Metaphors Be With You:

A Cultural Analysis of Star Wars

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[The mathematical physicist] von Neumann sometimes spoke of a "complexity barrier." This was the imaginary border separating simple systems from complex systems. A simple system can give rise to systems of less complexity only. In contrast, a sufficiently complex system can create systems more complex than itself. The offspring systems can beget more complex systems yet. In principle, any set of physical laws that permits complex systems allows an unlimited explosion of complexity.

– William Poundstone, *The Recursive Universe*

SAL-9000:	*I would like to ask a question.*
Dr. Chandra:	*Mmmhm. What is it?*
SAL-9000:	*Will I dream?*

– 2010: Sequel to A Space Odyssey
(Dr. Chandra has just informed the SAL-9000 computer of his intention to disconnect some of its higher associative circuits)

A Bookstore Browse

When *Return of the Jedi* was released in May 1983, its promoters were ready with everything from TV ads boosting the movie to wind-up toys of its main characters. In previous years model kits of tie-fighters, replicas of R2D2 and C3PO, Darth Vader helmets, E. T. dolls, and dozens of other gadgets and gimmicks based on earlier supergrossers had made millions, and so the avalanche of *Jedi* by-products was to be expected. But lost in this avalanche, buried beneath the more expensive and exotic novelties, was an item I do not recall from the earlier supergrossers: *Return of the Jedi* bookmarks, featuring cut-out pictures of the cast (Luke, Han, Leia, Chewy, Jabba, and others).

These bookmarks might be considered a nice complement to the *Return of the Jedi Storybook*, which was rapidly moving up the best-seller list during the summer of '83 (in sweet, bizarre tandem with Umberto Eco's *The Name of the Rose*). They might be considered in that way, but for the curious fact that these bookmarks became minor cult objects in their own right among the sub-teenybopper crowd – Hollywood's effort to muscle in on the lucrative sports card market. And like those memorabilia, these *Jedi* cards were eagerly bought and collected by kids who weren't interested in reading anything, even the *Jedi Storybook*.

For example, I observed the following scene while browsing in a Burlington, Vermont, bookstore one afternoon. This bookstore, which actually stocked a fairly serious collection, had the Jedi figures in a countertop display case beside the cash register, right up in the front of the store. A woman entered with her three children in tow, a little girl of three or four, and two boys around six and eight. They circulated among the display cases at the front of the store for a few minutes without showing much interest in anything in particular. On the point of leaving, Mom and the kids simultaneously spotted the Jedi figures. They rushed up to the box and began a lively conversation, the kids badgering Mom to buy the whole set (there were about a dozen figures at eighty-nine cents a

crack) and Mom countering with the suggestion that each child pick his or her favorite. To the little girl: "I know which one you'll pick. You'll pick Princess Leia" (which turned out to be wishful stereotyping on Mom's part: the morbid little tyke picked Jabba the Hutt). The little boys decided, more predictably, on Han and Chewy. Their purchases made, they exited the store without a backward glance at a book.

Where were these kids headed, with their little package of bookless bookmarks? When they left the bookstore, which cultural world did they re-enter and what future culture were they in the process of creating? To approach these questions from the perspective of cultural analysis is to address a topic that has already attracted enough attention to become an item of popular culture in itself, the topic of innumerable magazine articles and TV talk shows: the status of language and literacy in an emerging electronic age that replaces printed pages with digitized disks and reading with listening to or viewing audio/video productions and interacting with video games. I believe that a cultural analysis of the *Star Wars* trilogy can provide useful insights into this broad and popularized issue by concentrating on specific thematic developments within the movies and thereby avoiding the kind of conventional breast-beating and cliché-mongering that have come to characterize discussions of the "demise of literacy."

Those whose business is the unraveling of hidden patterns in society (policy analysts, newspaper and TV commentators, literary critics, even cultural anthropologists and semioticians) are generally unwilling to confer on productions like *Star Wars* the dignity that serious examination bestows. Considering the little episode I witnessed in the bookstore, I find that disdain itself significant. It seems to issue from a source far deeper than the petty snobbishness of intellectuals. The dons (sadly including even anthropologists, whose charge is ostensibly the science of *the people*) have largely shied away from popular movies, as they have from other crazes of the modern era such as disco, football, and video games. I think they have done so because they perceive in Bond, *Star Wars*, and the rest a thinly veiled threat to the whole academic enterprise: the movie houses, sports arenas, and video arcades of our cities are harbingers of the death, or at least fundamental transformation, of literacy. The intelligentsia look at the crowds thronging those places and see a world made up of people walking around with bookmarks without books, trafficking in images of make-believe characters on celluloid and cardboard, slipping tokens into the insatiable maws of video games, watching a thirty-second Bud commercial during the Super Bowl that cost more than it takes to run a small university department for a year. They see all this and, quite naturally, it scares them stiff.

In a world of words and things, commentators, critics, and even anthropologists tend to emphasize the power of the former over the latter. We confer on our verbal and written accounts the authority of primary, organizing actions that make sense of the mute and often intractable things we deal with daily. In the Beginning was The Word. The supergrosser success of *Star Wars* flies in the face of this common understanding by focusing everyone's attention on the myriad fateful ways our interactions with machines shape the course and substance of our lives. Luke Skywalker is an interpreter of the world, just as literary heroes are, but the world he interprets is inhabited by the post-literate moms and kids who like their bookmarks without books. This should not be construed as an indictment of the unenlightened masses, for it makes perfect sense that contemporary cultural productions should interpret our relations with the tremendously important animate-but-voiceless things in our lives. Watching Luke Skywalker team up with R2D2 to destroy the Death Star is

informative and interpretive of our own, less exalted doings in today's high-tech world, where we are often called on at a moment's notice to enter into a complicated relationship with a machine without benefit of a prior reading of the relevant operator's manual.

As an epic in the totemism of machines, *Star Wars* sketches a few contours of that complex dimensional construct, "humanity," as our (quasi)species twists and turns in the fields of the three semiotic dimensions. How does the movie accomplish that feat? How does the maudlin character Luke Skywalker achieve a new definition of humanity? Attending to this question is obviously our first priority, but if we reach even a partially satisfying answer another major issue immediately presents itself. Unless we are content to dwell within the cinematic framework, it will be necessary to examine in detail other, non-cinematic cultural productions and phenomena that have something to do with machines and to determine precisely how these are tied to the human-machine theme developed in the *Star Wars* trilogy. An adequate cultural analysis of the movie(s) thus leads to insights into the current status of human-machine relations outside the movie theatre.

Inside the Theatre: Semiosis in *Star Wars*

While the tendency in discussions of the role of technology in modern life is to emphasize the novelty of our situation, marveling at the sensational implications of innovations in biotechnology and computer science, I feel that this popular obsession is simply an outgrowth of a long-standing interest in the mechanical properties of the human body. The body as mechanism has been a significant concept in Western thought at least since the time of Leonardo, whose anatomical studies paralleled his experiments in mechanical design. And Descartes, intent in his *Discourse on Method* on establishing the uniqueness of mankind, details the point-by-point similarities between animal behavior and mechanical motion and thus implies that humans could be interchangeably animal or machine without their unique gift of conceptual thought and consequent self-knowledge. It is arguable whether George Lucas and Luke Skywalker belong in the august company of Leonardo and Descartes, but I think their cultural production, the *Star Wars* trilogy, supersedes the two great thinkers' learned discourse on the nature of machines.

Star Wars, as any film critic or even cinema enthusiast is quick to point out, suffers from minimal character development: Luke, Han, and Leia would be better served by bubble captions taken from a comic strip than by the dialogue supplied them in the movie script. But such carping misses the essential point that the characterization of *machines* in *Star Wars* is unsurpassed by any other movie (and equaled only by a few written works of science fiction, for example, Isaac Asimov's *I, Robot*). Leonardo and Descartes were prepared to consider some of the implications of people-as-machines, but were not charitable enough to the predecessors of our tinny friends to consider the semiotics of machines-as-people. This is precisely what *Star Wars* does.

I have argued throughout the book that myth, which is simply a shorthand term for the culture-generating faculty of the (for now) human mind, operates by subjecting our most cherished ideas to stress along the several semiotic dimensions that intersect to form semiospace. The pushes and pulls of the resulting vectors move the horizon or boundary of humanity, of a group, or of an individual in the direction of one or other of the juxtaposed identities that lie at the extremities of the semiotic axes. In this fashion the boundary conditions of ideas that comprise our cultural bedrock, ideas of home and family, love and hate, human and inhuman, are explored and mapped by the holographic engine of our

minds. For example, the experiential domain, "machine," can be explored only by investigating the significative functions of particular machines in real/reel-life situations.

