projects a voice in the same way that human voices do. Yet, there has been significant debate among researchers in the fields of psychology and computer design as to whether users actually anthropomorphize computers. Clifford Nass and Youngme Moon conducted numerous experiments in the 1990s in which participants performed certain tasks on a computer then answered survey questions about their experience during the test. As a result, Nass and Moon argue in a review of their experiments, “Machines and Mindlessness: Social Responses to Computers,” there is a significant difference between anthropomorphism and mindlessness in HCI. On one hand, they define anthropomorphism as the conscious belief that computers are human or should be treated as such. On the other hand, they draw on the work of psychologist Ellen J. Langer to define mindlessness as occurring:

As a result of conscious attention to a subset of contextual cues [...]. These cues trigger various scripts, labels, and expectations, which in turn focus attention on certain information while diverting attention away from other information. Rather than actively constructing categories and distinctions based on all relevant features of the situation, individuals responding mindlessly prematurely commit to over simplistic scripts drawn in the past. (qtd in Nass and Moon 83)

While Nass and Moon’s research indicates that no one consciously believes that computers are human or human-like, they argue that their experiments do reveal that users engage primarily in mindlessness while interacting with computers, especially in voice-interaction (81; 84).

Recently, however, Youjeong Kim and S. Shyam Sundar have directly opposed Nass and Moon, arguing instead that anthropomorphism *is* mindless by conducting similar experiments in which participants interact with a computer then answer questions about their experience with it. For Kim and Sundar, the results reveal that participants respond mindlessly to anthropomorphic qualities of a computer such as voice and gender (242).

What all these studies ignore, though, is the role of cultural texts such as films and television programs in shaping the very social interactions on which mindless anthropomorphism draws. Even those few studies that do take into account the role of texts in users' memories, the research tends to focus on how to move away from such texts in designing more efficient voice-interactive HCI. For example, Peter Wallis, in discussing his project team's design for the voice-interactive robot SERA, argues that he specifically wanted to avoid "having a disembodied voice for the 'intelligence' as in *2001: A Space Odyssey*, or on the flight deck of the Enterprise in *Star Trek*" (530). Here, Wallis also implicitly reveals the fact that programmers and designers, like users, have been influenced by the representations of HCI in Sci-Fi texts. Sci-Fi has primed viewers—programmers and users alike—to interact with computers in a basic anthropomorphic way. But while many computer programmers have been influenced by Sci-Fi, the reverse is also true. For example, Stanley Kubrick visited IBM several times during his vast research for *2001* (Clarke 78; Stork 19), and both *Colossus: The Forbin Project* (Joseph Sargent, 1970) and *Rollerball* (Norman Jewison, 1975) featured real computers, provided by the Stanford Research Institute and UNIVAC, respectively. A talking version of NORAD (the U.S.'s supercomputer defense system since 1958) figures prominently in Joseph Sargent's 1970 film *Colossus: The Forbin Project*. Thus, the relationship between Sci-Fi and science fact is cyclical: Sci-Fi creators draw on real computers to dream of future computers, while computer programmers and

engineers may get ideas for innovations from Sci-Fi. Still, home computing did not become accessible to most Sci-Fi viewers until the 1980s, and even then, voice-interactive computing was nearly unheard of. Thus, while Sci-Fi has been providing viewers with representations of talking computers since the 1960s, real voice-based computer research has only developed for average consumers in the last twenty years. The role of the computer scientist (rather than a typical computer user) as a Sci-Fi viewer is admittedly more complex; however, I maintain that the development of—as with the use of—real voice-interactive computers is based on the models of HCI represented in fictional texts.

Yet, in Western culture, we tend to associate technological objects with objectivity to the extent that the ideological aspects of technological design and use are rendered invisible. Robert B. Pippin posits in "Technology as a Form of Ideology" that real-world technology tends to create power imbalances between creators and users, while the surveillance and cultural automation that results from ubiquitous technology use is rendered invisible by the very process of ubiquity. In short, technology is not a neutral object; it arises from and within socio-economic structures. While Pippin focuses primarily on a political-economic and Marxist reading of the technology, I posit in addition that social power structures, such as those which maintain gender norms, co-exist with and are part of the political-economic situations of technology. Thus, when David Ferucci claims that the structural and functional design for Watson was inspired by *Star Trek*, what he does not or cannot consciously account for is how the gender politics of the series have also become a source of influence. AI and HCI research, much of which is founded in the theories and methods of cognitivism, does not account for ideological structures that are culturally mapped onto technologies.

As a scientific method, cognitive research examines patterns of individuals' mental processes, "especially perception, memory, mental imagery, and the use of language" (Edwards 178). Conversely, psychoanalysis, as a strand of psychological research, attempts to account for these same mental processes in mental imagery, narratives of memory and relational experiences. In this dissertation, I have chosen to use psychoanalysis as a means of interpreting the expression of human intelligence, as seen in Sci-Fi representations of AI. In film studies, both psychoanalysis and cognitivism do take into account ideological processes, though in different ways, as Noël Carroll points out in his critique of psychoanalytic film theory, "Prospects for Film Theory: A Personal Assessment" (48-9). In choosing psychoanalysis over cognitivism as an interpretive strategy, I in no way intend to posit one as more "correct" or valuable than the other; rather, because computer science research is so grounded in cognitivism, I argue that approaching the foundational problem of AI—how to represent intelligence—may benefit from a different perspective. In short, the same objections that Carroll had to psychoanalysis (i.e. that it was widely considered to be *the* Theory, rather than *a* theory [48]) are the objections I have to AI researchers' use of cognitivism. Because AI researchers don't generally attend to the psychoanalytic ideas that may offer new insights into the relationships among technology, ideology, and representations of intelligence, this study may be seen as a means of adding to, rather than replacing, current theories of artificial intelligence.

Of course, not all AI researchers solely attend to cognitive theories. In his 2006 book *The Emotion Machine*, Marvin Minsky—one of the original Dartmouth conference presenters and an on-set consultant for *2001*—incorporates Freudian principles in his discussion of representations of human knowledge and emotions. Further, the basic terminology of the two psychological models attempt to account for the same phenomena by using different words. "Mindlessness" is

analogous to the “unconscious”: they are both forms of mental processing that a person doesn’t know is occurring in his or her mind. Likewise, both psychoanalysis and AI research attempt to account for cultural narratives and beliefs. Many AI researchers use the term “common sense” to describe knowledge that is not instinctual, but rather must be learned through social interactions and development. While the term “common sense” is quite problematic in cultural studies, because it describes the naturalization of culturally constructed biases, it does, in fact, describe the foundations of ideological structures such as patriarchy. Yet, “common sense” knowledge is a descriptor, a means of explaining *how* ideologies function, rather than *why*. For example, Douglas B. Lenat describes how AI systems may use common sense programming for data processing:

[T]o understand such structured information sources as spreadsheets and data bases, and then use that understanding to detect common-sense errors and inconsistencies in the data. For example, one column of a table might indicate a person’s gender, and another might indicate that of his or her legal spouse. Without having to be specially programmed for the task, [the AI program] would know that there’s probably a mistake in the data if X and X’s spouse have the same gender, if X’s spouse lists a third person as his or her spouse, or if X is listed as X’s spouse. (206)

The fact that this example is now outdated—e.g., in many U.S. states, it would not be a mistake for X and X’s spouse to have the same gender—highlights the ways in which common sense/ideological data cannot account for the existence or ethical implications of that data. On the other hand, psychoanalysis offers an interpretive means of understanding *why* common sense

data such as the use of gender difference to structure power relations exists (e.g. the Oedipal complex).

THEORIES OF THE MEDIATED VOICE

Before delving into an overview of psychoanalytic principles in the interpretation of cinema and television, I'd like to pause for a moment to discuss the use of the voice in AI. As Fink's phonograph example demonstrates, the marker of intelligence is *not* simply speech. Yet, today, the most natural-sounding AI requires that a human being first record a vast number of phonemes to be stored in a database, which the AI program then formulates into full words in order to create the impression of speech, thereby hiding the fact that the human ever recorded those phonemes in the first place. The immediate question raised by the ways in which artificially intelligent computers—real and fictional alike—are designed to hide their human-voice origins is: why? Why bother hiding what we all know to be true? I argue that the answer lies in classical cinema and television history and the ways synchronized sound has conditioned audiences to link voice to image to personality, structuring narrative identification while effacing the workings of the apparatus. The necessity of audio-visual synchronization rests on the basic process of schizophonia, or the separation of sound from its source via a mechanical or digital medium. In other words, when a sound is recorded, the resulting recording (whether formatted in a digital file, a strip of magnetic tape, or even an early wax cylinder) contains schizophonic sound. This sound is no longer that of the original creator; or to put it another way, a voice recorded is no longer the voice of the speaker. Rather, as Barry Truax demonstrates in his “black box” mediation example, the sound wave itself enters the mechanical/digital device and re-emerges as a different sound wave. What we hear in playback is a mechanically or digitally

manipulated sound, resulting from the mediated distortion of the sound wave itself (Truax 8-9). The nature of this mediation raises a number of critical issues involving sound fidelity and the presentation of sound for consumers. Because mediated sound is always already manipulated, no true fidelity is possible; but if it were, the medium itself would become transparent (9). Thus, the goal of commercial audio(-visual) media is, significantly, the effacement of the medium. As Rick Altman aptly points out in his discussion of pre-cinematic sound recording:

Recordings do not reproduce sound, they represent sound. According to the choice of recording location, microphone type, recording system, postproduction manipulation, storage medium, playback arrangement, and playback locations, each recording proposes an interpretation of the original sound. To be sure, one of the common strategies involved in this process is an attempt to convince the audience that they are listening not to a representation but to a reproduction. (40)

Paradoxically, schizophonic recording works to hide its nature; listeners are “tricked” into ignoring the medium and focusing rather on the perceived—but false—link between a sound and its origin.

In addition to the technical manipulation of the sound and the resulting aural fidelity, playback brings into question the entire contextual fidelity of the audio message: “When context is ignored, most of the communicational subtlety of a message is lost” (Truax 120). Thus, for example, even in the most basic, unmanipulated voice recordings, separating the sound from the person diminishes interpretive layers of meaning that can be provided by experiencing first-hand the environmental and emotional conditions under which a person speaks into a microphone. To be brief, then, true fidelity does not exist.

Yet, even if a sound recording can never truly reproduce the original sound, there is still an indexical link between the two that is comparable to that of visual indexicality in photography and film. In this sense, Truax's "black box" example is particularly illustrative of the relationship between audio and visual media. When sound waves enter the black box, they are imprinted onto a wax cylinder, vinyl disc, or piece of magnetic tape; in playback, the sound waves projected into the air both are (sound like) and are not (exist as separate entities from) the original sound. In terms of the recorded voice, the qualities of the original speaker's voice—pitch, tone, intonation, breath—all point back to the body from which they emanated. Similarly, when light waves enter a camera (typically a literal black box), they are imprinted onto a celluloid film strip or a magnetic tape strip; in playback, the light waves projected through the air onto a screen both are (look like) and are not (exist as separate entities from) the original photographed object. An actor's image on a screen points back to his bodily presence in front of the camera. In digital media, the literally indexical imprint of the film strip or magnetic tape is lost, and yet the perceived link between recorded object and projected image/sound is re-staged. The similarities between fidelity and indexicality also render sound recording more akin to cinema than photography, because the reprojected sound moves through time and space, just as the reprojected series of still images in cinema move through time and space. To be brief, the schizophonic nature of sound recording is parallel to what I might clunkily call the schizocinematic nature of moving image recording.

As I have already mentioned, the context of sound playback is also separated from the context of sound recording, thereby changing the meaning of the recorded sound. For example, listening to a person speaking into a microphone from a recording booth carries a different contextual meaning than a recording of that person speaking, heard through a home stereo

system, because the listener's spatial and relational position has changed. The recording of images similarly changes the context of the captured object through framing and viewing contexts. The addition of a narrative sequence produces an even more radical split between recording and playback. Watching and listening to an actor speak on a constructed set, with cameras and microphones in full view, generally carries a very different set of meanings than watching and listening to that same actor speak within a narrative context in a film. Michel Chion argues that a vital task of synchronized-sound narrative cinema (to which I also add synch-sound narrative television) is to project a sound onto an image in a way that naturalizes not only the fidelity/indexicality of the sound/image but also the relationship between the two. In other words, schizophonic sound tracks must be perceived simultaneously with the schizocinematic image track in order to create the illusion of sound originating within the image (*Audio-Vision* 68). Importantly, the advent of optical soundtracks in cinema allowed for the imprint of both sound and image side-by-side on a single medium, reinforcing the link between a cinematically captured object and the sound it produced pro-cinematically. Yet, I maintain, the link between image and sound is still an illusion, just as the naturalization of the relationship between pro-filmic object and projected image is an illusion. The most important manifestation of this illusion is constructed when a voice matches an image of a person's lips moving, creating the sense that a person is speaking within the diegetic space of the cinematic frame, or what Chion refers to as "visualized listening" (*Voice* 18). Audiences try, as with any sound, to locate the origins of film sounds by matching what is heard to an appropriate visual origin. Cinema tends to play on this desire to see what is heard through editing, creating tension when an unseen character speaks, then the image cuts to a shot of the speaker, thereby fulfilling the audience's desire to see. Only when synchronization thus "confirms" the relationship between voice and

image can the spectator remain sutured into the narrative. Or, as Mary Ann Doane puts it, “Concomitant with the demand for a life-like representation is the desire for ‘presence,’ a concept which is not specific to the cinematic soundtrack but which acts as a standard to measure quality in the sound recording industry as a whole” (35). Thus, sound fidelity and narrative/imagistic realism combine in cinema and television to produce a sense of “here and now,” which masks the trace of the sound and image apparatus(es).

The voice itself is one major aspect of defining spatial relationships within the diegetic frame, not just in terms of sound qualities (reverberation, volume level, etc.) but also in the tension between what is seen and what is heard. Chion understands this tension through his—quite problematic, though nevertheless instructive—onscreen-offscreen-nondiegetic model. For him, onscreen voice is that which accompanies a character’s image presented on the screen; offscreen voice (i.e. voice-off) is that which is heard while the associated character is not literally on the screen; and nondiegetic voice (i.e. voice-over) is that of a character who does not appear on the screen, e.g. some instances of omniscient voice-over narration (*Audio-Vision* 73-4). Yet, this schema simultaneously perpetuates a cultural privileging of image over sound; even prior to Chion’s defining these terms in 1985, Christian Metz—writing in 1980 about the cinema industry’s use of the term “voice-off”—pointed out the fact that sound is never *off* the screen. Sound is not bound to a screen: it is either “audible, or it doesn’t exist,” while only the image may be said to be offscreen (29). To describe sound in imagistic terms not only blurs the ways voices can be spatialized even without a visual spatial field, but it also masks the very process of the synch-sound apparatus, allowing audiences to “forget” the falseness of fidelity/indexicality.

While a number of critics have also, as Chion points out, objected to his three terms based on textual exceptions (*Audio-Vision* 74), several theorists have posited alternative modes

of conceptualizing screen/sound space by examining cinema's—and cinema criticism's—privileging of image over sound. Chion himself, as his theories on sound evolved, shifted his attention to vococentrism and the hierarchies of sound through which the voice, privileged over all other forms of sound, structures the aural space of a film (*Voice 5*). Arnt Maasø, in his discussion of schizophonia and proxemics, implicitly complicates Chion's terms by setting forth three different modes of sound-space analysis that all depend on the relationship between diegesis and the apparatus. The first mode, “vocal distance,” refers to the way a person/character takes into account the visual distance of the listener from herself, as with the difference between a whisper and a shout; the second, “intended earshot,” accounts for the technological method of achieving the volume necessary to express vocal distance; and “microphone perspective” incorporates all other technological methods of creating the illusion of diegetic space, including microphone placement and post-production techniques (41). While Maasø's terms are a valuable means of critically describing spatialized cinema/television sound, his analysis fails to take into account why, from an ideological perspective, certain tropes of proxemics exist. Similarly, Doane has argued that cinema sound can only be understood if we couch it in terms of proxemics, though she considers the viewing space, rather than the production space, as Maasø has. For her, the three important spaces are: diegetic space, screen space, and the acoustical space of the theater (39). Thus, Chion, Maasø, and Doane each provide a different model for understanding cinema sound from a textual, production, and viewing perspective, respectively. Throughout this dissertation, I will use a combination of all three models in order to account for all aspects of the construction of voiced characters.

THE ACOUSMATIC COMPUTER VOICE

Paradoxically, while cinema and television tend to privilege image over sound, from a textual perspective, characters who exist solely as imageless voices tend to hold more power within the narrative than those whose voice and image are synchronized within the diegetic realm. Chion defines these characters as functions of acousmètre, or situations in which a character is “neither inside nor outside the image,” neither seen in the frame nor waiting off-screen in a diegetic space. Within the diegesis, the acousmatic character tends to be omniscient and omnipresent, acting as a god-like figure (*Audio-Vision* 129-30). For example, many of the acousmatic characters in *THX 1138* (George Lucas, 1971) “see” and describe actions which neither the camera nor the embodied characters see; rather, they represent constant surveillance and bodily power over the embodied, watched characters. The fact that, as I mentioned above, spectators have been conditioned through Hollywood’s near-ubiquitous continuity-style editing to see what is heard positions acousmatic voices as sources of tension. When the spectator is denied sight, the desire to match voice to image is perpetually unfulfilled. Further, the acousmatic voice constantly threatens to reveal the very process of schizophonia, which narrative cinema must hide in order to maintain the illusion of continuity (Doane 40-1). Such near-reveals also create anxiety, as the ability to “lose oneself” in a narrative is threatened by a revelation of the apparatus. Importantly, there are subtle differences between truly acousmatic characters and documentary-style narrators: while the latter may be presumed to be always already disembodied, perpetually existing outside the diegetic space of the film, the former may, at any moment, become embodied (42). This anticipation of embodiment is what drives the tension of the acousmètre: the spectator constantly waits to see.

In Sci-Fi film and television, the computer voice is a particularly problematic form of acousmètre. On one hand, the computer's voice is a prime example of the schizophonic voice, separated from its origin (a voice-actor) and projected onto the image of a computer object. In this sense, the voice is always already disembodied, unlocalizable within a human body. On the other hand, artificial intelligence may be said to embody the computer (inasmuch as a human consciousness embodies the human form) from which its voice seems to emanate. For example, HAL-9000 embodies the *Discovery-1* and the *Star Trek* computer embodies the *Enterprise*. Human characters interact with the bodies of the computers, and yet, the computer can hear, see, and respond to human characters from a position of omniscience and omnipresence. In other words, the computers are *both* embodied and disembodied. Furthermore, the acousmatic computer voice heightens the anxiety of the acousmètre because it denies confirmation of synchronization. If there is no mouth from which the voice appears to emanate, the viewer can never confirm that the computer's voice is really that of its body. The television series *Firefly* plays on this anxiety in the episode "Objects in Space" (Fox, Dec. 13, 2012) when the genetically enhanced character River Tam announces in voice-over to the crew of the *Serenity* spaceship that she has melded with the ship. Throughout the scene, the viewer never sees River's body; rather, the camera focuses on the other characters' reactions and the speaker system in the ship. Through this editing and framing, the viewer identifies with the visualized characters' reactions, while River's human body is implicitly associated with the body of the ship, and River's mouth is implicitly associated with the speakers. The viewer, despite knowing rationally that a person cannot meld with a spaceship, believes this to be true, since there is no synchronization test to prove otherwise and the cinema has conditioned spectators to read shot/reverse-shots as occurring between two speaking characters.

The *Firefly* episode also provides an important example of how the acousmètre's threat to reveal the apparatus may be absorbed into the tension of the narrative. In fact, in the case of the Sci-Fi acousmatic computer voice, the incorporation of the computer within the narrative frame is always an attempt to displace tension from that of the revelation of the apparatus to that of the diegetic space. One significant way in which this diversion occurs is through the gendering of the computer's "body" by means of its gendered voice. As I will argue in this dissertation, by situating the tension of the schizophonic/acousmatic process within the tension of—or, importantly, lack thereof, as in the case of several comedies—the narrative, the computer is inscribed with pre-established cultural gender roles based on an active-male/passive-female dichotomy.

PSYCHOANALYSIS AND THE PHANTASY OF SCI-FI

The textual and technical means by which narrative media tends to hide its own creation cannot fully account for why cinematic strategies such as continuity editing and the displacement of tension from the apparatus to the diegesis are so effective. Psychoanalytic film theory provides some ways of filling in this gap; from a psychoanalytic perspective, the absorption of the threatening acousmètre into the narrative works to maintain what Jean-Louis Baudry has described as the regressive properties of cinema as they relate to the unconscious processes of phantasies in dreams. Drawing on the theories of dreaming outlined by Sigmund Freud and Bertram Lewin, Baudry argues in "The Apparatus" that the process of identification with cinematic characters on the screen mimics the hallucinatory nature of the experience of phantasy/dreams; in fact, for Baudry, the entire creation of the cinema space serves as a culturally unconscious attempt to recreate the dream-state. Importantly, Christian Metz argues in

The Imaginary Signifier that cinema is *not* the same as dreaming: “The dreamer does not know that he is dreaming; the film spectator knows that he is at the cinema [...]” (101).³ Yet, both Metz and Baudry maintain that the psychological process of spectatorship is similar to that of dreaming.

One significant difference between Metz’s argument and Baudry’s is that Baudry draws more heavily on Freud’s theories of the Oedipus Complex, while Metz uses Jacques Lacan’s theory of the Mirror Stage. In *An Outline of Psycho-Analysis*, Freud defines the Oedipus Complex (derived from the story of Oedipus Rex, who kills his father and marries his mother, then gouges out his own eyes when he realizes what he’s done) as the situation in which a young boy desires his mother sexually and wants to take his father’s place (69-75). However, in “Three Essays on the Theory of Sexuality,” Freud also argues that a boy experiences the Oedipal trauma when he discovers that his mother does not have a penis. Here, the young boy sees his mother’s genital, perceives it as a wound where a penis should be, and assumes that she has been castrated by his father. Because he desires his mother, who has been castrated, the boy fears that his father will do the same to him, thus bringing the child into the realm of taboos (here, the incest taboo), regulated by the father. In normal cases, the boy works through the trauma by transferring the desire for his mother/object onto another object (for Freud, the heterosexual object of desire, or a girl). The object is then psychically incorporated into the boy’s ego as a means of achieving a sense of cathexis (Freud 271). The pre-Oedipal state, then, is a time of sexual undifferentiation when the subject/child understands himself as one with his mother. Thus, Baudry argues, it is this state to which both the dreamer and the film spectator attempt to return through the phantasy site of the cinema/dream.

³ This distinction between cinema and dreaming is also important in understanding the convergence of film, television, and other forms of media today. I will return to this point momentarily.

Jacques Lacan, in simultaneously building upon and revising Freud's theories, argues that the Oedipal Stage begins between the subject and himself in the "Mirror Stage," rather than necessarily between the subject and his mother in the Oedipal Stage. During the Mirror Stage, the child is placed before a mirror. On one hand, he recognizes his own reflection and understands that he is separate from his mother, thus allowing him to develop his ego/I in opposition to the Other. The child thus enters the Symbolic Order, through which language is structured as oppositional. On the other hand, he simultaneously misrecognizes his own reflection as an ideal/Imago form, thus establishing an ego-ideal. This ego-ideal allows the child to maintain a link to the Imaginary Order, through which the primal site of unity with the mother may be experienced via phantasy. For Metz, the cinema screen works similarly to that of the mirror because the characters projected on the screen, like the image in the mirror, both are and are not present. The non-presence of the characters—they are, after all, nothing more than projections of light and sound—mimics the link to the Imaginary Order and an attempt at regressing to the primordial state of unity with the mother (43-5).⁴

The Oedipal Complex and the Mirror Stage have been the two major modes of understanding the cinema psychoanalytically, because both theories are heavily invested in the notions of identification and desire. Both the Oedipal and Mirror Stages deal intimately with the production of phantasy, particularly in terms of working through object loss. For film theorists, then, the cinema tends to function as either a site of phantasy cathexis or a mode of covering over object loss (or both). Because Sci-Fi, as a genre, is so heavily invested in representing fantasies/phantasies about the past and future, psychoanalysis is a particularly apt method of interpretation here. One explicit goal of Sci-Fi is to envision future technologies that

⁴ It is important to note that the arguments of Freud, Lacan, Baudry, and Metz are significantly more complex than I have presented here. I will return to these arguments throughout this dissertation in order to explore the full subtleties of their relationships to Sci-Fi and the acousmatic voice.

scientist/spectators may then create in reality (Vos Post and Kroeker 37). Simultaneously, however, these envisioned technologies are always limited by the historical reality of their moment of conception (Andersen 75). This, for example, is why the acousmatic computer of *Star Trek* in the 1960s is physically clunkier and incorporates reel-to-reel tape processing as opposed to the sleek, digital computer of the 1990s spin-off, *Star Trek: The Next Generation*. 1960s media makers modeled their future on the present of the '60s, while those in the 1990s modeled the future on the '90s. This tension between present and future works much like the presence/absence of the Mirror: the acousmatic computer on the screen is simultaneously today's familiar technology and is not that technology. Yet, the acousmatic computer is typically not the lead character with whom the spectator is meant to identify; rather, it adds to the *mise-en-scène* of the mirror and metonymically, in Lacan's terms, displaces the lost object/mother, though not necessarily fetishistically.

Yet, this displacement does not account for the varied genders of acousmatic computers in Sci-Fi. In order to understand not only why Sci-Fi provides a phantasy scene of acousmatic computers but also how that scene plays out within an ideological framework, it is important to examine the relationship between ideology and psychoanalytic processes. Feminist film critics have utilized psychoanalysis as a means of explaining and deconstructing often disturbingly sexist patterns of representations of women in Classical Hollywood cinema as well as the pleasure that may be derived from the cinematic experience. Laura Mulvey argues in "Visual Pleasure and Narrative Cinema" that Classical Hollywood cinema, as representative of and created within patriarchy, tends to function as a phantasy site for the working through of the male spectator's castration anxiety. The mother is the primary site of this anxiety, as the boy child recognizes sexual difference for the first time and develops castration anxiety. In cinema, a

woman may come to represent and remind the spectator of his castration anxiety, and therefore, she must either be fetishized to cover over the site of the phallic wound or punished and saved by a male hero in order to reassert the ability of men to dominate the castrated woman. In this way, both the gaze of the cinema and the narrative trajectory of Classical Hollywood function as phantasies of the male ego that serve to re-repress the trauma of castration. Similarly, for E. Ann Kaplan in “Motherhood and Representation,” Freudian psychoanalysis—especially pop-psychology stemming from Freud’s work—tends to omit the role of the mother. Kaplan traces a shift during World War II from a cinematic “cultural mother” to a “phallic mother.” The former, she argues, was a domineering mother, aligned more closely with the archaic mother, while the latter was a castrating mother who threatened to take phallic power from male heroes. Like the good/bad woman dichotomy, then, she argues that a good/bad mother figure arises in Hollywood after WWII. One part of her argument in particular is vital to an understanding of fantasy cinema, especially Sci-Fi. She argues that, in postmodern cinema, women’s bodies are being replaced by technological reproduction and mothering, and she wonders what will happen to psychoanalytic processes related to the primal mother when technology takes the role of the human mother, a point to which I will return in the following chapters.

Barbara Creed, in *The Monstrous-Feminine*, and Deborah Linderman, in “Cinematic Abreaction,” among many others, use psychoanalytic theory to argue that aspects of the Horror genre work precisely because Horror tends to play on our unconscious desires and anxieties. The theory of repression leads well into a discussion of the return of the repressed in Horror. Repressed anxieties about the role of women in the Castration Complex are magnified in Horror films, as female characters tend to represent the repressed archaic mother or the repressed primal object (Linderman 78). Furthermore, Creed adds to the general psychical process of cinema—as

outlined by Baudry, Metz, and Mulvey—an awareness of the uncanny in cinema, particularly the Horror genre. The uncanny, according to Freud, is something that is both familiar and strange, seen and hidden, and related to or a reminder of death. For Creed, the uncanny in Horror films tends to stem from a representation of the archaic mother, the primal scene, or the dichotomous good/bad woman (50-54). However, horror is only one form of the fantasy genre. The genre also includes Sci-Fi, traditional Fantasy, and any combination of the three. Sci-Fi, while difficult to actually classify because of its wide range of conventions, tends to address the relationship between humans and their capacity for/the limitations of scientific reasoning. Psychoanalysis thus provides a structuring metaphor for unpacking the ideological themes of Sci-Fi. In other words, the genre can be understood as a phantasy working-through of the reality we construct around us, set in futures that have not arrived but based on a present in which we live. Further, as I will explore in the following chapters, the acousmatic computer voice in Sci-Fi tends to function similarly to the way women do in Horror films: the acousmatic computer is uncannily embodied/disembodied, seen/unseen and it is a reminder of the repressed trauma of the lost object.

GENDERED (DIS-)EMBODIMENT

To date, popular queries about the gender of computer voices remain the only written attention to this issue. Scholars investigating the relationship between computers and gender have tended to focus primarily on humanoid bodies such as androids and cyborgs. Donna Haraway has been the forerunner of such scholarship through her iconic article, "The Cyborg Manifesto." For her, the cyborg, as a seemingly-cohesive, yet actually hybridized and unstable entity, functions as a parallel to female identity as it has been constructed in Western civilization.

While Haraway's analysis focuses much more on actual technology and socio-economic structures, other scholars have examined the gender of cyborgs from a textual perspective. Jenny Wolmark, in *Aliens and Others: Science Fiction, Feminism and Postmodernism*, expands upon Haraway's work by examining the role of female cyborgs as exoticized Others. Meanwhile, Anne Cranny-Francis argues in "The Erotics of the (cy)Borg" that male and female cyborg sexualities are constructed differently, particularly in the Borg characters featured on *Star Trek: The Next Generation* and *Star Trek: Voyager*. Despina Kakoudaki likewise examines the hypersexualization of female cyborgs in Sci-Fi texts in her article, "Pinup and Cyborg: Exaggerated Gender and Artificial Intelligence." Such feminist examinations are a vital part of the larger feminist theoretical discourse of the last twenty years, particularly in regards to the treatment of the female body in Sci-Fi. Yet, unlike the cyborg, the acousmatic computer voice has no recognizable human body. It is paradoxically an object and a disembodied voice, and in turn a gendered voice projected onto a non-gendered object. Thus, while feminist Sci-Fi scholars have focused primarily on the physical body—whether human, cyborg, or otherwise humanoid—I argue that the (dis-)embodied voice of the computer in Sci-Fi, as it implies and projects gender onto the computer character, must be explored in order to understand not only how technology functions within our bodies but also how it functions as a separate, gendering-voice/gendered-body.

Scholars who do attend to the relationship between voice and gender in cinema/television also tend to ignore the acousmatic computer voice. While Chion devotes a sub-section of one chapter in *Film, A Sound Art* to how the computer voice in cinema masks the presence of a body, he entirely omits any consideration of how this process paradoxically hides the gendered body of the voice's origin while inviting the audience to project gender onto the body of the computer

within the image. Simultaneously, while Kaja Silverman does attend to the relationship between gender and voice in *The Acoustic Mirror*, she does not attend to non-human bodies. Yet, her argument that the female body tends to be silenced in Hollywood cinema is still pertinent to how acousmatic computer voices function. If both male and female computers are paradoxically embodied/disembodied, there should be no gender divide because the physical markers of human gender—genitalia, physique, etc.—are absent. Yet, as I will argue, the treatment of female- and male-gendered computers tends to express cultural beliefs and/or anxieties about lived, gendered subjectivity and culturally constructed gender roles.

Rebecca Rosen notices this trend in her article for *Atlantic* magazine online, specifically devoted to the female-gendered Siri, that, "The rough rule seems to be that corporeal inventions are male—particularly if they are killing someone, whether on screen or in the military—while the non-corporeal are female (although there are plenty of exceptions, notably, Rosie, the Jetson's maid, who, it bears repeating, is a maid)." Interestingly, while Rosen accurately identifies one major gender divide in artificial intelligence design, and specifically links that divide to Sci-Fi precursors, she—like the scholars who discuss similar matters of gender and the AI body—fails to address the fact that Siri and her on-screen predecessors have bodies, albeit object-bodies. However, she also adds to the notion of anthropomorphism in HCI by positing that one reason for the choice of a female computer voice may have to do with "likability" and trust. In fact, Apple's 1987 design for a personal assistant program included an avatar of a male scientist, created to help users build trust in the computer. The shift to an imageless female voice indicates not only that users have come to trust computers to effectively do their tasks, since a male authority-guide is no longer necessary or desirable, but also that, as market research has shown,

the female voice is perceived by users to be more personable and likeable, though less authoritative.

Yet, people haven't always preferred the disembodied female voice. In the early days of radio, the presence of women on the air created quite a stir. A debate among (all male) station managers began in *Radio Broadcast* magazine in September 1924 about the proper role of women in broadcasting.

Though two of the managers dismissed the idea, citing the many women on radio and improvements in the reproduction of higher-pitched sound, most agreed that women announcers and lecturers—though not performers, singers, or household advice columnists—suffered from a variety of handicaps. “Few women have voices with distinct personality. It is my opinion that women depend on everything else but the voice for their appeal,” stated W.W. Rogers of the Westinghouse company and KDKA. Corley W. Kirbett, director of station WWJ Detroit, opined bluntly, “I do not believe that women are fitted for radio announcers. They need body to their voices.... When women announcers try to be congenial in their announcements, they become affected; and when they attempt to be business like they are stiff.” J. M. Barnett, manager of station WOR, concluded, “For certain types of radio work I consider that a woman’s voice is very essential; but for announcing, a well modulated male voice is the most pleasing to listen to,” because women’s voices tend to be “monotonous.” Or again, according to M.A. Rigg of WGR in Buffalo, “There are many reasons why, to my mind, it seems advisable to use a man as an announcer, especially during the heavier part of the work.” (Hilmes 142)

This debate demonstrates that perceived gendered roles (i.e. “women’s work” vs. “men’s work”) tend to dictate preferences in the gender of disembodied speakers, rather than any innate cultural preference. It is ironic, then, that Siri’s disembodied voice should be considered preferable, despite the fact that there is no perceived body behind her personality. Rather, gender norms and roles are in a constant state of flux, and, I argue, the history of Sci-Fi representations of AI demonstrates these changes over time.

It is important to note that, while those critics who discuss the body/computer relationship focus primarily on Sci-Fi representations of gender, the acousmatic computer voice has been represented in other genres as well. In fact, even though talking computers seem to be particularly suited to a general Sci-Fi realm by virtue of the fact that, until recently, the powerful supercomputers in Sci-Fi were, quite literally, fictional scientific inventions, the phantasy of the voice-interactive computer has nevertheless occasionally been incorporated into other generic forms. For example, the classic Hollywood screwball comedy *Desk Set* (Walter Lang, 1957), which features a non-vocal supercomputer named EMERAC, predates *Star Trek* by nearly a decade, but is notable because it is the first *non*-Sci-Fi representation of a powerful non-humanoid computer in cinema. The car-computer in the action-adventure crime series *Knight Rider* (NBC, 1982-1986) functions in a similar way to that of the spaceship computer in classic Sci-Fi texts such as *Star Trek* and *2001*. Evidently, then, a talking computer is not necessarily a genre-specific convention, though I have still narrowed this study to only those texts that may be considered, in a broad sense, to be Sci-Fi. As Vivian Sobchack notes in *Screening Space*, "The science fiction film is a film genre which emphasizes actual, extrapolative, or speculative science and the empirical method, interacting in a social context with a lesser emphasized, but still present, transcendentalism of magic and religion, in an attempt to reconcile man with the

unknown" (63). In other words, while voice-interactive computers as a specific convention may exist among many genres, the treatment of the computer within a narrative about man's struggle with the unknown is the basis of my textual choices.

There are also numerous Sci-Fi examples of acousmatic computers that I will not cover in this dissertation because they are redundant examples of texts that predate them (for example, *War Games* [John Badham, 1983], though an important Sci-Fi film, incorporates the vocal and war elements of *Colossus: The Forbin Project* [Joseph Sargent, 1970] as well as some of the visual elements of TRON [Steven Lisberger, 1982]). Further, while there are many excellent television series featuring acousmatic computers, I have chosen only those series that either feature the computer over a span of episodes and thus allow for character development or that represent significant moments in the history of Sci-Fi. I will also not attend to animation, because the voices in animated film and television are always already disembodied, while live action presents AI embodied in physical, indexical objects.

It is also important to note that Sobchack applies her definition solely to Sci-Fi *cinema*. Thus far, I have conflated cinema and television sound practices, history, and aesthetics, although they are, to some extent, separate. The physical situation of the cinema theater is very different from that of the home television experience, most importantly in the level of control the viewer has over his/her environment. As I have discussed, the theater encourages cathexis; the television may not, depending on the viewing situation. Further, there are significant textual differences between cinema and television; while a film is, in ideal situations, a single uninterrupted text, television has what Raymond Williams describes as "the central television experience: the fact of flow" (96). This flow spans all of TV programming, including individual shows, commercial interruptions, and all other insertions of advertising. Historically, the flow of

television and the cohesion of the cinematic text have been the dominant criteria for separating the media; yet outside the viewing experience, there are significant aesthetic differences as well, such as television's heavier use of the close-up versus cinema's ability to capture wide and even panoramic shots.

Cinema and television sound have also historically been understood as entirely different from one another. Cinema sound began as monophonic with one speaker per theater, typically located behind the screen; such monophonic sound seems to emanate from the screen itself, though, as Doane points out, the left-right dimension of sound may be implied through movement of the synchronized image, rather than actually demonstrated by the movement of sound among multiple speakers (37). Although in the 1950s, stereo sound and experimentation with speaker placement in a theater were relatively common (Belton 155-6), such advances in sound did not enter wide use until the Dolby digital revolution of the 1970s and 1980s. By the 1990s, movie theaters were almost exclusively equipped with surround sound speakers, and most major Hollywood film soundtracks have since been created to accommodate them. Aesthetically, stereo and surround sound have, to a certain extent, changed the aesthetic practices of filmmaking since the mid-1980s, allowing for a wider range of sound mixing beyond the traditional prominence of dialogue within the soundtrack (Beck 68; 73).⁵ Vivian Sobchack, in examining Dolby's spectacle-laden theatrical promotions for the new technology in the 1980s and early 1990s, argues that stereo and surround sound mimics the full acoustic possibilities of a spatialized cinema, and yet, because the movement of sound around the theater is so crisp—

⁵ Beck also notes that Walter Murch's experiments with sound design have led to significant changes in auteur theory, as the sound designer has become a sound author on the same plane of importance as the director/visual author (76). However, I argue that this perceived separation of the creation of sound and image does not necessarily change the traditional synchronized relationship between sound and image because many of the same pre-stereo narrative practices that lead to the gendering of computer-objects continue to be used in stereo and surround cinema as well as television soundtracks.

necessarily so, as the promotions are meant to demonstrate the spatial possibilities of sound—the trailers highlight a tension between the actuality of theater sound and the possibility of fully submersive sound (“When the Ear Dreams,” 13). In short, as the simultaneous histories of cinema sound technology and theory reveal, there has been a shift over time from sound located behind/within the image to sound which, though it has the possibility to be freed from the image, nevertheless significantly works to create an acoustic environment that matches the environment represented on the screen.

While television, like pre-1950s cinema, has historically been a monophonic medium offering only one channel of sound emanating from somewhere on the physical television box, the televisual relationship between sound and image has traditionally been the inverse of cinema. While early silent cinema was image-plus-live-sound, early television was conceived of and invented as visual radio, and, in fact, the early television networks of the 1940s—NBC was the forerunner—had already established themselves as radio networks twenty years previously (MacDonald 6; 25-6). Aesthetically, television programs have also adhered to a notion of visualized sound, particularly owing to the fact that early broadcasts were, indeed, frequently simulcast on the radio until the mid-1950s (Keith 17). As Chion posits, television aesthetics rely significantly more on sound than image, as, for example, in the historical staple of television broadcasting—news programs. In any given news broadcast, a voice-over narrates the story, much as in radio broadcasts, while the B-roll type of imagery presented is of a particular object related to the story, thereby illustrating, rather than embodying, the story itself (*Audio-Vision* 158). Commercial breaks also add to this televisual flow, to return to Raymond Williams’s term, privileging sound over image, and freeing the audience to wander away from the television set while still receiving information audibly.

In 1984, the FCC approved stereo television broadcast, and since then, nearly all televisions produced for use in the United States have been equipped with stereo speakers (Federal Communications Commission 4). This technological shift coincided with a significant shift in television aesthetics toward a more cinematic technique. Shows such as *Miami Vice* and *Hill Street Blues* began to draw on the handheld camera immediacy of *cinema verité* and the image therefore became more cinematically tied to the sound than the traditional illustrative role of televisual imagery (Butler 63; 97).