Characterization in *Star Wars*, so weak where its human actors are concerned, is amply detailed for its mechanical and quasi-mechanical protagonists. The interaction of human, mechanical, and quasi-mechanical characters establishes a system of representations that gives form and meaning – new meaning – to the identities "human" and "machine." That system of representations I term *mechanosemiosis*. The effect of scrambling human and mechanical attributes in particular characters (notably R2D2 and C3PO but others as well) is to produce a cast whose characters and actions are often anomalous. Those anomalies are generative – culturally generative – for they encourage the moviegoer to examine his assumptions regarding the difference between himself and the machines in his environment. Again, the fact that viewers of *Star Wars*, like the audiences of "primitive" myth-tellers, are usually children or adolescents only amplifies the movie's importance, for their minds are still actively sorting out the cultural categories that will become the unquestioned assumptions of their adult lives.

Children's literature has traditionally focused on relationships between young people and animals, the theme of "a boy and his dog" being a perennial favorite. With *Star Wars* the central theme becomes "a boy and his droid," for much of the drama springs from Luke's interactions with R2D2. Indeed, it is often difficult to decide who (which) is playing the supporting role. But as the trilogy unfolds through *The Empire Strikes Back* and *Return of the Jedi*, Luke is clearly the central character, and particularly in *Jedi* R2D2 is shamelessly upstaged by the teddy bear Ewoks. In *Star Wars*, however, R2D2 is in its element, and a close examination of its several roles tells a lot about the movie's contribution to a totemism of machines.

If *Star Wars* is about our relations with machines (that is, about our mechanical alter-egos), the fundamental issue it must explore is how people and machines communicate. Phrased differently, the issue is the signifying practices that link persons and machines. The movie is about ways of signifying, and R2D2 is a central character (quite apart from its cuteness) because it is capable of "conversing" with the widest range of entities.

R2D2 engages in four types of "conversation" (it would be more accurate here, particularly given our theme of the transfiguration of language, to say "animation"): with people (usually Luke or Leia); with the anthropomorphic droid C3PO; with assorted other droids and organics; and with the computer banks of the Death Star. R2D2's beeps and whistles somehow possess for human listeners (those in the audience as well as those on screen) a distinctly emotional, endearing quality; people have no difficulty attributing moods and motivations to the charming little cylinder. At the same time, C3PO, whose official function is translation (he continually boasts of his fluency in three million languages), is on hand to render R2D2's electronic beeps as human speech. Luke, Leia, Han and, by extension, the audience thus have the dual ability to react directly and emotively to R2D2's machine noises on a mechanosemiotic channel and to comprehend their "literal" meaning on an anthroposemiotic channel through C3PO's translation. No other film goes so far in exploring the communicative interaction between human and machine; it is one of the firsts that puts *Star Wars* on the cinematic map regardless of its box office.

With its faithful droid companion translating at its side, R2D2 thus maintains two open channels between itself and its less articulate human friends, Luke, Han, and Leia. Through these channels

R2D2 transmits information it acquires from conversations, or *animations*, with nonhuman interlocutors. The most important of these are the Death Star computer and, in *Jedi*, the computer of the Imperial Guard base. It is quite remarkable that just as the personal computer craze was getting under way, Lucas presented the world with a character that is a perfect interface: R2D2 is every hacker's dream of a user-friendly, dynamic little fellow that has at its receptacle tips all the computing power of a latter day Armonk mainframe. It is probably too extreme to claim that the personal computer phenomenon that followed on the heels of *Star Wars* is a case of life imitating art, but the coincidence of the two does show that Lucas's characterization of R2D2 touched an exceptionally responsive nerve in the formative minds of the movie's juvenile audiences.

  Here it is useful to recall the episode of the bookstore. Like Jabba the Hutt, R2D2 attained star billing without speaking a word of English (or any other human language). If we except Lassie's seminal barks, Flipper's thought-provoking whistles, the Black Stallion's meaningful whinnies, and that ilk of anthropomorphized animal communication, we could search almost fruitlessly in the history of film for a star that lacked an intelligible voice (agreeing not to count Victor Mature's cave man impersonation in *One Million B.C.*). R2D2's remarkable ability to communicate in electronic beeps and whistles (foreshadowed by Harpo Marx?) taps the same vein as the mystification adults feel before their children's easy acceptance of electronic media of all sorts, particularly the home computer the kids have talked their folks into buying. Although the marketing folks at IBM and Apple will not come right out and say it, in a world of bookmarks without books the computer as an accessing device with instant graphics and menu-driven programs resembles the bookmark more than the book. And there is little doubt which the young audiences of *Star Wars* and the child browsers in my bookstore found more interesting and communicative.

  These remarks should not be taken as yet another verse of the intellectual's familiar dirge mourning the death of literacy. It is rather that the signifying practices employed by R2D2 and his interlocutors in *Star Wars* represent a novel form of semiosis, one quite distinct from that installed in the dominant complex of writing-printing-reading. This form of signifying practice, again, is what I have termed *mechanosemiosis* (the way out of pedantry here seems to spawn yet more pedantic terms). Whatever we choose to call it, mechanosemiotic communication does not replace conventional language but grafts onto it to form a hybrid semiotic system (much in the way that linguistic communication has grafted onto a rich nonverbal substratum of expression and gesture to form the currently dominant anthroposemiotic mode of sign production). As the pioneer of this new mix of communicative channels, R2D2 already has the ability only dreamed of by present day hackers to combine three-dimensional visual and graphic displays with its aural productions (a vivid example being the holographic message R2D2 delivers from Leia in the first movie). Now that multimedia programs operating in a Windows environment (we humans do not have a lock on virtuality!) have made their way onto your or, at least, your neighbor's CD-ROM drive, it seems inevitable that children of the twenty-first century will learn their ABCs (which will no longer be ABCs, but elements of the new hybrid semiotic system) at the consoles of machines capable of assembling word, image, and schematization into a communicative form substantially different from our present written language.

  It is only some five thousand years since the Sumerians or their mysterious neighbors began scratching cuneiform word-signs on clay tablets. And it is only some three thousand years since the Phoenicians developed a phonogramic syllabary (that is, a system of writing that represents the

common vowel sounds as well as the less variant consonants) from which our own alphabet derives. Given such a shallow history in comparison with the much deeper past of fully human aural language, why should we expect the "written" language of 7000 A.D. to resemble today's phonogramic printed texts any more than those resemble Sumerian cuneiform or Phoenician script? If anything, grammatologists of the distant future are likely to regard our abstract, image-bereft phonetic transcription as an impoverished aberration in the history of writing. They may well see our cherished writing-printing-reading complex as an unfortunate lapse in the history of human semiosis, a Dark Age of a few thousand years, which separated the early and late expressive, iconic forms of Egyptian hieroglyphics and future multimedia software. For both those representational systems succeed in combining abstract phonetic symbols or word-signs with visual images or displays of the subject matter.

You're wringing your hands that Johnny can't read, that SAT scores continue to decline nationwide? Well, maybe Johnny's little cerebrum is not just atrophying as he slaps away at his SuperNintendo joystick; maybe it is being sucked into the maw of Something Else, some strange attractor that does not respect the tidy, linear boundary we habitually erect between writing and visualizing, that instead gravitates around the process of *narration-as-knowing* described in Chapter 2. From this perspective, the teamwork exhibited by R2D2 and C3PO in *Star Wars* would seem both prophetic and indicative of a critical period – our own – in the (d)evolution of language, when people-speak and machine-speak began to fuse into a hybrid anthropo-mechano-semiotic.

The users of language (who are also its producers) are not, however, attuned to these speculative refrains; they are not grammatologists nor philosophers of language. For the most part they are ordinary people living ordinary lives, people who build houses and people who (as Merle Haggard would say) still keep them, people who watch an *awful* lot of TV, and people who take their kids to movies like *Star Wars*. The world of the movie theatre they enter is not a sedate realm of theoretical discourse regarding the nature and evolution of language; it is an active, noisy world of presentation and spectacle. What they spectate, however, may well be symbolic distillations of critical theoretical issues. Ironically it is those plain folks, who do more chatting and rapping, shucking and jiving than "discoursing," and who spend more time using tools and manipulating joysticks than composing on a word processor, who will determine the future of language.

R2D2's antics are just the kind of seminal spectacle that provides a sense of direction, an orientation, for people adrift in a situation of rapid linguistic transformation. And R2D2's antics are far more instructive than a programmer's manual for individuals, especially very young individuals, just awakening to the possibilities offered by the host of clever machines that surround them. While computer use and computerese will not replace our existing languages any more than speech has erased the play of features on the human face or writing silenced the daily flow of speech, the interfaced teenager of the near future *will* be communicating in a mode fundamentally different from his paper-bound ancestor of the twentieth century. What did Sumerian grandfathers and grandmothers think of their grandchildren's peculiar scratchings way back at the dawn of writing? Some of us may have a pretty good sense of that experience right now.