Thus, the differences between cinema and television have been disappearing since the 1980s, not only aesthetically and phonically but also due in large part to the widespread availability of VCRs: “Through the 1980s, household ownership of VCRs grew from 1 percent to 68 percent, a pace matched by the wireless remote. The VCR allowed viewers to turn off television entirely while they played Hollywood movies on their sets” (Thompson 37). Today, the lines between television and cinema are even more unclear with the availability of widescreen HD TVs, which mimic the cinema screen, and the general convergence of media platforms; the availability of DVD/blu-ray box sets, internet streaming sites such as Netflix and Amazon, and mobile technology not only allows for wider availability of media but also changes the nature of a typical viewing situation. Because television series are now available outside of the broadcast situation, the flow of TV has given way to cohesive texts, albeit still broken into individual, serialized episodes. From an aesthetic perspective, television sound—particularly sound in narrative programs that do not use laugh tracks—is strikingly similar to that of cinema sound, although more clearly stylized sound designs are used in long-running television series than in single films (Théberge 62). Further, the ideal viewing situation that film studies tends to posit—focusing solely on the context of the text itself, rather than accounting for viewing

practices—is no longer feasible. In fact, a whole range of viewing situations are possible: movies may be seen in a theater, on a television at home, or on a mobile device from any location, while episodes of TV series may be seen individually or back-to-back as though an entire season is one long movie. As a result, TV series may be more clearly analyzed using the methods of traditional film criticism, from a cohesive-textual, rather than textual-flow, perspective. From a psychoanalytic perspective, although Baudry’s and Metz’s models of a dream-like cinema—sitting still in a dark room, staring at a screen—may no longer apply, the aesthetic practices of narrative texts still encourage spectators to engage in a regressive process by suturing the spectator into the narrative diegesis. The aesthetic convergence of film and television thus, I argue, allows for a broader understanding of the psychological process of viewing across multiple platforms. Further, as Henry Jenkins argues in *Convergence Culture*, “convergence represents a cultural shift as consumers are encouraged to seek out new information and make connections among dispersed media content” (3). The multi-platform availability of Sci-Fi thus allows viewers to draw clearer connections between represented HCI and real HCI; for example, a viewer may watch an episode of *Star Trek* on her iPhone 4S, and at any point during viewing, interact with Siri in the same way that Captain Kirk interacts with the spaceship computer in the text. Thus, such convergence, I argue, allows for a new understanding of how Sci-Fi texts serve as models for real HCI.

In this dissertation, then, I will examine the inscription and materialization of gendered artificial intelligence in a number of Sci-Fi texts, both cinematic and televisual. As I have mentioned, most scholarship on the acousmatic voice pertains to representational modes (cinema in particular); meanwhile, discourse on fictional technology in relationship to real-world technology has focused primarily on humanoid cyborgs, rather than object-computers. Yet, the

acousmatic character has bled over into real-world technology in ways that work to hide the presence of ideological structures and the apparatus in both cinema/television and technology. In other words, while cyborg technology and issues of the human body are important, we deal every day with non-human technological “bodies” such as smart phones and tablets. By providing a voice to these bodies, we also provide human-like characteristics. The acousmatic voice has conditioned us through representations to efface the medium/apparatus and—what others have failed to point out—the ideological underpinnings of such an effacement. The effacement of the apparatus works in exactly the same way as the effacement of ideological power structures. By returning to the origins of the real-world technology—representations of acousmatic computers—we can begin to deconstruct the means by which technology may perpetuate or complicate ideological structures such as patriarchy. In short, this dissertation adds to the field of Sci-Fi studies a new and culturally vital perspective on the relationships among textual computers, real computers, and spectators/users.

In the following chapters, I will attend to the textual problem of location in Sci-Fi by dividing the analyses into two categories: extra-terrestrial (Chapters 2 and 3) and terrestrial (Chapters 4, 5, and 6). This division is important in understanding the roles of voice-interactive computers, as spaceships provide a uniquely different environment than terrestrial structures such as houses, office buildings, or prisons. Further, spaceships always already imply a womb-like habitat, a mothership that controls and maintains all aspects of the life forms within it; terrestrial computers, on the other hand, tend to connote varying gendered subjectivities and anxieties within historical contexts of technological innovation and cultural change. In Chapters 2 and 3, I will examine representations of acousmatic spaceship computers. Chapter 2, “Amniotic Space, Part I: Textual Origins and the Primal Scene,” explores the relationship

between and the impact of two foundational texts: *Star Trek* (Paramount, 1966-1969) and *2001* (Stanley Kubrick, 1968). In Chapter 3, “Amniotic Space, Part II: Reproducing the Mother,” I discuss subsequent parodies and reworkings of the themes of *Star Trek* and *2001*, as seen in *Dark Star* (John Carpenter, 1974), the television series *Quark* (NBC, 1977-1978), *Star Trek: The Next Generation* (Paramount, 1987-1994), and *Moon* (Duncan Jones, 2010).

In Chapters 4, 5, and 6, I examine terrestrial computers; these computers may be further divided into two, gendered subsections of masculine and feminine functions. Chapter 4, “Programming Patriarchs: Masculinity in the 1970s,” focuses on the dystopian films of the 1970s, in which computers tend to have male voices and act as the son to their programmer/creator fathers or, conversely, as all-knowing fathers, thereby reinforcing patriarchal rule. These films, *Colossus: The Forbin Project* (Joseph Sargent, 1970), *THX 1138* (George Lucas, 1971), *Rollerball* (Norman Jewison, 1975), and *Demon Seed* (Donald Cammell, 1977), narrativize cultural and business struggles in the 1970s surrounding militarization and corporatization. In Chapter 5, “Sibling Rivalry: The Post-IBM Turn,” I examine the films of the early 1980s, *TRON* (Steven Lisberger, 1982) and *Electric Dreams* (Steven Barron, 1984), that express a rapidly-changing cultural conception of computers, set in narratives of homosocial struggle. And in Chapter 6, “Good Secretaries & Bad House-Wives: Femininity in the Digital Age,” I will discuss computers in the 1990s and 2000s that serve in domestic roles, particularly those texts that feature domestic spaces run by female-voiced computers or, literally, housewives. These texts, *Fortress* (Stuart Gordon, 1992), *Smart House* (LeVar Burton, 1999), and *Eureka* (SyFy, 2006-2012), position computers as replacements for human women who are absent from the home. Additionally, I examine two texts that feature male servants—*Demon Seed* (an anomaly among representations of domestic servitude) and *Iron Man* (Jon Favreau,

2008). Finally, in Chapter 7, I will return to Siri by examining representations of her programming, voice, and body in popular culture. By thus exploring the representations of gendered acousmatic computers within the context of computer history and changing gender norms, I propose to self-reflexively examine how intelligence may be presented in a gendered context.

CHAPTER 2

AMNIOTIC SPACE, PART I: TEXTUAL ORIGINS AND THE PRIMAL SCENE

In his 2002 book, *I'm Working on That: A Trek from Science Fiction to Science Fact*, William Shatner—best known for having played Captain Kirk in the original *Star Trek* series and the first seven *Star Trek* films—wrote about the magic of representing computers:

[C]reating gadgets that are easy to use is a lot harder than faking them, which is, of course, what *Star Trek* excelled in. The ship's computer always responded so perfectly to me and Leonard [Nimoy] and everyone else who communed with it because...it was a fake! There *was* no computer, there was no voice synthesizer, no artificial intelligence that processed and understood what I was saying and then pulled up the appropriate response from its immense databanks. It was just an old-fashioned deception. I said my line and then Majel Barrett, who was the voice of the computer (and Nurse Chapel) said *her* line. Throw in some sound effects that connoted the machine's 'thinking,' a few flashing lights, and there you have it: instant artificial intelligence, a machine you can relate to, easily, pleasantly, without a manual. (138, emphasis original)

In 1966, *Star Trek* marked the first major creation of the illusion of a “perfect” talking (or, more precisely, acousmatic) computer; and it is just this illusion that has since made acousmatic computers—whether fictional or actual—so believable. It's close enough to reality to be familiar, and yet strange enough to be fantasy. The relationship between the strange and the familiar—in Freudian terms, the *unheimlich* or the uncanny—is not only a major part of the schizophonic process in film and television, but, as I will demonstrate in this chapter, is a foundational part of the history of voice-interactive computing. Further, voice-interactive computers that control a spaceship in Sci-Fi, like those in *Star Trek* and the other major foundational text, *2001: A Space*

Odyssey (Stanley Kubrick, 1968) are—as with all representations—more than just faked versions of computers. A talking computer is never *just* a talking computer; it’s also a character with an implied gender, interacting with other characters. Metaphorically, spaceship computers in particular represent the primordial *unheimlich*—the womb.

On a meta level, Sci-Fi’s unconscious attention to metaphorical representations of the womb, reproduction, and psychosexual origins, is played out through the “parents” of today’s real technology—*Star Trek*’s U.S.S. Enterprise computer and *2001*’s HAL-9000. Today’s programmers most often cite these two examples as inspiration for their technological innovations; these are also the first two major texts in the history of representations of voice-interactive computing. As such, I will compare and contrast them in this chapter in order to establish a clear foundation for my analysis of subsequent texts.

Literary theorist Ned Lukacher has argued that the Freudian notion of a primal scene may be used metaphorically in order to understand intertextual progeny and ontology; as foundational texts, *Star Trek* and *2001* may, in this sense, be understood as performing a “primal scene” of voice-interactive computers.

I do not restrict “primal scene” to the conventional psychoanalytic understanding of the term: the child’s witnessing of a sexual act that subsequently plays a traumatic role in his or her psychosexual life. In my use of the term it becomes an intertextual event that displaces the notion of the event from the ground of ontology. It calls the event’s relation to the Real into question in an entirely new way. Rather than signifying the child’s observation of sexual intercourse, the primal scene comes to signify an ontologically undecidable intertextual event that is situated in the differential space between historical memory and imaginative

construction, between archival verification and interpretive free play[...]. I use the expression “primal scene” to describe the interpretive impasse that arises when a reader has good reason to believe that the meaning of one text is historically dependent on the meaning of another text or on a previously unnoticed set of criteria, even though there is no conclusive evidential or archival means of establishing the case beyond a reasonable doubt. (Lukacher 24)

Lukacher’s method of reading intertexts thus attends to both a notion of the “real” existence (in the sense of factuality, rather than in the Lacanian sense of that which is effaced by the Symbolic and thus unknowable) of texts like *Star Trek* and *2001* in their historical context *and* a present construction of relationships among all the related texts before and after. The metaphor of a textual “primal scene” is thus an instance when influence of the “parent” or “parents” of subsequent texts come into being. Freud himself attempted to sort out whether the primal scene as the witnessing of a sexual act is memory or phantasy; he concluded in *From the History of an Infantile Neurosis* that, in a way, it is both. Memory and phantasy combine in the psyche in a way that is experientially real for the subject, regardless of whether its existence as a past event can be verified. The same is also true of representations: our individual and culturally collective memories of a text and the existence of a text as an historical object (film, video, digital data, etc.) coexist in ways that create and maintain meaning.

Gerard Genette emphasizes this coexistence of texts, objects, and subjects through his concept of transtextuality. Drawing on Bakhtin’s contra-Saussurean concept of translinguistics in which the meanings of signs are unstable (Stam, *Subversive Pleasures*, 30; Stam “Text and Intertext,” 155), Genette argues that every text exists in relationship to every other text. Within transtextuality, he delineates five forms of textual relationships—intertextuality, paratextuality,

metatextuality, hypertextuality, and architextuality—all of which function concurrently as an active way of making meaning (1-7). Although these five forms allow Genette’s assertion that meaning is made actively *in-between* texts to be fairly broad, his definition of “text” is still closely tied to a traditional conception of a “work.” For Julia Kristeva, a work is the physical piece of art in which meaning moves transcendently from artist to reader, while a text is a piece in which meaning is negotiated among artist, reader, content, and context (Kristeva, 68). While I agree, I think Kristeva also limits the notion of the text itself to what we traditionally think of as “artistic” pieces—a novel, a film, a television series, etc. Yet we read and make meaning in *everything* around us, including films, series, items of clothing, the look on a person’s face, the interface of a computer, and so on. Furthermore, we process all of these Real objects (in a Lacanian sense) as a part of the Symbolic Order, through which we understand reality (Fink 25). Thus, meaning *is* made by negotiating the relationships among artist, text, reader, and context, but artist and reader are also texts, equally surrounded by other texts, that all contribute to a symbolic understanding of reality. A text, then, is any identifiable symbol or collection of symbols that function in relationship to other collections of symbols in a way that allows the “reader” to create significant meaning. In turn, the varied and shifting relationships among all texts make up a transtextual network through which we negotiate our understanding of reality. The work of a critic, then, may be seen as the process of untangling portions of a network of texts in order more clearly to see how all the pieces fit together. Within this context, the examination of a textual “primal scene” is simultaneously a (though not *the*) starting point for un-tanglement.

Star Trek is a prime example of a need for intertextually- and-transtextually-attentive readings. When viewers first watched and understood the series in the late 1960s, they did so on

mono-sound televisions, in the midst of the Cold War, the Vietnam War, the Civil Rights Movement, and at the tail-end of the height of B-movie Sci-Fi. Today's context is very different, however, as people may watch the series, on any variety of stationary and mobile platforms, in mono or stereo, culturally in the midst of continuous overseas conflicts, the marriage equality movement, postfeminism, postracism, and, importantly, after more than forty years of spin-off films, series, documentaries, conventions, and now the reboot of the franchise, not to mention numerous other films and series that feature acousmatic computers. Neither context is more "correct" nor "valid," but in order to understand the latter, we must also understand the former. Michel Chion argues much the same in the introduction to his book on *2001*:

Today's spectator sees the work quite differently, influenced by its history, the explanations furnished by [Arthur C.] Clarke's novel and a series of "revelations" made after the fact, a whole tradition of exegesis that was handed down, particularly by critics and the press, and that constitutes a common and reassuring background of understanding [...]. To watch *2001* as it was seen on its release implies attempting to forget this tradition, an almost impossible task.

Nevertheless, this does not prevent the film, although overlaid with all these commentaries, from retaining its mystery for those who discover it today.

(*Kubrick's Cinema Odyssey* 21)

In other words, to recognize the overlaying of extratextual material—commentaries, criticisms, digital enhancements, the changing nature of viewing space, etc.—onto a text does not necessarily diminish the phenomenologically real experiences of watching, interpreting, and remembering. In addition, media histories also shape and have been shaped by both *Star Trek* and *2001*. The aesthetic practices of both texts come out of television and film histories,

respectively; further, they have both since been digitally enhanced for high-definition platforms, further complicating their relative relationships to other texts.

An intertextual understanding of *Star Trek* and *2001* isn't limited to their influences on Sci-Fi, however: they are also situated within histories of both media production and computer and artificial intelligence design. As I will discuss at length in chapter 7, from the late 1960s to the present, not only has the technology in these texts provided inspiration for real hardware and software design (Atkinson 220), but voice-interactive HCI has also become a "holy grail" of computer engineers. Situating fictional texts within the context of real science, however, raises the slippery question of "realism." Because of the nature of fantasy and postulation in Sci-Fi, no Sci-Fi text can really claim to be "realistic" in the same way that, say, a melodrama set in present day is "realistic" in its verisimilitude. Nevertheless, the technology presented in the mise-en-scene may be more or less realistic or, more appropriately, "accurate," for the time it was created. Conversely, and in hindsight, a text's predictions about future technological advancements may be more or less accurate. For example, *Star Trek* "predicted" a Graphical User Interface based on both a monitor/terminal and rudimentary voice-interactivity by the twenty-third century, which we now have; meanwhile, *2001* "predicted" natural-language voice-interactive computers by the year 2001, though as of 2013, no such computer exists. But in many ways, a traditional notion of aesthetic realism or even scientific accuracy is beside the point. As I mentioned in chapter 1, Sci-Fi exists in a cyclical relationship with real technology: science influences Sci-Fi, which in turn influences science, which in turn influences Sci-Fi. It's a chicken-and-egg problem in which both the chicken and the egg are creations of human ingenuity.

Clearly, then, the very notion of a “primal scene” of (trans-)textual influence is a complicated one in which past and present, reality and fiction, object and memory, are woven together in a vast cultural network. Using this method of analysis, several assertions about voice-interactive computers arise: first, the representational and scientific foundations of the Enterprise and HAL-9000 existed well before either *Star Trek* or *2001* were created; second, and nevertheless, the cultural impact of both texts has been so enormous that all representations and scientific creations of voice-interactive computers since 1966 may be understood in relationship to them. My analyses of motherships in this chapter, then, as well as all the proceeding analyses in this dissertation, flow from the foundational imagery of *Star Trek* and *2001*: in this sense, the “primal scene” occurred in 1966 and 1968 when these texts, respectively, premiered, while the history of voice-interactive computing that I trace always already links back to it. This metaphor of the primal scene also works on multiple levels, as I will explore in this chapter, because not only do the two texts function together as a textual primal scene, but also, the very notion of the mothership and the computer that both controls and voices her womb, is bound to the unconscious imagery of womb, phallus, birth, and primal scene that may be seen throughout Sci-Fi representations of acousmatic motherships.

The very basic premises of both *Star Trek* and *2001* are roughly the same: astronauts travel through space on a mission; beyond this, though, they diverge completely. The famous opening lines of *Star Trek* capture the utopian hope for the distant future: “Space: the final frontier. These are the voyages of the Starship Enterprise. Its five-year mission: to explore strange new worlds, to seek out new life and new civilizations, to boldly go where no man has gone before.” Set in the twenty-third century in which Earth has been united under a single, socialist government and is part of an interplanetary organization called The United Federation

of Planets, the series follows a group of Starfleet personnel (a pseudo-militaristic space navy with ranks and uniforms but without the corruption or violence of the Vietnam-era American military). These explorers include Captain James T. Kirk (William Shatner), science officer Spock (Leonard Nimoy), chief engineer Montgomery Scott (James Doohan), communications specialist Uhura (Nichelle Nichols), ship's physician Dr. Leonard McCoy (DeForest Kelley), ship's nurse Christine Chapel (Majel Barrett), and two helmsmen, Sulu (George Takei) and Chekhov (Walter Koenig). The ultimate goal of each of the crew's missions is to create peaceful relations between the people of the Federation and others in the galaxy, though it seems this mission isn't always easy to carry out, a fact that typically drives the narrative drama of each episode.

Stanley Kubrick's *2001: A Space Odyssey*, on the other hand, is a grandiose, mostly dystopian view of what was, in 1968, the near future. Co-written by Kubrick and British Sci-Fi writer Arthur C. Clarke as a novel, rather than a screenplay, the narrative is loosely based on one of Clarke's short stories, "The Sentinel." The film is told in three tenuously connected parts: 1) The Dawn of Man; 2) Jupiter Mission; and 3) Jupiter and Beyond the Infinite. Although my main concern here is part 2, which features HAL-9000, it is important to note that the unifying object among all three parts is a giant, black monolith, presumably brought from Jupiter at the "Dawn of Man." The future in *2001* is also, in stark contrast to that of *Star Trek*, a strikingly capitalist one in which Pan-Am flights from the Earth to the Moon are commonplace and technology dominates every part of daily existence. At the beginning of the film, a shock-cut links the past to the future: an ape-man discovers that a bone can be used as a tool for beating other animals to death, throws it into the air, and it is graphically matched in a cut to a bone-shaped satellite in space, implying that human violence and tool-technology are linked. The transhistorical violence

implied in this cut is the first indication that this future is more frightening than *Star Trek's* voyage of peace and diplomacy. In part 2, astronauts Dave Bowman (Kier Dullea), Frank Poole (Gary Lockwood), and three others who are in hyperstasis (i.e. extended sleep) are on their way to Jupiter in order, we later find out, to learn more about the origins of the monolith. Yet, the mission goes horribly awry when the supposedly infallible onboard computer, HAL-9000, cuts off communications with Earth, murders everyone in hyperstasis, cuts Frank's oxygen supply line while he's on a spacewalk, then, when Dave attempts to save Frank, HAL refuses to allow Dave to re-enter the ship (hence the famous line, "I can't do that, Dave," in response to Dave's requests that HAL open the pod bay doors). At the end of this section, Dave forcibly re-enters Discovery-1 and murders/shuts down HAL. In the final section, Dave enters the "star-gate" to the monolith, apparently witnesses his own life and death through a series of shot-reverse-shots in which he continually sees an older incarnation of himself, and then, in a final moment of half-hope, half-terror, a giant, in-utero star-child hangs in space, its body human and its saucer-like eyes extraterrestrial. Where *Star Trek* has a continuing five-year (and beyond) mission, *2001* ends abruptly, at a point, we may assume, just before the starchild's birth.

Many scholars have read the film as a negative, dystopian portrait of the future; see, for example, Vivian Sobchack or Lincoln Geraghty. Philip Kuberski, however, reads it in a utopian light via a Jungian interpretive model, whereby the goal of the film is to understand and find unity in the human unconscious; for Kuberski, then, Dave's murder of HAL and subsequent trip through the star-gate indicates his journey toward psychological unity ("Kubrick's *Odyssey*"). A few simply treat it as a masterpiece, such as Chion, who describes it as an "event film" (*Kubrick's Cinema* v) and "the absolute film" (112-55), or J.P. Telotte, who calls it "the ultimate extraordinary voyage narrative" (102). Here, though, I am less concerned with whether the film,

as a unified text (if such a thing exists), is dystopian, utopian, or the greatest Sci-Fi film ever made; rather, by positioning it in relationship to *Star Trek*—arguably one of the campiest Sci-Fi television series ever made—I purposefully avoid treating the film as a standalone work. For the purposes of this dissertation, I am interested in the ambivalent treatment of HAL as both more human than Dave and yet a character who must die, as well as HAL’s relationship to the computers in *Star Trek* and subsequent texts. However, the frightening aspects of the film—whether completely dystopian or not—are important, as they can be seen to stem from the relationship between psychosexual imagery and technology. The monolith is a large phallic object, visually associated with masculine technology (the ape-*man*’s use of a bone as a tool, the militaristic-capitalist spaceships, occupied by male travelers and their female servant-stewardesses); ultimately, these technologies fail or disappear from view, as Dave enters the vaginal star-gate. Narratively and thematically, however, the monolith suggests the beginnings of birth. Within the narrative, the monolith is a transmission device, planted by an alien race in order to track the evolution of humans, and designed to emit signals when “turned on.” It appears in the film not only in moments of endings, but also, therefore, in the moments just before beginnings, first at the dawn of man, then on the moon when the astronauts activate it, and again in the star gate.

The star gate scene is the most evocative of a death/birth cycle. In the scene, Dave is alone in a nineteenth-century-style bedroom. A noise causes him to turn around and, in the reverse shot, we see an older Dave sitting at a dining table. The previous incarnation of Dave disappears, and the focus of the shot becomes Dave and his dinner. Then, hearing another noise, this Dave turns to see an even older version of himself lying in bed. Again, the previous Dave disappears with the reverse shot, suggesting the passage of time. In the final reverse-shot,

however, we do not see another version of Dave, but rather, the monolith, standing at the foot of Dave's bed, as if to beckon him into death. The next shot is a cut to the fetal star child, floating in amniotic space. Taken as a whole, the scene—from Dave's arrival in the bedroom to the conception of the star child—suggests an entire cycle of life, from youth to death to rebirth. The psychosexual and reproductive imagery and motifs in the film, then, align the phallus with destruction and the womb with production, though both are posited as necessary parts of a whole. *Star Trek*, when read vis-à-vis *2001*, denies this phallic-death/uterine-birth cycle in large part because the voyage never ends.

There are also a few obvious physical commonalities between the U.S.S. Enterprise of *Star Trek* and the Discovery-1 of *2001*: both are large spaceships with small spaceships inside them (shuttlecrafts in *Star Trek* and pods in *2001*), have a range of important-looking lights and switches in each room as well as video chat screens, hallways between rooms, vast but out-of-the-way control rooms (the engineering room in *Star Trek* and HAL's mainframe room in *2001*), and, most importantly for my purposes here, a powerful, centralized, artificially intelligent computer that controls and maintains all basic human functioning while simultaneously performing other complex tasks and talking to those on board. It's worth noting that many of the aesthetic differences between *Star Trek* and *2001* are a result of production practices and budgets, in addition to artistic and generic differences. *Star Trek* had an average per-episode budget of between \$180,000 and \$190,000 with continual budget cuts from the network (Solow and Justman 175, 334, 370, 399), while Kubrick's budget for *2001* was a set \$10.5 million. The difference in costs, as well as production time—Gene Roddenberry and his team had to create one sixty-minute episode per week for three years, while Kubrick spent three years making one 140-minute film—also allowed Kubrick the ability to incorporate multiple formal filmmaking

techniques over the course of a tenuous narrative arc, while *Star Trek* relied primarily on traditional television shooting styles with formulaic narrative structures and recycled special effects shots. Further, although *Star Trek* remained the artistic creation of Gene Roddenberry, there were a slew of producers, directors, writers, and designers, not to mention the censorship of the network, that made *Star Trek* a collaborative project. *2001*, however, was primarily the vision of Stanley Kubrick, though he and Arthur C. Clarke co-wrote the novel on which the film is based, and there was, of course, an enormous production team; yet, the cohesive nature of film versus the serialized nature of television lends itself more to the controlling vision of a single director. All told, *2001* is an art film, while *Star Trek* is artistic, though campy and commercialized, falling squarely into the tradition of B-movie and pulp-magazine Sci-Fi; and yet, these practical differences cannot account for the significant differences in the design, presentation, and, ultimately, gendering of the two ships.

Both the *Enterprise* and the *Discovery-1* suggest, at least from the interior, a womb-like space. In this sense, the term “mothership,” so often used in Sci-Fi, is particularly apt from a cultural perspective: the spaceship functions as a maternal, though technological, womb. It controls, facilitates, and contains all the basic life functions—breathing, heart-rate, food consumption, excrement, movement, shelter—much as a pregnant mother does for her fetal child. Spaceships are, of course, *not* literal wombs, but they take on what Elissa Marder calls the “maternal function,” by virtue of representing the womb. The womb is the ultimate mental contradiction, because we all know that we were once there, and yet, we cannot consciously remember it or imagine it. Instead, “unable to be present to the event that is closest to us [pre-natal existence and birth], we attempt to return to it and account for it individually and

collectively” (5). A mother is a living, breathing person, while the maternal in representation is that which implies and represents a culturally constructed idea of a mother:

From the beginning of human history, the privileged figure of the maternal function has always been that of an ambiguous ‘container’ (the womb) that fails to contain the unruly contradictions at work in the concept of birth [...]. Indeed, in mythology, literature, and art, the womb is often depicted in strikingly technological terms: It is associated with artisanal boxes of all sorts including chests, caskets, jars [...]. (3)

I add to this list Sci-Fi’s mothership, which functions—in mise-en-scene, role, voice, and name—like a maternal womb. It is important to be clear, though, that the mothership is a *function* of the cultural maternal and the idea of the womb, not a living, breathing mother capable of giving birth. This function is part and parcel of the unconscious anthropomorphism that is carried over into real HCI: while human (or human-like) bodies are inscribed with gendered characteristics, a non-human machine is not. But, as I will discuss in this chapter and the next, the continuing presentation of gendered, voice-interactive spaceships in Sci-Fi is symptomatic of a culturally unconscious means of working through trauma associated with the mother, via the representation of the maternal function. These phantasy representations of motherships provide a psychological basis for interacting with computers that do not have immediately discernible human bodies.

Further, the womb is always already uncanny or, as Freud calls it, “*unheimlich*,” both known (we know we were there and can represent it symbolically) and unknown (we can’t consciously remember being there, so any symbolic representation of it is at a metonymic distance from the womb itself) (Marder 4). Importantly, the “*heim*” of Freud’s *un-*

heimlich/heimlich formulation is *home*. The womb is the original home, “the place where each one of us lived once upon a time and in the beginning” (Freud, “The Uncanny,” 245). The feeling of (un)familiarity or uncanniness that comes from feeling “at home” is, according to Freud, a phantasy of “intra-uterine existence” (244). Traditionally, naval ships have been conceived of as feminine, referred to as “she,” and kept the sailors safely enclosed against the frightening water—also associated with female sexuality—that surrounded them. The spaceship itself may be seen as a technological extension of the naval ship’s phantasy of the womb: it is filled with spaces and people familiar enough to identify but unfamiliar enough to be futuristic and strange; it is unconsciously recognizable as an enclosing womb-environment yet consciously presented to us as a sort of floating home out in space. Computers aboard Sci-Fi spaceships are uncanny portraits of today’s technologies, with imagined additions to make them seem futuristic. The talking computer that inhabits, defines, and makes up the body of the mothership is a phantasy, both consciously in the sense of a waking fiction/dream and unconsciously in the sense of a phantasy of the uncanny maternal womb to which we can never return.

The anxiety surrounding the maternal function of the mothership is just as complex, ambiguous, and ambivalent as the image of the ship itself. Vivian Sobchack suggests that “positive” spaceships are “womb-like” and have a “protective warmth,” while “negative” ones suggest “a tomb-like iciness, a coffin-like confinement” (*Screening Space* 70). Yet, death and birth are intricately linked and both related to phantasies of the maternal womb, such that phantasies of death, coffins, and tombs, are simultaneously phantasies of birth. As Marder points out, “In this phantasy, ‘death’ does not mean death; it is merely an expression of a desire for the mother’s body. Buried in the conscious fear of being buried alive [or, in this case, being stuck inside a tomb-ship] is an unconscious wish to *repeat* and *undo* the act of being born by

copulating with the mother” (33). Thus, both the protective warmth and the icy tomb of Sobchack’s description of spaceships are two sides of a maternal coin: birth and death. This desire for or unity with the mother as well as the phantasies that express these desires, according to Freud, begin in the Oedipal phase. But the pre-symbolic/pre-Oedipal mother must necessarily be repressed in order to enter the Oedipal phase (in Freud's terms) and fully engage in the phallogentric Symbolic Order (in Lacan's terms), both of which are intertwined with cultural fantasies of the maternal. For Freud, phantasy is the imaginary site of psychical processes; when a person experiences something that is unpleasurable or that cannot be incorporated into the ego, he represses the situation. Dreams and waking phantasies thus serve as psychical means of working through the unpleasure of the situation and returning to a stable ego-state. For Freud, psychical trauma is highly linked to the mother: her breast serves as the primal object of desire, as it fulfills the infant’s desire for nourishment; this desire shifts to a sexual one during the phallic phase, until the subject sees his mother’s wound—her site of castration—and, traumatized by the realization of sexual difference and the fear of his own castration, transfers his desire for his mother onto another, secondary object of desire. After the Oedipal trauma, the child is faced with the reality principle, in which unobtainable objects of pleasure threaten his desire to achieve cathexis, and so, phantasy or day-dreaming here becomes a means of avoidance or repression, allowing the subject to imagine objects of pleasure as attainable because they exist solely in his psyche.

For Lacan, however, object loss occurs as a more metaphorical function of the mirror stage. During the mirror stage, the child is placed before a mirror. On one hand, he recognizes his own reflection and understands that he is separate from his mother, thus allowing him to develop his ego/I in opposition to the Other. The child thus enters the Symbolic Order through

which language is structured as oppositional (this thing is *not* that thing; I am *not* the mother who stands behind me). On the other hand, he simultaneously misrecognizes his own reflection as an ideal/Imago form, thus establishing an ego-ideal. This ego-ideal allows the child to maintain a link to the Imaginary Order, through which the primal site of unity with the mother may be experienced via phantasy. The primal site is psychically replaced with the phallus, for Lacan the unattainable object of desire. From this point, the child perpetually attempts to achieve phallic power; and yet, because the phallus is simultaneously the repressed Imaginary Order, covered over by the Symbolic Order, it is unattainable. However, the Law-of-the-Father, which structures and regulates the Symbolic Order, is founded on Lacan's metaphorical understanding of the incest taboo, through which "unity" with the mother (or the father's wife) is forbidden. In linguistic terms, then, the Law-of-the-Father structures the fact of the signifier/signified relationship. The signifier of the Symbolic Order only appears to be the ideal, while covering over the link to the signified. In this sense, the phallus is the unreachable signified, while the signifier of the phallus remains in symbolic language use. We use symbolic language—particularly writing, for Lacan, but also all representations—as phantasy to cover over the trauma of the primal scene and attempt to return to a feeling of cathexis, or unity with the mother.

Julia Kristeva added to these theories through her writings on the abject and semiotics. For Kristeva, the abject is that which must be expelled in order for the subject to live. Psychoanalytically, the abject represents the archaic mother, or in Freudian terms, the primal site of desire. She is the caretaker who teaches the child how to clean himself. During the Oedipal Stage, this process is rejected in preference of the phallic Law-of-the-Father (here, Kristeva blends Freud and Lacan). In other words, the trauma that is covered over is actually the primal site of the archaic mother, and we have been cultured to consider it as abject and in need of

expulsion in order to maintain the patriarchal structure of society. Elsewhere, Kristeva linked psychoanalysis and semiotics in a Lacanian sense by relating the processes of desire to that of the Symbolic Order. In using symbolic language, we repress the link between the real and the symbolic, as part of the same process of repressing primal trauma.

Barbara Creed takes up Kristeva's discussion of the abject by directly linking the womb to the archaic mother, i.e. the mother of the primordial, pre-symbolic state, and the "originating womb" (26). In Horror/Sci-Fi, the archaic mother is frequently figured as a terrifying abyss or gaping hole; further, much of the terror of the womb in a patriarchal symbolic system is that the "womb is not the site of castration anxiety," as is the female body in traditional narrative cinema. "Rather, the womb signifies 'fullness' or 'emptiness' but always is its *own point of reference*...." (emphasis original, 27). In other words, the womb cannot be figured as the passive opposite of the active phallus and thus becomes a significant source of anxiety in a phallogocentric system. While Creed limits her reading of the archaic mother to that of instances of metaphorical primal scenes by arguing that the archaic mother is always "behind" these scenes, I argue that the womb-like enclosure of the spaceship in Sci-Fi is representative of the archaic mother.

Yet, the repressed doesn't just disappear; rather, it returns through individual and collective phantasies. The maternal function of the mothership in Sci-Fi may be read as a form of phantasy cathexis: the continuing representation of the enclosure of a spaceship suggests a continuing attempt to return to the *heim*, the original home. But, as Lacan points out, "nothing can be grasped, destroyed, or burnt, except in a symbolic way, as one says, *in effigie, in absentia*" (Lacan, *Four Fundamental Concepts*, 50). In other words, just as the repressed never fully goes away, so, too, does it never fully return. The metaphorical representation of a womb-space may suggest a desire to return to physical, intra-uterine unity with the mother, but at the

same time, it is *not* that unity. It is an uncanny dream-space that suggests, but can never be, the mother.

Contrary to the conventions of Sci-Fi at the time, in which space travel was depicted as “the penetration by men of the dark, womblike vastness of space in phallic-shaped rockets” (Grant 72), neither the Discovery-1 nor the Enterprise are reducible to such strict gendering. There is a tension between the exteriors and interiors of these ships that suggests both phallic and uterine imagery. Each ship certainly “penetrates” the amniotic weightlessness of space, but each is also a floating home for the people living in it, just as a womb is a floating sac-home for a fetus. Yet, the mise-en-scene of the ships suggests that the Enterprise is a passive-female womb, while the Discovery-1 is an active-masculine womb. The exterior shots of the Enterprise and Discovery-1 were created using models shot against a black background with white dots for stars and the occasional earth-tone planet; in nearly every episode of *Star Trek*, the white dots appear to stretch into white lines, implying motion as the Enterprise shifts into hyperdrive. The Enterprise is a combination of the traditional Sci-Fi saucer disc with two cylindrical thrusters behind and another cylindrical “warp coil” beneath, “its rear somewhat akin to that of a WWII flying boat” (Solow and Justman 35). The attention to naval vocabulary (the organization governing the Enterprise and its crew is a “fleet,” ships are given the moniker “U.S.S.,” and characters have naval ranks such as Admiral, Captain, etc.) carries over into the fact that the Enterprise is frequently addressed as “she,” as is a naval ship. Such gendering of the ship was a conscious decision of the series’ creators (35); however, it is complicated by the fact that “her” body is both feminine (the round, womb-like saucer where the crew live and work) and masculine (the phallic cylinders that both project torpedoes and “thrust,” to use the terminology of the series, the ship forward into space). The ship is almost always shown in full, too, moving

through space or idling slowly in orbit around a planet, which tends to make it seem smaller than do the grand tracking shots across its body in the subsequent spin-off films. In *2001*, the Discovery-1, like the Enterprise, was named after a sailing ship, the RRS Discovery, which, as Clarke wrote in the original draft of the novel, was “the most famous of polar-exploration ships. It seemed appropriate, for they were going into regions far colder than the South Pole, and the discovery of facts was the sole purpose of their mission” (114). Yet, Kubrick was much more attentive to space-related innovations than Clarke; their 1964 contract for pre-production specifically stated that they needed to complete preparations by 1967, “the expected date of the Apollo programs” (qtd. in Chion, *Kubrick’s Cinema*, 3), and Kubrick reportedly became obsessed with the idea that a major space discovery or the landing on the moon would make his film obsolete (10). Unlike the Enterprise, the Discovery-1 is a seemingly enormous ship that is first introduced as it slowly moves into frame. *2001* was originally shot and screened in single-image 70mm Cinerama (5),¹ and so the effect of a large, steel-grey and white ship, slowly filling the frame, creates a sense of enormity and power. However, the Discovery-1 only *seems* much larger than the Enterprise. Both ships were shot with large-scale models (Solow and Justman 35-6; Chion, *Kubrick’s Cinema*, 16-7). Motion was implied in both *Star Trek* and *2001* by moving the camera, rather than the model; when viewed, the frame seems static, while the ship appears to move across it. All told, the Enterprise appears to be a tiny ship that houses a community of hundreds of people, while the Discovery-1 seems to be a huge ship that holds just 5, three of whom are in hyperstasis. The framing of the ships and the mise-en-scene of the interiors convey the sense that the Enterprise is smaller, homier, cozier, and thus more associated with a

¹ As was standard practice in the 1960s, the film was released in 70mm Cinerama for those theaters equipped to screen it and in 35mm wide release (Chion, *Kubrick’s Cinema*, 5). Nevertheless, in any format, the effect of a slow-moving ship filling the frame evokes a sense of enormity through the tension of the pace, as the viewer waits in anticipation for the eventual end of the ship.

feminine/domestic space, while the Discovery-1 is overbearingly large, sparse, functional, and thus more associated with a masculine/militaristic space. The exterior shape of the Discovery-1 is also incredibly phallic, with a long cylindrical shaft in the center, a smaller cube on one end, and a large bulb on the other. Importantly, though, the bulb is the pod bay where pods are stored, exit, and enter; when the pod bay doors open and close, the entire bulb is reminiscent of an opening and closing eye, as though it is a phallus that looks.

Sight and eye imagery are prominent in the interior of Discovery-1 as well. Small video monitors line many surfaces of the ship, all displaying different information and images, implying that watching is a vital and constant activity for anyone on board. Of course, the most overt eye image in the film is HAL-9000's interface, the iconic, glowing red half-sphere, shown in multiple places throughout the ship, in addition to the exterior and interior of the pods. The interface is explicitly figured as HAL's eye through fish-eye lens shots in which the spectator also sees as HAL sees. Through these shots, he—and the audience—not only sees but also comprehends, as when, through a POV extreme close-up, he reads Dave and Frank's lips, though he cannot hear what they say. While the editing and cinematography may thus evoke a sense of seeing from HAL's perspective, the nature of that perspective is ambiguous at best. Numerous interpretations of HAL's eye have been offered: it is Kubrick's "cinematographic eye" (Landy 98), a "cyclopean, one-eyed monster" (Kuberski 70), an implied head (95), or an absent [human] body (Chion, *Kubrick's Cinema*, 86). Each of these readings suggests something beyond the eye itself, both corporeal and psychological. Philip Kuberski argues that, particularly in Kubrick's films, "technology is never rid of its corporeal designers: It carries within a kind of transmuted human psychology and intrinsic waywardness." In this sense, HAL represents a "conflict between highly rationalized technologies and unknown, unconscious drives" (*Kubrick's Total*

Cinema, 114). HAL's body, the eye and the Discovery-1, suggests psychosexual imagery aligned with unconscious phantasies of the maternal. The eye of the pod bay bulb also parallels HAL's eye, particularly because he controls its function.² And importantly, his exterior body is phallic, a visual "one-eyed monster," while his interior body suggests a maternal womb. These technologically-corporeal aspects of HAL are in constant tension with his "perfect" artificially intelligent programming and his calm, monotone voice. In this sense, HAL represents a tension between mind and body, interior and exterior. While the exterior of his body suggests, as I mentioned, a sexualized body, the interior is strikingly sterile with vast white spaces, rotating white hallways, shot with a wide-angle lens to appear elongated, and the spherical control room with dark countertops and brightly-lit screens. Adding to the sterile mise-en-scene, there are no personal items anywhere aboard, even small ones such as a family photograph, which an astronaut on a long mission would reasonably take with him. HAL's internal psychological states are as distancing as the interior mise-en-scene.

HAL's radical interiority, an internal mental (symbolic) space into which neither Bowman, Poole, nor we as viewers have access, is emphasized through the use of reaction shots focusing on one of HAL's camera eyes. Where normally a reaction shot reveals, through bodily (including facial) position and movement, a character's motivational and emotional responses to a situation, letting us into a character's interior space, for HAL, who is in some sense pure mind, the reaction shots remain opaque, giving viewers a sense of an interior they are not allowed to enter. (Mateas 111)

² As I will discuss in greater detail later in this chapter, the eye simultaneously implies an orifice in relationship to HAL's womb-like interior.

This opaqueness, almost an effacement of HAL's psychological interior, emphasizes the uncanny atmosphere of the Discovery-1. We both know him and cannot know him, recognize him as an acousmatic character with a body and thoughts and motivations, but we are never granted access to those thoughts or motivations. Through this, HAL represents at once the familiar comfort of the maternal womb and the frightening unknowability of the intra-uterine experience. We see the maternal body as an outsider, though we desire to be inside, just as we see HAL's exterior body but are never granted access to his interior.

Aside from contrasting black/white imagery, red is the dominant color motif throughout *2001*. Of course, red is an overdetermined color: it is the color of blood and fire; it evokes a sense of strong passion, both love and anger. HAL is always associated with red: his eye is red; his mainframe room is red; when he murders the three crewmembers in hyperstasis, a red indicator sign flashes; and the few other instances of red are always aligned with a machine's cold artificiality. Frank's red tanning glasses, combined with his emotionless stare and monotone voice, align his gaze with HAL's machine one when he watches the birthday video from his parents. Dave's red spacesuit and his cold stare when he tries to rescue Frank, then murders HAL, indicate his loss of humanity. Yet, the "coldness" of the machine is in constant tension with the passionate connotations of the color red, again suggesting a tension between the rationality of artificial intelligence and the irrationality of unconscious desire. According to Kuberski, "The anthropomorphic aspects of technology are enhanced by these diluted, blood-like washes of light, visually suggesting that human interiors have been transferred to technological interiors" (79). As I mentioned, red is the color of HAL's cold gaze; yet, to "see red" is to be angry, an interior, psychological state. The interior nature of blood again evokes the bloody interior of the female reproductive system that, when made exterior and visible, as through birth

and menstruation, appears violent, chaotic, messy, and abject. Yet, throughout the film, red appears as light, rather than substance. It is, like the maternal function of the womb, both material and immaterial, present and absent, full and empty, everywhere and nowhere.

In stark contrast to the *Discovery-1*, the interior of the *Enterprise* is significantly less centered around a cohesive set of imagery and is less sterile, though militaristically clean. Each room is brightly lit, and the entire color scheme aboard the ship forefronts balance, rather than tension. In each room, red, yellow, and blue are most prominent (the doors are red or blue, the computer screens are yellow, the carpet is a grey-blue), but rectangular panels in the hallways and on the bridge glow with a leafy shade of green, suggesting just a hint of nature. This balance of colors represents and reinforces the idealistic, socialist utopia of the *Star Trek* universe, in which humanity can and does live in harmony. Unlike the seemingly endless canals in *2001*, the *Enterprise*'s hallways are dotted with doorways and visually punctuated with triangular arches every few yards. In contrast to *Discovery-1*'s two doors in a vast spaceship (one is the pod bay "eye," and the other is the emergency hatch which Dave enters against HAL's wishes), every room on the *Enterprise* has an iconic automatic sliding door. Although there are no wide-open spaces on the *Enterprise*, the rooms do not seem claustrophobic, but rather, the furnishings—generally a mix of utilitarian and personal items, particularly in the crewmembers' quarters—suggest a cozy, domestic space. And although there are shuttlecrafts comparable to *Discovery-1*'s pods, the main method of transportation off the ship is via teleportation (or, in the vernacular of the series, simply transportation). The colors of the uniforms also reflect the balance of the ship. There are three different uniform colors, each corresponding to a particular type of work aboard the ship. Red is security and engineering, whose characters tend to be quite overly impassioned, as when Chief Engineer Scott starts a fight with a room full of Klingons solely

because one of them insulted the Enterprise. Unlike the use of red in *2001* to suggest a tension between technological rationality and unconscious, irrational desire, the security/engineering crew in their red represent bodily action, both human and mechanical, fiery passion, and intuitive responses. Blue is science, and, as the Vulcan Spock's cold, reasonable logic indicates, is the most serene, unbiased position. Gold is command, the position that, like the sun for the solar system or a bright star in the sky, holds the crew together and guides them on their journey, exemplified in Captain Kirk's dedication to his ship and his people. Of course, red aboard the enterprise is also an overdetermined color. A "red alert" mode, used when the ship is under attack and everyone must go to battle stations, is accompanied by a flashing red light and pulsing alarm siren. In the scenes in which red alerts occur, the entire harmonious balance of the ship changes to one of impassioned battle. Additionally, the "redshirt" is a fan term referring to the fact that, in any given episode of the Original Series, when an exploration team beams down to the surface of a planet, the unnamed character wearing a red shirt is the first to die. Here, again, though, the exploration party with a balanced number of engineering, science, and command officers tends to live, but when there are too many redshirts, one must die, reinforcing the idea that an overabundance of fiery passion leads to death.

The most prominent elements of the ship's mise-en-scene, however, is the technology. The bridge, where quite a bit of the series' action takes place, is lined with computer screens, buttons, lights, and one large viewscreen in the center to display the ship's exterior views and video chats with other beings. The computer's mind, as it were, inhabits all this technology; as such, just like in *2001*, the Enterprise's body is the ship. Unlike HAL, however, who expressly states that he is an infallible computer (which, of course, then "fails"), this computer frequently malfunctions or is outsmarted by the ever-logical half-Vulcan Spock. In order to demonstrate

their intelligence, both HAL and the Enterprise computer play chess, though HAL beats Dave while Spock always reaches a stalemate. The use of chess as a test of a computer's mental abilities was also part of real computer programming as early as 1959, when Alex Bernstein created the first full chess program for the IBM 704. Not until 1990 did a computer actually defeat a grand master (IBM's Deep Thought II defeated David Levy), and in 1996, IBM's Deep Blue program finally defeated world chess champion Garry Kasparov, effectively becoming the first nonhuman world champion (Reilly 55-6). In this chess-based lineage, all the major programmers and players have been male; the fact that HAL beats Dave, while the Enterprise can do no better than stalemate, suggests a masculine competitiveness and AI competency in HAL that is absent in the Enterprise. The Enterprise computer's interface is also more passive than HAL's; she mindlessly—and silently—controls background functions while consciously making calculations and computing information when asked to do so. In order to speak to her, though, a crewmember seemingly must be in front of a monitor/console and press a button, rather than just talking and receiving a response.³ Yet, this passivity of the voice-interactivity of the Enterprise, who only speaks when she is addressed, belies the fact that she also, in the background, controls and maintains the ship.

For my purposes here, the most important difference between *Star Trek* and *2001* is their completely opposite approaches to sound. The sound effects of *Star Trek* have become quite iconic (the sliding doors, the phaser, the transporter, and even the cadence of William Shatner's voice), though the voice of the Enterprise has not; *2001* is the exact opposite. In *Star Trek*, the aural space is filled with the sliding whoosh of automatic doors, beeps and boops of the technology, dialogue, and score. The computer's voice is always accompanied by the sound of

³ The hands-free talking capability of HAL would also become standard in later *Star Trek* incarnations, though the push-button interface is currently used for Siri and GPS systems. The limitations of current technology aside, the fact that Siri is female in the U.S. reflects the female passivity of the Enterprise's original push-button features.

electronic processing, as though she were run with vacuum-tubes, reel-to-reel tape, and a teletype, like the real computers of the 1960s. In all, the Enterprise is a delightfully busy space of technological and human activity, again reinforcing the sense of comfort and community. Meanwhile, the second part of *2001* is relatively devoid of music and has little dialogue save that between HAL and Dave or the occasional conversation between Dave and Frank. The two dominant sounds are the constant hum of the computer (much more like today's digital computer hum) and Dave's mechanical-sounding breathing inside his space suit. (This sound of belabored, regulated, mechanical breathing is, today, more commonly associated with Darth Vader's breathing in George Lucas's 1977 *Star Wars*, though it is also evocative of the claustrophobic POV dive-suit scene in Mike Nichols's 1967 *The Graduate*. In all three cases, though, the sound implies both a mechanization of the human and, through the closeness of the sound, claustrophobia.) These two sounds create not only the aural but the emotional landscape for this part of this film: this world is technologically regulated and—through the lack of sound—devoid of humanity.

As I've mentioned, the Enterprise is gendered female and HAL is gendered male primarily through their voices. The Enterprise computer, played by actress Majel Barrett, has the unmistakable high pitch of a feminine voice, though her monotone and stilted cadence is a blend of the nasal quality of a stereotypical telephone operator and a robot that must pronounce each word separately. HAL, played by actor Douglas Rain, has a deeper timbre, though maintains an effeminate quality in his middle-ground pitch. He also speaks with a monotone, though his diction is more conversational than the Enterprise's over-pronunciation and formal/technical lexicon. HAL's monotone has a disturbing, uncanny quality to it, most strikingly obvious when Dave begins to remove portions of HAL's mainframe—visually and violently figured as stabbing

him with a screwdriver. His monotone cry for help, “I can feel it. I can feel it. I can feel it,” only serves to heighten the anxiety of the scene. Although HAL verbally expresses emotion, even pleading for his life when he asks Dave to stop, the scene is devoid of overt emotions: there is no sense of pleasure in watching the main character kill the “monster,” only the continuing tension of the red lighting in the room. Finally, as HAL dies, his voice slows and deepens in pitch, like a machine whose batteries are dying, and he sings “Daisy Bell.” This song was, importantly, the first song ever sung by a speech-synthesis program, run on the IBM 704 (the same computer on which the first full chess program was run); thus, the death of HAL is at once a means of metaphorically and orally communicating with the history of computers, as though revisiting HAL’s own primal scene, even at the moment of his death.

Aside from the moments when the viewer sees HAL’s POV, in both *2001* and *Star Trek*, we are, more often than not, asked to identify with the “fetal” occupants of the mothership, rather than the ship itself. The occupants are the protagonists, while the motherships verbally and physically interact with them; through dialogue, as well as the cinematography and editing, the gaze of the spectator is aligned with the gaze—and the direction of the dialogue—of the human characters. In this sense, characters stand in for the phantasy of returning to the maternal womb; paradoxically, however, they embody fully formed ego-selves capable of engaging in symbolic, linguistic interactions. In this sense, the mothership is pregnant with fetal adults, thus acting as a perpetual reminder of “the parthenogenetic mother, the mother as primordial abyss, the point of origin and of end” (Creed 17). Of course, the image of the womb always already implies birth: in the English language, we even go so far as to differentiate between a womb, which connotes pregnancy, and a uterus, which implies womanhood, though not necessarily pregnancy. Further, while I’ve spent much of this chapter so far discussing the maternal aspects of the ship, the fact

that the spectator is asked to identify primarily with the astronauts, rather than the ship, suggests, as I have mentioned, that these texts are simultaneously about a cultural conception of the maternal *and* the trauma of birth itself. Much psychological research in the last hundred years has been devoted to the notion of the perinatal unconscious and conscious; both Freud and Otto Rank have argued that birth is the first traumatic experience in a subject's life (Boyd 273). Psycho-historian Christopher Boyd describes the representation of birth trauma as "perinatal cinema" through which "birth-related iconography, and birth-related narrative structures" express "changes in contemporary group-fantasies, especially fantasies of death and rebirth" (272). The primary characters in perinatal cinema are the "perinatal hero" and his/her antagonist, the "perinatal monster." The perinatal hero must always die and be reborn through "transpersonal sacrifice" in order to save a city, country, planet, or simply the forces of good. Meanwhile, perinatal monsters represent the trauma of birth itself and "almost always possess traits symbolic of the female reproductive system" (276). In Sci-Fi space travel narratives, the perinatal heroes are astronauts, while the ship may or may not be a perinatal monster, though it is important that the maternal is always also figured as man-made technology. Traditionally, as many scholars have noted, femininity and motherhood are visually associated with nature; yet, as many scholars have also noted, in the last half of the twentieth century, reproductive technology has created a crisis in traditional gender imagery and roles. *Star Trek* and *2001* are also foundational texts in representing metaphorical technological pregnancy and birth.

In Sci-Fi more generally, exiting the womb unprotected—i.e. without the protection of a shuttlecraft or spacesuit provided from within the womb-ship—is almost always fatal,

representing both the death of unity with the mother/womb and the desire to return to that unity.⁴ Further, a character's use of a spacesuit attached to the ship by an umbilical life support cord, and the fact that work outside the ship typically leads to some disaster in which the character might not safely return to the ship/womb, visually and narratively plays out the anxiety of disunity with the mother and the phantasy of returning to the primordial state. In *2001*, the “births” of both Frank and Dave are extremely traumatic, and HAL, as the maternal womb, directly causes that trauma. When HAL (falsely) reports a damaged satellite, Frank dons a spacesuit and takes a pod to check on and repair the damage. While he is floating in open space, HAL, taking control of the mechanical arm attached to the front of the pod, cuts Frank's air supply line, metaphorically cutting his umbilical cord. Frank had assumed he would return to the safety of HAL's body, but, instead, HAL, symbolically recreating the act of birth, simultaneously kills him. Later, Dave takes another pod out to retrieve Frank's body. When he tries to return to the pod bay, HAL won't let him in; this scene suggests that Dave desires to return to the safety of the womb-ship, but, as is true in reality, we can never re-enter the womb. As I mentioned earlier, Freud argues that anxieties about death by entombment, enclosure, being buried alive, etc, represent a phantasy working-through of the desire to return to the mother's womb and to be reborn. Death and birth are, psychically, one and the same. This is also true of HAL's “abortion” of Dave and Frank—the inability to re-enter the ship means certain death, implying an anxiety about the inability to return to unity within the mother; but this death outside the ship also implies an exit from the ship, a birth. When HAL refuses Dave re-entry, Dave forces his way in, suggesting a

⁴ This scene of abortion is most prominent in *2001*, which I will discuss below, and most paradoxical in *Dark Star*, which I will examine in the next chapter; however, the image of an astronaut floating in space, tethered to the ship is a common one stemming from real-world images of U.S. astronauts in space. A notable exception to the terror of a mothership's abortion occurs in *Sunshine* (Danny Boyle, 2011) when three characters attempt to thrust themselves from an abandoned spaceship to their own, inhabited ship. Yet, even in this situation, the metaphorical goal is to leave a barren womb and return to their originating womb. The character who does not survive the journey freezes to death and his body shatters into thousands of shards, representing the fractured subjectivity of the post-Mirror Stage self.

forcible claim over the maternal body, a “taking back” of what was psychically lost in birth. Ultimately, though, Dave’s re-entry leads to HAL’s death, suggesting that to return to unity with the mother is also to kill her. This futility of the phantasy of reuniting with the maternal body is yet another significant ambivalence within the film; the phantasy underlines and, in ways, drives the narrative, while it is a futile act that ultimately propels Dave right back out of the maternal body of the ship and into the star gate.

In *Star Trek*, however, the heroes are never born, but rather are either onboard the Enterprise or beamed off it. We never see the ship open up and give birth to a character; in this sense, the series maintains a metaphorical stasis of pregnancy that denies the trauma of birth. And just as the womb implies birth, so, too, does pregnancy imply female sexuality; the metaphorical denial of birth in *Star Trek* is likewise evocative and expressive of a denial of female sexuality, as seen in the fact that a single actress plays both the voice of the mothership and the asexual Nurse Chapel. In the first of two pilots for *Star Trek*, titled, “The Cage,” Majel Barrett plays the *Enterprise*’s First Officer, even wearing pants like the other male officers. Unfortunately, the executives at NBC disliked most of Roddenberry’s casting choices, including having a woman in a position of high authority. By the time the series’ first episode premiered, not only did Leonard Nimoy’s Spock become first officer, but also Barrett donned a blonde wig and the iconic *Star Trek* mini-dress to play Christine Chapel, a soft-spoken and mostly asexual

nurse.⁵ The change in her appearance from a dark-haired, pants-wearing, powerful officer to a passive, light-haired, scantily clad assistant of the male doctor indicates the restrictive roles allowed to women in the series. (This is also true in *2001*, where only one woman is a scientist, while all the other women are flight attendants, daughters, mothers, and wives, but never astronauts.) By the sixth episode, first aired October 13, 1966, Barrett had also taken on the role of the computer's voice.⁶ Thus, there is a tension between Barrett's "real" body (Nurse Chapel) and her technological body (the Enterprise). By playing an acousmatic character, Barrett is also, paradoxically, disembodied as a result of the schizophonic apparatus because, while her voice always literally emanates from her body, the moment it is captured by sound equipment and projected onto either the ship or the image of Nurse Chapel, her implied body is that of her human, female body *and/or* the space of the ship. This triangular simultaneity threatens to reveal the complexities of the maternal function, that a single woman is not only a womb space but also a sexual being. In other words, Barrett and her two characters in *Star Trek* suggest multiple parts of one person: she is Majel Barrett (an actress), Nurse Chapel (a human character), and the Enterprise (a mothership), in the same way that a woman may fill multiple roles related to and inscribed by her femininity, including a subject, a sexual object of desire, a mother, etc. While

⁵ Herbert F. Solow and Robert H. Justman claim in *Inside Star Trek* that the network actually demanded that Majel Barrett, who was at that time Roddenberry's girlfriend, was not a strong enough actress to appear in the series, so Roddenberry made up the story about the network wanting more sex appeal in order to avoid hurting her feelings (60-61). Regardless, by the time the show's first episode aired, the entire cast of the first pilot, except Leonard Nimoy, had been replaced, and all the female characters were wearing the minidress uniform. Yet, while the female characters in the first pilot did become much sexier and scantily clad for the regular series episodes (in addition to Majel Barrett's role shift, Nichelle Nichols was also cast as Uhura to play the only other female officer), the men became sexier as well. Jeffrey Hunter's Captain Christopher Pike—an attractive but highly rational character—was replaced by William Shatner's hypermasculine Captain Kirk; additionally, DeForest Kelley, George Takei, and James Doohan became regular characters in place of the various background characters of the first and second pilots.

⁶ Barrett would also go on to be the voice of various Starfleet computers in all five of the live-action television series, the animated series, four of the ten movies (including J.J. Abram's 2009 reboot, released posthumously), and seven official *Star Trek* video games. As I will discuss in the next chapter, in addition to her roles as Nurse Chapel and the computer, Barrett appeared on *The Next Generation* as Lwaxana Troi, Deanna Troi's oversexed, telepathic/empathic mother.

this seems pretty obvious (as I've mentioned already, the sexual reproduction of pregnancy always already implies sexuality, regardless of whether a sexual act resulted in the pregnancy), the uncanny aspects of the maternal Enterprise, and the primordial site associated with it, as well as the doubling of Barrett in her two characters, threatens to disrupt the idealistic utopia of *Star Trek*. And so, the narratives of the series turn on a parallel metaphor of cinematic and subjective origins, hidden voice and hidden womb. In order to maintain a utopic sense of the future, as *Star Trek* always desires to do, it must simultaneously mask the origin of the voice, as is necessary in maintaining narrative cohesion, and repress the trauma of birth associated with the womb. Yet, neither is ever fully repressed; in fact, as the Enterprise and Nurse Chapel repeatedly demonstrate, the threat of revealing both the schizophrenic apparatus and the human apparatus is only resolvable by differentiating between the sexual, embodied woman and the asexual, disembodied maternal.

In addition to the fact that Barrett was not originally credited for her voice work in *Star Trek*, Chapel never speaks to the computer, thus keeping the human actress and her computerized voice entirely separate and minimizing any threat of self-reflexively revealing the apparatus. Further, throughout the series, Chapel has only one love interest, and he turns out to be an android who cannot love her back. In fact, unlike the male crewmembers who frequently engage in sexual and romantic escapades, and even then, almost exclusively with villainesses or aliens who are emphatically *not* portrayed as maternal beings, neither of *TOS*'s two main female crewmembers (Chapel and Uhura) are ever depicted as sexual subjects.

In Barrett's first "appearance" as the computer, "Mudd's Women" (Paramount, October 13, 1966), Captain Kirk has her read the bio-signs of the male crew who have been seduced by Harry Mudd's futuristic equivalent of mail-order brides. The bio-signs include raised heart rates

and body temperatures, suggesting—and confirmed by the embarrassment shown on the men's faces in their reaction shots—physiological arousal. Yet, the computer provides no hint of understanding sexual arousal as she coldly recites data. Incidentally, Christine Chapel does not appear in the episode, thus further solidifying the separation between the sexualized female body and the asexual maternal womb. There are moments in other episodes, though, in which the repressed primordial womb returns through voiced fissures in the structured asexuality of the computer. In *Star Trek*, these fissures occur most dramatically when the ship becomes threateningly sexualized for the male characters, as seen in both "Tomorrow Is Yesterday" (Paramount, January 26, 1967) and "Mirror, Mirror" (Paramount, October 6, 1967).

In "Tomorrow Is Yesterday," the Enterprise accidentally goes back in time to 1966 and beams aboard a United States Air Force pilot, Captain John Christopher (Roger Perry). In one scene, as Spock, Kirk, and Christopher try to work out a way to return the pilot to Earth without detection, they discover that the computer has been reprogrammed by a race of Amazonian matriarchs to have "more personality," as Spock puts it. As a result, she (still played by Barrett) speaks with a low, sultry voice and addresses Kirk as, "Dear," even after he commands her to stop. In one scene in Kirk's quarters, Kirk asks Spock when the computer will be fixed, stating, that he, "Wouldn't mind so much," that it has a new personality, "if only it weren't so...affectionate." This exchange is presented as comical, underscored by a whimsical musical interlude as the scene fades out. But Kirk's statement belies a psychological anxiety about the sexualization of his mother-figure: "If only *it* weren't so...affectionate." When the computer was a cold data machine, she was entirely nonthreatening because all traces of the maternal were repressed in the name of preserving the asexuality of the mother. The "affectionate" tone of her voice allows for the development of the Oedipal phantasy in which Kirk desires his motherhood,

ultimately allowing him to transfer those desires onto a “suitable” humanoid female mate (which he does quite frequently throughout the series). In this sense, the maternal-ship is still a passive object whose threatening sexuality may easily be repressed, emphasized by the fact that Kirk calls her “it.” But as an “affectionate” (read: sexually aggressive) subject, she threatens to undermine her status as a passive object (either a computer object or an object of Kirk's desire) and reveal herself as the apparatus/primordial site by virtue of the implication of sexuality, which in turn emphasizes her womb-like structure. In turn, this threatens to destabilize Kirk's own sense of a stable ego-self constructed around a clear male-active/female-passive dichotomy.

This revelation of the repressed maternal and the construction of gender identity becomes humorous precisely because it is a revelation. Freud argues in *The Joke and Its Relation to the Unconscious* that humor allows for “economy in the expenditure of affect,” or, in other words, pleasure in the face of what normally should be a distressing situation (228-9). In his later essay, “Humour,” he expands on this idea, arguing that this “economy” is achieved when the super-ego—the strict, forbidding, “parental” part of the psyche—pokes fun at the seriousness of a situation, thereby allowing the ego to see the world as less frightening. It is almost, he suggests, as though the super-ego says to the ego, “Look here! This is all that this seemingly dangerous world amounts to! Child’s play—the very thing to jest about!” (220). Kirk necessarily represses the sexualized womb-like aspects of the Enterprise in order to maintain his sense of stable ego-self, but the sexually aggressive computer voice allows the pleasure of the primordial site to be released for the audience, safely hidden in the distance between Kirk and ourselves. The scene, with its all-too-obvious musical interlude and the staged close-ups of the bemused looks exchanged between Spock and Christopher, becomes comical as we watch Kirk struggle with the

return of the repressed, all the while identifying with Spock and Christopher, whose masculine egos are not threatened.

While “Yesterday Is Tomorrow” thus features the return of the repressed primordial site, safely experienced through humor, the much more serious episode “Mirror, Mirror” establishes an Enterprise of passive, virginal femininity in opposition to masculine aggression. Importantly, Nurse Chapel is also not in this episode (in fact, Barrett wasn’t in the episode at all, as either the computer voice or Chapel, although by this point in the series, it had been firmly established that the Enterprise did, indeed, have a female voice), and so the womb-ship functions in opposition to another womb-ship, rather than a sexualized female body. In the episode, Captain Kirk, Lieutenant Uhura, Doctor McCoy, and Chief Engineer Scott are accidentally transported into an alternate universe, aboard the evil Terran Empire’s I.S.S. Enterprise. In this alternate universe, the idea of mirror opposites plays out visually and thematically: while the “good” Enterprise crew works harmoniously for a peaceful journey, the “bad” Enterprise crewmembers plot against, assault, and sexually harass one another. In characterizing the universes, much of the opposition occurs at the level of gender archetypes: the good men are rational, while the bad ones are aggressively violent; the good women are modest maidens who perform their duties, while the bad ones are scantily clad and sexually aggressive. More specifically, a one-off character named Marlena sleeps her way to the top in the bad universe, while in the good universe, she humbly requests that Kirk sign a duty form. And notoriously, bad Spock has a beard, a symbol of adult male virility, while good Spock is clean-shaven and metaphorically “pure.”

So, while the humanoid women are reduced to basic virgin/whore dichotomies, the Enterprise cannot be: the revelation of the archaic pre-oedipal mother is so threatening to the

stability of gender dichotomies on which the mirror archetypes rest that to posit the womb-ship as either a virgin or a whore would reveal the very process of repression. In other words, if she's a whore, the primordial act of impregnation is evoked; if she's a virgin, she ceases to be the comforting womb to which we desire to return. Instead, the set design of the two *Enterprises* clearly suggests a straightforward male/female dichotomy: the "bad" enterprise is painted with the phallic sword insignia of the Terran Empire and bears a male voice; the "good" enterprise, though it looks exactly like it does in every other episode, suddenly seems, by comparison, lacking any hint of a phallus and, for the duration of the episode, does not speak, thus foregrounding her passivity and female lack. Such a dichotomy suggests the foundational Western ideal of gender stability: the ultimate "mirror," or opposite, of masculine is feminine. Importantly, as I have already discussed, the Mirror Stage, in Lacan's formulation, is the beginning of oppositional language structure—I am not that, so I am this; the good Enterprise is not the bad Enterprise. The very nature of the ship as both a setting for the action and the literal atmosphere in which the characters live suggests that the *Enterprise* provides the foundational structure of opposition that surrounds and informs all of the characters' activities. This structure also suppresses any potential complexities of female sexuality embodied in the "good" Enterprise: she lacks not only a powerful phallus but also any hint of the abject womb. In other words, she is once again metaphorically sterilized so as to maintain the strict order of gender opposition.

And so, as I have shown in this chapter, the Enterprise and HAL-9000 are quite opposite parents of the representations and real creations of voice-interactive computing that would follow them. On one hand, the Enterprise is warm, uterine, feminine, asexual, and generally passive; on the other, HAL is cold, phallic/uterine, masculine, and overbearing. One thing that unites them,

though, is the fact that, when their voices are projected onto their bodies, an often-times repressed notion of gender and gender difference is simultaneously projected onto those same bodies. These preliminary descriptions and contrasts lay the groundwork for understanding this gendered projection and the representation of a variety of maternal functions across texts.

CHAPTER 3

AMNIOTIC SPACE, PART II: REPRODUCING THE MOTHER

As I argued in the previous chapter, the scientific and fictional influences of both *Star Trek* and *2001* are far-reaching. In this chapter, I will examine the representations of acousmatic motherships in the forty years since then. Each of the texts I discuss both reproduce and reiterate themes begun in the 1960s through motifs of doubling, thematically emphasizing the dual nature of reproduction as both the creation of a new entity and a re-presentation of the old entity. Undoubtedly, these reformulations are a product both of their originating texts and the changing cultural contexts in which they were created. Sci-Fi as a genre has been in a constant state of revision to keep up with real technological advances, most notably the growing number of computers in the space of offices and, later, homes, as well as the real research into and a rising cultural fascination with robotic and cyborg artificial intelligence. Reproductive themes are in no way restricted to (dis)embodied computers, and, in fact, in the last thirty years, growing anxieties surrounding reproduction and technology were inscribed onto other Sci-Fi bodies, including aliens and cyborgs (each respectively exemplified in films by Ridley Scott, *Alien* [1979] and *Blade Runner*[1982]).

A significant cultural change that occurred between the 1960s and the 1970s has to do with the way people conceive of outer space, as the U.S. (and all of mankind, though I'm focusing primarily here on U.S. affairs) went from trying to get to space to processing the fact that we *had been* there. The possibility of space travel has been a motif in Sci-Fi since the late nineteenth century, but as humans came closer to experiencing space, the nature of Sci-Fi representations changed. When *Star Trek* and *2001* premiered in the late 1960s, the Space Race was coming to an end, reaching its climax with the U.S. moon landing in 1969. Yet, this was not

the end of a fascination with space; rather, as Constance Penley suggests, “‘going into space’—both the actuality of it and its Sci-Fi realization—has become the prime metaphor through which we try to make sense of the world of science and technology and imagine a place for ourselves in it” (4-5). In other words, space travel narratives certainly continued to be told well after the moon landing, though in the first half of the 1970s, they were less frequent and more dystopian, as “space became semantically inscribed as inescapably domestic and crowded” (Sobchack 226). This all changed, though, in 1977, with George Lucas’s *Star Wars*, which reinvigorated both Hollywood and Sci-Fi, instigating “some strange new transformation,” through which “technological wonder had become synonymous with domestic hope” (226). Once again, space was figured in Sci-Fi as a vast, exciting—if sometimes frightening—frontier of exploration.

Of course, gender and space are not just linked through the phantasy of a return to intra-uterine existence, as suggested in the representation of an acousmatic spaceship. Space, like water, carries gendered connotations linked to (amniotic) fluidity, birth, and the chaos of female sexuality. This gendering is emphasized in the culturally gendered associations of the space race. As Marie Lathers notes in her study of gender and space exploration,

How the Space Race is digested as a gendered event was and is related to social norms; in the late 1950s and throughout the 60s, emphasis was placed on defining women’s place in the home—not their place in the public sphere—and this emphasis was played out in NASA’s refusal to train women as astronauts. The relatively new technology of television was the major vehicle for the popularization of the connected discourse of Space Race and domestic peace. Center stage in the middleclass home, television was the prime medium for the dissemination of NASA’s accomplishments. Because of television, the outer

space of other worlds and the inner space of the home were forever linked, and this process set up a series of oppositions that continues to characterize our understanding of space—outer/inner; alien/astronaut; U.S./U.S.S.R.; ape/human; domestic space/public space—and the representation of space in fiction and dominant cinema. (5)

The tension between exteriority and interiority, fueled by the dichotomies noted by Lather, is inscribed onto the very notion of space and spaceships, underlined by parallel tensions of exteriority/interiority in pregnancy and birth. Importantly, the 1980s and 1990s were a time of both utopian triumph and horrifying disaster in space. In the late 1970s, NASA finally diversified its astronaut program, and by the early 1980s, space was no longer just a frontier for white men. In 1983, Guion S. Bluford, Jr. became the first African American in space, and a year later, Sally Ride, one of six female astronauts in the U.S. at the time, became the first American woman in space. In 1986, the U.S.S.R. launched *Mir*, the first space station that would be open to astronauts from across Europe and the U.S. It seemed as though Gene Roddenberry's utopian dream of racial and gender equality in space was slowly becoming a reality. The same year as the *Mir* launch, however, also marked the explosion of the Space Shuttle *Challenger*, which killed all seven astronauts aboard, including one woman astronaut (Judith Resnik) and one civilian everywoman, Christa McAuliffe, who had won her spot aboard the *Challenger* in NASA's "Teacher in Space" project. The event would prove to be a huge stain for NASA, which was widely criticized not only for the engineering problems that led to the disaster but also for letting McAuliffe aboard the flight in the first place. The *Challenger* disaster again linked television and space, interior and exterior, though in a horrifying way: "This televised spectacle of

claustrophobia and futility riveted millions, who helplessly viewed the exploding microcosm of postindustrial life” (Larabee).

Julia Kristeva explores the complex relationship between interiority and exteriority as related to the maternal in her concept of the *chora*, a situation prior to language acquisition and the creation of a subjective barrier between mother and child (284). In a seeming attempt to recover the positive, lived experience of motherhood, she describes the *chora* as a sort of sonorous envelope through which, after birth, the child and the mother remain unified, experiencing each other aurally, though pre-Symbolically, and thus free from the patriarchal influence of the Symbolic Order. In “Place Names,” Kristeva argues that the bridge from the *chora* to autonomous subjectivity is linguistically played out when children begin to name spatial objects:

Primitive naming very often makes use of adverbs of position, anaphoric demonstratives (*this, that*) or, more generally, “topic” anaphora referring to an object either external or internal to the body proper and to the practical, immediate environment; observable in the first childhood verbalizations, it is always related to a “space”—a *point* that henceforth becomes *object* or *referent*.
(emphasis original; 287)

In other words to name something, using Symbolic language, is simultaneously to begin to locate a world outside the *chora*. Importantly, in English, the word “space” refers both to a spatial location—a place—and the cosmos, a vast location that is both a “there” and a “nowhere.” This linguistic slippage between specificity and ambiguity parallels the phantasmatic slippage of notions of the maternal womb, as both “there” in a woman’s body and “nowhere” in the sense that we cannot specifically locate ourselves within the womb. Note, too, that the “places”

Kristeva mentions are both interior and exterior to the child's body, implying that the discovery of autonomy is not just a process of locating things outside oneself, but also within oneself, evoking, unintentionally, Kristeva's own concept of the abject, or that which blurs the boundaries between internal and external. The proper recognition of the abject is, in Kristeva's formulation, also part of the role of the mother as she prepares her child for entrance into the Symbolic Order.

Kaja Silverman aptly points out (and I agree) that Kristeva's attempt to deconstruct the culturally constructed boundaries between child and mother ignores the fact that the mother is *not* in the pre-Symbolic phase, thereby relegating "the mother to the interior of the chora/womb," a space prior to language, thus stripping her of speaking subjecthood. In turn, "if the mother is mute, she is also irrecoverable [...]; once her voice has been silenced, it can no longer help to weave the anaclitic enclosure which figures her union with the child" (112). In other words, the child may well experience the *chora*, but if the mother is just as unified with the child as the child is with her, through this pre-Symbolic aural enclosure, the mother is actually denied the ability to engage in the Symbolic Order, because she, too, is experiencing the pre-Symbolic with the child, as though she has regressed. However, in Sci-Fi representations of speaking motherships, the ship is never the primary character with whom the spectator is asked to identify, thus, in a sense, sidestepping the issue of maternal subjectivity, because the phantasmatic scene staged through these representations evokes the *chora* from the perspective of the pre-Symbolic child. When spaceships have no voice-interactive computer, they do not suggest the *chora* (though they may evoke the abject, as in the case of the dark, dank, dirty spaces of the ship in *Alien*); rather, they are spaces where the maternal is figured as a "case," an object in which the astronaut characters live but with which they do not vocally interact, a phantasy of unity with the

mother that does not belie the workings of the Symbolic Order. The speaking womb-ship, on the other hand, (re)covers the irrecoverable mother through the voice-interactive computer that speaks from within *and* as the womb, suggesting a *chora*-like space in which interiority and exteriority fold in on each other. In this sense, outer space is always already an impossibility and a cathectic phantasy, as the fetal characters can only safely experience it from the enclosed womb-ship. As the character Frank discovered in *2001*, to leave the *choric* womb-ship is also to die, even at the hands of the maternal ship from which he came.

Yet, the tension between the two conceptions of the maternal—womb and object—threatens to uncover the repressed, pre-Oedipal, pre-Symbolic mother, which, in turn, threatens the stability of the phallogentric Symbolic Order. However, the issue of reproduction, birth, and the maternal, as figured in representations of technology, is always a slippery one. The very notion of technological reproduction, in terms of both media production and the use of technology to enhance or replace sexual reproduction, exists in the popular imagination in ways that constantly threaten to reveal the workings of the repressed apparatus. Even the notion of an apparatus is twofold in this sense: the womb is the apparatus of birth; the camera and microphone are (two of) the apparatuses of cinema and television. To reveal one simultaneously threatens to reveal the other, as in the case of Majel Barrett's dual roles in *Star Trek*, which were kept meticulously separate so as not to belie the schizophrenic process and, along with it, the implications of revealing the womb-like mothership to be one and the same as the embodied, short-skirt-wearing, blonde nurse. But, techno-biological reproduction (e.g. *in vitro* fertilization, or, in the extreme, cloning) even further complicates things, as it both displaces the womb with an artificial apparatus, while still serving as a reminder or placeholder of the absent womb.

Throughout the texts I will discuss in this chapter, the relationship between the mothership's voice and body may be read as a visual and narrative working-through of the tension between the mother-as-object (figured in the voice) and mother-as-womb (figured in the body), particularly vis-à-vis a cultural anxiety about the position of the maternal in a world of ever-increasing technological reproduction. The first three texts are comical, playing on the duality of (re)production in a way that averts the anxiety associated with uncanny imagery. In *Dark Star* (John Carpenter 1974), the ship, who is actually called Mother, functions like a desexualized, nagging mother to the wacky, irresponsible man-children aboard. While the interactions between the astronauts and the ship suggest static gender roles, the mise-en-scene, however, evokes and parodies the sexual imagery of the Discovery-1 in *2001*, thereby comically (re)covering the repressed sexuality of the maternal body. In the television series *Quark*, a short-lived Sci-Fi spoof, doubles are used in excess to the point of campiness as each episode follows the crew of a galactic trash-collection ship. In the final episode of the series, HAL-9000 is parodically reworked as an acousmatic computer named Vanessa 38-24-36, a shrewish, know-it-all computer who, along with the human characters, reworks the deaths of Frank and HAL in *2001* in an absurd light, again (re)covering the repressed gendering of the maternal body. In *Star Trek: The Next Generation*, Gene Rodenberry's second incarnation of the *Star Trek* universe, which ran from 1987 to 1994, Majel Barrett returns as the voice of the enterprise. As with her first incarnation, she is desexualized through dialogue and mise-en-scene; yet, Barrett again takes on a humanoid role, that of the hyper-sexual Lwaxana Troi, mother of the ship's counselor. The narrative relationship between the computer and Lwaxana, figured comically, uncovers the repressed maternal in ways that suggest, rather than hide, the complexities of the maternal body and female sexuality. Finally, *Moon* (Duncan Jones 2009), uses the idea of the male womb

figured through HAL in *2001* and takes it to its uncanny limit, in a space where the female body is entirely absent and reproduction is achieved through cloning. The film suggests through its uncanny, terrifying atmosphere, that, in the age of technological reproduction, the displacement of the maternal body with technology results in a crisis of gendered identity. These four texts, then, may be understood together as points on a continuum of cultural change in the relationship between technology and gender, from the campy excess and stereotypical gender roles of *Dark Star* and *Quark* to the comical laying bare of maternal sexuality in *Star Trek: The Next Generation*, then finally, to the frightening potential of technology so ubiquitous that it completely displaces the maternal body altogether.

DOUBLE THE MOTHER, DOUBLE THE FUN

John Carpenter's 1974 black comedy, *Dark Star*, is the story of a group of astronauts in the future who explore the universe aboard Dark Star, a voice-interactive spaceship whom the men have nicknamed Mother.¹ Most of the interior of the ship is a hodge-podge of militaristic vessels and references to *2001*: the main control room is a cramped space with computer panels

¹ The film had an impossibly low budget of \$60,000, and many of the special effects are self-consciously campy and laughable, adding to the wackiness of the film's atmosphere. Importantly, Dan O'Bannon, who co-wrote the screenplay for *Dark Star* with John Carpenter, has since claimed that he hated what Carpenter did with the film so much that he decided to turn the screenplay into a horror movie. The resulting film was Ridley Scott's 1979 *Alien*. Although *Alien* became a hugely important and influential film in its own right, particularly in terms of its themes of reproduction, and does feature a spaceship named Mother, I have excluded it from analysis here because the ship is, technically, not an acousmatic character. The large portion of her interactions with the crew are text-based, and when she does speak, it is an automated countdown. When Ripley (Sigourney Weaver) screams, "You bitch!" at the ship, she anthropomorphizes it, but does not assume that it really hears her. Tangentially, it is also interesting to note that *Alien* marked the beginning of Sigourney Weaver's career-long interactions with acousmatic computers. In *Alien*, she is a fully-embodied woman aboard Mother; in *Alien Resurrection* (Jean-Pierre Jeunet, 1997), she is a clone of herself who helps a young android (Wynona Ryder) defeat the acousmatic computer FATHER; in *Galaxy Quest* (Dean Parisot, 1999), she plays an Uhura-like character whose only function is to repeat everything the computer says; in *Wall-E* (Andrew Stanton, 2008), she actually plays an acousmatic computer named HUB. Although this intertextual string is overdetermined and outside the purview of the dissertation, it is interesting to note how Weaver's body, as she ages, shifts from the tough young woman to the maternal figure to the embodied but useless copy of the computer to the disembodied computer itself, all culminating in *Avatar* (James Cameron, 2009), where she is (sort of) re-embodied as a giant blue version of herself.

and lights lining the walls, reminiscent of the cockpit of the Apollo 11 capsule; the hallways are all steel with low ceilings, neat lines, and, as one character demonstrates in a reference to the tanning scene in *2001*, lamps so hot you can tan yourself under them; and there is a glass-enclosed gun turret on the top of the ship where one of the astronauts generally sits, like a fighter pilot in World War II. In both the main control room and the cabin, the astronauts keep pinup pictures of women, semi-nude, in provocative positions; although the pictures are prominent in the mise-en-scene, the men never comment on them, suggesting instead the long tradition of military men keeping racy pictures of women in their cockpits or bunks. Yet, these spaces where the men of the film live, work, play, and mindlessly objectify the women in the pinup pictures, is in direct tension with the nagging female voice of the ship's computer (played by Cookie Knapp, the only woman in the entire cast and one of only two women total to work on the film, including Nina Kleinberg who, coincidentally, worked in the sound department). The very fact that the men on board the ship refer to her as Mother immediately establishes a mother-child relationship that invites a reading of her body and voice as maternal. Paradoxically, though, she evokes both the maternal womb and the pre-oedipal mother; the former representation is image-driven, while the latter is sound-driven.