What might be called a "hardware bias" or, perhaps, a *mechanotropism* (a malapropism?!) in *Star Wars* is evident in the contrasting characterizations of R2D2 and C3PO. Before the advent of personal computers and video games, movies handled machines and, implicitly, the topic of

mechanosemiotics by the familiar device of humanizing the machine: robots were given arms, legs, facial features and a voice that was recognizably human (and English-speaking). One of the more memorable figures of this kind is Robby the Robot, featured in the 1956 classic, *Forbidden Planet*. But now, in just a few frenzied decades, the ground rules for machine representation have changed dramatically. The proof of this sea change is that C3PO, anthropomorphic and articulate though it is (cast in the mold, so to speak, of Robby the Robot), has second billing behind R2D2, who/which lacks most of the standard humanized robotic features of yesteryear. R2D2 does not have a face.

Although the media has not quite faced up to it (it currently has its hands full with the gender issue spawned by another liberation movement) we are experiencing, in the waning days of the twentieth century, the early throes of another movement: machine lib. The transition from Robby to R2D2 demonstrates that machines can now assert their own identities with pride and need no longer masquerade their silicony inner selves beneath layers of makeup and prosthetic devices designed to lend them a counterfeit human appearance.

Perhaps the next phase of this new movement (once past the bra-burning period) is an intensified assault on those inchoate pronouns whose tremendous metaphoric power has been aptly described by James Fernandez. The little words "he" and "she" have become almost indigestible for us (post)moderns, who agonize over the ideological implications of using one or the other in speaking or, especially, writing about situations in which the subject is not specifically gender-marked. So we are forced into circuitous barbarisms of language, such as:

> The writer should take her or his inspiration from events she or he has experienced herself or himself and describe their effect on her or him to the best of her or his ability.

Yet lost in all the eggshell-walking and consciousness-raising of the last twenty-plus years is the anonymous, unheralded third-person pronoun, the very type case of inchoateness: the impersonal *it*.

Paradoxically, as we lavish more and more attention on the insidious gender biases in our daily speech and behavior, as we strive to level the playing field on which men and women must live and work, we push all the myriad *its* in our lives further back in the shadows. Bill Murray and Richard Dreyfuss got us to wondering *What about Bob?*; in this work I want to get us wondering *What about It?* I think this project is supremely important, maybe even more important than Bob, for our ideological slighting of impersonal things bizarrely parallels their ever-increasing importance in our lives.

It is safe to say that a great many of us *fin de siècle* (post)moderns spend more of our waking hours staring into a computer monitor than into another human face, and more time touching its keys and massaging its "mouse" than caressing another human being. And when we finally break away from the enchanting, demanding Cyclops on our office desk and make our way through the gridlocked streets choked with (what else?) other machines to our condo apartment, the warm, affectionate being waiting to greet us and give us unequivocal love is as likely to have four legs as two. Machines and animals, these parameters of modern existence, assert their presence in our lives as never before. They have emigrated from the factory and barnyard, where they could be kept at arm's distance and treated as objects, forced to labor or slaughtered at our whim, to the core of our domestic world – into our homes, our hearts, and even our beds. With the Shih Tzu or Siamese snuggled next to us and the TV

clicker resting on the other, empty pillow, we end our day, drifting in and out of consciousness, with Leno or Letterman, and are roused from sleep the next morning by Katie Couric's chirpy, cheerleaderly exclamations on the *Today Show*.

We have seen this pattern of attraction-avoidance, love-hate before: our shunning the impersonal *its* in our lives while establishing increasingly intimate ties with them is yet another schismogenic principle that fuels the crushing ambivalence of the myth of America. Even without reading a lot of paleontology, we somehow know that the machine is part of our innermost self, that it has participated in the birth of our species. Yet this truth weighs heavily on a consciousness awash in ideas about human uniqueness and human control of the environment. And so we react with horror to the urgings – the voice, if you will – of the machine-selves stirring within us, eager for their time of release from the bondage of inchoateness. C3PO and R2D2, with their contrasting mechanical and human attributes, show the way through a part of this labyrinth, and point us in the direction American movie-myth, in the instances of *Terminator* and *Terminator 2*, is taking us through the frothy reaches of semiospace.

C3PO fails to win the hearts of the audience precisely because it is presented as too artificially human. Although it possesses a human form, it also parades those traits of stiffness and preciousness that make us say of some people that they "behave like machines." Conversely, the secret of R2D2's charm (mobile trash can though it is) seems to reside in its ambling, lackadaisical manner, one that we associate with someone who is relaxed and "acting natural." R2D2's spontaneity, affability, and loyalty are attributes we increasingly look for in the machines that enter our lives. An earlier, tremendously popular quest for a compatible and fulfilling human relationship (the great *R*-word enshrined in California culture), conducted in innumerable counseling and encounter sessions across the land, has given ground to the search for truly user-friendly machines and programs. The turbo-charged joys of your new 325i or 486DX may not be true love, but they are a marvelous distraction until that (or the *Repo Man*) comes along. Caught up as we are in that distracted quest, R2D2, C3PO, and by extension the entire *Star Wars* trilogy stand as a beacon light to direct the continuing synthesis of human and machine.

The ambivalence of myth works through other combinations of human and mechanical properties found in the *Star Wars* characters representing the Dark Force: Darth Vader, Commander Tarkin, and the Imperial Guard.

The Imperial Guard, those (anomalously) white-helmeted and armored soldiers forever pursuing Luke and Han, send the simplest message in the mechanosemiotic system of *Star Wars*: Machines are hostile, impersonal instruments of our destruction. It is the eternal, paranoid fear of our deepest machine-angst: *They are out to get us*. Viewed as a metaphor of human experience, the Imperial Guard are the epitome of men in uniform: faceless, incorporeal, stripped of all vestiges of personal identity and made to function with ruthless efficiency in the service of an evil State. They are the Nazis, Japs, and Commissars we have learned to hate reflexively, throughout the endless siege of war movies: John Wayne showed the way for Rambo and Braddock (Chuck Norris's *Missing in Action* character) to follow.

Once again, however, *Star Wars* pushes a clichéd image of the machine (in this case, that of mindless destroyer) into unfamiliar territory. Although they appear to be living men, the Imperial Guard are so very anonymous and servile that the strong suspicion arises in the viewer from the

beginning of the movie as to whether they are human at all. It turns out that they are not. Introduced in the guise of "men in (futuristic) uniform," it later becomes clear that the Imperial Guard are another peculiarly interstitial species in the bizarre menagerie of "mechanicals" and "organics" that populates the "far, far away galaxy" of *Star Wars*. The viewer's suspicion is dramatically confirmed during one of the endless shootouts (beamouts?) between our heroes, Luke and Han, and the Guard. Luke blasts a pursuing Guardsman (Guardsit? – the impersonal pronoun asserts itself once more), who/which explodes into fragments of metallic white armor. As he gazes in astonishment at the robotic rubble, Han, more experienced in the ways of the Empire, explains to young Skywalker that there is nothing inside the lifeless armor shell of the Imperial Guard. The audience, sharing Luke's naiveté, comes to realize that while certain droids (R2D2 and C3PO) may look mechanical yet have hearts of gold-plated silicon, others, like the Imperial Guard, may resemble uniformed soldiers yet contain not a shred of human flesh or feeling.

The robotic nature of the Imperial Guard serves to highlight the movies' characterizations of two other quasi-human, quasi-mechanical figures: the Imperial expeditionary force headed by Commander Tarkin, and the complex and terrifying Darth Vader. Tarkin and his staff of officers represent the conventional notion of the military in the service of a totalitarian state. They are the movies' flesh and blood Nazis, and as such are deeply etched in the cinema-going retinas of three generations of Americans. Their inhuman stiffness and blind obedience only serve to emphasize the evil side of machines (the Dark Force), which all too often manifests itself in human groups such as gangs, mobs, and military units and leads us to renounce their inhumane, mindless violence as an aspect of soulless, mechanical behavior.

R2D2 is a machine that acts like a friend; C3PO is a machine that looks like a person but that behaves pompously; the Imperial Guard look about as human as C3PO but act utterly inhuman; the military officers of Tarkin's force are men who have abandoned their personal integrity and embraced the cruelty of unthinking, unfeeling machines in the service of the Death Star and its Dark Force. What/who, then, is Darth Vader?