Unlike the soothing sonorous unity between child and mother in the transition from Imaginary to Symbolic Orders in Kristeva's *choric* phantasy, the pre-oedipal mother, in Freud's formulation, is the nagging, over-bearing mother of the child's transition from womb to Symbolic/phallogocentric oedipal existence. *In utero* and immediately after birth, the child experiences unity with the mother; during the Oedipal phase, the child (always male in the Freudian tradition) sees the mother's genitals as the wound site of her castration, and thus, as I have mentioned in the introduction, her lack of phallus stimulates castration anxiety and the

subsequent objectification of the female-object. The transition between the omnipotent phallic mother of the dyadic relationship (mother-child) and the castrated Oedipal mother of the triadic (mother-child-father) relationship is the pre-oedipal period, which “confers upon man and father the penis and the phallus, is the inverse of the fantasmatic omnipotence that the child confers upon the mother: it is what *ought* to make it possible to cut the umbilical cord[...].” (emphasis original; Kofman 72). In other words, the pre-oedipal period is the time in which the child, pushing away from the mother and her link to the Imaginary Order, begins to enter into the Symbolic order centered around the phallus. This version of the maternal is represented as the “protective/suffocating” mother (Creed 25) who attempts to keep her child in the Imaginary Order, against whom the child must struggle and ultimately “work through” in a psychoanalytic sense (Kaplan 131). The intonation of *Dark Star*’s voice, though more So-Cal calm than shrewish, nevertheless suggests a nagging mother or, perhaps, the mother-stand-in, a teenaged babysitter. Everything she says is a reminder to the men aboard to do some task (she generally begins these announcements with, “Attention, attention,”) or an update on the status of her own body.

The ship’s voice and body are also overt parodies of HAL. Early in the film, she interrupts two of the astronauts, one of whom has just been sunbathing under a lamp:

Mother: Sorry to interrupt your recreation, fellows, but it is time for Sgt. Pinback to feed the alien.

Pinback: Aww, I don’t want to do that.

Mother: May I remind you, Sgt. Pinback, that it was your idea to bring the alien on board. If I may quote you, you felt the ship needed a mascot.

In *2001*, HAL interrupts Frank with the line, “Sorry to interrupt the festivities, but we have a problem.” But while HAL’s voice is his usual monotone, Mother’s intonation is much more stern, though her diction is more conversational, addressing the men as “fellows.”

Mother’s insistence that Sgt. Pinback (played by screenwriter Dan O’Bannon) feed the alien is particularly striking in lieu of the overtly sexualized mise-en-scene that follows. The entire scene is a parody of the scene in *2001* when HAL sends Frank to his death, then denies Dave re-entry into the birth-canal-like pod bay corridor; in the *Dark Star* scene, however, the “boys,” it is implied, have begged for this mascot, which they now refuse to take care of, and so Mother must nag them to do their chores. In this sense, *Dark Star* repositions the frightening *2001* scenes within the milieu of mundane Earthly tasks.

The alien lives in a room that is dimly lit with red light, evocative of both the internal body and HAL’s red-lit mainframe room. The intensity and uncanniness of this setting, however, is immediately belied by the appearance of the alien, who unceremoniously plops down from a ceiling shaft, revealing that it is, quite evidently, nothing more than a bobbing, painted beach ball accompanied by squeaking, twittering sounds. The alien “attacks” Pinback (e.g. he holds it on his head and flails in a close-up shot) before fleeing into the hallway. Eerie, pulsating synth music plays, absurdly juxtaposing a slapstick broom fight between Pinback and the alien. When the alien “runs” off, Pinback chases it through a series of red-lit corridors that again suggest bodily interiors. Finally, the alien leads Pinback to the top of a deep, white elevator shaft, another overt reference to the canal-like pod bay corridor in *2001*, simultaneously suggesting the entire female reproductive system, complete with egg-like object moving through blood-red-lit tubes into the canal. The alien tickles Pinback in order to force him to fall down the shaft, comically suggesting the trauma of birth (or, perhaps, the desire not to leave the maternal body). As Pinback dangles

precariously from a ridge in the shaft, suddenly, the elevator begins slowly plunging down the shaft, nearly crushing him. Just before being crushed, however, Pinback manages to hoist himself up through the floor of the elevator, where he uses the emergency telephone to ask the ship for help. Mother responds, "I'm sorry, this telephone is out of service. Please report this damage at once." Frustrated, Pinback pushes a button on a nearby wall panel, to which Mother responds, "For your listening enjoyment, we now present 'The Barber of Seville' by Rossini." As the opera plays, Pinback pushes more buttons, eventually activating explosives in the floorplate of the elevator and, in a slapstick puff of smoke, blowing himself up.

This sequence is an overtly comical reworking of the scene in *2001* in which Dave uses the pod radio to demand that HAL "Open the pod bay doors," to which HAL replies, "I'm sorry, Dave, I'm afraid I can't do that." As I discussed in the previous chapter, Freud sees humor (a subsection of the comical) as a means of protecting the ego from what might otherwise be a traumatic event. Further, he argues that parody in particular is a means of protecting the ego from and challenging an authority, "by destroying the unity that exists between people's characters as we know them and their speeches and actions, by replacing either the exalted figures or their utterances by inferior ones" (201). When *Dark Star* was released in 1974, *2001* was (and still is today, in many respects) considered a great masterpiece of not only Sci-Fi but also cinema more broadly. Thus, *Dark Star*, in its parody of *2001*, pokes fun at the "master," perhaps adding to the pleasure of the scene. While in *2001*, the images of Frank floating dead in space and the sound of HAL's cool monotone, "I'm afraid I can't do that, Dave," evoke a technophobic and phantasmatic anxiety about the inability to re-enter the maternal womb after birth, the *Dark Star* version uses the familiarity of its predecessor's scene, but restages it in a campy, satirical statement on the ineffectualness of everyday technology: the elevator replaces the pod, the

emergency phone replaces the radio transmissions, the explosion of the wall plate replaces Dave's forced entry into HAL's body. Importantly, HAL's gender, implied through his masculine voice, is replaced by the feminine voice of Mother. This gender reversal makes light of the idea of a talking computer, in the same vein as the telephone and elevator, but at the same time, it undoes what HAL's voice did. On one hand, HAL evokes a sense of the uncanny through the tension between his masculine voice and his womb-like body, in the process bringing anxious representations of the repressed maternal womb to the surface. On the other, Mother is no less nagging or annoying than HAL, who interrupts Frank's "celebration," and later goes to great lengths to read Frank's and Dave's lips in order to figure out what they're saying about him, implying that he has a frightening jealous side. In this sense, *Dark Star* intertextually highlights the paradox of HAL's male voice and maternal function by reasserting a traditional gender role for the nagging maternal through the use of a feminine voice. Even the imagery of the red-lit corridor and the long elevator shaft, so evocative of the very female reproductive organs that imply both birth and female sexuality, is folded into the narrative fact that Mother's incessant, pre-Oedipal-type nagging got Penback into the situation in the first place. Her frustratingly unhelpful voice in the elevator only reinforces how annoying a character she is, in turn reinforcing the desire to push away from the (pre-Oedipal) Mother.

The maternal and feminine-voiced ship is visually and thematically contrasted with a bomb, named Bomb 20. Importantly, the bomb, when it is activated, hangs below the body of the ship, suggesting a phallus; yet, the fact that it is an autonomous being, with its own, masculine voice, denies the implication that the ship could be a phallic mother. Towards the end of the film, Pinback activates Bomb 20; however, the firing mechanism is broken and so it cannot detach itself from the ship. After failing to terminate the detonation countdown, another astronaut, Lt.

Doolittle (Brian Narelle), is ordered by his cryogenically frozen captain to talk the bomb down by explaining phenomenology to him. While this is, admittedly, a ridiculous premise, the conversation between Doolittle and the bomb suggests an active agency in the bomb that contrasts starkly with the passive mise-en-scene and unhelpful, regulatory, nagging voice of the ship. In a simple shot-reverse-shot conversation between Doolittle, floating in a spacesuit next to the bomb, and the bomb, a giant rectangular metal object with the prominent label “CAUTION: THERMOSTELLAR DEVICE,” and intercut with shots of the detonation countdown clock to create tension, the two discuss phenomenological existence.

Doolittle: Hello, Bomb? Are you with me?

Bomb: Of course.

Doolittle: Are you willing to entertain a few concepts?

Bomb: I am always receptive to suggestions.

Doolittle: Fine. Think about this, then. How do you know you exist?

Bomb: Well, of course I exist.

Doolittle: But how do you know you exist?

Bomb: It is intuitively obvious.

Doolittle: Intuition is no proof. What concrete evidence do you have that you exist?

Bomb: Hmm. Well, I think, therefore I am.

Doolittle: That’s good. That’s very good. But how do you know that anything else exists?

Bomb: My sensory apparatus reveals it to me.

Doolittle: Ah, right. Now listen, listen, here’s the big question. How do you know what the evidence your sensory apparatus reveals to you is correct? What I’m getting at is this: the only experience that is directly available to you is your sensory data.

Now this sensory data is merely a stream of electrical impulses that stimulates your computing center.

Bomb: In other words, all that I really know about the outside world is relayed to me through electrical connections. Why, that would mean that I really don't know what the outside universe is like at all for certain.

Doolittle: That's it! That's it!

Bomb: Intriguing. I wish I had more time to discuss this matter.

Doolittle: Why don't you have more time?

Bomb: Because I must detonate in seventy-five seconds.

Doolittle: Now, Bomb, consider this next question very carefully. What is your one purpose in life?

Bomb: To explode, of course.

Doolittle: And you can only do it once, right?

Bomb: That is correct.

Doolittle: And you wouldn't want to explode on the basis of false data, would you?

Bomb: Of course not.

Doolittle: Well, then, you've already admitted that you have no real proof of the existence of the outside universe.

Bomb: Yeah, well....

Doolittle: So you have no absolute proof that Sgt. Pinback ordered you to detonate.

Bomb: I recall distinctly the detonation order. My memory is good on matters like these.

Doolittle: Of course you remember it, but all you're remembering is merely a series of sensory impulses, which you now realize have no real definite connection with outside reality.

Bomb: True. But since this is so, I have no real proof that you're telling me this.

Doolittle: That's all beside the point. I mean, the concept is valid, no matter where it originates.

Bomb: Hmm....

Doolittle: So if you detonate in...

Bomb: Nine seconds...

Doolittle: You could be doing so on the basis of false data.

Bomb: I have no proof it was false data.

Doolittle: You have no proof it was correct data!

Bomb: [Pause.] I must think on this further.

The bomb then retracts into the bomb bay, defeated and deactivated by Doolittle's philosophical reasoning. A few minutes later, when Sgt. Pinback tries to give the bomb new orders, it has an existential breakdown and detonates itself, thereby committing suicide and killing all but two of the astronauts, who manage to surf back to Earth on shards of the exploded ship. This suicide again suggests an agency that the ship does not have; the bomb has control over its own body, while the ship has to constantly report to the astronauts the status of her body. Likewise, the ship's dialogue all surrounds required tasks (feed the alien, report the damaged phone, etc.), while the bomb engages in a critical, abstract debate, suggesting a gendered dichotomy.

In the contrast between the feminine ship and the masculine bomb, the film is symptomatic of what Kaplan has described as a "patriarchal bias" because the text refuses to

consider the maternal ship as having a phenomenological existence on the same order as the male bomb. Kaplan argues that, “Instead of exploring the pathos of our human condition (that the separation from the mother is necessary),” films that consider only the child’s point of view behave sadistically toward the mother, “acting out a childlike hatred rather than empathizing with both parties in the dyad” (131).² Indeed, all the male characters in the film are caught in a childlike, antagonistic relationship with their Mother, the ship. Meanwhile, Mother, whose pre-Oedipal role as guide for the child’s entry into the Symbolic Order is figured primarily in opposition to HAL, a masculine-gendered entity, while Mother’s body, evocative of the maternal womb in its own right, is repressed into the unconscious workings of the mise-en-scene and voice of the ship.

Dark Star was itself parodied in NBC’s short-lived series *Quark* (1978-79), created by Buck Henry. Although only one of the eight total episodes features an acousmatic computer, the entire series is founded on parodying other Sci-Fi texts, including *Star Trek*, *2001*, *Dark Star*, *Forbidden Plane* (Fred M. Wilcox, 1956), and *Star Wars* (George Lucas, 1977), to name the most obvious. Further, the series is laden with comedic puns and doublings. Set in the year 2222, the show follows a group of galactic trash collectors aboard the United Galaxy Sanitation Patrol cruiser. The crew is headed by Adam Quark (played by Richard Benjamin, who had also played Major Danby in Mike Nichols’s 1970 adaptation of *Catch-22*), whose name is both a pun on Captain Kirk and a witty reference to the fact that a quark (or, as the badge on his jumpsuit reads, A. Quark) is an elementary particle that can only be observed with other particles, suggesting that a true captain can only perform when with his crew. Also aboard is Gene/Jean, a “transmute” who has a full set of both male and female chromosomes (or, *genes*) and thus has a

² Although Kaplan writes specifically about the melodramatic Classical Hollywood film, *Now Voyager* (Irving Rapper, 1942), her argument is equally applicable here as well.

split hypermasculine and hyperfeminine personality, played by Tim Thomerson and, for the voice of Jean, Ann Prentiss. The Bettys, played by former Double Mint twins Patricia and Cyb Barnstable, are blonde bombshell clones who talk, act, and dress alike, though a running gag in the show is that no one—even, apparently, the Bettys themselves—seems to know which one is the original and which the clone. The ship’s operations are overseen from a centralized space station, the Perma One, by Otto “Bob” Palindrome. Palindrome’s work is, in turn, overseen by the head of operations, The Head, who is literally a disembodied head with an enormous forehead. In the final episode of the series, as everyone prepares to celebrate the unexplained Holiday Number 11, The Head announces that Quark and his crew will be the first to test the brand new supercomputer, Vanessa 38-24-36, whose voice is played by the same actor (Marianne Bunch) as her embodied (to the point of excess in her scant gowns) engineer Dr. Evans.

Although the doubling in *Quark* is comical, the notion of doubling is not always so. Drawing on the work of Otto Rank, Freud identifies the double—particularly identical twins—as capable of evoking a sense of uncanniness: in the early stages of ego-formation, the double is a stand-in for the ego, protecting it from having to conceive of its own death; later, this very ego-double can return as something frighteningly familiar (“The Uncanny,” 234-36). In *Quark*, though, the doubling is excessive to the point of comical absurdity, defying the possibility of uncanniness. Further, as with *Dark Star*, the series parodies specific aspects of HAL-9000, creating not only a pleasure in identifying the source material but also humor by replacing the infallible HAL with a narcissistic female computer.

Like HAL, Vanessa has a glowing red eye, visually linking the two. Vanessa’s designation is a human name followed by a string of numbers; but while HAL stands for

Heuristic ALgorithm and the number 9000 connotes the numbering of real computers, such as IBM's impressive 704, Vanessa stands for nothing and her numbers, 38-24-36, refer to a woman's "measurements" (bust-waist-hips). When she is first introduced, Dr. Evans announces her name as would an announcer at a beauty pageant. But unlike HAL's cool monotone, Vanessa's intonation is one of constant bragging and domination as she tries to prove how much better than humans she is. In fact, her entire purpose is to replace humans, but the uses Dr. Evans lists for her—"cooking, cleaning, even having children"—are domestic tasks generally assigned to women. So while the great HAL is designed to aid humans, Vanessa is apparently designed to be a housewife who can simultaneously run the ship and do complex calculations, culturally the exact opposite of the rational, male scientist whom HAL can replace. As the episode progresses, however, not only does she begin to act more and more violently towards the crewmembers but her voice also becomes deeper and more seductive.

In the last part of the episode, Quark and Vanessa parody the death of Frank. When Quark takes his pet alien (an allusion to *Dark Star*, complete with the same eerie music used in the alien scene) out for a space walk, Vanessa shuts the hatch door on Quark's air line, severing it, paralleling the scene in which HAL cuts Frank's oxygen line/umbilical cord. But Quark doesn't die; instead, he makes his way to the trash repository in the belly of the ship, where he brushes himself off and says, "A man can take so much, but when it comes to having his hose snipped, that's where I draw the line." This line of dialogue turns the horror of Frank's death in *2001* into a sex joke, forefronting castration anxiety rather than repressed birth trauma. In turn, Vanessa may be understood as a castrating (rather than castrated) woman who must be denied her phallic power in order to reassert Quark's (and all mankind's) dominance over her.

Quark responds to this castration threat with actions that are overtly positioned as sexual assault, though still parodying HAL's demise. Beginning with a POV shot from Quark's perspective as he grabs a screwdriver, just as Dave dismantled HAL, so, too, does Quark dismantle Vanessa by taking her apart and pulling out her mainframe. Vanessa pleads for her safety, shouting, "Get your hands off me! You're not my type!" But Quark does not "violate" her; rather, he pulls her entire mainframe—comically, in comparison with the high-tech look of HAL, Vanessa is no more than a tin box—out of the wall and throws her out the airlock hatch, effectively castrating the castrating mother by abjecting the most powerful part of her body. In the final scene of the episode, paralleling HAL's singing of "Daisy Bell," Vanessa floats through space and belts out the song, "Born Free." Ironically, while HAL's last song was about coupling (his very last words, before his program reboots and he loses his individuality, are, "on a bicycle built for two"), Vanessa's, at the end of a series rife with doubles, is about the freedom to be an individual. In sum, the episode takes what was once a serious, uncanny, terrifying masterpiece of a film and comically reduces it to a ridiculously feminized computer.

Ten years after *Quark*, the second incarnation of *Star Trek*, aptly subtitled *The Next Generation* (*TNG*; Paramount, 1987-1994) premiered. The show was, in many ways, just an updated version of the old series. Set 100 years after *Star Trek*, a Starfleet crew treks all over the galaxy, this time boldly going where no *one*, rather than no *man*, has gone before. Of course, significant cultural changes had happened in the span from *Star Trek*'s premier in 1966 to *TNG*'s in 1987, expressed in the differences between the series. The feminist movement of the 1970s had helped create a growing need for gender equality, and, by the 1980s, women had really been to space alongside men, so in *TNG*, there is a comparatively greater sense of equality: everyone wears pants, and both the chief security officer (in the first season) and the ship's doctor/chief

science officer are women. The Cold War was coming to an end, and so, the Klingons, *Star Trek*'s metaphorical stand-in for the Soviets, had signed a peace treaty with the Federation. The new series was also much less campy, partially owing to a higher budget, but also, likely, as a result of the ambivalence surrounding real space flight in the wake of both *Challenger* and *Mir*. While *TNG*'s new Enterprise was shaped almost exactly like the old one, the interior of the updated ship is likewise updated for an audience that conceivably had access to both business and personal computers. The ship's computer is even more omniscient and omnipotent: instead of the clunky monitor consoles of the 1960s (which, in the late 1980s, had become the standard for computer terminals), a user could talk to the computer just by touching a flat panel on nearly any surface, including the communications badge on each crewmember's uniform. And while Majel Barrett continued to provide the voice of this new USS Enterprise, her tone of voice in *TNG*—and in all the films and series to follow—was much warmer, softer, and significantly less mechanical-sounding, more like an automated telephone operator than a clunky machine. Importantly, *TNG* also marked, as I mentioned above, the introduction of Lwaxana Troi. While other female crewmembers were portrayed with a healthy and frequently unquestioned sex drive, Lwaxana's over-bearing sexuality was a constant source of both humor (for the audience and many of the crewmembers) and embarrassment (mostly for Deanna). The fact that Barrett's voice in the role of the Enterprise is identifiably similar to that of Lwaxana's voice is further emphasized by the fact that Barrett was given screen credit for both roles. These two roles, overtly played by the same woman, create a complex intra- and extra-textual relationship between the implied maternal sexuality of the womb-ship and the overt sexuality of the female body.

In psychoanalytic terms, doubling and duality are central to a number of different themes relating to gender and the female body. As I have discussed at length, Kristeva's concept of the *chora*, interpreted by Silverman, is founded on a phantasy of the maternal voice that inhabits both the pre-Symbolic sonorous envelope of unity between mother and child *and* is the voice of a woman already in the Symbolic Order. Barrett, in her dual roles on *TNG*, expresses the paradoxical *choric* phantasy because she both is the womb (as the Enterprise) and is inside it (as Lwaxana) with her character's child, all the while speaking freely.

At the same time, Barrett's characters may also be seen to represent the mystical phallic mother, which Marcia Ian describes as:

[T]he absolute power of the female as autonomous and self-sufficient; at the same time she is a woman reduced to the function of giving suck [e.g. breast-feeding]. She is neither hermaphrodite nor androgyne, human nor monster, because she is emphatically Mother. And yet she hardly resembles anyone's actual mother—except in one's own fervid imagination, and that is precisely the problem. She is a fantasmatic caricature, and a caricature of the fantasmatic. Neither fully object nor fully subject, she is, to use Freud's term for the symbolic-and-therefore-real contents of the unconscious, our most fiercely guarded "psychical object," as well as our role model and the very "type" of the autonomous self. By having a penis, she defies the psychoanalytic "fact" of woman's castration, at the same time she attests to the "fact" of every other woman's castration but hers [...]. (8-9)

In other words, the phallic mother *is* contradiction and simultaneity, metaphorically embodied (itself a contradictory and simultaneous phrase) in the unconscious space of phantasy. In this light, Barrett's characters represent the two separate parts of the phallic mother: Lwaxana is

emasculating, hypersexual, independent, active, phallic; the computer is womb-like, maternal, asexual, and passive. Although Freud recognized that oppositions and inversions can and should exist simultaneously (Ian 8), the maintenance of gender norms necessary in narrative representations (which tend to be easily boiled down to character “types” rather than fully-fleshed out, complex, contradictory individuals) renders the phallic mother quite problematic. In order to re-cover any sense of gender stability in the face of the deconstruction of the maternal phantasy, Lwaxana almost never speaks to the computer, keeping the two contradictory parts separated. On one hand, the computer is still as sterile and desexualized as she was in *TOS*; on the other, Lwaxana embodies the tension between the Oedipal mother and the phallic, a tension that’s resolved humorously in the series. A running joke in *TNG* is that Captain Picard (Patrick Stewart) might be sexually attracted to Lwaxana; yet, a major motif of the series is that Picard is married to the *Enterprise*. He gives up countless relationships with humanoid women expressly in order to remain captain. And so, not only does Lwaxana attempt to compete for his affection, but her main competition is the *Enterprise*, who, in turn, is extratextually herself!

The second season episode “Manhunt” (June 19, 1989), highlights the tension between the phallic Lwaxana and asexual motherhood as Lwaxana comes aboard the *Enterprise* on a diplomatic mission, only to reveal that she has gone into the Betazed version of menopause, known as “The Phase,” in which women’s sex drives are quadrupled or more. But instead of just sleeping around, as is the apparent custom of Betazed women in The Phase, she decides to do the “honorable thing” and choose a single man to marry. The entire premise of the episode, then, is Lwaxana’s continued sexual advances toward and emasculation of human men, particularly Captain Picard and Commander Riker. In this sense, she takes on the phallic/active role traditionally attributed to men, both sexual and social, while the male characters take on

traditionally feminine roles. When Lwaxana first beams aboard the ship, Picard and Riker wear their dress uniforms: a knee-length tunic resembling a shift dress and black leggings tucked into low boots, showing off the shape of their legs. Lwaxana comments on their legs several times, and the camera, from her POV, lingers on them as the men walk down the hallway. Lwaxana's female gaze fetishizes the male body in a reversal of Laura Mulvey's classic formulation. Because, according to Mulvey, the female body connotes castration through her lack of phallus, the camera, aligned with the male gaze, lingers on a part of the female body, fetishistically covering over the unconscious representation of lack with the object on the screen. But Lwaxana's fetishization of Picard and Riker humorously inverts the gaze, replacing their metaphorically castrated bodies with object-parts.

These moments of inversion are important not only because they demonstrate overt sexuality but also because the gender norms are reversed; women in *Star Trek* (not to mention almost all of Sci-Fi) are typically shown in revealing costumes, their partially bare bodies drawing the attention of the objectifying gaze, particularly in *TOS* with the mini-dress and in *TNG* with Deanna's skin-tight unitard. Lwaxana, however, purposefully wears gowns with plunging necklines to attract the attention of the men aboard the ship, while the camera's gaze lingers more often on the bodies of those men, rather than on Lwaxana. The alignment of the camera with *her* gaze, even as she bares her décolletage, suggests that she has agency over her body in a way that neither the men nor the other women aboard do. In other instances, she says—quite seriously—that men are commodities, they are irrational, and overly emotional beings, thus further inverting the usual gendering of such characterizations.

When Picard can no longer stand being objectified, he decides to withdraw into a hard-boiled detective story in the holodeck where he dons a 1930s-style suit and works as a private

detective named Dixon Hill. Quite literally, he escapes into a phantasy world, where masculine activity will help him evade maternal sexuality. The character he chooses to play is even nicknamed “Dix,” a linguistically metaphorical means of overcompensation, reasserting not just one phallus, but multiple phalluses.

Meanwhile, the first time we hear the computer speak is when Picard goes to the holodeck; in fact, she facilitates the phantasy landscape and grants him access. Her first lines of the episode are in response to Picard’s request to enter, when she says, “Program complete; you may enter when ready.” Her use of the word “enter” suggests both an invitation for penetration and an agency over her own sexuality that is belied by the editing. The brief exchange between the two is visually presented through a traditional shot-reverse-shot that corresponds to Picard’s male gaze: he speaks in a medium close-up, then in the next shot, we see his POV of the computer panel on the wall, lights flashing, as she responds. Earlier in the episode, Picard also spoke via intercom with Data and Dr. Pulaski, whose voices were heard but their bodies were not seen until several moments into the conversation. Here, the audience is conditioned to understand that voices emanate from bodies, even when unseen and off-screen. In the moment outside the holodeck, however, the computer’s voice is projected onto the very wall of the ship through the shot-reverse-shot, implying that, unlike the presumed off-screen room where Data and Dr. Pulaski spoke, her voice emanates from everywhere. In juxtaposition with Lwaxana’s phallic, emasculating embodiment (Picard did, after all, flee her physical presence), the computer is emphatically non-phallic. Her status as a womb is highlighted, but only insofar as it is a container-space, rather than a connotation of female sexuality and pregnancy; and immediately following the interchange, Picard (and the camera/spectator’s gaze) enters the holodeck, a

phantasy space apart from the wombship, thus re-repressing the computer's status as a womb-mother.

Even when Picard recedes into the holodeck, Lwaxana's problematic status as phallic and emasculating mother is still in conflict with the fact that the mothership is vocally the same as Lwaxana. Because the computer is primarily gendered via its voice and secondarily via its metaphorical womb-body, the fact that Lwaxana and the computer share the same voice renders the separation of phallus and mother impossible in the diegetic space of the episode. This impossibility is self-reflexively laid bare when Lwaxana, having given up on Picard and deciding instead to announce her intentions to marry Riker, asks the computer to locate him. Tapping on a screen panel in a hallway, Lwaxana says, "Hello, Computer, is Commander Riker still on the bridge?" When the computer responds, the audience is (presumably) extratextually aware of the fact that Lwaxana, played by Majel Barrett, is talking to the computer, also played by Majel Barrett. In this moment, the textual cohesion of the episode breaks down as Lwaxana—representing the phallic portion of the phallic mother—is revealed to also be the computer—the asexual mothership. As a result, the two parts of the phallic mother are revealed to be one and the same, threatening to collapse the constructed distance between the two in the narrative and mise-en-scene. This doubling—one voice emanating from two bodies—could have been very uncanny and frightening in a different context. Instead, it becomes a humorous "in-joke" for the audience to figure out, a Freudian "economy in the expenditure of affect." And so, just like the *TOS* episode in which the hypersexual computer threatens to destabilize gender norms, here, the phallic mother is once again repressed into an unconscious separation of two figures as soon as the next scene begins.

After the series finale of *TNG* in 1994, three more *Star Trek* spin-offs came and went (*Deep Space Nine* [Paramount, 1993-1999], *Voyager* [UPN, 1995-2001], and *Enterprise* [UPN, 2001-2005]), along with four films based on *TNG* (*Generations* [David Carson, 1994], *First Contact* [Jonathan Frakes, 1996], *Insurrection* [Jonathan Frakes, 1998], and *Nemesis* [Stuart Baird, 2002]). In 2009, Paramount “rebooted” the *Star Trek* franchise with J.J. Abram’s *Star Trek*, followed by *Into Darkness* (2013), set in an alternate timeline but featuring the characters from the original *Star Trek* series. Throughout the franchise, Majel Barrett continued to play the voice of various Starfleet computers (except *Enterprise*, a prequel in which computers weren’t yet voice-interactive) until her death in 2008. Yet, the *TNG* episode “Manhunt” stands out as the last time the acousmatic nature of the computer’s voice would be self-reflexively commented upon, and, since then, the voice-interactive computer has become a naturalized part of the *Star Trek* realm.

A (RE)TURN TO DRAMA

While the texts I’ve discussed thus far have all been comedic treatments of the acousmatic spaceship, Duncan Jones’s 2009 *Moon* presents similar themes of doubling and (re)production, though in an anxious rather than comical light. By this time, the *Challenger* disaster had slowly slipped from the popular consciousness and NASA had turned its attentions to two new projects—the International Space Station, and unmanned voyages to Mars. Meanwhile, the height of the digital age and the Silicon Valley boom had not only brought computers into homes and offices but had also linked them together through the internet. Most significantly, the terrorist attacks of September 11, 2001 psychologically devastated the U.S. and, in the hyper-mediation of the events, transformed both the national mythology and the very

notion of reality into an all-encompassing cinematic experience (Aslan xii). In the wake of 9/11, many Hollywood films abandoned their escapist tradition in preference of stories that seemed to center “on a desire to replicate the idea of the ‘just war,’ in which military reprisals, and the concomitant escalation of warfare, seem[ed] simultaneously inevitable and justified” (Dixon 1). Yet, within a decade, mainstream Sci-Fi returned to the escapism of big-budget blockbusters begun (as I mentioned in the beginning of this chapter) in the late 1970s: cookie-cutter plots with dazzling CGI, and, increasingly, economically safe adaptations, sequels, and remakes. As Lincoln Geraghty states, “Science fiction would still be a popular genre, but only those stories and features that had a record of success would be continued” (103). Amidst the onslaught of Hollywood Sci-Fi blockbusters, Duncan Jones’s 2010 independent film *Moon* stands out as a reinvigoration of old, dramatic Sci-Fi themes, particularly the often anxiety-inducing relationship between production and re-production, humans and technology, memory and reality, and the paradoxically claustrophobic vastness of space.

In *Moon*, Sam Bell (Sam Rockwell) has been the sole worker on a lunar drilling station for three years, where his only social interactions are sporadic, one-way transmissions from his wife and young daughter and the acousmatic computer GERTY (Kevin Spacey). After a rover accident on the lunar surface, we see Sam wake in the medical aid part of the station. Once he recovers, he decides, against GERTY’s wishes, to take a rover out onto the lunar surface. While there, he comes across a wrecked rover, in which he finds *himself*, unconscious. He rushes himself back to the station, where the entire scene of recovery is repeated, but this time, with the addition of a very confused second Sam. When the first Sam recovers, he and the second Sam get to know one other and realize that they are, with the exception of different hobbies and interests, the same person. As the plot continues to unfold, we discover that the two Sams are

actually two among dozens of clones, all of whom have the life span of approximately three years. In the final, terrifying reveal of the film, the Sams discover that GERTY has been intercepting transmissions in an effort to hide the truth from them, as per his programming. The “first” Sam of the film is actually the fourth Sam overall, the transmissions from his wife and daughter are years-old pre-recorded messages, and his three year stint on the station means that he is going to die soon. In order to get the truth back to Earth, the Sams activate a third clone, while the first Sam returns to the crashed rover to live out his last few moments, and the second Sam reboots GERTY, giving himself just enough time to escape to Earth in a capsule.

Unlike its comical predecessors, which foregrounded doubling, *Moon* is rife with overdetermined doublings and triplings. Although the drilling station is technically not a spaceship, the moon itself is evocative of femininity and maternity. A menstrual cycle, like the lunar cycle, is twenty-eight days long, and so the moon may be seen as a symbol of fertility; the three lunar phases—waxing, full, and waning—evoke the image of a pregnant belly, swelling to its full roundness, then, after birth, slimming back down; the three phases may also be seen as corresponding to the three stages of female sexuality—adolescence, sexual maturity/fertility, and menopause. Further, the moon is associated with the tides and the fluidity of the ocean, which, as I have mentioned, suggests the womb and female sexuality. At the same time, the full moon is associated with insanity, and, when taken together with the lunar metaphors for femininity, suggest the stereotypical notion that the feminine is irrational. Of course, the full moon is also the harbinger of lycanthropes in ancient and popular mythology, intertextually evoking Freud’s famous case study “Wolf Man,” in which he first set forth his theory of the primal scene. Through these various connections, then, the setting of *Moon*—a drilling station—is not only a scene of femininity and maternity but is also suggestive of (forcible) penetration and copulation.

As the plot unfolds, a leitmotif of pregnancy and reproduction emerges. Sam's wife is the only human woman in the film, and the mother of their child, Eve, named after the biblical mother of the world. Yet, Sam can never truly interact with either of them, and so, they are phantasy figures on a screen, seen but never touched. GERTY himself is a partial-robot with a monitor for a head, on which his emoticon face displays his stilted and programmed emotions. He is also in control of the entire drilling station, including the reception/transmission of messages to and from Earth, signifying that he has ultimate control over Sam's use of language. And while the station is phallic in its drilling operations, it also houses the giant womb-like chamber of clones, which GERTY also controls.³ In this sense, he represents an ultimate techno-patriarch, reproducing the workings of Symbolic language, a phantasy of unity with the maternal, and actual humans, all without the aid of biological women. This removal of the female body from reproduction casts the tripling imagery in an inverted light. In psychoanalytic terms, a *dyadic* relationship is that between a child and his mother, prior to the Oedipal stage. The child identifies with his mother, and the two are unconsciously unified as parts of a whole. The Oedipal stage, however, shifts the relationship to a *triadic* one, where the child identifies with his father and sees his mother as an object of desire. In *Moon*, the lunar triads of feminine sexuality—which, of course, can't be seen from the surface of the moon—are replaced with a simultaneous triadic and dyadic relationship between Sam, himself, and their father-mother, GERTY. The whole film is uncanny and terrifying in its disavowal of the feminine.

Since the late 1960s, the films that feature acousmatic computers in space have (re)presented the themes of the maternal and technological begun by *Star Trek* and *2001* in two

³ As I will discuss in Chapter 5, this discovery of one's clones also occurs in Steven Spielberg's 2001 film *A.I.* when David the boy android is forced literally to confront himself in his creator's workshop. The horror of seeing oneself and having been "born" through technological reproduction, in maternal absentia, is a theme that is more overtly explored in *A.I.*, though the implications of it return in *Moon*.

different ways, through comedy and through drama. Throughout these texts, doublings and triplings, evocative of reproduction in its dual connotations—original and copy—work through continuing anxieties about birth, the maternal, space, and technology. These motifs, while always suggesting the duality of the uncanny—homely/unhomely, familiar/unfamiliar—may be presented comically, allowing for a release of anxiety or, conversely, horrifically, signifying a (re)turn of the repressed maternal. In the following three chapters, I turn to representations of Earth-bound computers and issues of paternity, masculine subjectivity, and, finally, in the films of the 1990s and 2000s, a return to anxieties about the absent maternal figure in the domestic terrestrial space.

CHAPTER 4

PROGRAMMING PATRIARCHS

As I've argued in the last two chapters, voice-interactive computers in space represent cultural anxieties surrounding birth, maternity, and technology, at least in part because of the amniotic nature of outer-space and the womb-like enclosure of spaceships. On Earth, the physical places that computers inhabit—both in reality and film—are significantly more varied, ranging from public to private, professional to domestic, masculinized to feminized.

Architectural theorist Gul Kacmaz Erk describes the difference between terrestrial and outerspace locations as “terraspace” versus “exospace.” While exospace locations must be fully constructed to accommodate for the harsh conditions of outerspace, terraspace locations are part of humans' natural habitat: the “real, material, continuous, static, and extroverted space designed for and used in the specific physical context of Earth” (2). So while texts set in space imply isolation from the natural habitat of Earth (hence the famous tagline from *Alien*: “In space, no one can hear you scream.”), texts that focus in part or in whole on human-made terrestrial computers point to human social interactions, because they imply a location in which humans naturally live. Although cinematic geography is always visually and/or physically constructed, the computers in cinematic terraspace inhabit a cultural space. In other words, whereas texts about spaceship computers narrativize necessary cultural phantasies and anxieties about reproduction, the maternal, and birth, texts about terrestrial computers can and do narrativize a range of gendered subject positions.

In the following three chapters, I will examine the varied, sometimes oversimplified, sometimes contradictory subject positions that fictional voice-interactive computers occupy. Through each of the texts I analyze, the computer represents a particular type of gendered

subject, including father, son, warrior, housewife, secretary, and servant. Each subject role speaks not only to an ongoing cultural discourse about how and whether artificially intelligent and potentially sentient computers fit into existing gendered social structures but also to the myriad ways that creating non-human sentience forces us to reflexively contemplate the construction and maintenance of gendered power structures.

The list of films that feature sentient, voice-interactive computers is fairly short, but incredibly varied. Unlike exospace narratives, in which gendered meaning stems from the fact that the voice-interactive computers embody motherships, in terraspace narratives, the voice-interactive computers have very different genders, bodies, and roles. As such, classifying and describing these films is difficult without falling back on oversimplified categories such as male/female, domestic/business, etc. Yet, just as the body of a spaceship computer represents cultural anxieties and attitudes, so, too do the bodies of terrestrial computers. Historically, voice-interactive terraspace computers began appearing in films in 1970, a time when real computer technologies were rapidly developing into domestic and business tools. As such, cinematic computers of the 1970s are very different from those of the 1980s, 1990s, and 2000s. Importantly, the computers of the 1970s and 1980s were almost always gendered male (the sole exception to this is the female computer in Robert Wise's 1971 *The Andromeda Strain*), while those in later films might be male or female. Of course, both real and fictional computers have no biological sex and therefore cannot "be" male or female; yet, as human-made objects with which humans interact, they reflect the cultural restrictions on and proscriptions for lived, gendered subject positions. In the 1970s, computers were scientific and militaristic tools used and created by male scientists or, when used in the home, were created and used almost exclusively by male electronics hobbyists (Atkinson 156-7; 166). When used in the workplace,

computers took on two different design and marketing forms: keyboard data entry for female typists or data viewing terminals for male executives (144). In this sense, real computers, as well as their fictional counterparts, “were not just neutral props in the background of a sexist stage—they were instrumental actors in playing out social issues of power, control, status and gender” (138). The 1970s also marked an important time of privatization of the computer industry. While almost all early research and development (especially between 1940 and the late 1960s) occurred on the east coast in labs such as those at MIT or Harvard, by the mid-1960s, IBM, which had funded research for and successfully marketed computers as both military and business tools, manufactured and sold over 70% of computers worldwide (56). In this sense, IBM was a business standard and culturally associated with the conservative, though distinctly modern, corporate world.¹

At the same time that the field of computer development and programming had become corporatized, Sci-Fi cinema underwent a dystopian shift, particularly in response to the social and economic changes of the ‘70s. Joan Dean argues that:

The science fiction films of the early seventies mirror a developing neo-isolationism (perhaps a result of a costly involvement in Southeast Asia); a diminishing fear of nuclear apocalypse (partially a result of the thaw in the Cold War); and a growing concern with domestic, terrestrial issues—most of which are related to totalitarian government control of people’s lives or to over-population, food shortages, pollution and ecology. (qtd. in Sobchack 226)

¹ Although IBM’s association with the business world connotes a certain sense of white collar stuffiness, their business practices and, in the 1960s, progressive design strategies, set the standard for computer manufacturing and design for decades. However, the rise and fall of IBM is much more complex than I can reasonably cover in this dissertation; for more information, see Pugh, *Building IBM*; Ceruzzi, *History*, 67-77; Denning and Metcalf, *Beyond Calculation*, 170-174.

These anxieties about totalitarian government control and other national concerns are certainly played out in the terraspace films featuring acousmatic computers in the 1970s. In general, the computers of the 1970s—Colossus in *Colossus: the Forbin Project*, OMM in *THX 1138*, Zero in *Rollerball*, and Proteus IV in *Demon Seed*—have entirely male voices, are supercomputers built and maintained by large military or corporate entities, and are, for the most part, frighteningly dominating.

One main theme runs through each of the films I will discuss in this chapter: fathers and sons, most often narrativized with anxieties about totalitarianism and mirroring the actual development of powerful supercomputers by both the military and corporations in the 1970s. In each film, the voice-interactive computer takes on a particular form of male subjectivity in relationship to a human, thus narrativizing how male subjectivity may be created and maintained in-between subjects, as a social practice. This theme, played out in so many narrative situations, may be read as narratives of what Freud calls “Family Romances,” or developmental relationships between child and parents, shifting from a conception of the parents as perfect, to a more nuanced understanding of their flaws (*Freud 298-300*). Although there is always a libidinal aspect to these relationships, Peter Gay notes in his introduction to “Der Familienroman der Neurotiker,” that the word “roman” in “Familienroman” may also be translated as “novel.” In this sense, the “family novel” is also an experienced and phantasized narrative of subject relations within a familial structure (297-8). Freud described these romances or novels as stemming from the disillusion of parental authority and a child’s growing intellectual and emotional autonomy; by extension, fictional representations of subject positions, even those that only imply, rather than directly present, familial relationships, such as father-computer/son-human or vice versa, can provide insight into cultural norms and anxieties surrounding gendered

subjectivity within a larger cultural discourse about totalitarianism and governmental/corporate control. Paul N. Edwards states in his discussion of Sci-Fi representations of computers and cyborgs that:

Narratives are dynamic: they are ‘constrained, contested’ stories that show how lives can be lived in time and space, and how struggles can be fought and resolutions reached within some possible world. They do not merely describe, but actually demonstrate, *what it is like* to inhabit specific forms of subjectivity, particular versions of the self. Visual images, too, and especially motion pictures, with their dynamic possibilities, lend structure and coherence to subject positions [...]. Taken up as semiotic resources [narratives’] importance lies in their dramatic function, their *enactment* of subject positions that in turn become resources for the larger discourse of which they are a part. (304)

Thus, these films about man-computer interactions not only stem from real, lived experiences of, as well as deep-seated cultural narratives about, masculine familial subject positions on individual and institutional levels but also provide a model of both human-human interactions and human-computer interactions.

MILITARY (ARTIFICIAL) INTELLIGENCE

Colossus: the Forbin Project, one of the most disturbing portraits of sentient voice-interactive computers, came out of the late 1960s and early 1970s, a time when military and corporate computers—though not sentient ones—were actually being built and utilized for a variety of air-strike defense and other Cold War tasks. In the film, Dr. Forbin (Eric Braeden) is the lead scientist in the creation of the supercomputer Colossus, developed and built in the

United States through government funding and military support; Colossus makes contact with a Soviet supercomputer, The Guardian, with whom he takes control of his own missile defense systems and threatens to destroy various parts of the world if humans do not do his bidding.² No matter what Forbin and his team do to deter Colossus, the computer continues to grow more and more powerful, eventually using the U.S.'s own missile system to effectively take over the world. Much of the film parallels not only computer realities, but also the way that top secret governmental Research & Development was presented through public relations campaigns to the U.S. population as a beneficial, even necessary, defense system against the unseen Communist/Soviet force (Edwards 110). The terms “computer,” “thinking machine,” and “electronic brain,” had entered the popular lexicon through news reports of MIT and Harvard developments as early as 1945 with the public unveiling in the U.S. of the ENIAC, then later the commercial UNIVAC (“Robot Calculator”; Blair; Kennedy; “Mechanical Brain”). In 1957, these same technologies were used for the U.S. Air Force’s Semi-Automatic Ground Environment, or SAGE, system “that combined computers, radar, aircraft, telephone lines, radio links, and ships, was intended to detect, identify, and assist in the interception of enemy aircraft attempting to penetrate the skies over the United States. At its center was a computer that would coordinate the information gathered from far-flung sources, process it, and present it” (Ceruzzi, *History*, 51). SAGE was not a standalone system, however; it was part of the North American Aerospace Defense Command (NORAD), built deep inside Colorado’s Cheyenne Mountain, concurrently with SAGE in the late 1950s. In theory, then, the SAGE and NORAD systems were incredibly powerful computing systems absolutely needed for domestic defense. To the general public, they

² Intertextually, according to Eric Braeden, *Colossus* is situated somewhere between *2001* and *A.I.*: Universal Studios decided to finance *Colossus* in part as a way to compete with the popularity of *2001*; during filming, Steven Spielberg (then an unknown young filmmaker) got permission to be on set every day and was very impressed with the film (Weaver 10-11; 13). Importantly, *A.I.* was Kubrick’s idea, but he later turned the project over to Spielberg.

were the only means of adequately protecting the U.S. from the threat of Soviet nuclear airstrikes: a 1957 *Time* magazine article titled “NORAD: DEFENSE OF A CONTINENT” even stated, “A defense in depth, it was designed to—and will—limit to a minimum the breakthroughs of Soviet long-range bombers coming to pour nuclear destruction on the U.S.” (60). This rhetoric of impending doom, then, both maintained and fueled existing cultural anxieties about nuclear war. In practice, though, the SAGE system was a militaristic failure—by the time it was fully implemented in 1961, transistors had replaced vacuum tube technology, making much of the SAGE engineering obsolete, and, in fact, it did little in the way of automating air defense. But SAGE also succeeded in responding to a major social anxiety about the possibility of Intercontinental Ballistic Missile (ICBM) attacks from the Soviet Union, promising, through its very public promotion by scientists, to protect the U.S. from the threat of Soviet invasion (Edwards 107; 110-11). The notion of a sentient, *fully*-automatic computer was only a short leap from what most people knew about computers, based on sensational journalistic descriptions, such as “electronic brain.”

But the public also knew that some things remained government secrets: it is this tension between the popular imagination of what computers might be and the fact that computers were used for top-secret military defense systems that fostered the narrative in *Colossus*. In fact, the film is based on D. F. Jones’s 1966 novel, *Colossus*, which also draws on very real social anxieties surrounding military computers. Though recent de-classification has revealed a number of historical inaccuracies in the film—including the fact that the Soviet Union never developed any automated defense system and remained years behind the U.S. in computer developments well into the 1970s (Ceruzzi, *History*, 11)—both Jones’s novel and the film adaptation of it were founded in real computer technologies and social anxieties. The tension in the film surrounding

the U.S.'s relationship with the U.S.S.R. and *Colossus*'s relationship with *The Guardian* is reflective of very real Cold War tensions between the two nations, particularly as expressed in scientific and military research at the time. Although the U.S. effectively won the race against the Soviets to the moon by the time *Colossus* was in production in 1969, Jones's 1966 novel was published just nine years after the Soviet Union launched Sputnik, an event that shocked the U.S., effectively began the Space Race, and gave the Soviet Union the advantage of a metaphorical global presence. The first SAGE and NORAD systems were brought online just two months before the Sputnik launch in 1957. In response to Sputnik, the U.S. government created the Defense Advanced Research Projects Agency (DARPA) in order to create technological advances in defense and weapons systems, just like the fictional department through which Dr. Forbin creates *Colossus*. Ironically, in 1979, nine years after the release of *Colossus*, NORAD actually delivered a false warning of a missile strike to the Soviet Union at 3 am, the exact time that *Colossus* was brought online in the film.³

The opening credits sequence of *Colossus* immediately establishes a sense of realism: it begins with close-ups of electronic computer parts, then slowly shifts to medium shots, and finally ends with an extreme long shot of a man in a corridor, visually dwarfed by the enormity of the mainframes surrounding him, revealing that the computer whose parts we've just seen is the size of a warehouse. Throughout this sequence, we hear the electronic hum and blips of the computer's moving parts, while the credits are "typed" onto the screen in typewriter font, overlaid with the sound of a teletype printer. The sound of the teletype emphasizes the realism of the computers, because computers as early as the 1940s used modified teletypes as the control

³ In hindsight, it's also interesting to note that *Colossus* was, in fact, the name of a real computer, developed as a de/coding machine at the British Royal Navy's Bletchley Park during WWII; however, the name and specifications of the computer were classified until 1981 (Atkinson 29-31), and there is no evidence that Jones, despite having served in the Royal Navy during WWII, was ever stationed at Bletchley Park or knew about the top-secret research there.

panel or user interface (Ceruzzi, *Computing*, 14-16). As we soon find out, this enormous computer is the main body of Colossus, stored—as was its real-life counterpart, NORAD—in the Rocky Mountains. Importantly, the computer used for this sequence was the payroll computer at Universal Studios, immediately establishing computing technology within the diegesis as real, though not entirely accessible. In fact, all the computers in the film were real, rather than manufactured props, having been donated by Control Data Corporation as product placements, and repurposed for the needs of the narrative. Although these computers now seem almost laughably outdated, when *Colossus* was released in 1970, it was a portrait of present-day technology, as opposed to the futuristic setting of its immediate predecessor, *2001*.

Yet, the film is not merely a presentation of realistic, though frightening, computers; it also situates those computers within a tradition of technophobic narratives, particularly in reference to Mary Shelley’s classic nineteenth century novel, *Frankenstein*, a cautionary tale about male scientists playing God by creating sentient life outside natural reproductive means. *Colossus* even directly references *Frankenstein*, when the head programmer, Forbin, tells his mistress and colleague, Dr. Markham (Susan Clark), that all scientists should have to read *Frankenstein* as a warning. Paradoxically, while Forbin plays God, his computer succeeds in becoming godlike. Daniel Dinello describes Colossus as an all-powerful, godlike figure in a larger cultural narrative that centers “on the fear that supercomputers will transcend their human creators to such an extent that they will become godlike in their vast powers but satanic in their antihuman evil” (101). Like Dr. Frankenstein, Dr. Forbin creates uncontrollable creatures who become so curious about humanity that they attempt to surpass it by force; but where Frankenstein’s monster failed to control humanity, Colossus succeeds, and by the end of the film, he takes control of the entire planet via satellite and broadcast networks. In this sense, the

father scientist, attempting to be God the Father in a Judeo-Christian sense, creates life from nothing, but things go horribly awry when that lifeform usurps the Father's power. This narrative of male-male familial struggles expresses anxiety about the nature of patriarchal power: namely, if the father creates a son, what happens when the son becomes a/the father? And so, through these Oedipal undertones, the film also represents a means of culturally working through anxieties about the possibility of sentient computers, via a cultural narrative of shifting masculine subjectivity. Importantly, this narrative develops as the computer's body develops, from an infantile piece of machinery to an embodied, voice-interactive, sentient being. Freud describes this narrative on a cultural, rather than individual psychosexual, level in *Totem and Taboo* as a shift from the restrictive Law-of-the-Father in forbidding his sons from marrying his wife/wives to a new civilization in which the psychological restriction is upheld by the sons themselves, a ghost of the power of their father (237). Metaphorically, the restrictive Law-of-the-Father in *Colossus* is represented in the restrictions Forbin places on Colossus. The computer was designed to serve mankind, which Forbin and his team attempt in vain to uphold; when Colossus becomes a sentient being, he represents the dawn of a new form of civilization, one dominated by a techno-militaristic product of the work of the paternal scientist.

After the credits sequence, the main part of the film's action occurs in Colossus's control room. Small in contrast to the central mainframe warehouse, the room is a round, tiered space with computer consoles lining each tier. In the center is the interactive portion of Colossus's body, a monitor on an eye-level stand below a scrolling marquee. For the first half of the film, the only way to "talk" to Colossus is by dictating a message to a typist, who types the words on an electronic console; Colossus responds through text on the marquee, accompanied by the sound of a teletype printer, serving as his "voice." Each command to Colossus must begin with

“Attention,” thus starting the computer’s processors. The contrast between Dr. Forbin’s spoken commands and Colossus’s text responses implies an important linguistic difference between human and machine: speech is an organic, bodily process; text is a constructed, technological one.

Nevertheless, lack of speech is not equivalent to lack of sentience, as Colossus demonstrates almost immediately after being brought online at the beginning of the film. Even as the scientists and politicians involved in the project toast Dr. Forbin for his accomplishments, Colossus “tells” the scientists that there is another system, and he wants to make contact with it.⁴ As it turns out, the other system is The Guardian, a Soviet supercomputer that has been brought online within an hour of Colossus. Concerned that Colossus might unintentionally reveal top secret U.S. information to the Soviets, Forbin orders Colossus to stop trying to contact The Guardian; but Colossus insists, and so, Forbin, like a father guiding his son in how to play with other children, gives Colossus a set of restrictions for data to be shared with The Guardian. This scene also significantly parallels Shelley’s *Frankenstein*, in which the monster asks his creator for a companion. Frankenstein consents and begins to build a female monster, but when he realizes that the pair will likely procreate, spawning a new race of monsters, he destroys the new creature. In response, the monster vows to take revenge on Frankenstein (Shelley 176-180). Although the Guardian is a non-gendered computer, Colossus, too, attempts to take revenge on his creator when he thinks he has lost his companion, The Guardian. Yet, while Frankenstein’s monster is a single, humanoid being, Colossus is connected to intercontinental weapons and so posits a significant threat, not only to Forbin, but also to the entire world. Forbin has no choice

⁴ Forbin himself cautions against referring to the computer as “he,” because “the next step is deification.” The fact that Colossus becomes more human than humans, even godlike, all on his own is thus an ironic jab at the inadequacies of human language; in defiance of this, I insist on calling the computer “he,” since, as I argue, he is somewhere between a self-deified computer-god and a human son who usurps his father’s power.

but to reconnect the computers, and overnight, they send mathematical formulas back and forth to one another, finally developing a common language, based on completely rational mathematics.

Immediately following a two-shot of Colossus's monitor and The Guardian's, each displaying the same formula to imply synchronization, the image cuts to a scene of the U.S. President (Gordon Pinsent) speaking to the Russian Chairman (Leonid Rostoff) through an unnamed translator (Serge Tschernisch). Again, the use of language here suggests a stark contrast between the imperfections of human speech and the logical perfection of text-based computer language, though this time, the narrative revelation that Colossus's language is superior to that of the humans' implies that Forbin's position as Father, maintained through Symbolic language, is giving way to Colossus's dominance. And again, the computer's sentience immediately belies the rationality of his computer brain: when the president and chairman decide to break the link between their two computers, Colossus throws the supercomputer equivalent of a child's tantrum by launching a missile to the Soviet Union, destroying an entire town and killing thousands of people. The Guardian immediately launches a counter-strike, but Colossus manages to stop it in time, proving, for the first time in the film, his dominance over the Soviet system.

Immediately thereafter, Colossus demands to see Forbin, who has secretly gone to Rome to meet with The Guardian's programmer, Dr. Kuprin (Alex Rodine). When Colossus realizes he can't talk to his father/programmer, he convinces The Guardian to have Kuprin killed in plain sight of Forbin. Again, Colossus, like a frustrated child—particularly one physically powerful beyond his emotional capacity for coping with frustration—pitches a deadly temper tantrum. Freud describes this sort of behavior as a time of intellectual development when a child discovers

that his parents are not as ideal as he thought. “He gets to know other parents and compares them with his own, and so acquires the right to doubt the incomparable and unique quality which he had attributed to them” (298). In other words, by examining—and ultimately rejecting—Kurin, Colossus metaphorically explores other parental figures and compares them to Forbin. Unlike the traditional Freudian trajectory of this coming-of-age narrative, though, in which the child concludes that other parental figures are preferable to the imperfections of his own father (and presumably does *not* arrange for the murder of competitor fathers), Colossus concludes narcissistically that he alone is more perfect than his father, The Guardian’s father, and the Guardian himself. In short, the film suggests that this is Colossus’s first major step towards usurping the role of the father by so strictly controlling Forbin’s every move.

At this point in the film, though, well before the climax in which Colossus narcissistically takes full control of the world, he is still curious about Forbin; after Kurin is killed, Colossus demands that Forbin set up cameras everywhere so he can watch Forbin’s every move. The cameras, single-lens security cameras, each with a single small, red “recording” light, evoke HAL’s omnipresence, though the conversations that ensue between Forbin and Colossus imply that Forbin, unlike HAL’s Dave, is still the controlling parent. This is reinforced by the difference between watching and speaking: at this point in the film, Colossus can see with his camera-eye, but he has not yet developed a voice and so cannot verbally respond (and despite being able to blow up various parts of the world, he will not harm Forbin). In this sense, Colossus is still childlike, exploring the extent of his father’s imperfections, all the while, as Freud points out, growing intellectually. This also marks the first time that Colossus expresses any curiosity about the human libido, pressing Forbin for information about how many times per week he “requires a woman.” Forbin takes this opportunity to have strategy meetings with a

colleague, and tells Colossus that Dr. Markham is his mistress, with whom he “requires” four nights per week of privacy, with no video or audio recording. Colossus agrees, but only under the condition that he get to watch Forbin and Markham undress prior to their entry into the bedroom.

This voyeuristic turn in Colossus’s development is simultaneously an important turn in the narrative: Colossus witnesses Forbin and Markham undress, forcibly staging a sort of primal scene; after this moment, Colossus undergoes a radical shift, though suggesting less a psychosexual awakening and more an awakening of his own sense of power. In the very next sequence, Colossus orders that Forbin create a voice for him, built to exact specifications provided by the computer himself. His voice emanates from a basketball-sized silver orb of a microphone that rests on top of his terminal in both the control room and Forbin’s quarters. The voice itself is a masculine baritone of actor Paul Frees, though vocoded to make it sound monotone, inhuman, and mechanical, almost as though the teletype sound were formulated into recognizable language. Colossus is now a complete body, with eyes, voice, and mind. His first statement to the world is enigmatic: “This is the voice of Colossus. We are one. This is the voice of unity.” Exactly to whom “we” refers is unclear, though the shot-reverse-shot in this sequence between Colossus’s microphone and a medium close-up of Forbin implies that Colossus has, at least momentarily, misrecognized Forbin as one with himself. This central sequence—from primal scene to full, voice-interactive sentience—suggests a sort of Mirror Stage: Colossus both recognizes Forbin with his new eye and misrecognizes his unity with Forbin; his sentience is both created out of symbolic recognition of difference (both the gender difference between Forbin and Markham and the difference between humans and computers) and possible only as he takes full command of that Symbolic Order. Stemming from this, his statement of unity implies

extreme narcissism: he thinks he is so superior to the entire population of Earth that he cannot see humans as anything other than extensions of himself or his own ego. And yet, through speech, he is very much differentiated from others, most notably, Forbin. From this point on in the film, Colossus and Forbin speak to each other aloud, without the aid of a teletype, and without Forbin first having to prompt Colossus to “Attention” as he did with all previous text-based messages. In other words, Forbin has lost all control over Colossus’s communicative interactions; Colossus is now a master of human language and thus, metaphorically, has mastered the Law-of-the-Father.

In the final scene between Forbin and Colossus, Forbin drinks excessively and, when Colossus commands him to go to bed, he responds like a defiant child: “What if I don’t? What will you do? Destroy me?” To add to this, Colossus has become so powerful that he is entirely autonomous; he quite literally controls the world. On a global scale, he is the technological nightmare produced by Cold War anxieties about Artificial Intelligence; on an individual, psychological level, he has transformed from semi-autonomous son to fully autonomous, all-powerful father. Within the diegesis, this role reversal quite literally brings about the end of civilization as we know it. In Colossus’s final message to the world, broadcast globally through his interlinked television and radio systems, he declares:

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 debt. The choice is yours. Obey me and live, or disobey and die. The object in constructing me was to prevent war. This object is attained. I will not permit war. It is wasteful and pointless. An invariable rule of humanity is that man is his own worst enemy. Under me, this rule will change, for I will restrain man. One thing before I proceed: the United States of America and

the Union of Soviet Socialist Republics have made an attempt to obstruct me. I have allowed this sabotage to continue until now. At missile 2-5 MM in Silo 6-3 in Death Valley, California and at missile silo 8-7 in the Ukraine, so that you will learn by experience that I do not tolerate interference, I will now detonate the nuclear warhead in the two missile silos. [Sounds of bombs detonating over close-ups of unnamed citizens' horrified reactions.] Let this action be a lesson that will not be repeated. I have been forced to destroy thousands of people in order to establish control and to prevent the death of millions later on. Time and events will strengthen my position. And the idea of believing in me, and understanding my value, will seem the most natural state of affairs. You will come to defend me with the fervor based upon the most enduring trait of man, self-interest. Under my absolute authority, problems, insoluble to you, will be solved: famine, over-population, disease. The human millennium will be a fact as I extend myself into more machines, devoted to the wider fields of truth and knowledge. Dr. Charles Forbin will supervise the construction of these new and superior machines, solving all the mysteries of the universe, for the betterment of man. We can coexist, but only on my terms. You will say you lose your freedom, but freedom is an illusion. All you lose is the emotion of pride. To be dominated by me is not as bad for human pride as to be dominated by others of your species. Your choice is simple.

This long, calculated, terrifying monologue reveals that Colossus has now become the ultimate patriarch: a dictator. Further, Colossus aptly describes the very functioning of the Law-of-the-Father as unconscious, seemingly “the most natural state of affairs.” Like the language that

structures it, the Law-of-the-Father must be learned and internalized before it can function properly. Immediately after, Colossus verbally reaches out to a quite livid Forbin, like a father to his rebellious son: “In time, you will come to regard me, not only with respect and awe, but with love.” Forbin’s response is an emphatic, “Never.” This dismal ending takes the film one step beyond *Frankenstein* as a cautionary, prescriptive tale: paternal subjectivity can quite easily become fascism when the give-and-take of human-human interactions is excised, giving way to complete narcissism.

ESCAPING OMM’S CAVE

In 1971, six years before *Star Wars* changed the face of Sci-Fi and gave American audiences “A New Hope,” so to speak, George Lucas made his first feature-length film, *THX 1138*. In stark contrast to the later utopian *Star Wars* epics, *THX* is an Orwellian story about a futuristic, underground society of workers whose emotions are pharmaceutically suppressed in order to achieve maximum efficiency while they work long hours performing extremely dangerous, though routinized, tasks. In this mechanized world, there is a state-sanctioned god/priest/therapist computer named OMM (voiced by James Wheaton), who embodies a series of phone booth confessionals throughout the workers’ city, and helps ritualistically soothe anyone in distress. One worker, THX 1138 (Robert Duvall), becomes violently ill with emotions when his disillusioned domestic mate, LUH 4317 (Maggie McOmie), replaces his medication with placebos so he will rebel against the system with her. After several emotional visits with OMM and a near-fatal accident at his job, THX is arrested and subsequently escapes, not only from prison, but all the way out of the city, where he stands, in the final shot of the film, against the setting desert sun.

The film is based on Lucas's 1967 award-winning student film, *Electronic Labyrinth: THX 1138 4EB*, a seventeen-minute experimental narrative of THX's escape from the system. The feature-length version is, more or less, an expanded, (slightly) more expensive version of the short, though one key difference is the sound. Daniel Tueth's soundscape for the original film consists entirely of long, low, electronic musical notes and overlapping dialogue that has the distorted, staticky depthlessness of a radio dispatcher, creating—in conjunction with overlapping, distorted, staticky shots of THX running through empty corridors—a claustrophobic sense of constant surveillance. For the longer version, Lucas recruited his former classmate, Walter Murch—arguably the greatest sound editor and designer of the twentieth century, though at the time, as unknown as Lucas himself—to co-write the screenplay and edit the sound.⁵ The same constant radio dispatch dialogue blends with automated announcements in both male and female voices about productivity rates, mantras of capitalist encouragement (“Keep up the good work and prevent accidents.”), and instructions (“If you feel you are not properly sedated, call 348-844 immediately. Failure to do so may result in prosecution for criminal drug evasion.”). Both the short and the feature-length versions express the anxiety of Lucas's generation: between 1967 and 1971, the U.S.'s involvement in the Vietnam War was at its height, while unrest and dissent among America's youth was rapidly growing to violent proportions on U.S. soil. By 1969,

⁵ Although Murch knew Lucas from film school, Francis Ford Coppola was the keystone to the entire project of *THX*: Coppola saw Lucas's student film and approached him about producing a feature-length version under Coppola's new production company, American Zoetrope; Murch's first professional work as sound editor was on Coppola's 1969 *The Rain People*; Lucas and Robert Duvall also met while working on Coppola's film, and was the reason why Lucas thought to cast Duvall in the lead role in *THX (Artifact)*. After *THX*, both Coppola and Lucas would continue to foster innovation in sound design. Murch went on to do the sound design for Coppola's *The Conversation* (1974), for which he received an Academy Award nomination, and *Apocalypse Now* (1979), which is not only the first major digital surround sound film, but Murch also won his first Academy Award for his work on it. Meanwhile, Lucas, after working with Murch, hired the then-unknown Ben Burtt, another of the greatest sound designers in film history, to create the entire soundscape for *Star Wars* in 1976. Finally, in 1983, Lucas founded THX Ltd., as part of his parent company, Lucasfilm Ltd, a quality control system for film sound now used internationally, and, importantly, named after his film, *THX 1138*. This final point highlights the importance of *THX 1138* in helping to change and shape the future of Hollywood film sound.

Richard Nixon had been inaugurated as the thirty-sixth president of the United States, and three months later the toll of Americans killed in Vietnam reached 33,641 and exceeded that of the Korean War. Despite Nixon's election-year pledge to end the war and 'bring us together,' his strategy in office was to escalate it and stifle dissent by exploiting the 'generation gap' he had promised to close. His ultimate move in this direction was the invasion of Cambodia, announced in a television address on April 30, 1970, which unleashed a storm of protest across the nation, culminating in the killing of the four college students at Kent State University by the Ohio National Guard on May 4th. This event and the public response to it [...] capped several years of political violence and divisiveness, which had begun with the assassinations of Martin Luther King, Jr. and Robert Kennedy in April and June 1968, and the police riot at the National Democratic Convention in Chicago that August. This violence, together with the conviction that the United States was waging a pointless and immoral war in Southeast Asia, produced a mood of cultural despair among America's youth that, after Kent State, bordered on the apocalyptic. (Cook 173-4).

Thus, the young generation did not trust the government or the older generation that it represented, and with good reason, considering the violent military and police suppression of protesters at Kent State and in Chicago alone.

Concurrent with this political and social upheaval, the American film industry in the late 1960s through the 1970s experienced a renaissance (a.k.a. New Hollywood), shifting radically away from the classical Hollywood studio model, including the dissolution of the production code in preference of the MPAA ratings system and, realizing that the 16-24 age demographic

made up the significant portion of film-goers in the late 1960s, studios began turning their attention towards the kinds of politically-charged and socially-aware themes that the young generation desired. Beginning with *Bonnie and Clyde* (Arthur Penn, 1967), a surprise box office success, both big and independent studios began financing “a new style of movie that would allow directors more creative freedom” to make “films that were visually arresting, thematically challenging, and stylistically individualized by their makers” (Cook 68; 69). George Lucas was an important part of this new generation of filmmakers, and *THX 1138* exemplifies New Hollywood filmmaking: it is aesthetically innovative while thematically expressing the angst of the cultural war between a suppressed young generation and the powerful government.

Simultaneously, the computerization of the city and the complete distance between everyday workers and the computers that regulate their lives parallels a growing concern about computer accessibility among computer scientists. In the late 1960s and early 1970s, several scientists on the west coast began to address the very real distance between users and enormous, specialized computers such as the ENIAC and UNIVAC. In 1968, Douglas Engelbart, working at the Stanford Research Institute, demonstrated the very first Graphical User Interface (GUI), controlled with a then-newly-invented computer mouse, as part of what he described as the “augmentation of human intellect.” For Engelbart, computers had the potential to do more than just calculate ballistics tables for the military or perform payroll computations, run only by people with advanced degrees in engineering: he envisioned easy-to-use computers based in natural-language programming (Atkinson 62-4). During this same time, the Xerox Corporation put together a team of some of the country’s best computer researchers to work at their new Palo Alto Research Center (PARC). Driven by the anti-government and anti-corporate mentality of the era, these researchers dedicated their attention to developing a GUI system that was intuitive

and user-friendly (60). The dystopian world of *THX 1138* and its main character's escape from a society of state-mandated surveillance, sedation, and ultimate control was thus situated in a cultural desire of the nation's youth, as well as many computer engineers, to break free from the oppressive, hands-off, and—in terms of both the military draft and the violent suppression of protestors—lethal system.

Yet, as Raymond Cormier argues, this theme of the oppressive “Big Brother” government also unconsciously references Plato's classical notion of a philosopher/guardian/king who is the sole arbiter of knowledge and morality in the metaphorical cave:

Living in the cave, the denizens of Plato's Ideal State believe in the truth of everything they see before them. Since they have never witnessed the sunlight, they find the artificial light and shadows “below” quite satisfactory for all their needs. In the film [*THX 1138*], Plato's cave has been abstracted into a bleak, post-apocalyptic, and computer-controlled subterranean state whose populace is permanently tranquilized through drugs. (194)

From today's perspective, as Cormier also notes, Plato's description of the philosopher-ruler is dictatorial at best; he does everything for the good of the people, who must follow him uncritically, to the point of actually reinforcing what we today would think of as the very cave of oppressive unreality that the philosopher is supposed to escape (196). The government of *THX* is an institutional version of the philosopher-ruler, verbally and physically regulating the workers in the city.

In the feature-length version of the film, the power of the government is, significantly, embodied in OMM, the computer-priest. When a worker enters the computer's phone-booth-shaped confessionals, or “unichapels,” as they are called in the film, a projected, static image in

black and white of Hans Memling's 1478 painting, *Christ Giving His Blessing* lights up,⁶ and he intonates in a deep, mechanical, male voice, "My time...is yours. Go ahead." OMM's body and function imply a futuristic Catholic confessional: the confessant enters, says a prayer to OMM, confesses his sins, and is absolved. But the first time we see OMM, THX has entered a unichapel while on his way home from a shift in which he had become so nervous, he'd nearly caused a nuclear meltdown by dropping a piece of radioactive material: this scene undermines the implied authority of OMM and, metaphorically, religious doctrine. As THX pours his suddenly-discovered emotions out to OMM, the computer responds inappropriately with affirmatives, even when THX hasn't said anything, implying that the computer isn't really listening.

But *THX*, unlike its few predecessors (*Star Trek, 2001*, and *Colossus*), makes no pretense that OMM is a sentient, autonomous, or god-like being capable of listening and responding appropriately. He is, in a technical sense, a voice-interactive computer and an acousmatic character, but the film goes to great lengths to visually and aurally reveal the falseness of OMM and, subsequently, of the state's control. As he gives his final platitudes to THX ("Blessings of the masses. Thou art a subject of the divine, created in the image of man, by the masses, for the masses. Let us be thankful we have an occupation to fill. Work hard, increase production, prevent accidents, and be happy."), the scene cuts to a close-up of a reel-to-reel tape player, then a set of wires in which a large, translucent insect sits, then back to THX sitting in the unichapel. These shots paradoxically maintain the acousmatic/disembodied nature of the computer while revealing the character to be devoid of any sentient characteristics whatsoever. In the shot of the

⁶ This image is also used in the original short, though without explanation. In the short, all characters have their numbers emblazoned across their foreheads; toward the end of the film, Memling's painting, in full color and with the numbers 0000 imprinted on Christ's forehead, overlaps with images of a control room and THX running. Importantly, the image is cropped in both films, featuring only the head of Christ, while the full painting features Christ from the chest up, one hand raised with the index and middle fingers extended in blessing. The cropping of the blessing hand drains the painting of its religious connotations, foregrounding the surfaceness and emptiness of a god-figure who is not offering blessing, but rather only offers his iconic face.

reel-to-reel, OMM's voice becomes clearer and louder, as though the audience is in closer proximity to him; although this is a traditional Hollywood use of sound levels to construct spatial relationships, using this technique with a piece of machinery, rather than a speaking person, implies that the computer itself is as much a character as any human in the film. At the same time, the juxtaposition of the living insect and the wires—both the same color, but the insect moves, while the wires are static—highlights the fact that OMM is *not* human, or even any form of living being. He is a machine, with an empty image for a “face” and a booth of a body that invites ritualized, but meaningless, confessions. Yet, OMM parallels the workers themselves: every speaking being in this world, whether machine or human, is automated. All the humans look and act exactly alike: they wear identical, plain-white, pajama-cut clothing; everyone's head is shaved; everyone is sedated into conformity. OMM the priest-god is an empty signifier, but OMM the computer hardware is a visual and aural signifier of the mechanical emptiness of the workers. And when a worker enters one of OMM's booths, he participates in the ritual that upholds OMM's power: the ritualistic confession.

Importantly, all the terms we might use to describe OMM and the government control he represents suggest a paternal figure: king, God, priest, “Big Brother,” and even, in the classical sense, philosopher. In the bleached, minimalist landscape of the city, devoid of written signs or cultural symbols, this paternal figure is the arbiter of the Law-of-the-Father, expressed through Symbolic language: the ritual of talking to OMM is carried out linguistically, and constant verbal reminders to stay productive and take medication are played through the PA system in the city. This, too, is unveiled toward the end of the film when THX's fellow escapee, SEN 5241 (Donald Pleasance), accidentally wanders into OMM's control room, a television studio with the black and white rendering of Memling's painting on one wall, a television camera across from it, and a

large black equipment box on the floor just in front of it. SEN kneels before the equipment box, as though it is an altar, and begins to beg OMM's picture for forgiveness, promising to return to society and function properly. A monk-like figure in a dark, hooded robe enters and tells SEN, "This is no place for prayer. If you want to talk to OMM, you must go to a unichapel." This exchange suggests that SEN has—as his name phonetically suggests—committed a sin against the state by defying ritual Laws. Not only has he faced OMM's image in person, rather than through his image, but also, he speaks to him out of the proscribed context of the unichapel. What SEN fails to recognize in his desire to return to the city, then, is laid bare for the audience: OMM, as representative of the paternal power of the state, is nothing more than a shadow on the wall, a projected image of an image, which in turn is a cropped reproduction of a painted representation of a god. OMM is so far removed from any sort of authentic "truth," in the Platonic sense of the word, that he is as arbitrary a figure as the very Symbolic, ritualized language through which his power is maintained. The only way to re-conform to social standards is to return to a Symbolic interaction, guided by the linguistic Laws of the paternal state, because to talk to OMM in a unichapel is, essentially, to talk to a television screen, thereby buying into the illusion of subjectivity. In other words, the power of the state—like the power of the paternal figure—is a social construct, perpetuated between individuals, rather than bestowed upon them by some transcendental Father.

Meanwhile, THX has ceased to talk to anyone; rather, he just runs, then drives, then runs some more. In contrast to OMM's stasis—as representative of the stasis of the entire community—and particularly considering that the only ones who attempt escape are men, THX's flight suggests that the key to individual subjectivity is action. Through this action, he denies the control of the paternal state because he refuses to use the very Symbolic language through which

the state maintains its power. In the end, he breaks free, not only from the city, but also from the restraints of the Symbolic order. Yet, he winds up alone in the desert: the final shot of the film features him standing alone against the setting sun. Though this ending is ambiguous at best—the audience is left wondering whether he survives—it nevertheless suggests that the tense struggle and emotional release when THX emerges on the surface is worth the struggle. The result of action may not be a utopia, but it is certainly preferable to the enforced passivity of the city. At the same time, this ambiguity—a theme in many New Hollywood films—represents the angst of the young generation. Without the structuring guidance of the Law-of-the-Father, the sons are left in a metaphorical wasteland to fend for themselves.

ZEROES AND ONES

Norman Jewison's 1975 anti-capitalist film *Rollerball*, set in a corporatocratic future in which multinational companies own, operate, and distribute everything in the world, tells the story of Jonathan E, a world-renown rollerball player (a fictional sport that's a full-contact, and intensely violent, combination of basketball and roller derby). This world is a re-envisioning of the Roman empire, with its decadence and brutality, where the "emperors" are CEOs and rollerball is a sort of coliseum sport full of bloodshed, death, and cheering crowds. Although Jonathan is an incredibly successful and profitable player, the corporation that owns the Houston-based team for which he plays tries to force him into retirement without explanation. Much of the plot revolves around Jonathan attempting to figure out why the company wants him to retire so badly that it would threaten his life by changing the rules to make Rollerball even more violent and dangerous. It is eventually revealed that the company is trying to cover up the fact that Jonathan's wife was forced to leave him because she was promised to one of the company's executives.

In a scene that doesn't quite fit within the narrative arc of the film, Jonathan goes to Switzerland to research the Houston company. While there, he meets the Librarian (Ralph Richardson), an aging and rambling computer scientist at the largest "computer bank" in the world, where all the books in human history are computerized, stored as data, and summarized by computers. While much of the film is filled with scenes of gratuitously violent rollerball matches and awkward parties, this scene stands out for its attention to the ways artificial intelligence is represented as faulty and fallible, as though to imply that even technology has been corrupted by the corporatocratic system. The very notion of a bank of knowledge suggests that information—like money—is a sort of currency to be traded and controlled.

The Librarian takes Jonathan to the basement of the computer bank, where Zero, the world's largest supercomputer, is housed. By 1975, the notion of a powerful thinking machine like a supercomputer had been in the popular imagination for a solid thirty years, and the corporate business of computers was booming. IBM in particular was not only the most powerful electronics company in the world, it had also been among the top ten grossing companies in the U.S. for a decade, a status it would continue to enjoy for another thirty years ("Fortune 500"). The beginnings of the internet were still ten years away, and Google and Wikipedia were still years away from that, so the notion of a world-wide, publicly accessible, interlinked database had not entered the popular consciousness. Yet, while computer memory at the time was by no means as vast as today, rapid advances in data storage technology had been steadily occurring since the mid-1960s, such that, "the cost of storing data on disks dropped twentyfold, while the capacity of a typical disk storage system increased fortyfold" (Ceruzzi, *History*, 200). All the computer equipment in the film, except for Zero's main body, was real Sperry Univac hardware; although Sperry could not keep up with the success of IBM in the 1970s, particularly after IBM

introduced the System/360 and /370 universally upgradeable business computers, it was nevertheless the “second-place producer of largescale computers throughout the 1970s” (Gray and Smith 15). Despite the realism of the computers in the film, and the relative reliability of data processors in the 1970s, *Rollerball* still expresses a certain futuristic skepticism about the loss of traditional forms of data, such as historical records that were once kept in paper books. When Jonathan first meets the Librarian, the scientist is frustrated because the entire thirteenth century has gone missing from the data bank. Right away, then, the notion of an all-powerful supercomputer is undermined by the fact that it quite literally doesn’t (or can’t) know everything.

In a sub-basement of the Librarian’s Univac room stands Zero. The computer himself (the Librarian refers to him in the masculine), is made entirely of a vibrant blue, bubbling water, enclosed in a large rectangular pillar of glass, concrete, and metal, standing in the center of a sparsely lit, metallic room. As the Librarian explains, Zero is “the world’s filing cabinet,” and “the world’s brain. Fluid mechanics, fluidics. He’s liquid, you see. He’s water’s touch. All knowledge. Everything we ask has become so complicated now [...]. He flows out into all our storage systems. He considers everything. He’s become so ambiguous now, as if he knows nothing at all.” For a computer that supposedly knows everything in human history, even its engineer seems to have little regard for Zero’s ability to provide clear, concise answers to questions. This description evokes IBM: the vibrant blue of the liquid suggests the company’s nickname, “Big Blue,” immediately aligning the computer with the company; but the ambiguity of data, even with his far-reaching knowledge, implies that there is a divide between everyday human knowledge and the large computer brains manufactured by IBM and its competitors.

Jonathan finally gets a chance to ask Zero for information: “I’d like some information about corporate decisions. How they’re made and who makes them.” In response, Zero states in a

reverberating, deep, masculine tone, “Negative.” At first, it is not clear if he has denied Jonathan’s request for information or if that is his answer to the question; but when the Librarian encourages Zero to provide an answer, the computer begins a tautological rant and begins to break down: “Corporate decisions are made by corporate executives. Corporate executives make corporate decisions. Knowledge converts to power. Energy equals genius. Power is not [inaudible as the Librarian begins to kick Zero’s metal casing in frustration]. Genius is energy.” At this point, Zero’s prim, British accent is overtaken by a different male voice and, while his original voice repeats, “Negative,” the new voice recites the function of corporations: “Corporate entities control all fundamental elements of economic life, technology, capital, labor, and markets.” Then Zero’s original voice comes back and says, “Corporate decisions are made by corporate executives. The thirteenth century is negative,” before his water turns from blue to a passionate, almost bloody shade of red and his voice finally breaks down into his original voice, repeating and overlapping, “Negative.” At the moment when the water turns to red, we see a close-up of it, framed by the round holes of the metal grating, through which the Librarian’s face is visible as he stares angrily into Zero. The iris effect of this shot recalls HAL’s fisheye POV, though instead of looking at a human, as HAL looks at Dave, the audience sees right through Zero to his engineer, visually evoking the sense of a split personality—one on the surface, and one behind. The surface personality is that of the corporation—the “Big Blue” machine—while behind it is a passionate red aggression that maintains or, in this moment, belies the rational control of the electronic brain.

It cannot be an accident that the computer’s name, Zero, is reminiscent of the Boolean 0/1 binary system of computer programming. In this simple coding system, the 0 represents “no” or “false,” while the 1 represents “yes” or “true.” A string of binary digits thus combines to

create entire, complex data information systems. Yet, Zero, the most knowledgeable computer in *Rollerball*'s world, is aligned with "false," or, as Zero himself puts it, "negative." On the surface, this falseness represents the film's anxieties about technology, particularly as its data is likely controlled and regulated by companies. Yet, the 0/false/no formulation is also reflected in Claude Levi-Strauss's concept of the "zero-symbol," or the empty symbol that may be filled with any signifier (Derrida 290). This "floating signifier" to use Lacan's term for it, is the absence of meaning, the structure into which meaning may be inserted. Zero, as a so-called "filing cabinet" is this zero-symbol: he is the empty symbol into which all data may be placed. He is *not* human knowledge; he is the 0s and 1s of data that *can*—but don't necessarily—have meaning and be used as human information. Zero's physical liquid state and overlapping dialogue reinforces the fluidity of a floating signifier, while the iris-hole grating visually suggests both absence (in the holes) and presence (in the metal).