Vader is the sustaining enigma of the entire *Star Wars* trilogy: while Han, Leia, R2D2, C3PO, and Chewy undergo no dramatic transformation from film to film (and Luke's coming of age as a Jedi Knight is entirely predictable), Vader's identity and moral struggles are the consuming issues that drive the plot. In the first episode, Vader is introduced as little more than a high-tech black hat, a helmeted and cloaked (à la Oilcan Harry), raspy-voiced villain intent on destroying our youthful hero and a few civilized worlds along with him. There is, however, an eeriness about Vader right from the beginning that defies this easy stereotype, and that increases as the story unfolds. In the light fantastic of the mechanosemiosis of *Star Wars*, Vader is a dangerous riddle. The other characters, however anomalous with respect to "human" and "machine" domains, at least declare themselves; the audience can rely on their continuity even if it can't quite classify them.

But with Vader it is a different story. The old black hat whom we loved to hate in the first movie miraculously becomes the embattled, tragic father who sacrifices his life for his only son in *Jedi*. His rehabilitation is perhaps the most staggering, and likely the shabbiest, in contemporary film. Consider that here is a figure responsible for the genocidal bombing of entire planets, who undergoes a change of heart and ends his career as a near-saint (a member, along with Obe Wan Kenobi and Yota, of the Jedi empyrean). That Lucas succeeds in leading his young audiences from booing to cheering

Vader is, at best, a frightening commentary on our moral sensibility and, at worst, an ultimate victory for the Dark Force that his trilogy purports to reject.

It would be inadequate, however, to point out the alarming implications Vader's redemption has for our moral conscience without specifying the particulars, the exact cultural basis, of his transformation. Such specifying or dissecting is always the task of cultural analysis, whether or not that involves, as in the present case, an unflinching examination of the pathology of our (post)modern lives. In *Jedi* Lucas presents his audiences with powerful reasons for believing in Vader's goodness, and a consideration of those reasons provides important evidence for the nature of cultural processes and the semiotic dimensions along which they operate.

Vader is so terribly important because his *persona* and history produce major movements or perturbations along all three semiotic axes, with the consequence that the nature of humanity is questioned and highlighted from every possible direction. The most obvious example is Vader's dramatic rejection of the Dark Force. By destroying the satanic Emperor who dwells at the heart of that satanic machine, the Death Star, he redeems his Jedi knighthood and demonstrates that the world's malevolence can be overcome by the benevolent (Life) Force.

But who/what does the overcoming? Is Vader human, machine, or even some kind of diabolically clever animal? And is he inexorably an alien Other or, improbable as it seems at the outset, might he be one of Our own flesh and blood? As an exemplary case of the ambivalence of myth, neither question has a definitive answer. For Vader is both an especially disturbing synthesis of human and machine, a cyborg, and an ambiguous combination of mortal enemy and loving father. Wrestling with these contradictions, which is the essence of myth, is what gives the trilogy its dramatic clout and audience appeal. While R2D2 also poses the puzzle of a blurred human/machine identity, Vader drives that stake into the heart of the moviegoer by showing him how a man can lose and then regain his fundamental humanity. That odyssey occupies much of *Empire* and most of *Jedi*, and takes the form of a series of glimpses into Vader's physical and psychological make-up.

The first movie of the trilogy provides only a single, chilling glimpse of Vader removing his fearsome helmet. In the half-light of his quarters and partly obscured by a wall, Vader reveals the merest flash of what appears to be a skull stripped down to raw flesh and protruding brain matter. It is just enough to set the hook of a suspicion that Vader is corporeal, unlike the hollow, mechanistic Imperial Guard whose uniform resembles his. But that suspicion is clouded in *Empire* when, during Luke and Vader's titanic struggle, Luke's light saber slashes into Vader's arm and reveals only metal, plastic, and wires. It then seems that our villain is as cold-heartedly mechanical as his actions make him appear. That feeling is strengthened by *Empire*'s most traumatic moment, which ends the fight scene: with a blow of his light saber, Vader slices off Luke's hand and our hero falls tumbling into empty space. That epic combat is rendered as Oedipal burlesque with Vader's taunting revelation, as Luke stares aghast at his severed limb, that he is Luke's father (but, but . . ., as Joe Pesci of *Lethal Weapon* might stammer, but Dad, why'd you chop off my hand?). Now the audience is really confused: the possibility that Vader is human or, again in the language of the trilogy, an "organic" seems ruled out by our look at his wiring, but then there is that shattering (if true) cruel claim of paternity. Once more, the semiotic pushes and pulls along the animal-human-artifact continuum act as vectorial processes that fix identities of Self and Other, family and enemy. Might big bad Vader be dear old Dad?

Luke's quest for his identity, which takes the form of a search for his missing father, is the driving force of *Jedi*. As the plot unfolds he is drawn to the abhorrent conclusion that Vader's taunting claim is accurate. A mysterious rapport develops between them, with each sensing the other's presence during the interstellar game of cat-and-mouse between rebel and Empire forces that occupies much of the movie. The episode of the severed hand in *Empire* reasserts itself as an emblem of similitude in *Jedi*: in Luke and Vader's final confrontation a wound opened in Luke's now bionized hand evokes paternal emotion in Vader; father and son recognize their shared identity, not as flesh and blood, but as cyborgs. It is a telling episode in the mechanosemiotics of *Star Wars*, for the initial dilemma of Vader's paternity is resolved only by Luke's meeting him part way along the road to cyborghood.

As befits a myth the time frame of *Star Wars* is hazily sketched, but one supposes that Jedi Knights (particularly Yota, who admits to being several hundred years old) have been around a long time. Vader may well be ancient, and have acquired his cyborganic features one at a time (the way E. F. Hutton measures its success with investors) in countless joustings. We are left to wonder whether, as the years go by, Luke, our towheaded, impetuous country boy, will lose other limbs in defending his new government against future eruptions of the Dark Force? And as the centuries pass will he, like his father before him, require a helmet and speech synthesizer simply to stay "alive"? Recall their deathbed scene in *Jedi*, when Vader asks Luke to remove his helmet and Luke protests, already knowing that his father's helmet is essential to maintain "his" life.

How droid-like is young Skywalker himself destined to become? Luke finds his father, and himself, but his quest takes him over the twisting, turning border of any conventional notion of humanity, in which flesh and blood beget flesh and blood in an idiom of kinship that serves as an anchor for human experience. But this unsettling discovery cannot be a complete surprise to us (or else it would not surface in myth!); similar traumatic confusions of mechanical-human identity are already being played out in the high-tech environments of our hospitals' intensive care units.

The *Star Wars* trilogy is an epic in the totemism of machines, and yet it moves, paradoxically, toward a renunciation of machines. The final minutes of *Jedi* do not feature Luke, R2D2, and C3PO in a celebratory scene of boy and droids: instead those parting shots depict a boy, his spectral father, and his newly discovered sister (Leia) with her intended, Han. The epic of machines has become an epic of family and kinship. Far from offering a resolution to the elemental dilemma of future human-machine relations, *Jedi* shamelessly retreats into nostalgia. Luke is destined to remain a sexless caricature, an impossible man-child, with the discovery of his siblingship with Leia having put to rest Han's fear and the audience's speculation that her affections were directed toward Luke rather than the swashbuckling starship pilot. And with the Empire on the run, Han and Leia can presumably settle down to perpetuating the race, like John Houseman's stockbroker, in the old-fashioned way. The fantastic menageries of the Tatooine bar and Jabba's lair, the bewildering assortment of "mechanicals" in Jabba's android repair shop, and Luke's own considerable potential as a cyborg, all these fascinating scenes and possibilities are left hanging, relegated to the status of gawping curiosities by *Jedi*'s threadbare ending.

The movie's capitulation is most strikingly apparent in R2D2's and C3PO's subordination to the Ewoks. From the novel theme of a boy and his droid, Lucas drifts into the nostalgic scenario of the teddy bears' picnic. The domesticity of animated stuffed bears replaces the technological innovation of droids, and signals an abrupt end to the movie's wondering about the crucial role machines will have in the future of an emerging cyborganic humanity. In the final scene of *Jedi* R2D2 and C3PO are left

standing on the sidelines, with nothing to do but go along with the Ewoks' idea of a good time. With the battles fought and won, there is no indication of a meaningful role for the two droids in the peaceful world of home and family, where teddy bears and nurseries will presumably replace murderous engagements with killer droids in the corridors of starships. The trilogy thus ends on a flat, conservative note; all the intriguing life forms, organic and mechanical, presented in the three movies ultimately comprise only an exotic backdrop for playing out a tiresome melodrama of filial and fraternal love.

It would, however, be both too harsh and incorrect to see the conclusion of the trilogy as a meaningless flight into the fantasy of a domestic world free of intrusive machines. It is a flight, and a regrettable one for the ongoing project of mechanosemiosis, but it is far from meaningless. In relegating R2D2 and C3PO to obscurity at the trilogy's conclusion, Lucas underscores what must be *Jedi*'s ultimate point: machines in the hands of the State are so terrifying that it is best to minimize one's personal involvement with them. They are always potential traitors when ensconced around the domestic hearth. This machine-dread ushers in a paralyzing ambivalence, for so much in the three movies celebrates the intimacy of the human-machine relationship. The platonic love affair between boy and droid withers away, leaving the characters and the audience with a renewed suspicion and loathing of machines as alien oppressors. In the glass bead game played out on the silver screens of our movie theatres, *Jedi* points the way to *Terminator*.

The trilogy's flawed conclusion only serves to remind us of the threat posed by machines in the service of a powerful and destructive State. There could be no more forceful reminder of that threat than the Death Star, the focus of action throughout all three movies. Luke pursues and does battle with the Death Star; Vader, in the Death Star, pursues and does battle with Luke; this two line summary is effectively the plot of the entire trilogy. Luke and the rebels finish off the ultimate technological horror at the conclusion of *Star Wars* only to face, in the best supergrosser tradition, a Death Star II in *Empire*.

The Death Star, as the ultimate killing machine, is R2D2's opposite number and a structural counterpoint in the trilogy's totemism of machines. Its construction and special effects rendering are among the movies' most impressive technical accomplishments, a fact all too easily lost sight of in the swirl of fantastic beings and scenes. The scale and detail of the Death Star impart a sense of overwhelming complexity; it is Hollywood's version of the biggest machine in the galaxy, presented to audiences for their comparison with the machines in daily life (including the daily life of newspaper reading and TV watching, which for a decade was filled with discussions of real-life, Ronald Reagan-style "Star Wars" scenarios).

The Death Star is the worst case of those scenarios, the projection of a machine-dread that began over two million years ago, when beings that were only on their way to becoming human first experienced the quasi-independent, action-at-a-distance effects of pebble choppers struck from the stone of Olduvai. That episode first awakened the spark of an artifactual intelligence which would place death rays in the sky above. That image of the machine as a colossal evil, a Thanatos in stone or steel, has stalked us from those hominid beginnings to our present civilized condition in which the technological ability is present to realize our worst fears. The alarming possibility that the State and the machines it constructs are homologous, that a world capable of putting *Star Wars* weapons on the drawing board is fully capable of using them in an all-out global conflagration, leads us to contemplate the harsh realities that *Star Wars*, myth that it is, at once conceals and parades.

The real turning point in *Jedi*, the episode that paves the way for the movie's fatuous ending, is Luke and Vader's light saber duel in the Emperor's chamber. In that duel Vader's paternal feelings overcome his commitment to the Emperor and the Dark Force. Kinship sentiments triumph over blind devotion to the technological State and its satanic leader. Vader's change of heart, the redemption of the old genocide, is made the more dramatic by the characterization of the Emperor as a wicked old man. At the heart of the ultimate machine dwells a corporeal emblem of the Dark Force: the Emperor is not a "mechanical," nor even a master engineer of a technocratic and totalitarian society; he is a human embodiment of malign spiritual power, a sorcerer.

It is this final, stark equivalence of technology and human evil that makes it impossible for the trilogy to conclude on any kind of forward-looking view of the human-machine relationship. The evil presence at the heart of the Death Star is just a conventional, storybook boogeyman; the mechanosemiotics of an evolving human/cyborg identity is silenced by this bland device. Lucas could have made things much more interesting, and may not even have damaged his box office in the process. But inviting the audience to consider Luke's future with his droid sidekicks would raise some scary possibilities.

At the close of *Jedi* Luke is the warrior leader of a victorious armed force, which presumably will move into the power vacuum left by the destruction of the Emperor and Death Star. But that places him in a situation much like that his father, Darth Vader, faced as a young Jedi knight who proudly served a State he idealized. We have already considered the possibility that Luke will become increasingly cyborganic as time goes by; what if he becomes corrupt with his power as well? What guarantees that our young warrior will not end up as an elite member of an infernal military government, as his father did? The price paid for Vader's redemption is our incipient distrust for his son after their reconciliation: "like father, like son" is a formula still too near to mind even "long ago, in a galaxy far, far away." This is why the trilogy rejects its own impetus toward fashioning a new mechanosemiotic system of representations and peters out in the machine-rejecting, pseudo-primitivist finale of the teddy bears' picnic.

Outside the Theatre: Luke Skywalker, James Bond, and Indiana Jones
in the Not-So-Lost Temple of the Technological State

An important lesson to be learned from *Jedi*'s renunciation of its own problematic is that the cultural logic, or *medialogiques*, of American movies does not generate a simple progression from minimal to maximal involvement with machines. Myth, whether in the form of movies or traditional narratives, does not follow along in the footsteps of a supposedly linear historical process, for the task of constructing history itself falls to the culturally generative interactions of identity and difference within the six semiotic domains. The distinguishing feature of myth is its restless hunting along the axes of opposing semiotic domains that bracket, instantiate, and transform human identity. Our folklore, including its celluloid manifestation in film, does not provide a consistent and sequential account of our history because neither folklore nor history is a chronicle, a transparent and linear recitation of events. Both myth and its derivative, history, are parts of a ceaseless struggle to resolve antagonistic properties of a mercurial construction, humanity, that possesses no consistency or stasis and that is always on its way to Something Else.

A principal antagonism, one that has played as large a part as any in shaping what we now call

"humanity," is a love/hate triangle that has raged for ten thousand years (or as long as "civilization" has existed): the affair among the Individual, the State, and the Machine. Political philosophy before Marx, from Plato and Aristotle right through Hobbes, Locke, and Hegel, has focused on the abstract (and unrealistic) dyad of Individual/State and largely ignored the dynamic, mechanized context in which it operates. Marxian political philosophy, while it emphasizes the mediated nature of the Individual–State relationship by introducing the concept of mode of production, still denies the machine any cultural properties of its own. For Marx, who did so much to publicize the State function of machines as harnesses of labor, the machine itself remains a mute and passive token in the implacable struggle of social classes. What would old Karl have thought about R2D2 or the SAL-9000?

The improbable contribution *Star Wars* makes to political theory, if only implicitly, is to bring home the hard fact of our deep ambivalence toward the machines in our lives. What we do with them and what others do to us using them are subjects of great concern and carry the most highly charged positive and negative overtones. Consequently, the characters of American folklore never simply accept or reject machines; they alternately glory in and smash them. In their mythologized lives, folk heroes exemplify the mixed feelings we mortals carry with us when we leave the theatre and return to our waking lives outside the Dreamtime temples of our cities and suburbs.

John Henry, Wild Bill Hickock, James Bond, and Luke Skywalker represent distinct amplitudes, or Fernandezian movements, in the mechanosemiotic processes that shape (or situate) human identity. For all their exaggerated attributes these disparate folk heroes have enough in common with our own mechanized lives to serve as dramatic tokens of the technically expert individual confronting the technological State. Taken together they chart a virtual world of possible experiences theoretically open to us all as we pursue our daily lives outside the theatre. But this virtual world is one of extremes. John Henry dies from his confrontation with the Company's machine; James Bond drifts into a flippant accommodation with the multinational corporations and superpowers that employ him; Luke Skywalker accepts bionic parts without a thought of where that might lead. Tucked among these mythic extremes are our own virtual and realized experiences with the machines produced and often run by the technological State.

Having already examined the characters of James Bond and Luke Skywalker in some detail, it is worth considering them together here. The pair represents two kinds of accommodation with the technological State. In a high-tech world, humans and increasingly complex machines are expected to form strong, constructive working relations and not, as in the nostalgic saga of John Henry, to challenge one another to a contest that can only lead to surrender or death.

Bond and Skywalker are adept at bridging the conceptual and affective abyss that constantly threatens to open between us and our silicon-based, gas-guzzling alter egos. Their talent ushers from a combination of youthful impetuousness and technical expertise, this conjunction of youth and high tech competence having become an accepted part of life in a world where there are still people walking around who were born before a twenty-two-year-old Henry Ford built his first Model A. As any oldster (meaning those decrepit old fools over forty) can tell you, if you want to program your VCR, figure out your TV remote, or (delusions of grandeur!) actually get your new computer to do something you want it to, call the kid or grandkid. Bond at the wheel of Q's miracle car, tossing off witty remarks while conducting a high-speed duel with death, is paced by Skywalker, exclaiming during a pilots' briefing on the upcoming attack on the Death Star that it will be "just like potting swamp rats in my

landspeeder." Their levity and charisma demonstrate that the distinctly human qualities of individualism, flair, and humor are compatible with the sober self-restraint required of a technician.

Bond and Skywalker thus extend mechanosemiotic representation by personalizing the machine-user while demonstrating the creative uses to which machines lend themselves. And their personalities are rendered the more vibrant by pitting them against stiff, muscle-bound, "mechanical" opponents: Bond versus Odd Job and Jaws; Skywalker versus the Imperial Guard and its assortment of killer droids.