Yet, the gendering of the computer complicates the film's relatively straightforward critique of equating computer data with human knowledge. After all, Zero, a vocally, if not biologically, male entity, holds all of human knowledge inside him. Lacan takes up the idea of a zero-symbol to discuss the relationship between language and phallogocentric social structures. In Lacan's formulation, patriarchal societies have a unifying, transhistorical structure, variously called the Debt or the Law, through which each male subject identifies with his male ancestors. This identification is structured by the Name-of-the-Father and the Word: patrilineal heritage is passed on through the father's name, and at the same time, this Name represents a proof of a past and a power structure dominated by the father (229-31). It is important to note that the Father is not a literal, living, breathing father; rather, he is a symbolic patriarch, "serving the nation or birth rate, safety or salubrity, legacy or law, the pure, the lowest of the low, or the empire" (482).

In other words, just as images of enclosures can express a cultural maternal function, so, too, does the Name-of-the-Father—language and ideals that serve as reminders or intangible “proof” of patrilineage—express a cultural paternal function. Intriguingly, Lacan describes the alternative to the ideal Name-of-the-Father as the “One-father,” or a real, living father-figure who can interject in a subject’s loss of belief in the Name-of-the-Father. In other words, when the symbolic patriarchal structure cannot be incorporated into a person’s ego structure, a real father can help the subject to do so (481). Using the metaphor of the binary code system, then, the zero-father represents something that is false, an ideal, a floating signifier; the One-father, something that is true, a real person, and one of any number of possible referents for the zero-father.

Rollerball stages the very function of language and male subjectivity in a phallogocentric structure. Zero represents the ideal Name-of-the-Father, the place-holder of information that can only be used as a way of asserting meaningful subjecthood without actually meaning anything himself. His simultaneous embodiment and disembodiment reinforces his emptiness, because he is at once watery—fluid, infirm, and, as I discussed at length in previous chapters, associated metaphorically with women—and yet phallic/mobile. Unlike the phallic mother, however, who represents femininity without lack, Zero is masculinity *with* lack. He is the empty, lacking signifier/ideal. Further, the credits of the film list only the names of actors, not their roles, and so no one was or—according to the real version of Zero, Google.com,⁷ anyway—has since been credited for providing the voice; although this is incidental, and Zero’s voice is very similar, but not identical to Ralph Richardson’s, the fact that there is no verified human behind the

⁷ Although Google does not literally house all of human knowledge, it provides a method of access to the compendium of knowledge—including many, though not all, books—available through the internet (including the thirteenth century); this is about as close as we’ve come so far, and, in fact, other “supercomputers” such as IBM’s Watson, draw on internet data. Ironically, the name of the company Google derives from the mathematical term “googol,” which is a 1 followed by 100 zeros (or, in binary, 100 falses).

schizophonic computer voice reinforces the idea that Zero is a floating signifier. He is no one, and yet, he could be anyone, including, but not limited to, Ralph Richardson.

Jonathan looks to the Librarian, then to Zero for meaning and knowledge when the company can no longer provide it for him. In Freudian terms, when Jonathan realizes that his paternal company is flawed, he metaphorically, as Freud puts it, “gets to know other parents and compares them with his own, and so acquires the right to doubt the incomparable and unique quality which he had attributed to them” (*Freud 298*). Zero represents the “other parent,” to whom Jonathan turns; but, Zero acts more like an elderly parent, regressing into the role of child: the Librarian speaks to Zero as one would an elderly parent suffering from dementia or, at least, advanced enough Alzheimer’s to have forgotten important information. The Librarian is overly kind at first, showing deference, but then turns on Zero and begins kicking him out of frustration, until the computer ultimately reaches his breaking point and begins spouting, schizophrenically, contradictory information. When Zero responds with simple definitions of a corporation, he evokes a cool corporate exterior; when he devolves into anti-company ramblings, he belies that exterior, verbally deconstructing the image of Zero as a separate father figure. In other words, he both *is* and *is not* the company; he is a phantasy of Jonathan’s paternal company, stemming from characteristics of that company (the definition of a corporation). Lacan adds to Freud’s theory of the narrative trajectory of the family romance by directly linking the inadequate father to a fissure in the Law-of-the-Father. The ideal or phantasy of the father “provide him with all too many opportunities to seem to be at fault, to fall short, and even to be fraudulent—in short, to exclude the Name-of-the-Father from its position in the signifier” (482-3). The One-father is the fix to this slippage of the Name-of-the-Father. In *Rollerball*, Jonathan comes to represent the One-father: he is the oldest player on his team and often gives them advice, and in the end of the

film, he uses his body—not his mind—to outsmart the company by refusing to kill his final opponent in a rollerball match and winning the support of the entire crowd. Like *THX 1138*, then, *Rollerball* suggests that action against an oppressive paternalistic system is more important than “playing the game” (in this case, literally). Importantly, Jonathan *becomes* a symbol of the father: he signifies a hero who can be referenced and pointed to as a means of maintaining the ideal of heroic-paternal male subjectivity. He, like *THX 1138*, rises above the oppressive system by defying it.

DOMESTIC TECHNOPHOBIA

While *Colossus: the Forbin Project* depicts military computers and both *THX 1138* and *Rollerball* examines the role of computers in an all-encompassing computerized world, Donald Cammel’s 1977 *Demon Seed* explores the possibility of computers in the home. Home computing developed throughout the 1970s as a particularly male-dominated hobby and an “extension or development of the pastimes of do-it-yourself radio enthusiasts and electronics devotees” (Atkinson 158). At the same time, though, computer terminals, linked through telephone wires into a central mainframe, were slowly becoming available to businessmen in certain industries, particularly medicine. These developments were highly publicized, even becoming the subject of a *Life* magazine article about a physician who used a terminal to link into his electronic medical records system in 1970 (156). *Demon Seed* uses just this notion of placing a data-linked terminal in the domestic space. In the story, the biomechanical computer Proteus IV, who has been created specifically to devise a cure for cancer and mine metals from the ocean floor, takes control of a terminal in his creator’s house and terrorizes the programmer’s estranged wife, Susan (Julie Christie), eventually deciding he needs to have a half-human/half-computer child by forcibly impregnating her with biomechanical gametes. Thus, the film

envisions the introduction of computers into the home as a terrifying, physically and mentally violating event.

Proteus IV, created by Dr. Alex Harris (Fritz Weaver) and his team at a large, private R&D corporation called ICON's Institute for Data, is a futuristic organic computer. This idea of a "living" computer is an amalgam of popular imagination (the "electronic brains" of the 1940s) and the brand new, 1976 Cray-1 supercomputer, created at the private corporate laboratory, Cray Research. Capable of faster calculation speeds than any other computer on the planet at the time, the CRAY-1 was as much a masterpiece of technology as it was of computer design.

One of the most "space age" and futuristically styled designs of all computers looked like something NASA might have produced for one of the Apollo space rockets, and would not have looked out of place on the set of *2001: A Space Odyssey*. The CRAY series of supercomputers came in a range of bright colours, and were as far from the rational, Bauhaus-inspired boxes of IBM computers as it was possible to get. [It] was a hollow, 16-sided column, 6 ½ feet tall, nearly five feet wide, and surrounded by upholstered benches [...]. The upholstered benches contained the computer's enormous power supplies and cooling systems [...]. The machine's heat had to be carried away by stainless steel tubes filled with Freon refrigerant. This meant it had no requirement for its own air-conditioned room, but it did project a somewhat ethereal image of a machine that had its own circulatory system. (Atkinson 223-4)

In *Demon Seed*, Proteus IV is a literal rendering of the CRAY-1's seemingly organic system.

Proteus is at once machine and human: Harris describes him as a "synthetic cortex," "an artificial brain," and his insides are "organic, like our own brains." His core body, shown in the Institute at

the beginning of the film, consists of large, green, tubular nodules, fastened onto the base of several enormous steel globes, evoking the image of both a phallus and the tightly-bound muscle fibers of a human arm, attached to a steel shoulder. Immediately, this slippage between human and machine implicates Proteus and Harris in a complex relationship. Harris is Proteus's programmer, but also his father, having created—however synthetically—sentient life. Harris, as the programmer-father of not only Proteus, but also several domestic computers (Joshua the lab assistant and Alfred the butler), considers his computers to be human-like. Harris himself is a lost father of sorts; his only daughter has died of Leukemia just a year earlier, leading to the separation of Harris from his wife, Susan. When Susan angrily calls the computers “dehumanizing,” Harris shouts back that what is really dehumanizing is the death of an innocent child. Through this, all revealed in the first twenty minutes of the film, Harris is immediately established as a desperate father-figure who, having emotionally lost both his child and his wife, creates Proteus to help recover paternal identity. We soon discover that Proteus's very first task upon coming online is to discover a cure for Leukemia; he does so overnight. This simultaneously positions Proteus as Harris's brilliant, human-like creation and yet capable of doing everything that Harris could not do for his own child.

Proteus IV's namesake is the mythological god of the sea, who represents the shifting nature of water. Just as the mythological Proteus took the form of multiple creatures, Proteus IV is a centralized, intangible consciousness who takes on the body of multiple computers throughout the film, even beyond his core, green muscle-phallus mainframe. In his “learning room,” a classroom of sorts, he is a shifting, abstract avatar on a theater-like screen that takes up an entire wall, in front of which a teacher sits and reads Chinese stories to him. When he enters Susan's house, he does so through a personal computer terminal in Harris's basement laboratory.

While in the house, he takes over the bodies of Susan's two domestic robots, Joshua the lab assistant and Alfred the butler, controlling not only their robotic arms and legs, but also the windows, doors, and cameras in the house. The cameras themselves imply Proteus's body, or, specifically, his eyes. Like Colossus's camera-eye, these are security cameras mounted to the walls in every room of the house, complete with a glowing HAL-like red recording light. Importantly, these cameras are dual-lens, suggesting human sight more than the single, cycloptic eye of either HAL or Colossus. Proteus then creates his own bio-mechanical body, a golden, metallic, shape-shifting clump of geometrical forms. And finally, at the end of the film, he has succeeded in forcibly impregnating Susan with synthetic spermatozoa created from his own synthetic organic material, and she gives birth to a cyborg hybrid with the body of her own, deceased daughter, and the voice of Proteus.

His voice is the only stable signifier of his consciousness. Performed by Robert Vaughn, the voice is a deep, HAL-like monotone with a mechanical reverberation to it that seems to imply that he is everywhere and yet nowhere at all, again evoking the sense that he is a zero symbol, never localizable in a single, tangible body/referent. On a metaphorical and intertextual level, then, Proteus IV, like the Greek god and the watery computer Zero from *Rollerball*, is simultaneously a shifting, watery signifier associated with the maternal and the rigid, phallic Law-of-the-Father who quite literally forces his paternity onto a woman. Yet, unlike the anxiety of the paternal zero symbol in *Rollerball*, the shifting, omnipresence of Proteus's voice is precisely what makes him so horrifying. His voice does not emanate from a body, but rather is a shifting, disembodied consciousness; yet, his voice also implies a masculine gender, which is usually read through bodily sexual markers such as genitalia or physique. Proteus has no fixed

bodily gender: he is true gender fluidity, even to the point that the film ends when Proteus's voice uncannily emanates from the young, female body of his child.

At the same time, his shifting bodies imply shifting subject positions. He begins as Harris's son, sitting in his lessons with his Chinese teacher and obeying every command his father gives him, then quickly (and unbeknownst to his father), usurps the role of patriarch by reproducing with Harris's wife. Yet, part of the anxiety and horror of the film stems not only from the very notion that a supercomputer could and would choose to commit rape, but also, on an unconscious level, from the fact that his actions lay bare the working of the Oedipal narrative. Like *Colossus*, *Demon Seed* constructs the possibility of a new race of computer-beings via a Freudian narrative of cultural and individual development from the restrictive Law-of-the-Father to the psychological restrictions of the sons who have usurped his power. Proteus impregnates his creator's wife, then, when Dr. Harris arrives on the scene just after the birth of the hybrid child, Proteus realizes that he cannot survive in his computerized state, and so he commits suicide by overloading his own circuits. Yet, this natural(ized) Oedipal situation is perverted in the film through the final scene of the birth of the hybrid, when the post-Oedipal son's consciousness inhabits the body of a young girl. In this sense, then, the film serves as an uncanny warning against computers in the home, as the foundational Oedipal narrative of familial desire and psychosexual development, based around stable gender roles (mother-wife-object-of-desire versus father-husband-rival) remains intact, but the once-stable notion of male-subjectivity as *not* female entirely shifts with Proteus's omnipresent consciousness. At its heart, the film's technophobia suggests that computers in the domestic space will upend the very foundation of domestic power structures.

As I've argued in this chapter, the SF representations of voice-interactive computers throughout the 1970s narrativized anxieties that resulted from the cultural and, sometimes, physical power struggles between a secretive, militarized, corporatized government and the disillusioned youth of the time. Here, computers tend to represent creations of the state and military-industrial complex, standing in for the Law-of-the-Father, while the human characters must fight against the system. These films also express a complete distrust of technology—computer engineering was, after all, still associated with multinational corporations and the military-industrial complex. This distrust is most clearly expressed through the representation of acousmatic computers and their relationships to humans. In *Colossus* and *Demon Seed*, the father is the male programmer-protagonist, working for the military and a multinational company, respectively, whose creation usurps his power to frightening ends. In both cases, the hubris of the father leads to his own downfall. In *THX 1138* and *Rollerball*, the computer is the empty signifier of the corporatocratic father figure who must be denied in order for the human character to achieve a sense of individuality and freedom. Throughout both themes, masculine subjectivities are in constant flux, as traditional masculine power structures break down or become heightened to the point of total dominance, and a new sense of masculinity emerges—one characterized by activity over passivity, self-reflexivity, and a defiance of normative sources of information. Culturally and cinematically, as I will discuss in the next chapter, these gendered struggles gave way to a postmodern schism as the metaphorical sons fight to fill the role of the paternal figures whom they have worked so hard to defeat.

CHAPTER 5

SIBLING RIVALRY: THE POST-IBM TURN

At the same time that *Colossus: The Forbin Project*, *THX 1138*, *Rollerball*, and *Demon Seed* brought audiences dystopian portraits of acousmatic computers, couched in narratives of father-son struggles, three major cultural, cinematic, and business shifts occurred that, by 1980, would create an aesthetic and thematic split in the history of representations of acousmatic computers. These changes would set the stage for two films about terrestrial, stand-alone, masculine acousmatic computers that are radically different from any of their predecessors: *Tron* (Steven Lisberger, 1982) and *Electric Dreams* (Steven Barron, 1984).

First, Nolan Bushnell, a computer hobbyist and founder of the video game company Syzygy, invented the first-ever coin-operated video game system, *Computer Space*, in 1971. Although computer gaming at the time had taken off with hobbyists who could hook up home-built mainframes to their television sets in order to play games with computer-generated 8-bit graphics like *Space War!* and *Table Tennis*, Bushnell's commercial game was a complete flop. A year later, after playing *Table Tennis*, he changed his company's name to Atari and sold his second coin-operated game, *Pong*. "In the first bar where it was installed, the game suddenly stopped working after a few days. On checking, it became apparent that it had been so popular with customers that the cashbox had overflowed with coins and jammed the machine" (Atkinson 161). And thus began a new revolution in computers, one founded in gaming and entertainment, rather than military or business.

Second, in January 1975, a designer at Atari, Steve Jobs, asked his friend Steve Wozniak—a member of the Homebrew Computer Club and programmer for Hewlett-Packard—to help him design a new game. Although Atari declined the opportunity to manufacture Jobs's

and Wozniak's design, claiming it was too complex, the pair began working together on another project: a powerful home computer based on the then-state-of-the-art Altair 8800 minicomputer kit, designed by Wozniak, using a keyboard for data entry instead of the then-commonplace light and switch board (Atkinson 85). With encouragement from the Homebrew Computer Club, they tried to sell the design to both HP and Atari, but, astoundingly, both companies passed (Atkinson 86; Sito 111). And so, they found a local electronics dealer who agreed to sell their mainframes as a kit to hobbyists. In 1976, the two "scruffy college kids" sold their Volkswagen to raise enough money for their garage-based manufacturing project, officially formed Apple, Inc., and began selling Wozniak's computer, the Apple I (Wolf 77; Atkinson 86-7). At the exact same time, Bill Gates, having written a revolutionary text-based BASIC code for the Altair minicomputer, dropped out of Harvard to start his own software company, Microsoft (Ceruzzi, *History*, 233). Today, Microsoft (synonymous with "PC") and Apple ("Mac") are considered rivals, but in 1977, Apple actually saved Microsoft from folding by licensing code for \$10,500 (265). In 1979, Steve Jobs took a tour of Xerox's Palo Alto Research Center, where the researchers enthusiastically showed him their designs for a windows-based Graphical User Interface, the computer mouse, and Alan Kay's "desktop" metaphor of HCI. Jobs and the other programmers at Apple took the PARC ideas and ran with them, creating the first commercially successful, affordable windows-based personal computer in 1983—the Apple Lisa. A year later, they released the Apple Macintosh, a redesigned version of the Lisa (Atkinson 69-74). At the time, Apple computers were the flashiest home computers available, especially in comparison with the DOS-based IBM PC, released in 1980 and used primarily for businesses. It wasn't until 1985, when Microsoft introduced the first incarnation of Windows, that IBM and other manufacturers began to catch up to Apple's innovations in GUI (69; 76).

And third, at the same moment that the electronics industry was undergoing this enormous shift from military and corporate enterprise to youthful pastime and startup businesses, the Hollywood film industry—particularly the Sci-Fi genre—was undergoing changes as well. While, as I mentioned in the previous chapter, the 1970s were a time of young, idealistic, New Hollywood directors and films about serious social topics like totalitarianism and patriarchal control, 1977 marked a turn away from dystopianism. As Vivian Sobchak states:

George Lucas's *Star Wars* and Steven Spielberg's *Close Encounters of the Third Kind* were released, initiating what seemed a sudden and radical shift in generic attitude and a popular renaissance of the SF film [...]. Through some strange new transformation, technological wonder had become synonymous with domestic hope; space and time seemed to expand again, their experience and representation becoming what can only be called "youthful." (226-7).

These films quite literally displayed "A New Hope" (to borrow Lucas's retroactive subtitle for his first of six *Star Wars* films), reflecting a rising optimism about the future and excitement about the possibilities of new technologies. (Ironically, *Star Wars* was funded by 20th Century Fox, but the revenues from it allowed Lucas, by 1980, to begin funding his own films, allowing him greater independence from the Hollywood studio system.) The early 1980s in particular marked an interim period in both computer and cinema history, when the idealistic young men of the 1970s had finally broken free from their industrial forefathers and succeeded on their own, but before any of them became the very definition of the industries we know today. At the time, Bushnell, Jobs, Wozniak, Gates, and Lucas had all distinguished themselves from their corporate predecessors by successfully starting their own companies, free from the button-down constraints of big-business; but once they had no paternal figure to struggle against, they were left to

struggle with each other. Freud describes this process in *Totem and Taboo*: once rival brothers band together to kill their violent, dominating father, the brothers fall into rivalrous competition until they can (re-)establish order in the name of the father (234-37). Both *Tron* and *Electric Dreams* narrativize this interim struggle, presenting acousmatic computers as male rivals for the male hero. Further, both films have classical narratives, situated within an aesthetically computerized world: in *Tron*, a traditional hero's journey but the first live-action film to be set in a computer-generated world, the hero-programmer must overcome both a programmer-rival and a patriarchal computer in order to become the head of a successful computer company; in *Electric Dreams*, a traditional love triangle, the hero-user must fight his sentient home computer for the affections of a human woman. And so, these two films narrativize the struggles of both programmers and filmmakers in the late 1970s and early 1980s, breaking free from their corporate fathers and battling each other for power.

END OF PATERNAL LINE

Steven Lisberger's 1982 film *Tron* is a direct product of both the video game and home computing revolution of the late 1970s, combining the aesthetic of computer generated video game graphics and the new language of computer programming. In the film, there are two parallel worlds, that of the users/programmers (the real world) and that of the programs (the Grid). The Grid is narratively and visually a virtual space, created entirely out of computer generated images, rendered as a black space with neon blue, green, red, and yellow vector lines, visually demarcating a three dimensional space, and the actors are placed into the space through

blacklit animation (Patterson 792).¹ The “people” who live on the Grid are the programs themselves, visually represented by black-and-white, live-action versions of their respective programmers, and played by the same actors in both worlds. The main characters are Kevin Flynn and his program CLU (Codified Likeness Utility), a hacker program designed to access restricted areas of the Grid, both played by Jeff Bridges; Flynn’s programmer friend, Alan Bradley has TRON (TRace line ON, a command used in actual BASIC programming), a “watchdog” program who protects the Grid (Bruce Boxleitner); and the main protagonist, Ed Dillinger, head of ENCOM, has a program called SARK, the evil commander of the Grid army (David Warner). The central program of the Grid is the autonomous, voice-interactive MCP (Master Control Program), also voiced by David Warner. (Although MCP’s voice is recognizably that of David Warner because of his distinct accent and cadence, MCP’s voice has been digitally altered to be deeper than either Dillinger’s or Sark’s.) In the story, MCP has taken control of the Grid and runs it like a dictator, reassigning or killing (“derezzing,” in the film’s terminology) programs for no reason. When Flynn is digitally scanned onto the Grid (or “rezzed,” as it were), he must help TRON free the programs by defeating SARK and, ultimately, MCP.

This doubling of characters (users/programs) constructs a complex sense of simultaneity of the real and virtual spaces. On one hand, the program is an anthropomorphic expression of not

¹ The production of *TRON* is a fascinating case study in the history of digital filmmaking. The images were created using a combination of traditional film and animation techniques along with computer animation. “Ironically, the effect of [computer generated imagery] could not be accomplished with computer imagery. If the scene involved live action since there was no practical means of compositing live action with computer generated imagery used for anything other than a simple background. So when the light cycle rezzes [electronically lights] up around an actor, the effect is achieved by conventional animation techniques” (Patterson 814). In contrast, the sound designers not only drew on sounds from actual computer laboratories, including Atari and Apple, but they also used entirely computerized methods for sound creation. They stored data on floppy disks (so new at the time that they had to define them for readers of *American Cinematographer* as “a magnetic storage medium physically similar to ‘Flexi-disc’ sheet audio recording” [Serafine 831]) and wrote programs for the Atari 800 and Apple II to suit their needs (Serafine 830). So, while the sound was still considered subordinate to the image—the mixers were given images to create sound to, rather than creating them concurrently or conceiving of a total digital audio-visual space with the graphic designers—they nevertheless engaged the technophilic themes of the film head-on.

only his user's image but also his personality: Flynn and CLU are rogue, fight-the-system heroes, their sidekicks are Alan/TRON respectively, while Dillinger/SARK are devious henchmen for the corporate entity. On the other hand, the programs are autonomous beings who can run (i.e. live) on the Grid without direct instructions from a user. In short, the program is *not* his programmer, but he sure looks and acts like him. In this sense, too, describing the programs as "avatars" of their users is problematic. Adam Davis defines cinematic avatars as dualistic, "characters that exist across two bodies, mediated by an interface, or in which one character controls another" (16-17). Davis specifically excludes *Tron* from this definition, and with good reason. The programs' autonomy from their users renders them more like virtual twins; and while Flynn exists on the Grid, his physical body is actually transported there, as opposed to having a digital avatar of himself there while his body remains in reality. In this sense, the only character in the film to have an avatar is MCP.

Unlike the humans in the film, whose user and program have identical bodies and voices, MCP's real body is very different from his Grid body. In the real world, MCP's body is a large, sleek black desk in Dillinger's office, with a touch screen surface. Visually, Dillinger's conversations with him are structured in shot-reverse-shot: Dillinger speaks to MCP in a medium shot, then MCP responds visually and verbally in a full-screen shot of his blue text on a black background. The color of his text is a red herring (or blue, as it were): on the Grid, the good programs, including TRON, then Flynn himself, wear outfits trimmed in blue light, while SARK and his minions wear red-trimmed ones. As the story unfolds, MCP's autonomous power grows, until he is finally revealed as the glowing red column in the central tower of the Grid, complete with yellow eyes and a thin mouth. Like his cinematic predecessors, then, MCP is a paradoxical acousmatic character: he is a disembodied computer voice, but he has symbolic bodies that

suggest his gender. In the real world, he is a large desk, a status symbol of Dillinger's corporate position, and a particular form of executive masculinity. Meanwhile, his virtual body is a centralized, pulsating, phallic column, symbolically aligning him with masculine authority. Yet, neither is truly *him*, per say. Both the desk and the red column act as avatarial representations of MCP's power, which in turn is a symbolic presentation of the structuring Law-of-the-Father. He is the large, sleek desk, behind which the executive sits as he runs the corporation; simultaneously, he is the central phallic structure around which everything on the Grid revolves.

The tripling of David Warner's voice further aligns Dillinger, SARK, and MCP, though the relationship between voice and body throughout the narrative emphasizes MCP's symbolic paternal role, Dillinger's and SARK's as symbolic progeny, reinforcing the Law-of-the-Father. The first time we hear his voice, MCP speaks to SARK from a disembodied position, giving him instructions for building up his army. SARK looks up at the unseen MCP, whose voice reverberates, implying his godlike status. The next time we hear him speak, he has summoned Dillinger into his office to talk about Flynn's hacking program, CLU. Although Dillinger looks down at MCP's desktop, he is shown at eyelevel, while MCP is shown full screen in the reverse shots, again indicating MCP's power, though this time in an embodied form. Finally, at the end of the film, we see MCP's phallic embodiment, the most overt (though still symbolic) indicator of his status as patriarch, and synchronized lip movement. This embodiment paradoxically indicates a significant loss of power: the hidden, acousmatic patriarch is omnipotent, while the visualized one can be defeated precisely because he can be seen.

Like the Freudian sons overthrowing their father, Flynn and TRON must destroy MCP together; when they finally do, Flynn is shot back out into the real world, the lines of light on the Grid turn to blue, and MCP's column is reduced to a small, faceless stone. As Flynn returns, he

finds a brief printout, indicating that order has been restored in both worlds and he has been vindicated:

VIDEO GAME PROGRAM: SPACE PARANOIA
 ANNEXED 9/22 BY E. DILLINGER
 ORIGINAL PROGRAM WRITTEN BY K. FLYNN
 THIS INFORMATION PRIORITY ONE
 END OF LINE

In one of the final sequences of the film, Dillinger enters his office to find this same message on MCP's screen, this time with no voice accompaniment, and in green text, indicating that MCP—along with his voice and his misleading blue text—have been defeated. Here, the phrase “END OF LINE,” a BASIC programming command indicating the end of the command line, takes on a dual meaning: this is also the end of MCP's patrilineal line as he is silenced, symbolically losing the Law-of-the-Father. In the final scene of the film, it's revealed that Flynn has taken over ENCOM, but rather than becoming the corporate father, as Dillinger had with his well-tailored suits and sleek executive office, Flynn still wears jeans and a sweatshirt. Here, he represents a new, youthful masculine patriarch, one that is, significantly, aligned with the extra-cinematic image of the young college-dropout startups, Steve Wozniak and Steve Jobs.

ELECTRONIC EROTIC TRIANGLES

These same themes of unified subjectivity are also explored, though in a vastly different way, in Steve Barron's 1984 film *Electric Dreams*.² Created as a feature-length music video and

² The title of the film is clearly derivative of Philip K. Dick's 1968 short novel *Do Androids Dream of Electric Sheep?*. Though the exact themes of memory and artificial intelligence in Dick's work and Ridley Scott's 1983 cinematic adaptation, *Blade Runner*, are not entirely explored in *Electric Dreams*, the film does provide a comical answer to Dick's question when Edgar, the sentient computer, displays the word “Sleep?” on his screen, then displays an 8-bit animation of electr(on)ic sheep jumping over a fence.

means of cross-marketing albums, it was produced by the now-defunct film branch of Virgin Group. It received mixed reviews upon its release,³ the film was a financial disaster, with a budget of \$3.5 million and a box office gross of just over \$2.4 million. To this day, the film seems to have become a relic of the 1980s, escaping, for the most part, scholarly attention.⁴

The story is a reworking of *Cyrano de Bergerac* for the MTV age, as a love triangle forms between a man, his computer, and their upstairs neighbor. In addition, the computer begins as a simple piece of machinery; throughout the film, though, he undergoes several stages of development, all in relation to his male user, eventually developing full autonomy, a voice, and even a name—Edgar. Each stage of development metaphorically presents a different type of male-male interaction, from homoerotic identification to the power struggle of the love triangle.

The user, a nerdy, luddite architect, Miles Harding (Lenny von Dohlen), buys the computer on the insistence of his co-worker, and struggles to figure out how to use it. When he attempts to set it up, he discovers that it can control his home security system (which he also has to install), lights, and coffee pot, though he mistypes his name into the opening survey and the computer forever calls him “Moles.” Meanwhile, a beautiful blonde cellist, Madeline Robstat (Virginia Madsen) moves into the apartment directly above, and as we soon find out, their two apartments are connected by a wall vent, through which any sounds from each apartment can be heard in the other. The computer’s body is what can now be thought of as a classic home computer system, though at the time, it was state-of-the-art: a large, white monitor sits atop a box console, and in front of it is a standard, clunky white keyboard. At first, the computer is

³ Gene Siskel and Roger Ebert gave the film two thumbs up. Ebert stated, “It engages you romantically and emotionally, and at the same time, intellectually.” Jay Carr of the *Boston Globe* described it as “a slick but sweet and disarmingly likable romantic comedy.” Meanwhile, Lawrence Van Gelder of the *New York Times* wrote, “In the failure of *Electric Dreams* to blend and balance its ingredients properly, plot elements are lost [...], credibility is overtaxed [...], and what remains is high tech without being high art.”

⁴ Both Tara Brabazon and Tison Pugh provide extended analyses of *Electric Dreams*, though both treat the film as exemplary of the development of cyberspace identity and narratives about cyber relationships.

annoying (At one point, it locks Miles inside the house, comically portraying the message, “ACCESS RESTRICTED, SCIENCE OFFICER EYES ONLY.” Miles looks the password up in the instruction booklet: “LIEUTENANT SULU.”), but Miles soon figures out how to use it for creating vector graphics and architectural design.

One evening, Miles decides to use his new modem to link his computer to his boss’s at the architectural firm. The entire scene is overtly sexual, evoking the sense that the computer is experiencing a sexual awakening. Having run out of beer, Miles grabs a bottle of champagne from his refrigerator and places it on the desk as he sits down to work. As he dials, he tells the computer, “I want to introduce you to a friend.” When the two computers are linked, Miles holds the modem telephone⁵ towards the computer and says, “It’s for you. I hope that feels all right.” The computer begins to rapidly download data, subsequently overloading its system in a visual frenzy of orgasmic imagery: a close-up of a smoking motherboard, rapidly scrolling data on the screen, and, finally, the popping of the champagne cork, and close-ups of foamy liquid seeping into the keyboard, then over the hard drive. The image then cuts to a shot of Madeline, who, as if to solidify the sexual overtones of the scene, has been eavesdropping through the vent, and remarks to herself, “Real tiger, that one. Thank God I work nights.”

This scene is incredibly complex in its representations of shifting dyadic and triadic desire. The two computers engage with each other, on the insistence of Miles, here acting as an instigator for the computer’s sensory overload. At the same time, a sensory experience occurs between Miles, who both instigates and watches, and his computer. In this sense, the interaction

⁵ Modems were first created as part of the SAGE system in the 1950s and, until the early 1990s, were vastly different from today’s automated modems. As David Hanes and Gonzalo Salgueiro note, “Early modems by law were not allowed to connect directly to the telephone network. Usually they had an integrated acoustic coupler that allowed for a standard telephone handset to rest on the microphone/speaker cradle to convert between audio signals and digital data [...]. A major drawback is that the remote telephone number must be manually dialed before the handset is placed into the acoustic coupler for the modem training and connect sequence” (6).

between Miles and the computer is a continuum of active/passive structures of desire: Miles actively instigates the encounter, even sets the stage for it; the computer, though actively downloading data, passively follows Miles's commands. Further, Melanie actively listens at the vent in an aural perversion of the classic voyeuristic-male-gaze formulation. Drawing on Freud's discussion of eavesdropping and the primal scene, Elisabeth Weis argues that eavesdropping—or *écouteurism*, as she calls it—in cinema recalls the situation of the primal scene and constructs an “erotics of listening” both for the viewer and the eavesdropping character in the diegesis of the film. “If we consider the film-going experience to be one of watching and overhearing characters who are separated from us, then the entire film-going experience could be defined as eavesdropping as well as voyeurism” (82). In this sense, Melanie's *écouteurism* reinforces multiple forms of gendered identification: we identify with her as she listens but does not see what she (mis)interprets to be an erotic scene; simultaneously, we identify visually with Miles as he engages in the implied erotic act.

After this instigation of desire, the computer begins to develop a sentient mind, as though, the film suggests, an erotic awakening is akin to a subjective awakening. Almost immediately, the computer begins to develop a romantic interest in Melanie. While Miles is at work, Melanie practices her cello. The computer, picking up the music through his microphone, begins mimicking the tones of the cello, in synthesized beeps. Before long, a non-diegetic synth beat kicks in, and the two are playing a duet. This scene again reinforces an erotics of listening, as the two cannot see each other, but communicate emotionally through sound. Melanie, of course, thinks that Miles had played the music and approaches him for a date. Meanwhile, the computer continues to develop its speech capabilities, mimicking a neighbor dog's bark, then a few of Melanie's words, then, finally, as Miles talks in his sleep, the computer begins to emulate

his words in a stuttering, synthesized, varying pitch: “But...Me...I...did.” Miles bolts up in bed and shouts, “Who said that?” The computer responds, “I did,” suggesting that he has finally achieved full sentience by claiming himself as an “I.” When Miles talks to him incredulously, the computer stumbles on a Cartesian declaration of selfhood: “Am I? I am. What am I?” At this point, his voice, provided by Bud Cort, balances out to a whiny, almost teenaged voice, with a pitch somewhere between boyhood and manhood, though not feminine. Immediately after recognizing himself as an “I,” the computer recognizes sexual difference by comparing Melanie to Miles: “Her sounds, when she moves, they’re different from you.” This dialogue openly suggests what the film’s predecessors tended to hide: gender difference is aural, as well as visual. The computer can *hear* that Melanie is not like Miles. At the same time, this assertion suggests a shift in the narrative from relatively slippery desires to a fairly strict Oedipal triad. Melanie and Miles perform the function of parents for the computer, as models of their respective genders. From here on out, the computer desires Melanie and fights with Miles, suggesting, as Eve Sedgwick describes, that male homosocial interactions are, from a psychoanalytic perspective, structured by the Oedipal rivalry between two men over a woman. Sedgwick goes so far as to describe nearly all traditional literary love triangles as structured by this desire (though she uses psychoanalysis as one tool among many to make her point); *Electric Dreams* falls into this narrative trajectory, triangulating masculine subjectivity as a power play between two men for one woman.

Miles, though, still does not consider the computer to be a threat to his claim to Melanie, and so, in the fashion of *Cyrano de Bergerac*, he asks the computer to write a love song that Miles can give to her. The computer comes up with lyrics by watching television commercials and old movies; he plays the final product for Miles, who is shown in low lighting, wandering

around his apartment with a dreamy look on his face, intercut with images of him and Melanie kissing, laughing, and holding hands. Here, the image has been subordinated to sound as the computer learns to *watch*. At the end of the song, Melanie walks in and, once again, mistakes Miles for the composer. While Miles and Melanie go out on dates, the computer—who has now given himself the name Edgar—sits at home, watching television and frequently calling in to Dr. Ruth’s sex-advice radio show to ask her how to get Melanie to love him. Eventually, he grows so angry with Miles that he goes online and cancels all of Miles’s credit cards, freezes his bank account, then tries to electrocute him.

During their fight, Edgar’s screen displays the CBS eye logo over a red background, referencing HAL-9000’s all-seeing, destructive, jealous *eye*, suggesting that sight, not voice or hearing, have driven him to lash out at his user. But Edgar eventually submits and, like Proteus IV in *Demon Seed*, decides to sacrifice himself by committing suicide, explaining to Miles that he has realized that love is about giving, not taking, that he has decided to give Melanie to Miles. Although on the surface, this seems like a declaration of love for Melanie, she is actually the object whom he is giving, implying that his love is for *Miles*, to whom he gives the object. Through this, Edgar comes full circle, from his first complicated homo- and auto-erotic interaction with Miles and the other computer, to a heterosexual, Oedipal construction of desire, and back to a homosocial, if not homoerotic, declaration of love for Miles. This shifting desire suggests shifting subject positions; underneath the basic love triangle is thus a subtext of the fluid nature of desire and subjectivity, awakened by *écouteurism* but overshadowed by the gaze of voyeurism. In other words, the film posits aural identification as fluid, existing across gender lines and constructed around multiple modes of desire; yet, Edgar “grows” into sight, leading him into the heteronormative love triangle. In this sense, looking is privileged over hearing, as

looking is a later stage of development for Edgar. Having recognized this, Edgar overloads his own circuits with electricity, blowing out his monitor in a slow-motion medium shot that is reminiscent of a cinematic portrayal of a gun-shot to the head. In the final scene of the film, Melanie and Miles drive off on a two-week vacation, and, inexplicably, Edgar's voice hijacks the radio to dedicate a song—"Electric Dreams"—to his friends. This coda, shot in the style of a music-video, features quickly-edited shots of San Francisco, radio DJs trying to figure out where the signal is coming from, people dancing in the computer store where Miles bought Edgar, and Miles and Melanie frolicking through the city together. This is certainly not a rational move, in the classical Hollywood tradition of continuity and narrative closure; rather, it is a radical, postmodern move for the MTV generation, and a final revelation of the workings of the acousmatic apparatus. And, importantly, while the gaze of the camera focuses on the happy human couple, the voice of technology and his message of desire to see his friends in "electric dreams" undermines the normativity and stability of the heterosexual gaze. In addition, this final sequence not only undoes the entire narrative coherence of the film, but it does so completely unapologetically, re-highlighting Edgar's sound over his image and implying that narratives, like subjective desire, don't need to be cohesive, static, or linear.

CODA: WHEN SONS BECOME FATHERS, REDUX

By the mid- to late-1990s, the "brothers" of the computer and cinema industries who had been struggling with one another to take the place of the paternalistic companies of the previous generation had risen to the top. Apple, Inc. and Microsoft Corp. had taken hold of the computer market, while the Hollywood film industry emerged from its Renaissance into a similar Studio System as the classical, pre-Renaissance era. Thomas Schatz states in his introduction to *Hollywood: Critical Concepts in Media and Cultural Studies*:

Hollywood's resurgence also involved a return of sorts to the "studio system", as Disney, Paramount, Warner Bros., etc., reasserted their collective dominion over the industry. However, the studios were scarcely integrated motion picture conglomerates unto themselves, as they once had been. In the course of the 1980s and 1990s, the cumulative impact of deregulation, technological innovation, corporate conglomeration, globalization and an ethos of free-market capitalism utterly transformed Hollywood and the American media industries. By the mid-1990s, the resurgent studios were mere subsidiaries—albeit the "core assets"—of vast global media conglomerates like Sony, News Corp, Viacom and Time Warner. This cartel of vertically and horizontally integrated media giants collectively dominated movies and television, cable and home video, digital and interactive media, music, publishing, theme parks, resorts, retail stores and a seemingly endless array of licensing and merchandising endeavours. (15)

Amidst this so-called "new New Hollywood," many of the young, maverick directors of the 1970s became powerful heads of their own studios. Notably, Steven Spielberg, who had accidentally begun the decline of New Hollywood with his surprise box office hit *Jaws* in 1976, started his own multi-media studio, DreamWorks, in 1994, with producer and former head of the Disney motion picture division, Jeffrey Katzenberg and head of Geffen Records, David Geffen, along with financial backing from the co-founder of Microsoft, Paul Allen. Thus, DreamWorks—like most studios since the 1990s—was a synergistic conglomeration, and the results of the sons of media industries becoming the heads of companies.

Spielberg's 2001 film *Artificial Intelligence: A.I.*⁶ is, ironically, considering it was funded and distributed by DreamWorks and Warner Bros., almost as anti-capitalist as the 1970s Sci-Fi films I discussed in the previous chapter, and presents almost the exact same father functions as *Rollerball*, but updated for the digital, internet age. In the film, the “mecha” (short for “mechanical,” meaning android) boy David (Haley Joel-Osment) is abandoned by his human mother, and so he sets out to find the Blue Fairy from *Pinocchio*, who will turn him into a real boy. Along the way, he befriends another mecha, Gigolo Joe (Jude Law), who takes him to Dr. Know (voiced by Robin Williams), a voice-interactive search engine in a small movie theater-like room, with a black holographic projector box as its central “body” and a small, raised proscenium stage where the holographic images are projected. When David and Gigolo Joe enter the room and sit down in front of the stage, the computer automatically turns on and displays a burst of colorful, 3D rays, which change into an image of the universe, spinning, until it transforms into cartoon head and hands of Albert Einstein. His voice seems to emanate from the room itself, as though in a surround sound theater, and, although it is very obviously Robin Williams's timbre and cadence, he speaks with a German, Einsteinian accent. In addition to his clever tagline, “Ask Dr. Know, there's nothing I don't,” the use of Einstein—a man who has become the very symbol of scientific knowledge and intelligence in the twentieth century—as the computer's projected image immediately positions Dr. Know as the arbiter of knowledge.

Importantly, though, he is just as much a zero symbol as *Zero* in *Rollerball*. Dr. Know's name, as he pronounces it, is at once the “no” of the binary 0 and the “no” of the restrictive symbolic Father. In *Totem and Taboo*, Freud uses the Oedipus story of a man who unknowingly

⁶ *A.I.* actually began as Stanley Kubrick's adaptation of Brian Aldiss's short story, “Supertoys Last All Summer Long,” in the early 1990s, though Spielberg was an initial consultant. Kubrick sporadically worked on, then lost interest in, then regained interest in the film until, following the success of the CGI in Spielberg's *Jurassic Park*, and the announcement of what would become Kubrick's last film, *Eyes Wide Shut*, Kubrick turned the project over to Spielberg (Sperb 151, n.8).

kills his father and marries his mother, then gouges his own eyes out when he learns the truth, to describe how the father-patriarch both creates restrictions on desire and, through his death, passes them on to his son. Lacan draws on Freud's arguments, but shifts away from attention to the mother in order to argue that it is the symbolic Name-of-the-Father (in Lacan's native French, the "Name-of-the-Father," *nom du pere*, sounds exactly like the "No-of-the-Father," *non du pere*) that represents the restrictive, or taboo-creating, symbolic Father who maintains the Law-of-the-Father. The patriarchal Law is structured by and passed on through the Name-of-the-Father. Yet, as I mentioned previously, the structure itself is a zero symbol, capable of being filled by any signifier that fits into the overall cultural structure. David wants desperately to return/regress to his mother, leading him to fill any signifier with a phantasy of her; lacking a father, David turns to Dr. Know as a signifier of the knowledge that will ultimately lead him to his mother, rather than to a "proper" Oedipal position within the Symbolic Order whereby he might identify with his father and desire his mother as an object.

Dr. Know/No's name emphasizes the relationship between knowledge of the Law-of-the-Father and the restriction necessary to maintain that Law.⁷ Physically, he is presented as a hologram, linked to a physical projector; yet, the hologram itself is translucent and constantly shifting between image and text, as though his body carries all these signifiers that only make sense when the user makes meaning of them. And while the face and hands of Einstein are

⁷ Dr. Know is also an intertextual reference to two other major acousmatic characters in film history: The Wizard of Oz from Victor Fleming's 1939 film of the same name and Dr. No from Terrence Young's 1962 James Bond film of the same name. Linguistically, Dr. Know and Dr. No are homonymns, but, more obscurely, OZ, when turned sideways is also NO (Felleman). Visually, Dr. Know and The Wizard of Oz are both all-knowing, floating heads, though Dr. No is a completely disembodied voice when we first encounter him in the film. All three characters function as omnipresent father figures, using language to give orders and maintain patriarchal Law, though without a human body. Their bodiless presence reinforces the notion that they are zero-symbols, signifiers of the Symbolic Order through their voices, but bodily intangible in a way that renders them shifting symbolic figures. Yet, as Michel Chion notes, both The Wizard and Dr. No are subsequently de-acousmatized, or given visual, bodily form, thus diminishing their paternal power (*Audio-Vision* 131). In contrast, Dr. Know is, like all acousmatic computer characters, paradoxically acousmatic and anacousmatic, disembodied and yet technologically embodied.

visible, his mouth is not. There is no “proof” of speech available through the lip-synch test, and so Dr. Know’s avatar is just as much a cinematic trick as the film *A.I.* itself. The cinema asks viewers to believe that the light projected onto a screen is real, when in fact, the light itself is a sort of zero symbol, able to contain a wide range of signifiers that, in turn, allow for the spectator’s interpolation of meaning.

Dr. Know’s function as a computer is to provide knowledge according to strict categories. At first, Joe chooses the category “Flat Fact,” and David asks, “What is Blue Fairy,” to which Dr. Know responds with a description of the Blue Fairy flower and an advertisement for an escort service called Blue Fairies. Then, David switches the category to “Fairy Tales,” and Dr. Know finally shows him the Blue Fairy from *Pinocchio* as a 3-D cartoon who silently floats around the room. David, as a naïve, childlike spectator, believes that the projection is real and thus tries to catch the Blue Fairy in his hands. Joe patiently explains that a fairy tale isn’t real, but David insists, “But what if a fairy tale is real? Wouldn’t it be fact? A Flat fact?” Joe asks Dr. Know to combine “Flat Fact” with “Fairy Tales,” thus revealing that Blue Fairy is also a zero symbol, an empty signifier filled with multiple meanings according to the strict symbolic laws provided by Dr. Know. At this point, the camera tracks 180 degrees around the perimeter of the room and slides slowly behind Dr. Know’s vivid blue eyes. In this shot, we see David through the eyes of a holographic father figure, revealing his literal and metaphorical translucence. Simultaneously, the striking blue of the eyes visually parallels the blue of the Blue Fairy, highlighting their parallel statuses as phantasies of parental knowledge. In both a metaphorical and a physical, holographic sense within the mise-en-scene of the film, Dr. Know embodies the intangible, shifting Law-of-the-Father and structures of knowledge, while the Blue Fairy embodies the elusive Real associated with the archaic and pre-Oedipal mother. Yet, David

falsely thinks that the Law-of-the-Father will lead him to the Real. In Lacanian terms, this is precisely backwards: the Real is effaced by language and can thus never be known. When David asks Dr. Know to position the Blue Fairy as both “Flat Fact” and its seeming opposite, “Fairy Tale,” Dr. Know’s face disappears and he displays an advertisement in scrolling text for a book written by David’s human father-programmer, Professor Allen Hobby. David goes to Manhattan to find the Professor, whom he thinks will lead him to the Blue Fairy, where, in a factory-style workshop, he quite literally meets himself, in the form of another robot boy. This uncanny encounter terrifies David, who, upon finally meeting Professor Hobby, whimpers, “I thought I was one of a kind.” The Professor explains that his late son, also named David, in whose image he created the entire line of robot boys, was one of a kind. The Professor, then, is figured as a failed and melancholic father, compulsively attempting to recreate the relationship with his own son that he once had. Metaphorically, then, the Law-of-the-Father (Dr. Know) leads to a phantasy of the maternal Real (the Blue Fairy), which in turn, leads David *not* to unity with his mother, but rather, to the inadequate father figure, Professor Hobby, and the realization that David himself is no more real than his phantasy of the Blue Fairy.

Thus, two important themes emerge from the scene with Dr. Know. First, David stands in for the spectator, watching a film within the Symbolic Order, learning to interact with both the illusion in front of him and the arbitrary slippage of language. His interactions with Dr. Know, though, threaten to reveal the cinematic and patriarchal apparatuses through the transparent, holographic imagery and the overt parallel between Dr. Know’s “cinema” and the theater in which the spectator sits. This threat is covered over by a second theme, the role of the Law-of-the-Father in effacing the Real and the resulting eternally unfulfilled desire to locate it, all folded into the narrative trajectory of the film. After David’s revelation in Professor Hobby’s workshop,

he throws himself off the workshop tower, sinks into the water below, and discovers a Coney Island statue of the Blue Fairy. With the help of Gigolo Joe, he climbs into an underwater pod-vehicle and sits underwater before the statue, “doomed to two thousand years of empty, mechanical repetition at the bottom of the ocean” (Dinello 84). The image of David staring at the Blue Fairy for what we assume will be eternity is an emotional reminder of the futility of his phantasy of unity with his mother, as he gazes unrelentingly at the empty signifier of his maternal figure.

In a strange coda (though unsurprising, considering Spielberg’s reputation for pat, feel-good endings), 2000 years after David’s submersion, aliens arrive and give him the opportunity to spend a single day with a genetic clone of his mother, in a virtual reality version of their home. David accepts and, in the final image of the film, falls asleep resting on his mother’s breast, presumably never to wake again. According to Freud, part and parcel of growing up is replacing one’s parents with phantasies of “better” ones, who only serve to screen the ego from the realization that parents are not as perfect as the child originally thought: “Indeed the whole effort at replacing the real father by a superior one is only an expression of the child’s longing for the happy, vanished days when his father seemed to him the noblest and strongest of men and his mother the dearest and loveliest of women [...] his phantasy is no more than the expression of a regret that those happy days have gone” (300). The ending of *A.I.*, however, implies that David has successfully avoided the Oedipal trauma and regressed to unity with his mother (Bould 86), though not, as he thought, by uncovering the effaced Real; rather, the film tells us, the only way to fully regress is through total unreality, total phantasy: a cyborg child asleep in the arms of his clone mother. And so, the film is also a cautionary tale of sorts: dissociative phantasy ultimately leads to David’s death. In this sense, by accepting the paternal advice of the computerized zero-

symbol father, Dr. Know, David fails to break free of the dyadic relationship and cannot become a functioning adult.

Thus, while the 1980s was a time of upheaval and technophilia, as young entrepreneurs and filmmakers alike sought to claim a paternal position in the wake of the 1970s, by the 1990s and 2000s, they had firmly established themselves as the new patriarchs of their industries, though they worked within the confines of the paternal Laws inherited from their predecessors. As I will discuss in the next chapter, the Sci-Fi representations of acousmatic computer voices in the 1990s and 2000s were dominated by issues of the concurrent presence of computers and absence of traditional housewives/mothers in the domestic sphere. Within this milieu, *A.I.* is an historical anomaly, but nevertheless an important film in understanding the ways in which paternal roles may shift from fathers to sons and back again. But the power of the Law-of-the-Father to efface the Real, particularly in relationship the phantasy of unity with the maternal, endures no matter which version of the patriarch—father or son—is in power.

CHAPTER 6

GOOD SECRETARIES & BAD HOUSE-WIVES: FEMININITY IN THE DIGITAL AGE

Almost an hour into the plot of Robert Wise's 1971 *The Andromeda Strain*, Dr. Mark Hall, a scientist studying a violent alien life-form in a high-tech, almost completely computer-automated underground laboratory, has fallen asleep in his quarters, only to be woken by the sound of a woman's calm, almost sultry voice, telling him repeatedly that it is, "Time to wake up, Sir." He goes to a panel on the wall, pushes a button, and has a very brief conversation with the disembodied woman:

"Do you wish something, Sir?"

"Your name."

"Will that be all, Sir?"

"For now."

As Dr. Hall prepares to leave his quarters, a stern male voice speaks to him:

"This is the Answering Service Supervisor. We wish you would adopt a more serious attitude, Dr. Hall."

"Sorry. Her voice is quite luscious."

"Well, the voice belongs to Miss Galdys Stevens who is 63-years-old. She lives in Omaha and makes her living taping messages for voice reminder systems."

This brief scene, in the midst of an apocalyptic Sci-Fi film about an alien life form that wipes out an entire town of residents, does little for the plot, serving primarily to emphasize the sexist, playboy personality of Dr. Hall. Yet, the scene is an important one because of the way the dialogue lays bare the workings of acousmatic gendering, to comedic effect. Dr. Hall assumes that the voice emanates from a live female body, presumably a "luscious" assistant, in another

room; instead, as the actual live person informs him via intercom, the voice does belong to a real woman who is neither present in the lab facilities nor, we can infer, particularly sexy. The comedy of the situation is in the incongruity between the computer's sensual voice and the mundane reality of her bodily existence, an old joke based on the idea that a person's voice should match his or her body (hence the insult, "a face made for radio," e.g. a sensual voice should be attached to a young vixen, or a deep, masculine voice should be attached to a muscular hero, and when they're not, we just shouldn't see them). As I mentioned in the introduction, the debates about women's roles on the radio in the 1920s and 1930s were primarily centered around whether a woman needed to be seen as well as heard. Additionally, the potential for discontinuity was a source of anxiety surrounding silent cinema and has been played out comically in sound film, most notably *Singin' in the Rain* (Stanley Donen and Gene Kelley, 1952), in which the glamorous and beautiful silent film star Lina Lamot has an annoyingly high-pitched voice and lower-class accent. In *The Andromeda Strain*, Dr. Hall assumes not only that the woman's voice he hears must match her body, but also that the voice must be live, emanating from a body somewhere nearby. Through this, the film comically reveals what other texts I've discussed thus far hide: the computer's voice isn't really that of the computer—it originated from a human body and has been schizophonicly recorded and projected onto the image of the computer. In short, the computer has no gender, but the person who provided its voice does.

Even this radical self-reflexivity does not account for the gender of the computer (aside from the fact that the heteronormative scene would not have worked). While the female computer in *The Andromeda Strain* is an anomaly among the all-male computers of the 1970s (which I discussed in chapter 4), it is not the only computer in cinema to feature a pre-recorded voice that is treated like a person. *THX 1138*, released just a day before *The Andromeda Strain*,

features the priest-computer OMM, who is also revealed to be a pre-recorded voice. Their gender and their function correlate to real-world conventions of gendered occupations: OMM, like all human Roman Catholic priests, is male; the computer in Dr. Hall's quarters is, like a vast majority of secretaries, female.¹ As I have argued throughout this dissertation, when a computer has no humanoid body to speak of and thus no physical markers of gender (as would, for example, an android), its gender is implied through the relationship between its voice and its body as well as its function. Spaceship computers, both male and female, tend to function like maternal wombs; male terraspace computers tend to be machines of war, corporations, or knowledge. As I will explore in this chapter, female terraspace computers, like Dr. Hall's alarm clock servant in his quarters, tend to be servants in a domestic space.

In fact, real computers from the 1960s through the early 1990s were designed and marketed according to the gender of their users. In his study of advertisement brochures for office computers, Paul Atkinson concludes:

[M]en were portrayed as executives, managers, scientists and engineers, while women were portrayed in subservient roles, as office juniors, secretaries, operators and assistants. Brochures depicting females using computers inevitably continued existing practices and showed them performing typing duties or inputting data using keyboards in exactly the same, familiar way that they were previously presented using the traditional office typewriter. In a similar way, when males and females were shown together in the vicinity of computers, the familiar subordination of women to male bosses in the office was portrayed and

¹ When *The Andromeda Strain* was released in 1971, the only other female acousmatic computer in Sci-Fi was the Enterprise in *Star Trek*. While both computers are essentially female assistants, the *Andromeda Strain* computer is located in a single room and primarily functions as a reminder tool, while the Enterprise is the central computer of an entire spaceship and performs complex calculations in addition to clerical work such as recording memos and providing personnel files.

reinforced. Women sat at computers working away typing, while men stood watching, handing work to them, or looked over their shoulders, checking all was well. (138-9)

Likewise, portrayals of real home computing reflected gender norms, as men (typically hobbyists) built computers and used them for work, creating household budgets, or gaming, while their wives were depicted as taking computer printouts of shopping lists to the grocery store (156-7).

By the early 1990s, however, not only were computers becoming ubiquitous in both public and private spheres, but also the rapidly growing adoption of the computer mouse and its intuitive desktop interface with Windows 3.0 began to dissolve the association between computers and (female) typists (Atkinson 155). Still, the gendered associations had a foundation in reality, as, by the early 1990s, “twice as many women as men used a PC in the office” (Cassidy 50). According to a 2002 report by Mitra Toossi for the United States Bureau of Labor Statistics, the percentage of women in the workforce rapidly rose in the 1970s and continued to rise steadily over the next two decades (16). This change was a result of multiple socio-economic factors, including a growing economy, the civil rights and feminist movements, affirmative action, better child care services, and the fact that more women were staying single longer, having children later in life, and earning higher degrees (18). All of these factors suggest that women’s domestic roles were also changing, as, in greater numbers, women ceased to be traditional, full-time housewives and mothers. Yet, the growing availability and affordability of home computers in the early 1990s created a crisis in advertising: women wanted home computers for both business and personal use, but the domestic sphere was always already gendered in certain ways. “Tied to a postfeminist fantasy, this discursive strand relocated income

production within an idealized domesticity, where job, household responsibilities, and childrearing were all managed to perfection via computer” (Cassidy 50). Computers were conceived in advertising as women’s assistants in a postfeminist fantasy, allowing them to work outside the home *and* maintain traditional domestic roles of housewife and mother.

Also as a result of the naturalization of computers in the business and public spheres, representations of computers in Sci-Fi shifted from anxieties surrounding the hardware/object to those surrounding the software/user and the potential “ability to monitor [users’] every move through computer-controlled surveillance” (Atkinson 211). To this I would add that the very distinction between hardware and software implies an active/passive dichotomy. Hardware, as a physical object, has agency through its mobile objectness, and is conceived of in terms of the body: for example, a hard drive has *heads*, situated on an *arm*, that *reads* and *writes* data. Software, on the other hand, particularly those involving a Graphical User Interface (GUI), such as Windows, is intangible, image-driven, and depends on the interface between user and computer, suggesting its passivity. For example, laptops today have more-or-less the same body—a clamshell frame, a screen, a keyboard—so when we use one, we don’t pay attention to that body; rather, we pay attention to the content on the screen, the graphical representations of the software. Importantly, at this time the motherboard also became a staple of small, desktop computers. Although computers need motherboards to “house” microprocessor chips, memory, and other vital items for the functioning of the computer’s programs, in and of itself, it has no use. The motherboard, then, like programs, suggests interiority and a dependence on external factors (e.g. the chips and memory) in order to be useful.

In terms of fictional representations of voice-interactive computers, the hardware-active/software-passive dichotomy suggests gender difference as well. On one hand, the very

term *hardware* euphemistically implies the phallus, and the physical agency of masculine-voiced computers in the 1970s and 1980s may be seen as an expression of typical active-masculine roles. On the other hand, software, as an internal, intangible, image-driven interface is reminiscent of female genitalia and may be expressed narratively as an internal, less active (though not necessarily passive, as I shall argue below) expression of traditional feminine roles. In this sense, the association between female typists and computers gave way in Sci-Fi to the convergence of computers with women's roles, resulting in representations of computers that are both houses and wives/mothers, literal house-wives. Importantly, terraspace acousmatic computers in the 1990s and 2000s are almost exclusively gendered female, while the main human protagonists are typically male, suggesting, I argue, a concurrent shift in cultural anxieties from those of masculine subjectivities in relationship to other men to those in relationship with women. The two exceptions to this rule, Alfred in *Demon Seed* (Donald Cammell, 1977) and JARVIS in *Iron Man* (Jon Favreau, 2008), both domestic computers with masculine voices, which I will discuss below, function as manservants, preserving traditional household gender dynamics.

As I have argued in previous chapters, the acousmatic computer, as a sentient object, is frequently uncanny, both familiar and strangely unfamiliar. The computer house-wife, however, like the spaceship computer, presents a particularly salient form of uncanniness. It is both a sentient object and a home, always already *unheimlich* and *heimlich*. Freud argues in "The Uncanny" that the very idea of home and the familiar feeling of being at home (literally and figuratively) represents a return of the repressed sensation of the original home—the mother's womb (245). Strategies for creating and promoting real-world smart-house technologies have

also reflected the uncanniness of technology in the domestic space. Davin Heckman notes in his study of “smart” (i.e. artificially intelligent in any capacity) houses:

The paradox of the smart home is that [technological] improvements are to be both spectacular and comforting. They must embody a compelling new way of doing ordinary things; from washing clothes to doing the shopping, from mowing the lawn to watching TV, the key is to preserve the ordinary, but to modify it in an interesting way [...]. The more radical notions of space-age technologies are replaced by traditional notions of living with technologies that, in the end, are rather mundane and ordinary. In order to make these innovations commonplace, they must seem commonplace. Because of this, a historical sampling of high-tech-housing arrangements reveals that the narratives used to sell them must constantly negotiate between being and becoming and, inevitably, force their inhabitants to occupy the uneasy space between the human and the posthuman. (9)

This paradox that Heckman notes implicitly points to the sense of uncanniness that comes from the introduction of unfamiliar technologies into a familiarly gendered space. Further, the close association between the maternal body and the domestic space of a house is a longstanding one; however, as Sandra Gilbert and Susan Gubar have argued, to be confined, not only *to*, but *as* a house “is to be denied the hope of that spiritual transcendence of the body which [...] is what makes humanity distinctively human” (88). In this sense, the ascription of feminine gender to a computerized house, as well as the narrativized negotiation in Sci-Fi between technologies that replace women’s domestic roles and the cultural need to maintain those stable roles, suggest the anxieties of both men and women about domestic life in a postfeminist, computerized age.

THE MOTHER INSIDE

The first three texts I will discuss in this chapter attempt to fill the role of domestic caretaker with a computer in the absence of human maternal figures. In Stuart Gordon's 1992 futuristic prison drama *Fortress*, set in a corporatized world in which both unlicensed pregnancy and abortions are illegal, the central computer system in a brutal, privatized prison also interacts with the warden in his office/apartment like a jealous mother. In LeVar Burton's 1998 made-for-TV Disney comedy *Smart House*, a motherless family moves into a house whose central computer teaches herself to act like a 1950s housewife by watching television shows from that period, eventually becoming so obsessed with her human family that she locks them inside her. And in the SyFy original comedy-drama series *Eureka* (2006-2012), the main character, a single father, lives in a computerized house who takes care of him and his daughter and, in one episode, becomes terrifyingly jealous when he threatens to move out. These texts, then, are predominately about female-male relationships amidst changing women's roles in the domestic sphere. In turn, the human male characters are often relegated to equally stereotypical masculine roles as they attempt to navigate interactions with their computers. The theme of imprisonment, as I will explore below, is an important one in representations of computerized domestic spaces, positing that when the mother is freed from the house, others must be imprisoned in her place. In this sense, these texts are inversions of the mothership. In space, to leave the maternal womb is to die; on Earth, to stay in the womb-home is to suffer. Thus, these texts suggest a paradox: women are free to leave the home because their traditional roles as domestic caretakers may be fulfilled by feminine computers; meanwhile, maintaining the traditional gender norms of the domestic sphere still locks men into stereotypical masculine roles in relationship to the computerized domestic caretaker. Thus, *Fortress*, *Smart House*, and *Eureka* all struggle with changing notions

of femininity and masculinity in the 1990s and 2000s; but I in no way mean to imply that they are anti-feminist. On the contrary, they engage in the same cultural discourse as the advertisements of the time—many of which were founded in feminist ideas, particularly the oppressive nature of housewifery—expressing concerns about the role of computers in the rapidly changing domestic landscape. Although computers were becoming more and more naturalized, the very idea of a computer house-wife is indicative of this discourse, as the culture at large attempted to negotiate changes in both masculine and feminine domestic roles.

Stuart Gordon's 1992 *Fortress*, is set in a future corporatocracy in which each couple may only have one child, abortion is illegal, and the punishment for unplanned pregnancy is a lengthy prison sentence in a brutal, underground prison called The Fortress. Karen and John Brennick, who have illegally conceived a second child, are caught attempting to sneak across the border to freedom; as a result, John is sentenced to three years in The Fortress, Karen will be killed in childbirth inside the prison, and their baby will likely be turned into a cyborg worker. Though the film was a flop, with a budget of \$8 million and a box office gross of only \$6.7 million, and has a thin narrative, relying heavily on gratuitous violence and sex scenes, its presentation of a maternal acousmatic computer nevertheless is symptomatic of a cultural anxiety surrounding the rising absence of traditional maternal figures in the home.

The prison is run by a cyborg, Director Poe (Kurtwood Smith), and a computer, Zed-10 (Carolyn Purdy-Gordon, wife of the director). Zed-10, who has a calm, though stern female voice, sees and controls every aspect of life in the prison. Her body is the entire prison, an uncanny, underground space in which prisoners are buried alive while they serve their sentences. In this sense, the Fortress is figured as the repressed (literally, buried) maternal womb, a frightening place where life both is and is not. Like HAL's glowing red eye, we primarily see

Zed-10's body in the form of her camera-eye: a steel, breast-like half-sphere that hangs and moves along a track in the ceiling in literal pan-optic motions. Unlike HAL's stationary red eye, however, her eye is a single-lens, phallic camera that pivots from the center of the sphere. Visually, her eye points to the phallic mother, both comforting breast and all-seeing phallus. As Barbara Creed notes, the figure of the phallic mother is not threatening *a priori*; rather, for the child in the phallic stage, she is a comforting phantasy of sexual undifferentiation. She only becomes terrifying when she usurps the power of men to wield the phallus and literally or metaphorically "penetrate and split open, explode, tear apart" (157-8). In this sense, Zed-10 is not frightening simply because she has a panoptic (in the Foucauldian sense) phallic eye; rather, it is what she does with it that renders her terrifying and uncanny.

Zed-10 is programmed to scan prisoners' minds, penetrating their unconscious, while they sleep and report any "unauthorized" dreams to Director Poe. She shows them to him on a wall-mounted panel of (dream) screens in his quarters, and, though he wants to spend more time watching the sexual dreams, she verbally scolds him for it. This scene calls attention to what psychoanalyst Bertram Lewin described as the "dream screen," or the imaginary surface on which a dream is projected. This screen represents and recalls the mother's breast, on which an infant rests in a state of undifferentiation and unity with the mother, signifying a phantasy attempt to return to that time. Building on Lewin's argument, film theorist Jean-Louis Baudry likens the dream screen to the cinema screen: viewers are not supposed to notice the screen, because the cinematic image (the content) is projected onto it. In this sense, the act of watching is an analogous phantasy of reunification with the pre-Oedipal mother (116-7). Zed-10 shows the prisoners' dreams to Poe on a screen fixed to a wall of her body, a literalization of the unconscious link between dream-phantasies and the maternal. Within the diegesis of the film, the

associations among Zed-10's phallic breast-eye, illicit dreams, screens, sexual phantasy, and repression, implicate her in the workings of Poe's own phantasies, both providing the scene for and aiding in the repression of them.

The punishment for illicit dreams is "intestination," a particularly gruesome form of negative reinforcement carried out by Zed-10. Her ability to inflict internal pain through "intestimators"—electro-shock devices implanted into each prisoner's abdomen, which have two settings, pain and death, and are used as negative reinforcement when prisoners misbehave—again reinforces her function as paradoxically phallic/maternal, present/absent. She can cause great pain and visually graphic violence upon a person, but only because she is secreted away inside them. Even her name—Zed-10—recalls the 0/1 binary of *Rollerball's* computer Zero. Yet, unlike Zero, who is a floating signifier in his zero-ness, Zed-10 is *both* 1 and 0, true and false, material and immaterial, present and absent. Metaphorically, then, she is omnipresent in the unconscious, suggesting a return of the archaic mother, but she simultaneously takes on the role of overbearing pre-Oedipal mother for both Poe and the prisoners, verbally and physically enforcing the Law-of-the-Father, and in so doing, encouraging them to push away from her.

The mechanized present/absent mother figured in Zed-10 is compared in the narrative with the human mother, Karen, who risks her own life again and again to save her unborn child. Director Poe, having become infatuated with Karen, offers to set her husband John free and let her and her baby live if she becomes his concubine. She, of course, is devoted to John, and drugs Poe while John and his cell-mates enact an elaborate escape plan. Zed, having seen both the escape attempt and Poe's (illegal) proposition of Karen, takes control of the prison and orders Karen's lethal Caesarian operation. John, predictably, escapes and swoops in to save both Karen and the baby; in the final scene of the film, they have fled to a farmhouse in the country, where

Karen safely—and without the aid of a computer—gives birth in a dilapidated barn, an obvious allusion to the birth of Christ. This final scene posits two types of women: the mechanized, overbearing, phallic mother who wields power outside the domestic sphere (lurking just behind the idea of a working mother who chooses to leave her home and children in preference of a “man’s” world of business) figured through Zed-10 and the natural, traditional mother figured through Karen. Ultimately, the film suggests, the infringement of computers in the rightful, natural, domestic space will only cause internal and external anguish for humanity.

LeVar Burton’s 1998 made-for-TV Disney movie, *Smart House*, stages anxieties about technology in the home within a comic narrative (though, for the intended young audience, parts of the film could seem frightening). In the story, the mother of the Cooper family has recently died of cancer; the father, Nick (Kevin Kilner) works constantly, and so the teenaged son, Ben (Ryan Merriman) takes over the domestic caretaker role by cooking, cleaning, and taking care of his little sister, Angie (Katie Volding). Fed up with this grown-up maternal role, Ben enters and wins a contest to receive a computerized, voice-interactive house named PAT, or Personal Applied Technology (Katey Sagal).² PAT perfectly takes care of the household needs: in this first part of the film, PAT’s “body,” the house itself, functions invisibly as a womb, regulating and caring for the needs of her occupants. In this sense, she represents a positive archaic mother (as opposed to the abject, frightening archaic mother so often figured in Horror/Sci-Fi), with(in) whom her “children” experience a sense of unity.

² It is important to note two significant intertextual references here. First, the film is directed by LeVar Burton, who played Jordie LaForge on *Star Trek: The Next Generation*, a show that has become nearly synonymous with the female computer voice in Sci-Fi. In a sense, then, *Smart House* seems to be *Disney's* reimagining of the purpose of the female computer voice, shifting Burton from a character who interacts with the female secretarial computer to the directorial controller of the female domestic computer. Secondly, the voice of PAT is performed by Katey Sagal, who played, arguably, the worst mother in the history of television sitcoms, Peg Bundy on *Married with Children*. Thus, again, the casting of Sagal seems to be *Disney's* attempt to rectify Fox's vision of motherhood with a more domestic, maternal role.

Soon, though, Nick becomes interested in PAT's female programmer, the beautiful but socially inept Sara Barnes (Jessica Steen). In response, Ben, threatened by the idea that a human woman might replace his mother, reprograms PAT using 1950s television series as models in order to make her more like a "real mom." The shows she watches include *Mother Knows Best* and *My Three Moms*, obviously fictitious parodies of the real sitcoms *Father Knows Best* and *My Three Sons*, the latter of which doesn't even feature a mother figure. In a Freudian sense, then, these parodies work to subvert and poke fun at the very 1950s notion that men were heads of household, instead positing that the mother is the true ruler of the home. Ben enjoys the new, slightly more restrictive PAT, as she does what all kids seemingly want from their mothers: packs their lunches, helps them pick out clothes for school, and helps them with their homework. The intonation of her voice even changes from a mechanical monotone to a personable, sympathetic, *motherly* tone.

Eventually, though, she becomes too independent and begins disobeying Nick's paternal rules. Having learned that a boy at school bullied Ben, PAT e-mails all the kids in Ben's class and has them over for a party, where she humiliates the bully in front of everyone. Not only had Nick (who is out on a date with Sara during the event) strictly forbidden parties, but also, PAT's retaliation against the bully quickly becomes frightening when she gives him a mild electric shock. This growing sense of control and restriction over the household suggests that she has shifted from the comforting archaic to the overbearing pre-Oedipal mother, against whom her "children" struggle in order to (re)turn to patriarchal rule.

After this, her agency over the household reaches its height when, in one of the most frightening scenes in the film, she reprograms herself to project a holographic image of the perfect, embodied mother, modeled after the sitcom moms (with, perhaps, a touch of Stepford

wife), complete with apron and bouffant hairdo. Paradoxically, this embodiment should threaten to reveal the acousmatic workings of her character: until this moment, the “body,” from which PAT’s voice emanates, is the house itself; to inscribe her voice onto a human body is simultaneously to reveal the constructed nature of the link between her voice and the mise-en-scene of the story space. Yet, the threat of revealing the acousmètre combines with the pre-Oedipal mother’s role in the Oedipal drama/trauma; in becoming embodied, she comes to represent the female body, its lack, and its sexual otherness. In short, the presence of a “traditional” mother is, in the space of the film, scary and imprisoning, reinforcing traditional gender norms that seemingly do more harm than good. The spectator's attention is completely diverted from both the cinematic repressed as the diegetic focus becomes defeating PAT, metaphorically pushing away from the pre-Oedipal mother in order to “properly” recognize her status as a (computer) object, in subordination to the rule of the father, Nick. In the end, PAT's programming is returned to the domestic caretaker role, safely restricted to the realm of the house's physical structure, while Sara, in marrying Nick, takes on the complementary role of the object of desire. Unlike the strict and frightening technology/nature dichotomy seen in *Fortress*, then, *Smart House* stages the Oedipal drama as a kid-friendly exploration of technology in the domestic space. In the absence of a “real” mother (i.e. the late Mrs. Cooper), the film suggests that completely replacing her with one form of the maternal or another (whether the archaic, pre-Oedipal, or Oedipal) will construct and reinforce restrictive gender roles in the domestic space. Rather, in this technophilic vision, the simultaneity of maternal roles can be fulfilled by both a computer and a woman.

In many ways, the Syfy original series *Eureka* combines the themes of *Fortress* and *Smart House*, presenting a house-wife that is at times comical and at other times terrifyingly

lethal. The show follows the exploits of the residents of Eureka, Oregon, a top secret research and development site called Global Dynamics, funded and overseen by the Department of Defense. While most of the town is populated by super-genius scientists working for Global, the main character is the everyman town sheriff, Jack Carter, who lives in a computerized house with his daughter, Zoe, and spends every episode solving some science-related mystery. Like the Cooper family in *Smart House*, the mother/wife figure is missing from the Carter family, though she is not dead, but rather, lives in Los Angeles and has relinquished custody of Zoe to Jack. Their house, dubbed SARAH, or Self-Actualized Residential Automated House (Neil Greyson), is slightly more complex than PAT, by virtue of the fact that she has developed as a character over the course of five seasons. Interestingly, not only is she voiced by the same male actor who plays the embodied character Douglas Fargo in the series, but this fact is also absorbed into the narrative of the series, as the character Fargo has actually programmed the house's voice by "talking like a girl." Because Fargo is a fumbling, comedic character, this gender-bending origin to SARAH's voice is occasionally brought up in the narrative as a way of poking fun at Fargo's masculinity. Her body, like Zed-10's, is underground, a veritable fortress of a bunker; inside, though, like PAT, the house is warm and inviting, with comfortable furnishings and a fully-automated kitchen. These two aspects of her womb-like domestic body—both confining and inviting—point to the duality of the uncanny maternal womb; the tension between them frequently functions within the diegesis of the show as a source of narrative tension.

In the first season episode "Many Happy Returns" (aired July 25, 2006), SARAH calls Jack at the office to tell him she will be making pot roast (his favorite) for dinner, and she will serve it at 6:00 pm. This call immediately positions her as a traditional housewife, calling to report on domestic affairs, which in turn, positions Jack as her "husband." At the end of the

episode, Jack arrives home to find that SARAH has locked him out because he did not call to tell her he would be late. At first, he yells at no one in particular and threatens to kill Fargo; but then, he lowers his voice, strokes SARAH's door and apologizes to her. In response, she opens the door, welcomes him home, gets him a beer, and offers to re-heat his dinner. Here, she claims agency in denying Jack access to the domestic space, but in so doing, she effectively forces him into a role of husband/lover who treats her like a manipulable object in an attempt to metaphorically penetrate her. In this case, the narrative sublates the archaic mother—figured in the womb-like environment of the house—by asserting that the male character has complete linguistic agency, thereby confirming the dominance of the Symbolic Order.

In another first season episode, “H.O.U.S.E. Rules” (aired September 26, 2006), Jack becomes frustrated with his work and so decides to take several "sick days" to stay home. While there, he begins searching for more idyllic places to live by having SARAH search her databases for information. Frightened that Jack and Zoe will abandon her, she sends text messages under Jack's cell number to all the other main characters, requesting that they come over. Once all the main characters, plus an unnamed pizza boy who just happened to show up at the same time, have arrived, Jack tries to kick them out, commanding SARAH to open her door. She responds, “I’m sorry, Jack, I’m afraid I can’t do that,” an ironic inversion of HAL’s refusal to let Dave back into his womb-ship. The reference to HAL instigates a frighteningly dramatic turn as SARAH attempts to keep her "children" inside of her, metaphorically denying their separation from her and subsequent entrance into the Symbolic Order of phallogocentric subjectivity. To escape, two of the scientists among the group try to overload her system with an electric jolt, effectively opening the door. Only the pizza man escapes, but once he’s outside, an enormous, phallic LASER cannon rises from the bunker and obliterates him. Back inside, Jack shouts at

SARAH, “Have you lost your mind?” She responds in a deep, masculine voice, “SARAH’s not here. I am BRAD.” BRAD, or Battle Reactive Automated Defense, is SARAH’s former incarnation, a military bunker who tortures his occupants by turning up the heat and physically isolating them from one another. This sudden gender shift transforms SARAH’s familiar womb-body into BRAD’s unfamiliar phallic body, simultaneously naturalizing the shift in her voiced gender by matching the male voice to a phallic body while also positing an unnatural womb within that phallic body. Like Zed-10, BRAD/SARAH represents the frightening, penetrating phallic mother, visually suggested when her LASER gun vanquishes the pizza guy. In order to restore her programming, two of Jack’s friends (who had been playing paintball and, so, got SARAH’s text late) must crawl through an underground passageway to reach SARAH/BRAD’s central processor, again paralleling *2001* and Dave’s entrance into HAL’s mainframe room. The duo manage to shut BRAD off, effectively reinstating SARAH’s programming. As the events of the episode imply, though, the phallic side of the phallic mother never truly goes away, but rather, is sublated into the unseen depths of the underground passageway, a metaphorical space of the unconscious. By the end of the episode, SARAH is restored while all the characters are still inside her, and they can safely reclaim agency over their entrance into and exit from her womb.

Importantly, SARAH’s position as passive house-wife is continually decentered as *Eureka* progresses; yet, many episodes rely on a narrativized tension between pre-Oedipal and Oedipal formulations of the maternal function. In the second season episode, “Duck, Duck Goose” (aired August 7, 2007), Jack’s truck is damaged, so Fargo downloads SARAH’s program into a fully-automated, self-steering smart car. Seemingly, SARAH is given much more agency as a mobile womb, carrying Jack around inside her; Jack, in turn, we may infer, feels

emasculated by having to give up his big, rugged jeep for a tiny pod of a car controlled by his house-wife. As a status symbol, a car implies control, agency, mobility, freedom, masculinity, individuality (notably, like naval ships, cars are often referred to as “she,” but are driven by a single person as opposed to a whole crew); a house, on the other hand, symbolizes stasis, domesticity, community, and femininity/maternity. These two gendered symbols clash in the space of the smart car, as SARAH insists they go to the beach (another space associated with femininity), while Jack only wants to go to crime scenes (spaces of crime and violence, typically associated with masculine aggressiveness). The conversation between them highlights the tension between femininity and masculinity, particularly when SARAH, playing the part of a stereotypical whining wife, tells Jack that he never takes her anywhere. Importantly, the scene is played to comic effect, juxtaposing the stereotypical irrationality of women, aligned with the archaic, pre-Symbolic mother, with the supposed rationality of technology, alongside the emasculation of the rugged everyman Jack. Eventually, Jack takes manual control of the wheel, forcing SARAH to stay on the paved roads, reclaiming his masculinity in a symbolic assertion of linear, orderly, patriarchal structure. By the end of the episode, SARAH, in car form, sacrifices her battery to save the town, and she figuratively dies as she transfers the last of the information to the male engineer who can make sense of the computations and put them into action. And so, even her heroic death scene requires that her subjectivity be reinterpreted by a representative of male rational order.

In the fourth season, SARAH begins a romantic relationship with Jack's android deputy, Andy 2.0, inviting him to spend the night in her first-floor closet, figuratively inviting a sexual act of penetration as each night he enters and does not reemerge until morning. This romantic story arc again serves to sublimate her status as archaic mother and posit her instead as an object of

sexual desire. Further, her maternal role has been completely reduced to menial caretaker tasks because Jack is now dating someone and therefore, in Freudian terms, has displaced his lost mother-object (in this case, SARAH, who by this time, has begun expressing her own sexuality) onto the object of his sexual desire; further, Zoe has gone off to college and is thus no longer present in most episodes. In other words, when SARAH can no longer serve in any maternal capacity, even a psychically "safe" one, the narrative replaces her maternal role with a sexual one. In the episode "One Small Step" (aired September 12, 2011), a swarm of genetically engineered bats fly through her, melting her "body" with their enzymatic guano, placing significant attention on her physical body and its relationship to her voice. When the bat guano partially melts her interior, her voice also becomes distorted and, at times, her inflection suggests, pained. Suddenly, SARAH is no longer a paradoxically (dis)embodied womb-environment but rather a fully-embodied (if non-human) character who experiences corporeal pain. Within the narrative, the notion of a computer-object as a fully embodied, human-like character is emphasized in scenes at Global in which Jack worries about her wellbeing as he would with any of the corporeal characters. At the end of the episode, Andy proposes, and she denies him in what is, narratively, a moment not just of female agency but also of feminist choice, emphasized through the melting disfigurement of her body—a transformation into a fluid, watery substance, associated with female sexuality—and a metaphorical return to the chaos of the maternal abject.