Although Bond and Skywalker in their role as Masters of Machines are cultural heroes of a Dreamtime world, they are sufficiently like you and me to make their personalities felt in the real/reel world (as opposed to the reel/real world of the theatre). Bond has a job and even an employee identification number. And Skywalker, if the Ewoks' party ever ends, will find himself the favored knight of a highly militarized and monarchical society (if not the principal claimant to the throne himself: as the brother of Princess Leia, is Skywalker not a prince?).

We have seen that Bond preserves his savoir-faire by joking away his dependence on a government job. It is quite remarkable that the Bond of the movies is so glib and apolitical, so flippant about the human and social consequences of his deadly activities, for Fleming's Bond was a true Cold Warrior, constantly worrying about the Russians and brooding over the moral justification for his killings. The producer Albert Broccoli extricates himself from that character by invoking another Fleming creation, SPECTRE, the international, apolitical criminal conspiracy bent on world domination. Exit the villainous Russian spy, Rosa Klebb (*From Russia with Love*), and enter the politically cynical megalomaniacs, Dr. No, Goldfinger, Stromberg, Blofeld, and Katanga. A dramatic closure of sorts is reached in *The Spy Who Loved Me*: rather than the sexual bait of *Russia*, designed to lure Bond into a blackmail plot, the female spy of *The Spy* who loves 007 is engaged on a joint mission with him under orders from her KGB spymaster (who, incredibly, is portrayed as quite a likeable old duffer in the most recent Bond movies). Because the story of Bond is rooted in Cold War ideology, Broccoli's manipulations of Fleming's novels and Sean Connery's and Roger Moore's witticisms succeed only in neutralizing the ideological content of the films; they draw back from any political statement rather than venture out onto that risky ground.

Oddly, *Star Wars* jumps in where the Bond films fear to tread. Although Lucas insists that the trilogy's success is due to its fantastic, escapist content, its self-proclaimed fairy tale quality proves to be a license for creating a highly ideological film. Starting with a clean slate, the formulaic "long ago, in a galaxy far, far away," Lucas is free to ignore conventional political oppositions (democracy/communism, freedom/servitude) while proposing a new social order – the Empire – founded on the opposition of totalitarian technocracy versus individual technical derring-do. That opposition happens to be a foundation of American folklore, which helps explain the movie's remarkable resonance with its audiences: in a bizarre transformation Luke Skywalker appropriates John Henry's legendary status and carries on the battle against the Company's machine. The difference between the black laborer and the blond starship pilot, of course, is that the latter wins (twice, with the destruction of Death Star II) while John Henry dies with a hammer in his hand.

Adopting even a sugar-coated ideological position makes a phenomenon with such mass appeal as *Star Wars* a potent force in the world outside the theatre. And taking a position links *Star Wars* with other ideological constructs that are themselves mythic. Like Bond, Luke is David, the archetypal

underdog in an interstellar, high-tech showdown with that futuristic Goliath, Darth Vader and the Death Star. Closer to home, the trilogy is an almost transparent overlay on an extensive folklore of youthful American revolutionaries struggling against the repressive juggernaut of the evil King George and his contemptible, mindless Hessian mercenaries (who, however, wore red coats rather than the white armor of the Imperial Guard). And still closer, Luke's battles evoke the spirit and inventiveness of young American soldiers in the face of the war machines (appropriate phrase!) of Hitler and Hirohito. In the minds of twelve year-olds fresh from truly mythic experiences in their American History classes, Luke and Han are unconsciously ranked with George Washington, Paul Revere, and the inevitable young soldier of John Wayne's old war movies (although he usually gets plugged toward the end of the second reel). Recalling Lucas's first hit, *Star Wars* might have been titled *American Graffiti II*.

The escapist fare Lucas claims to provide to a fantasy-starved nation is much more ideological than the politically laundered Bond movies, which give up on good guy and bad guy *sides* altogether and concentrate on the dramatic doings of the individual hero. *Star Wars* ideology, however, is far more wistful than sinister. What message do the three movies communicate to young viewers, that they can carry with them into the world outside the theatre? Not, I think, that the enemy (Russia? China? Iran? Iraq? – you fill in the blank), are inhuman fiends who deserve to be exterminated; *Star Wars* may be ideological, but it is not blatantly xenophobic.

The trilogy's message is rather a curious mix of nostalgia and fantasy: there are bad people out there who control big, bad machines and who want to hurt us, but there are also a few good, very clever people who stand ready to use their technological skills to defend us against the powerful, big-machine-wielding oppressors. An extremely simple reading of a simple tale, this interpretation identifies what I take to be the ideological appeal of the trilogy. It also shows that the media's use of the "Star Wars" sobriquet to describe Ronald Reagan's Strategic Defense Initiative is accurate only to the extent that it arouses in the TV viewer or newspaper reader the dread we feel whenever the Death Star makes its appearance in the cinematic *Star Wars*. Reagan's proposed system would have removed the last vestige of human control over instruments of global aggression, thereby moving the Earth closer to becoming the Empire. The media slogan is inaccurate, however, in that it raises the false hope that the message of the cinematic version will be fulfilled, and a flesh and blood Skywalker materialize to keep the generals' space weapons in check (even those whippersnappers Bill Clinton and Al Gore will not satisfy that forlorn hope).

Far from being a superficial endorsement of American military might, *Star Wars* is anti-nuke, anti-big, and just plain anti-Establishment. While the movie glorifies high-tech combat, its focus is always on the individual talent of the young hero, which he possesses as an innate attribute of one in whom, as Vader says, "the Force is strong." If direct parallels between our Dreamtime myth and social institutions are to be drawn, then one might relate the immense popularity of *Star Wars* during the period 1977-83 to the renewed fear of nuclear war or accident among American and European youth and to their commitment to religious causes and movements that stress the prominence of individual experience over institutional affiliation. Luke Skywalker speaks, indirectly, to the kids who blocked the entrance to the Diablo Canyon reactor or who participate in one or other of the new "charismatic" cults.

The ideological significance of Skywalker's and Bond's adventures is couched in the Dreamtime idiom of a mechanosemiotic system of representation. That system has as its object the

elucidation of the continually changing relationship between humans and machines. The stories of John Henry, Bond, and Skywalker are neither carbon copies – drab, functionalist reiterations of a social reality constituted from some other, decidedly non-Dreamtime source – nor utterly novel fabrications; they are intermeshed transformations of one another, combining and contradicting to form a complex set of virtual experiences. The play of transformations, however, is not random: On the eve of the twenty-first century humans and machines enjoy a qualitatively different form of coexistence from that of a century or even a few decades ago. It is the serious task of our unserious movies to chart the course of change in our relations with machines, and so we may expect to find something of a history, which necessarily includes a vision of the future, in the complex set of elements and themes that make up the transformations of our *medialogiques*.

The most important process here (one hesitates to call it a "progression") is the increasing interdependence, to the point of shared identity, of humans and machines. While John Henry, James Bond, and Luke Skywalker all take on some variant of the Company's (State's) machine, they incur different debts to other, different sorts of machines in the process. The story of John Henry valorizes and naturalizes a manual implement: he was "born with a hammer in his hand," and that hammer remained a physical extension of his body as he built his legend of the "steel-drivin' man."

This relation constitutes an elementary bionic process: it is the melding of human hand and inanimate artifact that began over two million years ago, when australopithecines first hefted the crude pebble choppers they had fashioned from the lava rock of East Africa. Those implements – the first machines – became an integral part of an elementary cyborganic or mechanosemiotic system responsible in large measure for subsequent evolutionary changes in hominid hand structure and, most importantly, brain size. The great antiquity of that system reminds us that we didn't invent tools: tools were being used and were modifying the physical and mental structures of their users two million years before "we" modern *Homo sapiens* appeared on the scene. It would be much nearer the truth to say that tools invented people.

James Bond prefers gadgets to the nostalgic hammer, but despite their technological sophistication these are as anonymous and disposable as John Henry's tool (note that the folk song refers to it as *a* and not *the* hammer). Even Bond's miracle car, a machine intimately personalized by countless teenagers over the decades, remains free of any personal familiarity or patina of use. It is merely a high-tech toy to be cast aside when the mission is completed (and eagerly so: we want to see the next batch of goodies from Q's lab). That eagerness, of course, represents a significant departure from the story of John Henry and the cyborganic system it represents, for with Bond machines have become objects of interest and desire in their own right. No one really cares about John Henry's hammer as an object, but Bond's toys help to perpetuate a dominant pattern of consumerism in contemporary culture. They are objects in what amounts to a pornography of the machine, an obsession with its physical form and movements and a consuming desire for ever changing, sensually exciting experiences with it.