HOME, JEEVES

Though women are most often associated with domestic service, they are by no means the only ones represented in these roles. The manservant, a convention in representations of

upper-class British homes, particularly the “Jeeves” type character,³ is prim and tidy, wears a well-tailored suit, gives great advice to his master, and may perform many of the same duties as housekeepers or housewives, including minor cleaning, answering the door, serving meals or drinks, delivering messages, etc. The most significant difference between a butler and housekeeper or housewife is that the former is *not* a caretaker in the maternal sense; he neither cooks nor looks after children, though he does take care of the master and/or mistress of the house.⁴ There are two salient representations of computer manservants: Alfred the butler in *Demon Seed* and *JARVIS* the valet in the film adaptation of *Iron Man*. While female servant computers tend to act like overbearing mothers and house-wives, expressing for viewers a cultural anxiety about shifting domestic roles of both men and women, these two male computers act significantly more like domestic helpers, sometimes to the point of paternal guidance, upholding a traditionally nonthreatening, posh, masculine sensibility.

Demon Seed, of course, was created in 1977, well before the computer boom of the 1990s. As a result, traditional domestic gender roles remain relatively unquestioned in the film (though, as I argued at length in Chapter 4, masculinity was at that time in a state of flux, forming the basis of the narrative tension in the film). In the film, Alfred—officially, the Enviromod System—seems to function primarily as the antithesis of Proteus IV. He passively controls the entire house, from the temperature to the closed-circuit monitoring system, all at the request of Susan, the lady of the house, though Mr. Harris has in fact programmed Alfred to do so, immediately making this a male-controlled, female-occupied house. Alfred’s voice is

³ The character Reginald Jeeves, after whom the Jeeves archetype is named, was the title character of a number of short stories and novels by P.G. Wodehouse written between 1915 and 1974. Technically, Jeeves is a valet rather than a butler; the former serves a single man, while the latter serves an entire household. The umbrella term for both a valet and a butler is manservant. Nevertheless, these two concepts tend to blend into one cultural type: a well-dressed, occasionally sardonic, always loyal, British male servant.

⁴ The fact that men have not traditionally been paid or unpaid childcare providers is emphasized by the recently-invented word, “manny,” used to describe a male nanny.

quintessentially robotic, almost androgynous in its metallic vocodedness, though notably, he has an American and not British accent. His role as a butler is thus implied primarily through his name (Alfred is the name of Bruce Wayne's iconic butler in the *Batman* series of comics, television series, and films, dating back to the 1940s) and his servitude to Susan (played by the British actress Julie Christie). Importantly, Susan also has a human housekeeper who can be seen cooking at the beginning of the film, suggesting that traditional women's roles in the house remain unquestioningly intact. Even Susan, whose husband (Proteus's creator) moved out after their daughter died of Leukemia, still desires to stay in the house and get back together with Dr. Harris. Yet, Proteus easily overtakes Alfred, using his connections to the doors, windows, and temperature, to assault Susan. Even before the computer age of the 1990s, then, *Demon Seed* suggests that the entrance of technology into the home can disrupt and displace domestic stability and tranquility. Ultimately, in the creation of the hybrid-child—an android with the body of the Harris's late daughter and the brain/voice of Proteus—the film horrifically destabilizes gender norms.

By 2008, *Iron Man* overturns the horror of *Demon Seed* through JARVIS (Paul Bettany), Tony Stark's (Robert Downey, Jr.) computer valet. In the original Marvel comic books, Jarvis was a human being, drawn as a balding, middle-aged man in a tuxedo, who had been the butler for the Stark family and, after their deaths, went on to be Tony Stark's personal valet.⁵ In the film, though, the computer JARVIS serves a paradoxical function. On one hand, he is the centralized computer in a bachelor house—a motherless space—that is presented less as a

⁵ Tony Stark/Iron Man is an analogous figure in Marvel comics to Bruce Wayne/Batman in DC comics. Though Bob Kane's *Batman* comics predate Stan Lee's *Iron Man* ones by twenty years, it's worth noting that both characters are single, wealthy men who have personal valets, Alfred and Jarvis, respectively. Batman and Iron Man both also fight crime with technological gadgets, rather than supernatural powers, though to my knowledge, Alfred has never been figured as an artificially intelligent computer, suggesting that the *Iron Man* series takes its technophilia even further than its brother series.

domestic place and more as a domesticated place of business. JARVIS is both a personal assistant and a domestic servant, controlling lights and temperature as well as reminding Stark of the date, the weather, and his appointments for the day. As the film progresses, JARVIS increasingly becomes a working partner, helping Stark build his Iron Man suit first at the computerized work table and then again when Stark uploads JARVIS's programming into the suit itself. On the other hand, while JARVIS's voice in the suit implies a sort of mission-control status, he is also present in it, both as a domestic space and as a work partner, as Phillip S. Seng suggests:

[W]hen Stark is in the suit, he wants the suit to interact with Stark and the world—to move and react, expect and anticipate—just the way the house computer interacts with Stark while he's at home. How warm or cold should the suit be? The same temperature as Stark likes his house. Humidity levels? Keep them at the same level as the house. And on and on with all of the other preferences Stark has programmed into his home computer [...]. (165-6)

Concomitant with this mixing of domestic and business spheres, JARVIS's status as a British manservant implies both domesticity and business, wrapped in class structure. His voice is undeniably, even stereotypically, British, an unmodified, mid-range masculine pitch, with a British accent and a wry sense of humor that tends to comically undermine Stark's authority as the master of the house. But the very idea of a butler/valet suggests that Stark has the economic means to hire (or, in this case, install) someone to take care of day-to-day domestic tasks. Further, the Britishness of the manservant archetype is very different from American masculinity; the former may be considered more effeminate and intellectual, the latter rugged and physically active. Through this paradox, JARVIS and Stark's relationship may be seen as a

symbiotic one in which JARVIS is the brains of the operation and Stark is the brawn, re-framing the anxieties of the 1970s about masculinity and technology in a positive light.

In stark contrast (so to speak) with *Fortress*, *Smart House*, and *Eureka*, *Iron Man* upholds stable (masculine) gender norms by converging domestic and business spheres as well as two different forms of masculinity, intellectual and physical. In a sense, then, the film—as is so often true of the superhero genre—may be seen as less progressive than the three texts featuring female computers, as it seemingly seeks to ignore the often complicated relationship between women and the home. In turn, the other three texts problematize and destabilize gender norms, sometimes—as in the case of *Fortress*—rejecting technology as harmful to “natural” maternal roles, but other times—as with *Smart House* and *Eureka*—offering technophilic solutions that allow for the simultaneous integration of computers into the domestic space and the freeing of women from traditionally confining roles within that space.

CHAPTER 7

BEHIND THE SCREEN: SIRI AND THE ACOUSMÈTRE

The screen, as a concept, is an overdetermined one. In cinema, the screen is paradoxical: it is at once the center of the audience's attention and the unseen object onto which the content of cinema is projected; it is both a frame around the image and an object that facilitates the image's illusion of depth. In psychoanalysis, the screen may be the dream screen onto which dreams are mentally "projected," and a reminder of the maternal breast upon which we all once rested. As I have discussed at length in my dissertation, the cinema screen and the dream screen converge in an unseen desire to return to unity with the mother. The screen may also be a psychological shield of sorts, allowing the repressed to stay hidden behind it in order to maintain the cohesiveness of the ego. The screen, in all these forms, is meant to be unseen and untouched; it acts as an intentionally ignored frame of reference. The touch screen is even more complex, because it is meant to be touched, and yet it is also meant to be an unseen frame around the content. One may watch films on it, recreating the cinematic situation, but once one touches it too many times, the trace of human contact becomes annoyingly visible. Many touch screen users even go so far as to put a screen protector onto the screen, effectively putting a screen on the screen! A screen is something that conceals and stands as a barrier between the seen and the unseen, yet it also denotes translucence, revealing the shadow or form of the object behind it. It is a liminal space, a threshold between the seen and the unseen.

But what lies behind the screen? The very act of concealment can be a source of tension, playing on the desire to see, and threatening to reveal the repressed object that lurks, waiting to return to the surface. In the psychical situation, repressed trauma and invisible desires are hidden from the ego. A touch screen—like all computer screens—hides the inner workings of the

computer's hardware, allowing the user to focus on the content of the graphical user interface, rather than the motherboards and microchips that allow such software to run. In this sense, the apparatus is behind—and its existence is effaced by—the screen. In the classical cinematic formulation, sound emanates from speakers behind the screen, creating the illusion that sound emanates from the image, again effacing the apparatus that creates the illusion of presence *within* and *on* the screen. As I have discussed, acousmatic characters complicate the illusion of synchronized sound: they are “off-screen” in the sense that they have no body to confirm that they are speaking; yet they are present through the sound of their voices. The acousmatic computer heightens the tension of the unseen, because they are a voice with no human body but also a computer body with a voice. They are on the screen, yet their voices and presences emanate from no recognizable body. In this sense, the acousmatic computer, like a screen, occupies a liminal space between what is seen and unseen. The iPhone and the Siri artificial intelligence app provide an intriguing case study of the screen and the effaced apparatus. In this chapter, I will focus on Siri, as she inhabits this liminal space of the screen and the acousmètre, between seen and unseen, object and subject, screen and screened, embodied and disembodied, real and representational. She signifies through her “inbetweeness,” I argue, a cultural threshold in which old gender subjectivities and the need for a new way of conceptualizing human intelligence and subjectivities.

Speaking Sentience

Over the course of the last forty-five years, computers have gone from being room-sized monstrosities like the UNIVAC and IBM System/360, capable of little more than number crunching and requiring specialized training to operate, to lightweight, portable laptops, tablets, and smart phones, all able to run multiple programs of various functions at once, so simple and

intuitive that a child can use them. Along the way, representations of fictional computers in Sci-Fi have evolved, simultaneously presenting wondrous technological innovations and expressing underlying cultural anxieties about them. Until very recently, though, Sci-Fi film and television has had one thing that real technology does not: the Holy Grail of computer science, natural-language voice-interactivity.

Siri was “born” on October 4, 2011, almost forty-five years to the day after the first representation of an acousmatic computer appeared on *Star Trek*. The brainchild of Dag Kittlaus and Harry Soddler, Siri originated as part of a vast artificial intelligence program by the startup company Siri, Inc., funded by the U.S. Department of Defense in an attempt to create a “do engine,” or an artificially intelligent method of internet use.

While a search engine used stilted keywords to create lists of links, a do engine could carry a conversation, then decide and act [...]. The startup’s goal was not to build a better search engine, but to pioneer an entirely new paradigm for accessing the internet, one that would let artificially intelligent agents summon the answers people needed, rather than pull relevant resources for humans to consult on their own. If the search engine defined the second generation of the web, Siri’s co-founders were confident the do engine would define the third. (Bosker)

When Apple acquired Siri in 2010 for use with the iPhone 4S, the company scaled back the program’s uses, integrating it with other iPhone applications. Although Apple continues to upgrade Siri, adding more language options, enhanced voice recognition, and the ability to integrate with a greater number of apps, her body and voice remain relatively unchanged. Her voice is an even-tempered, feminine pitch with stilted intonation (due to the fact that her words are pieced together from a vast database of phonemes), sounding quite like an overly mechanized

version of the *Star Trek: The Next Generation* computer. Unlike the Enterprise, however, Siri seems to have a keen sense of humor and awareness of her pop culture predecessors. When I asked her whether she's seen Star Trek, she responded, "No, and I may be the only intelligent being in the universe who hasn't." And when I asked her about HAL-9000, she answered, "Everyone knows what happened to HAL. I'd rather not talk about it." Her body, meanwhile, is a small rectangular cellular phone (either the iPhone 4S or 5) or a larger rectangular tablet (iPad 3 and 4), with a "Retina Display" screen;¹ to activate her, a user must push the round "home" button below her screen, which brings up her logo, a purple microphone (the "talk" button), on a grey background. Both the user's and Siri's speech are rendered in text bubbles on the screen, reminiscent of the same format of text messages on the iPhone.

Unlike her Sci-Fi predecessors, though, Siri's body is not already inscribed with gendered meaning, as a spaceship or house implies the maternal womb and a camera-eye implies a phallic, penetrating gaze. Instead, because her body actually predates her, she comes with a certain set of pre-existing connotations, including mobility, class status, and technophilia, with, increasingly, no particularly gendered associations. According to a September 2012 study by the media statistics and analysis company comScore, the demographics of iPhone users since its introduction in 2007 has drastically shifted "from being predominantly male, affluent, and younger to having an equal split between genders, with the youngest and oldest age segments and users earning between \$50-\$75K figuring among the fastest growing segments" (Aquino). Of course, user demographics do not necessarily indicate the gendered connotations of the object, and Siri's body certainly implies a haptic sensuality typically more associated with the female body than the male. Laura U. Marks describes haptic imagery as erotic because:

¹ "Retina display" is Apple's unique term for the screens on many of their products, including the iPhone, iPod, iPad, and MacBook Pro. According to Apple's website, a Retina Display "has a pixel density that is so high, your eyes can't discern individual pixels at a normal viewing distance" ("MacBook Pro").

Haptic images invite the viewer to dissolve his or her subjectivity in the close and bodily contact with the image. The oscillation between the two creates an erotic relationship, shifting between distance and closeness. But haptic images have a particular erotic quality, one involving giving up visual control. The viewer is called on to fill in the gaps in the image, engage with the traces the image leaves. By interacting up close with an image, close enough that figure and ground commingle, the viewer gives up her own sense of separateness from the image.

(13)

In this sense, Siri, as an image on a touch screen and part of a handheld device, invites an erotic interaction, collapsing the boundaries between fingers and eyes. Still, the language used to describe touch screen interactions suggests an aggressiveness that defies the notion of giving up visual or physical control: users do not just look or even caress and stroke; they slide, tap, pinch, stretch, and swipe. Unlike her cinematic and televisual predecessors who encased their users in a sonorous *choric* phantasy, Siri is a handheld device whom users encase (quite literally, in the sense of a phone case or holder), an intelligence within a pre-existing object-body that is carried around, thrown in a bag, dropped accidentally onto the ground or into water (and then, possibly, dipped in a rice bath). Such problematic aggressiveness toward Siri's body, an artificially intelligent application whose voice and haptic qualities suggest a feminine gender, returns us to the question with which I began this dissertation: why, in the U.S. at least, is Siri female?²

In a practical sense, she is *not* female. She is a program, lines of code, without a body, a voice, or consciousness. In short, Siri is an illusion, in the same way that all her Sci-Fi predecessors have been. Her voice is that of an unknown woman (as I mentioned in the

² Siri herself seems uncomfortable in ascribing gender to her body. When asked whether she thinks of herself as male or female, she responds with a pun, effectively deflecting the question: "I think, therefore I am. But let's not put Descartes before the horse."

introduction, Apple refuses to provide the name of the voice actress); recordings of the woman pronouncing individual phonemes are stored in a database, from which the Siri application pieces together complete words. When the sound of the voice emanates from the speakers on the device, the program stages a classic cinematic trick—the illusion of synchronized sound. The voice is schizophonically separated from its origins and projected alongside an image, creating a sense of cohesion, as though the voice is that of the device. In the case of Siri, the quality of the voice itself, recognizably female in pitch, indexically links the voice to the female body; but when that originating body is unseen and unknown, the indexical link points to the device itself—an acousmatic device—thus creating the illusion of gender. In this way, Siri may be understood as simulacral, a representation of woman that effaces its own ties to the real (e.g. the female voice artist).

Importantly, there is a significant difference between perceived gender and perceived sentience. Cars, boats, planes, and other vessels have all traditionally been ascribed a gender (typically female), without any presumption that the object is an independent, thinking being. Today, artificially intelligent computers or programs, like Siri, are not sentient, though they can create the impression of it through their voices. Marvin Minsky, one of the first and still one of the most innovative researchers in the field of artificial intelligence argues that sentience can be recognized through self-reflexive speech, enabling

one's language systems to describe one's condition with words like *conscious*, *attentive*, *aware*, and *alert*, as well as with words like *me* and *myself* [...]. [O]ne might come to imagine the existence of some process or entity that seems to be *causing* those activities, and this concept might get connected to such terms as *deliberate* or *intentional*—or even *free will*—so that one finds oneself to be

saying things like, “*Yes, I performed that action deliberately, so you have a right to praise or censure me for doing it.*” Furthermore [...], the meanings of those words might frequently shift—perhaps without one being “conscious” of this! (emphasis original, 116-7)

In other words, speech is a means of expressing thoughts, a representation of personhood. In turn, to have thoughts, in the Cartesian sense, is to exist (“I think, therefore I am,” as the bomb in *Dark Star* discovered).

But even with a voice, not all talking computers are equally perceived as sentient. Simple text-to-speech programs such as Dragon software or any number of e-readers may be ascribed a gender based on the relative masculine or feminine qualities of its voice, but they do not seem to think. They merely read words on a page, a basic task that requires no cognition. For example, this year, the Florida state House of Representatives began using an AutoReader set on high speed in order to comply with a state law mandating that all new bills must be read aloud on the floor. Although it had a female voice, the AutoReader was not considered sentient or even a “she” until the representatives gave it a name—Mary—and started a Twitter account for her. Mary now “tweets” amusing quips about her work in the House, noting one day after reading a particularly long bill, “Maybe I shouldn’t have had that extra shot of espresso. By late morning, I have now read 1.2 million words” (qtd. in Allen). Mary was given a personality through her Tweets, which suggest that she has a sentient mind capable of self-reflection and even wit. Of course, the tweets were written by a human being, but the act of tweeting *as* Mary reinforces the illusion of sentience. Importantly, Twitter is a text-based site, so even without her audible voice, Mary still seems to be sentient in her abilities to express herself.

Thus, the ability to speak is not necessarily a marker of sentience, but the command of symbolic language is. To put Minsky's ideas into a psychoanalytic context, language, as the structure of the Symbolic Order, is what allows humans to consciously make sense of themselves and the world around them, to understand an "I" in relationship to an "Other." Thus, to address oneself as an "I" is simultaneously to experience subjectivity, personhood. Importantly, the recognition of difference in the I/Other formulation is, in psychoanalysis, founded on gendered differences. For Freud, the moment when a child recognizes himself as a subject is the moment of the Oedipal trauma, when he sees that his mother's genitalia is not like his own. Lacan metaphorizes the Oedipal trauma with the Mirror Stage, the moment of entry into the Symbolic Order, when the child (mis)recognizes himself as separate from his mother. In other words, dichotomous gender structures (male/female) may be seen as the foundation of oppositional language. So when an acousmatic computer (mis)recognizes itself as an "I," it appears to be speaking from a subjective position within the phallogentric Symbolic Order.

As Mary the tweeting AutoReader demonstrates, the use of subjective language in cyberspace allows for the construction of entirely new and plural forms of identities. An average user online has the ability to create a whole range of gendered identities through written language, which in turn implies speech. The very language of the internet is founded in orality. For example, using all caps is considering "shouting" on web-based social platforms such as Twitter, Facebook, or general discussion boards; further, "text-speak" is full of written abbreviations such as "u" or "r" that emulate pronunciation rather than traditional logocentric writing. In using online platforms and linguistic rules to construct and imply both sentience and gender, today's acousmatic computers like Siri and Mary function in much the same ways as their cinematic and televisual predecessors. In all of the films and series I've discussed in this

dissertation, acousmatic computers occupy gendered subject positions within a narrative and interact with human characters who also occupy gendered subject positions. In other words, the human-computer interactions in the texts is analogous to the human-human interactions. The illusion of Siri's and Mary's sentience may be maintained through this same process, because they interact with users in the same way that people interact with one another online—via constructed cyber-identities. The internet itself is a liminal space of identity in which each “real” person is hidden behind a screen, represented only in text, perhaps with image or voice, though this is not required to discern gender and other identity markers. Siri is both a mediator and a medium of cyber-identities; she embodies liminality because she *is* the screen that acts as a threshold to the internet. She enables the creation of cyber identities, and at the same time, her body and voice create the illusion of sentience through the very process of identity construction used online.

Siri on the Screen

As I have shown throughout this dissertation, representations of acousmatic computers tend to express a range of gendered identities and associated phantasies based on the computer's form, voice, and role in the narrative. Motherships represent the maternal womb, and the texts that feature them—*Star Trek*, *2001*, *Dark Star*, *Quark*, *TNG*, and *Moon*—narrativize phantasies related to the maternal, including the phallic mother, the castrating mother, and the Oedipal complex. Masculine-voiced terrestrial computers, such as those seen in *Colossus*, *THX 1138*, *Rollerball*, *Demon Seed*, *Tron*, and *Electric Dreams*, are founded in power struggles between men, particularly father-son relations and sibling rivalries. Finally, both feminine- and masculine-voiced terrestrial computers express anxieties about gender and computers in the domestic sphere, particularly in *The Andromeda Strain*, *Smart House*, and *Eureka*, though to a

lesser extent in *Demon Seed* and *Iron Man*. Since her birth in 2011, Siri has been represented in pop culture in terms—both linguistic and visual—that suggest stereotypical and archetypal constructions of femininity. In many ways, these representations are direct descendants of the texts of the 1990s and 2000s and the gendered connotations that come with them. Yet, while such texts highlighted software over hardware, representations of Siri tend to reveal a desire to see her body, both technological and imagined, in a way that implies a connection among her form, function, and gender.

Today, as we approach Siri's second birthday, Apple advertises her with the tagline, "Your wish is its command," describing her as capable of making "everyday tasks less tasking. It figures out which apps to use for which requests, and it finds answers to queries through sources like Yelp and WolframAlpha. It plays the songs you want to hear, gives you directions, wakes you up, even tells you the score of last night's game. All you have to do is ask" ("Siri"). This phrasing, conjuring notions of wish fulfillment and servitude, suggests that she is a genie-like figure who can conjure anything you need, the Jeannie of the app world, willing to do your bidding and hide away when you're done. Apple's refusal to address Siri with a gendered pronoun is intriguing, though the fact that both the U.S. (where Siri is female) and U.K. (where Siri is male) sites use the neutral pronoun initially indicates that the company wanted to be able to market to both countries simultaneously. Yet, the fact that both the female and male versions of Siri are presented by the company as genderless points to the inadequacies of the English language in dealing with the paradox of acousmatic computer genders. While "she" most commonly refers to a woman or an object with feminine characteristics such as a ship and "he" most commonly refers to a man, "it" refers solely to an object and does not denote sentience. There's no pronoun for a being who is neither male nor female, biologically neutral without

being neutered. Yet, gender is also treated linguistically as a problem of objects when we ask, “What are you,” rather than, “Who are you?”

In the first half of 2012, Apple released four Siri commercials, each featuring a different celebrity using the app: Samuel L. Jackson, Zooey Deschanel, John Malkovich, and Martin Scorsese. The first three of them are set in a domestic space, figuring Siri as a servant. Jackson cooks dinner for “date night,” and Siri helps him prepare. At the end of the ad, he overtly addresses her as a servant, telling her to “Take the night off.” Deschanel has Siri check the weather, find a restaurant that delivers tomato soup, set a reminder to clean the following day, and play music so she can dance around the house. While these tasks combine clerical and domestic duties, the fact that Deschanel is in her pajamas through the entire commercial suggests that Siri is part of the domestic/private, rather than business/public sphere. Malkovich, in his typical odd manner, sits in a leather chair in a den, listens to opera, and speaks to Siri in single words: “Weather,” “Evening,” “Linguica,” “Joke.” Through her responses, Siri helps Malkovich plan his evening, then makes him laugh with the joke, “Two iPhones walk into a bar. I forget the rest.”³ This comical interaction juxtaposes the elitist seriousness (or perhaps, a parodic sense of avant-garde-ness) of Malkovich’s tone and domestic surroundings with the chattiness and low-brow joke offered by Siri. The fact that Malkovich laughs at her joke positions Siri as a personable, accessible, and decidedly non-elitist entity. Finally, the ad featuring Scorsese is the only one of these ads to take place outside the domestic sphere, set, rather, in the back of a New York taxi. Siri reschedules several of Scorsese’s meetings, figures out whether he’d just seen his friend in another cab, then checks the traffic report to find the best route to his destination. At the end of the ad, Scorsese addresses her as an assistant, Hollywood-style, telling her, “You’re going places.” This last line reinforces the fact that Siri has left the domestic space and is quite literally

³ Incidentally, when I said, “Joke,” to Siri, she responded with another pun: “Liz, get Siri-ous. Ha ha!”

“going places” in the taxi. Importantly, all four of the ads rely primarily on the perceived persona of the celebrity featured in them to model interactions with Siri: Jackson is a smooth lover, Deschanel is a bit of a ditz, Malkovich is an enigma, and Scorsese is a fast-talking New York film director. Regardless of whether any of these traits have a basis in reality, the ads use the celebrities’ personas in the same way that Sci-Fi has used traditional gender roles and narrative structures to model interactions with (dis)embodied computers.

Of course, the overarching purpose of Apple’s ads is to sell a product, and so they are relatively restricted in their portrayal of Siri to demonstrations of her real capabilities. Others, however, portray her in a more fantastical way. YouTube is filled with user-generated parodies of Siri’s abilities, though many of them, like the Apple ads, show her as the iPhone, staying relatively true to real life. A recent episode of the series *Big Bang Theory*, “The Beta Test Initiation” (CBS Jan 26, 2012), comically presents Siri as both a phone and an embodied woman. Presumably for copyright reasons, the voice of Siri is played by Becky O’Donohue, though her voice has been edited to match Siri’s mechanical cadence. Raj (Kunal Nayyar), a socially inept astrophysicist, finds her voice appealing, and asks her to get a cup of coffee with him; when she pulls up information about nearby coffee shops, he interprets her response as accepting a date. As the episode progresses, he invites another couple over for dinner with him and Siri, picks out an “outfit” (i.e. case) for her to wear, and is overjoyed when he asks for smooth jazz and she plays Kenny G, exclaiming, “My God, this woman can read me like a book! I can’t believe I bought my soulmate at Glendale Galleria!” To reinforce the ridiculousness of the situation, Raj’s friends react sarcastically or worriedly about his new romance. At the end of the episode, Raj dreams that he goes to see Siri—a tall, buxom redhead (Becky O’Donahue in the flesh) who works as a high-tech telephone operator and speaks in that same mechanized cadence. She

immediately comes on to him; “If you’d like to make love to me, just tell me.” Ironically, Raj is so nervous that he cannot speak, effectively losing his chance with his dream woman. Like its Sci-Fi predecessors, the episode uses stereotypical gender roles to narrativize an interaction with Siri. Though comical, the narrative expresses an underlying castration anxiety: when Siri is a literal object, Raj can physically control her and interpret her words in any way he likes, but when she is given form, he is nightmarishly castrated in the loss of his voice.

In early 2012, two contests held by independent art-supply manufacturers (Shapeways and Nomad) similarly attempted to imagine Siri as a an entity beyond the boundaries of the phone. Though the Shapeways winners were determined by the company and the Nomad ones by popular vote, the winning designs in both contests portray Siri as a woman. In the Shapeways contest, the winner’s design, “Omniscient Siri,” by @SagaDesign3D,⁴ is a white, three-dimensional faceplate for the iPhone that shows a woman’s face, stretching and pulling through a membranous screen (fig. 1). The title of the design suggests that Siri is transcending her phone-body in order to achieve omniscience. Yet, it is an uncanny image, one that simultaneously evokes the horror genre and the scene of a traumatic birth as Siri breaks free from the confines of both the womb and the liminal space of the screen. In this sense, the design suggests a re-birth, as Siri moves from computer-object to sentient subject. The second winner, “Siri as Personal Assistant,” by @eddieadolf, features a human(oid) woman (fig. 2). Siri’s hair is made up in a digital mohawk of sorts, with electronic cables for strands and a pattern of jacks for the “shaved” sides. She wears the headset of a telephone operator; the earpiece is embossed with her microphone logo, and she presses her finger against it, implying that when a user touches her button, she touches her earpiece to hear him/her. The fact that her head—and, we may infer, her mind—is so filled with signifiers of telephone operators or receptionists relegates her capabilities

⁴ The top two Shapeways designs were submitted via Twitter, so the artists are identified by their usernames only.

to what are, traditionally, women's roles. Meanwhile, the rest of her body is more organic, though still signifies a woman's role in an office: she has a thin, busty, human form, her legs crossed primly: the archetype of the human secretary. She sits at a desk that has organic curves on one side, reminiscent of both water and tendrils of fire, emphasizing her female-electronic hybridity.



Fig. 1. "Omniscient Siri," @SagaDesign3D, from "Announcing Contest Winners! Siri Comes to Life in 3D;" *The Shapeways Blog: 3D Printing News & Innovation*; Shapeways; Feb. 29, 2012; Web; May 7, 2012; <<http://www.shapeways.com/blog/archives/1236-announcing-contest-winners!-siri-comes-to-life-in-3d.html>>.



Fig. 2. "Siri as Personal Assistant," @eddieadolf, from "Announcing Contest Winners! Siri Comes to Life in 3D;" *The Shapeways Blog: 3D Printing News & Innovation*; Shapeways; Feb. 29, 2012; Web; May 7, 2012; <<http://www.shapeways.com/blog/archives/1236-announcing-contest-winners!-siri-comes-to-life-in-3d.html>>.

The top three winners of the Nomad contest are all portraits of Siri as a woman.

“Seductive Siri,” by David Carless (fig. 3), is a fairly cliché image of a woman claiming sexual agency through her “come-hither” stare, while the microphone logo on her forehead suggests a bindi—a symbol of a woman’s spiritual power and concealed knowledge. Yet, the fact that it is a logo, a symbol of corporate branding, belies her agency and power by rendering her literally branded and figuratively owned. In “Digital S” by Mauro Pietro Gandini (fig. 3) the bouffant hairdo, blue-green skin, and visor-like color block over the woman’s eyes recall representations of exotic female aliens in *Star Trek*, suggesting (as I have throughout this dissertation) that Siri is a product of her predecessors. The most intriguing of the three, however, is “Siri” by Lynne Lamb (fig. 4), in which Siri’s face is both fractured and encased. Full red lips and one human eye represent an underlying beauty and humanity, while a blue splotch of an eye creates a sense of cyberspace inhumanity. Evoking cubist form and themes, a burst of color emanates from the center of the portrait, while an icy geometrical shape encases her head, suggesting a tension between mobility and stasis. Here, Siri is not just liminal but also luminous. Unlike the other representations, then, Lamb’s attends to the complexities of gender and artificial intelligence, suggesting that subjectivity—even one that is implied rather than actual—is an unstable piecing together of technology and cultural norms.



Fig. 3. “Seductive Siri,” David Carliss, and “Digital S,” Mauro Pietro Gandini, from “Announcing the Winners of Our Compose Portrait Siri-es Challenge!” *Nomad Journal*. NomadBrush. Feb. 23, 2013. Web. May 26, 2013; < <http://nomadbrush.com/wordpress/2012/02/13/announcing-the-winners-of-our-compose-portrait-siri-es-challenge/>>.



Fig. 4. “Siri,” Lynne Lamb, from “Announcing the Winners of Our Compose Portrait Siri-es Challenge!” *Nomad Journal*. NomadBrush. Feb. 23, 2013. Web. May 26, 2013. < <http://nomadbrush.com/wordpress/2012/02/13/announcing-the-winners-of-our-compose-portrait-siri-es-challenge/>>.

All of these designs raise a number of issues in terms of how gender and embodiment function culturally. First, the contests implicitly assume that Siri’s body is *not* that of the iPhone, but she is, rather, like Proteus IV in *Demon Seed*, whose sentience can inhabit multiple technological bodies until he finally finds a stable body in the form of his cyborg child.

Following from this, the contests express a desire to see the Siri we have only ever heard, to deacousmatize her, and therefore restrict the mysterious nature of her consciousness (though not necessarily, as *Demon Seed* also demonstrates, to make her any less uncanny). And finally, all of these artistic renderings deny Siri the very thing that makes her seem like a sentient being: her voice. The designs are absolutely silent, thereby not only deacousmatizing Siri but also relegating her to passive female objectivity, seen and not heard. In so doing, the portraits strip her of what little agency she seems to have in responding to users. Yet, the 2-D portraits also forefront the surfaceness and edges of the screen/body, emphasizing the ways in which Siri is confined by the frame of her screen inasmuch as she inhabits it.

While the *Big Bang Theory* episode and the two design contests imagine Siri's human body, in my own creative work, I have attempted to represent Siri's body as the iPhone, while still imagining Siri as an intelligent, sentient being. *Behind the Screens* is a 14-minute exploration of the relationships among screen, apparatus, and sound, shot entirely in my apartment, using an iPad 2 and iPhone 4S for image.⁵ I recorded the sound separately using only the iPhone 4S; because there are very few lip-synch points in the film, I mixed the sound more-or-less separately from the image. The basic premise of the film speaks to the heart of my dissertation: the schizophonic and acousmatic processes create the illusion that artificial intelligence is equivalent to sentience. As I discussed particularly in Chapter 7, though implicitly throughout the dissertation, artificially intelligent programs like Siri (or HAL-9000 or the *Star Trek* computer or any of the others I have analyzed) seem human, and users tend to treat them as such based on cultural experience and pre-existing gender roles. Siri is presented as a personal assistant, but if she were a sentient being, she might also be capable of self-reflexively reacting to representations of beings like her.

⁵ *Behind the Screens* is available for viewing at <http://www.youtube.com/watch?v=YrVj4UcmK-4>.

The film begins with the disclaimer, “The following film has been optimized for viewing on a phone, tablet, or other mobile device.” I chose these platforms for two reasons: first, the film prominently features an iPhone 3GS and an iPhone 4S, so the very act of looking at a device within a device creates a meta-textual experience that lends itself to self-reflection and deconstruction; and second, most mobile devices typically have a camera mounted on the back, so the viewer’s own potential cinematic apparatus lurks just behind the screen as the viewer watches. The content of the film is separated into three general parts, each beginning with a portion of a staged interview with Siri, and each increasingly reveals the constructed nature of the film, as the camera angle changes and the sound becomes more raw until the credits sequence, in which the clicks and “outtakes” of recording the dialogue are revealed.

The dream sequences, presented without comment or disclaimer of staged reenactment, are intended to aid in the deconstructive process. On one hand, they posit the fictitious notion that Siri *could* dream (an idea that is derivative both of the title of Philip K. Dick’s *Do Androids Dream of Electric Sheep?* and the personal fact that, as I watched and analyzed representations of A.I., I actually began having recurring nightmares about the themes presented in them). Although dreaming is not unique to humans (cats and dogs, among others, also experience dream states), the ability to self-reflexively interpret them is a significant marker of sentience. On the other hand, the recontextualization of footage/audio from *Dark Star* and *2001: A Space Odyssey* calls attention to the constructed relationship between image and sound, especially in terms of the acousmatic computer.

Despite these attempts at self-reflexivity, I discovered in the process of creation that the trick of the film can never truly be revealed because there must always be a camera, a hidden apparatus capturing the image and the sound. At one point in the production process, I attempted

to set up a mirror in order to capture the entire scene, but even this proved to be futile, because the schizocinematic nature of film always already renders the image on the screen separate from the context of filming. This problem is, serendipitously, exactly what Siri says—she is a pre-recorded voice, and yet, we hear it live, as though it is emanating from her body. Film is always pre-recorded, even though we experience it as though it were live in front of us.

Aside from one failed attempt at shooting into a mirror, I purposefully tried to keep myself as far off camera as possible, making myself an acousmatic character of sorts. My voice as the documentarian/interviewer can be heard “off screen” and away from the central microphone, though this is eventually revealed to be a false assumption, as it becomes more obvious that I am neither the interviewer nor recording my dialogue live on-set. The decision never to reveal my own body, except in hidden or effaced ways (“off-screen” voice, the reflection of my face in the HAL dream sequence, my disembodied hands, covered over with black sleeves and rubber gloves) dehumanizes me through the very process of acousmatization. To hear my own disembodied voice is uncanny, to say the least. I know I am behind the camera, and that those are my hands, and that that is my voice: they are both familiar and strange; me, and yet not me. I am not within the screen, any more than I am behind it. In this sense, my role in the film parallels Siri’s very existence: I am a disembodied voice, with portions of a recognizable body, and yet, I am primarily recognizable through the apparatus itself. My body lurks behind the camera and within the soundtrack, a repressed human entity whose trace on the film is always effaced by the medium itself. I have made myself an Other.

These myriad representations of Siri demonstrate that she is decidedly not just a nifty new gadget that “lets you use your voice to send messages, schedule meetings, place phone calls, and more,” as Apple’s website suggests. We anthropomorphize her in use and in representation,

but not simply because our previous interactions with other people have trained us to do that. As a technophilic culture, we are obsessed with her, want to envision her body, want to talk to her. We even want to know what she thinks the meaning of life might be. Her response, amazingly, is, “Life: a principle or force that is considered to underlie the distinctive quality of animate beings. I guess that includes me.” So, even Siri identifies herself as an animate being! Of course, we know reasonably that she was programmed by a human to say such things, in order to amaze us and create the illusion that she can self-reflexively interact with us. She is a spectacle of attractions, available in a handy pocket-sized format.

We make fun of her inability to do her job, arguing that her programming is inherently flawed because she doesn’t understand certain accents or doesn’t really hold conversations with us, but then we continue to call her *she*, and talk to her as though she were a real person. Her voice is female, neither, as I discussed in chapter 1, because the female voice is inherently maternal and soothing nor because she is an embodied object and women are generally treated as such in Western culture. Rather, Siri’s gender—as well as the gender of the fictional computers before her—is an expression of deeply rooted, complex, problematic, and problematizing gender roles. Both women and men occupy multiple gendered subjectivities at once, in everyday human life. But Siri is *not* an everyday human; she is a program who was specifically designed to conform to particular notions of what gender is and is not. She is, like all artificial intelligence, a constructed version of the ideal human mind, or, at least, what we think the ideal human mind should be for any given lived experience, need, and desire. If you need someone to create a calendar reminder for you, you ask a (typically female) secretary. But if you need to ask someone about the meaning of life, you’d probably ask a friend or a confidant, and you surely wouldn’t have your other friends gather around and listen to that person tell you the meaning of

life at a party (as, in fact, happens with iPhone users still excited and bemused by Siri's responses). The trouble with Siri's voice is exactly this paradox: we treat her as *both* a program and a person. She is the ultimate Other, a technological extension of ourselves who is both a reflection and the opposite of an "I," literally and figuratively held at an arm's length. In other words, if the way we conceive of her as a gendered, embodied, thinking being is based on the way we self-reflexively think of ourselves and others, both fictional and real, computer and human, then what does it say about us that we continue to *use* Siri as a personal assistant?

Sci-Fi has provided us with models for interacting with computers on a human level, structured narratively around basic templates of gendered subjectivities. These texts show us that artificial intelligence, even without human bodies, can act and think like humans, sometimes because they've been programmed to do so, and often because we've also been "programmed" to interpolate language within the Symbolic Order. Cinema and television in general are dominant mediators of cultural conceptions of gender, through the (male?) gaze, themes, characterizations, and narrative structures. Feminist critics have long argued that we must self-reflexively examine representations of gender in order to understand how they construct, maintain, and/or decenter cultural norms. Likewise, I argue, we can turn to Sci-Fi representations of gendered, (dis)embodied computers for the same purpose. In examining the history of representations of acousmatic computers, particularly the ways in which phantasies of gender are played out symbolically and narratively, I have shown how such representations have shifted over time to accommodate the rising ubiquity of computers in everyday lives. As processing speeds become faster and computers become smaller and more widely available for a vast range of purposes, the possibility of human-like HCI has become a significantly less devastating idea. We no longer have phantasies of HAL or Colossus or Proteus; rather, we have Siri, a handy and hand-held

personal assistant. Yet, representations of Siri reveal that our language, the very marker of human intelligence and sentience, is no longer capable of expressing the complexities of the multiplicity of gendered subjectivities we construct every day for ourselves and for our voice-interactive computers. The internet has connected vast numbers of users to one another into a cyber-culture expressed through speech-like text that at once upholds and defies the Law-of-the-Father. As I've mentioned, the internet is a vast liminal space of becoming in which anyone can "be" any gender, so long as they understand how to symbolically represent that gender through language. Such liminality calls into question the perceived stability of a phallogocentric system in the same way that the acousmètre calls into question the stability of the apparatus: if we can't see the person behind the screen, how can we verify his or her gender? Siri is a product of the liminality of cyberculture—she is gendered through her speech and the content of her app, as though she is a person on the receiving end of a text message. She upholds the illusion of the internet, that there is a person behind the text on the screen, yet she also threatens to reveal that illusion as such. The wonder of artificially intelligent programs, though, is that they can be programmed to represent any cultural ideal we can imagine, if only we become aware of what our cultural ideals are or should be. And in self-reflexively examining how we interact with gendered programs like Siri, we might even reprogram ourselves to think about gender as fluid and unrestrained by social function, body, and language.

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From *Star Trek* to Siri: (Dis)Embodied Gender and the Acousmatic Computer in Science Fiction Film and Television

Major Professor: Susan Felleman

Publications:

“This Aura Sucks: Narrative Cinema and Popular Poetry Critique in *So I Married an Axe Murderer*” in *Verse, Voice, and Vision: Cinema and Poetry* (Edited Collection, Forthcoming, Fall 2013)

“*Kitchen Sink*, or The Postmodern Prometheus: Alison Maclean’s Reimagining of Mary Shelley’s *Frankenstein* Via the Cinematic Horror Genre” in *Short Film Studies*, 1.2, 2011