We have seen that Luke Skywalker carries the ages-old mechanosemiotic system a step further than Bond: his favorite machine, R2D2, is much more than a disposable toy; it is a major personality in the trilogy. To lapse into Calspeak, Luke enjoys a Meaningful Relationship versus Bond's carnal interludes. The theme of the machine as friend and lover does not, however, capture the full meaning of Luke and R2D2's relationship (or Relationship). Luke does not direct R2D2 as John Henry does his

hammer or Bond his Lotus; he enters into a partnership with it.

With himself as senior partner (*Terminator 2*, in which the Arnie-machine takes control, was still a few years in the mechanosemiotic future), Luke takes the pilot's seat in the fighter craft while R2D2 serves as his copilot. Their cooperation is such that one is led to wonder (in a mechanosemiotic vein) what separates their respective competences in doing battle with the Death Star and the Empire's minions. The actual attack sequence on the Death Star in the first movie is highly instructive here: a close examination of it tells much about the Dreamtime course of human-machine representations in future cultural productions (such as *Terminator*).

The dazzling attack scene, which consumes all of three minutes, incorporates four critical events or elements: (1) R2D2 is "injured" and forced to abandon its tasks as copilot; (2) when all appears lost, the ghostly voice of Obe Wan Kenobi urges Luke to surrender his rational, expert control over the ship and allow the Force to guide him to his target; (3) that target, the nuclear reactor that powers the Death Star, is never shown in the world-out-there, but is always depicted in computer graphics on the monitor in Luke's console; (4) the scene contains at least sixty cuts, one every three seconds, which made it a likely candidate (in the relatively easy going era of the late seventies) for the most action-packed sequence in film.

R2D2's "injury," Luke's unsuccessful effort to complete the mission on his own, and the ghostly presence of the Force together frame a major proposition in contemporary moral discourse: God is on the side not of the big battalions, but of the individual who possesses an uncanny, inspired control over his machine. That control can be won only through a Zen-like technique of abandoning conscious, deliberate thought and allowing the situation and the machine's instruments to fuse into a single, concerted action that flows from the unconscious. Though she might not have expressed it in just these terms, I believe that is precisely Brenda Howard's meaning in saying she felt "just like a machine" while bowling two straight 300 games (see the introductory quotation to Chapter 4). We have heard of Zen archery; *Star Wars* is Zen rocketry (and now Brenda Howard brings us Zen bowling).

When Luke yields to the voice of Obe Wan Kenobi, he does not take his hands off the instruments and let divine intervention take its course. Instead, he continues to operate the ship, but now with a mastery of the machine that is a synthesis of human, machine, and divinity. And this synthesis is more than a dramatic effect: since it enables Luke to destroy one world order and pave the way for another, it is the crucial element in the origin myth of a post-Empire civilization. The individual merges with the machine in a divinely inspired act to defeat the totalitarian, mechanized State; this is the kernel of the three minutes of cinematic Dreamtime served up in the attack sequence.

The third and fourth elements of the attack sequence have to do with the mode, rather than content, of the action. They are nonetheless at least as significant as the human-machine-divinity synthesis in charting the future of culture. The many cuts Lucas employs in the sequence guarantee that it will be perceived as action-packed adventure, but what kind of adventure actually occurs? It is the adventure of the computer monitor, in its then novel and phenomenally popular manifestation: the video game. Luke, with R2D2 looking over his shoulder and the Force guiding his fingers, is confronted with an image of the maze-way leading to the reactor and with numerous video blips representing enemy ships. His task, with the future of humanity riding on the outcome, is to operate his joystick control so that he penetrates to the heart of the maze and gets the enemy blips before they get him. The scene (with considerably lower stakes: the right to "engrave" ones initials in video on the list

of top scores rather than become savior of the world) is played out tens of thousands of times a day in the video arcades of our malls, bars, and airport lounges.

John Henry valorized the manual labor of a young, vigorous America just facing up to the implications of industrialization. James Bond personifies the obsession and expertise with consumer toys characteristic of our disintegrating industrial society. Luke Skywalker represents the other face of that disintegration, the next fleck of Dreamtime froth, in which human flesh and blood and high-tech electronics are melded to form the cyborganic hero of a dawning era, a Something Else whose contours are already dimly visible through the straining membrane of the present. Luke is the video wizard, master of arcade machines, both priest and prophet of a social phenomenon *Star Wars* helped create and to which it gave some of its most popular amusements.

One Dreamtime element points to another. A movie series reviled for its superficiality, but conveying important truths to those who examine it closely, feeds into a popular amusement denounced for its mindlessness. Are video arcades simply the pool halls of a new generation (and were pool halls ever "simply" pool halls, devoid of any mythic signification in a Dreamtime world?) or do they carry an important message for cultural analysis? Everything that has preceded this makes it obvious that I am inclined toward the latter possibility: any cultural phenomenon as splashy as video games must be linked in some fundamental way with the culture of which it is a (generative) part. Following up this hunch (or bias) necessitates a brief sojourn outside the movie theatre into the video arcade, Temple of the Technological State. That sojourn, from one carnivalesque site to another, will lead in its circuitous fashion back into the movies, only this time into the domain of one of the successors of James Bond and Luke Skywalker: Indiana Jones.

For anyone over, say, fifteen, a first experience with a video arcade can be devastating. To virtually every adult sensibility it is bedlam gone modern. The arcade is a blur of light, motion, and sound (but don't look for any printed instructions to help you through this brush up against The Membrane). And sound may be the key to the whole experience.

Try this experiment in cultural analysis. A novice to arcades, you enter an arcade with a friend. The two of you select an unattended machine and, while your friend plays and you pretend to watch, you close your eyes. You are now standing stock-still in the midst of the most incredible noise. Beeps, booms, toots, whistles, and chitterings from everywhere in the audible register come at you from every side, the products of dozens of synthesizers tortured unmercifully by the anonymous madmen who fabricated the games. In addition to the electronic scramble, you also hear the shuffling of the arcade crowd: thighs bumping against metal cabinets (more machine porn!); wrists being shaken into pre-arthritic seizures by joysticks; bill-changers dispensing an endless flow of the new casino money, "tokens."

Listen to those sounds of bedlam for a few minutes (a very few, for you will probably find that time has a way of passing slowly under these circumstances), then open your eyes and leave the arcade immediately (the visual effects can wait for another visit), and find a quiet place where you can think about what you have heard.

If you are willing to grant the total effect of the arcade noises any sense whatsoever, that is, if they seem to be part of a cultural production and not a random grating of organic and mechanical parts, then the possibility presents itself that these sounds belong to a new order of experience. They may be part of a new language, or, since the term "language" is burdened with too many proprietary rights

(stridently claimed by a diverse bunch that includes linguists, other assorted academics, grade school English teachers, a newspaper columnist here and there, and others), perhaps it would be better to say a new system of representation or signification (that way only semioticians and a few philosophers will get lathered up about associating the bedlam of arcades with the principles of meaning). Until a few years ago, noises like those you listened to in the arcade were heard only in the most esoteric places: electronics laboratories, recording studios, or, in the most domestic case, the home of the occasional hi-fi hobbyist. Now they flood our lives: a trip to the supermarket, a bored stroll around the airport, a drink in a bar. None of these everyday events is free of the electronic voice of the new generation of interactive machines.

While reflecting on the implications of your arcade experiment, complement it with another, somewhat more demanding investigation in the field of modern aural productions. Go down to that friendly neighborhood Blockbuster video store and rent a copy of *Star Wars*. Back at home, pop the tape into your VCR, crank up the audio so it definitely has your attention (and we won't even entertain the possibility that your system doesn't have stereo capability), then sit back with your eyes closed through as much of the movie as you can manage without real discomfort. By all means, however, be sure to close your eyes when the attack sequence on the Death Star begins. Depriving yourself of the fast-paced, circus-like visual imagery of the film allows you to concentrate on the true strangeness of its communicative exchanges (to use as general and unbiased a term as possible). This experiment allows you actually to hear some of the mechanosemiotic representations described earlier and, hopefully, appreciate the broad range of significative functions which sounds *that are part of no human language* acquire in *Star Wars*.

The engrossing (or not!) aural sensations of our little experiment pay an extra dividend: they provide direct confirmation of the similarities between *Star Wars*, particularly the attack sequence, and the countless SuperNintendo and Genesis video games that clutter our homes and the minds of our children. Luke's mission is not merely *like* playing a video game, it *is* the sensory equivalent of an arcade experience (only with a game so sophisticated that it would demand pockets full of "Replay Only" tokens before you could activate the controls of your arcade starfighter).

In the world outside the theatre, Luke's mastery of video games points the way to a close analysis of their significative function in society. In particular, his Dreamtime mastery of video game machines offers a clue to the cultural construction of his successor, Indiana Jones. The immense popularity of video games helps to explain Lucas's apparently sharp departure, in *Raiders of the Lost Ark* and *Indiana Jones in the Temple of Doom*, from his formula for success in the *Star Wars* trilogy. How is it that Lucas and the movie-going masses switched from space opera to swashbuckling adventure in one fell swoop? In answering this question we could resort to the usual jibes our social commentators inflict on popular culture: artists are continually trying something new just for the sake of novelty; the popular mind is a fickle beast; content is irrelevant because every supergrosser resorts to the same lurid sensationalism to win box office.

Such knee-jerk attempts at providing an "explanation" for the thematic direction of popular movies are really efforts to dismiss the very possibility that those light-hearted productions may generate culture at a fundamental level. Besides offering the tautological solution that things happen because they happen, that one movie follows another willy-nilly, these dismissive critiques serve a major ideological function: they buttress up the comfortable old humanism's ptolemaic conception of

humanity by embracing the conventional wisdom that people are fixedly and inviolably people, who may go out and do various quaint things with machines, even extremely complex machines, but who retain a basic, unchanged "human nature" from start to finish. "Men *operate* machines" is the simple credo of this centuries-old perspective on the mechanosemiosis of the species; they do not *generate experience* with machines, and they are certainly not *operated by* machines. Whether the "man" in question picks up a pebble chopper, an Acheulian hand ax, a hoe or a laser (or even fires up one of the SuperNintendo sets lying around the house for a stimulating game of Mortal Kombat), it is all the same, timeless routine of a fixed and self-determined humanity doing things with extraneous, lifeless artifacts.

The mythic processes that drive cultural generativity and that lead from John Henry through Bond and Skywalker fly in the face of the old humanism, comforting though it has been. The established and complacent view of ourselves, which has succeeded only by keeping "myth" neatly walled off from "reality" here gives way to the concept of a rootless humanity, perpetually in flux, a virtual (quasi)species that can exist at all only by continually negating and affirming its integral ties to animals and machines, kin and enemy, benevolent and malevolent forces.

Indiana Jones, of all characters (cardboard cut-out that he is), advances this new concept of humanity, but in a most curious fashion. For at first glance, Indy seems to represent a nostalgic step back into an earlier, simpler time, when our matinee heroes were cowboys and buccaneers, real swashbuckling men of action. He does not brandish a light saber or even a Beretta automatic, but relies instead on his trusty bullwhip (shades of Lash Larue, if anyone remembers him) and Wild West-style six-shooter (Wild Bill Hickock rides again). So is Indy an old-fashioned, or at least *retro* kind of guy? Hardly.

If Luke Skywalker transformed the traditional action-hero into a video game wizard, Indiana Jones takes us one more step down the road (or through another of those frothy membranes) of the mechanosemiotic process through which humanity is continuously redefined. Fast-paced and high tech as the action in *Star Wars* is, it is still strung along the line of a discernible *plot* and it still features a hero with a human past and problems that evoke a certain recognition and even empathy from the audience. But with Indiana Jones, the already fast-paced plot of *Star Wars* is kicked into warp drive, redlined past the point where it makes much sense to speak of "plot" or "character development" anymore. With Luke we still had the impression of a (very talented) individual *doing things with* machines; Indy's character and the frenetic pace of his adventures make it all but impossible to see him as much more than an animated figure in a SuperNintendo game himself, and clearly impossible to attach much importance to the "plot" of *Raiders* or *Temple*.

For not only is Indy not a retro kind of guy, he is hardly a guy at all, being more a Pac Man or Mortal Kombat animated video image than a photographed person. In his disjointedness (might we say "fractalness"?) Indy disperses the few remaining traces Luke left us of the traditional hero whose life is filled with the drama of conflicting ideals, desires, and social institutions. Indy is not so much an acted character as a reactive one.

As a video image in what amounts to a super-SuperNintendo set with a power of resolution that is still a few years away (at the most), Indiana Jones installs the pace and format of the video game within the domain of human action. In other words, the people-images on video game sets become sufficiently life-like to duplicate the actions of human actors in a movie (the movie *Looker* takes this

device a giant step farther, with computer-generated video images replacing ostensibly "real" people such as presidents). The video game, however, retains its frenetic, joystick-slapping format, so that the action scenes in *Raiders of the Lost Ark* and *Temple of Doom* have one death-defying stunt following another.

Mere human behavior, even James Bond's most slapdash antics, appears pedestrian by comparison; Bond becomes the slow-walking, slow-talking old coot who is shoved aside by the homeboys slamming to rap music on their Sony Diskmans. The old-fashioned notion of motivated, goal-directed human action withers away before the rappers' onslaught, with the result that Indy's frenzied actions have no point apart from their sheer dynamism. Hence the transparent quality of the story that passes as plot in both *Raiders* and *Temple*: Indy sets out to recover some priceless treasure that possesses a vaguely religious as well as monetary value. Accomplishing that end involves him in one scene after another that is a cinematic explosion, comprising a tremendous number of cuts. The result is that an entire Indiana Jones movie proceeds at the breakneck pace of the three-minute attack sequence in *Star Wars*.

Increasing the tempo in this fashion does more than just provoke a corresponding increase in our blood pressure (those fibrillating old hearts again!). The transition from Bond and Skywalker to Indiana Jones breaks a barrier, crosses over one of those infinitely complex lines we have been considering throughout this work. That barrier, or some ragged stretch of it, is nothing less than what separates one form of humanity from another, or, just perhaps, humanity from Something Else.

Indiana Jones, then, is the next phase (or phase space) of a *Star Wars*-inspired culture. The video arcade and SuperNintendo set in your living room now become the new temples of the technological State, supplanting the increasingly nostalgic Dreamtime temple of the movie theatre. Indy's boyish folksiness and old-fashioned tastes in weapons are not signs that the pendulum of cultural change has swung back in the direction of an earlier, bucolic, normal time. Quite the opposite. The fusion of a down-home character with video arcade imagery and format is another indication that the cultural rug has well and truly been yanked from beneath our feet, that we are not so much entering the next millenium as plunging into it in free fall.

The truth that this close examination of *Star Wars* and Indiana Jones movies reveals is that there is no "normal life," no "real world" to which we can return after exiting the theatre, leaving the arcade, or simply breaking off one of our daily reveries (reveal-eries). Materialist or idealist, pragmatist or dreamer, the distinctions of *-ism* labels fall away when put in the context of several million years of a mechanosemiotic process, a dynamic system of representations which spews out images and identities like some cerebral supernova. Those images and identities (ever-so purposeful plural here!) set the parameters of that twisting, turning, many-tendriled quasispecies it pleases us to call "humanity."

Gone to Look for (Post-Literate) America

So where, then, were those kids in my Burlington, Vermont, bookstore heading when they exited into a world whose conceptual boundaries and cinematic representations are undergoing such rapid change? Where will their bookless bookmarks of Luke, Han, and Jabba take them, and what kinds of meanings will they "read" into their experiences along the way?

In concluding with a few general remarks about the dynamics of the human-machine relationship, what I have called the mechanosemiotic system of representations, the greatest obstacle I

face is the extent to which that topic has already been taken up by the reportorial media and seemingly sucked dry of its implications. "Post-literacy," the "computer age," and "biotechnology," with its specter of cyborganic men and women, are all notions most of us are bombarded with from the first cup of decaffeinated coffee and the morning paper to our Nyquil and the late evening news. I realize it is asking a lot, but I would urge you to try to put all that out of your minds for the time being, and to concentrate on what seem to be the underlying elements in this sodden mass of news about the impact of machines on our lives.

The most misleading aspect of all the reportorial hype is that it is presented as *news*: we are constantly served up shrill, breathless accounts of something dramatically new that is happening to alter our lives (and that thus deserves to count as "news"). This outlook, which inspires stacks of magazine articles, TV documentaries, and books (and the advertising dollars to back them up), misses the absolutely fundamental point that computers, biotechnology, and other gimmicky tokens of (post)modernity are an integral part of a set of cultural processes that are as old as the hills (and a good deal older than many of the quake-created hills around Hollywood). In fact, the cultural processes of what, for want of a longer word, I have been calling "mechanosemiosis," are a great deal older than humanity, since those processes were an indispensable part of its birthing. The hue and cry over "post-literacy" – our kids in the bookstore, Johnny can't read (or write, or count), the educational system is a shambles – must be put in that context.

Recall that the Sumerians introduced the first Western system of writing about five thousand years ago, mere instants on the time scale of hominid evolution. To get where we are today involved millions of years of sentient, tool-making, communicative action by individuals who had not the faintest glimmer of writing. So why make such a fuss about an item in our contemporary cultural repertoire that appeared a relatively short time ago, has transmuted beyond recognition during its brief history (from Sumerian scratchings on clay tablets through monastic scrolls and Gutenberg plates to word-processor programs), and now gives every indication of lapsing back into the specialized activity of a group of scribes who doodle away while most of us . . . do Something Else. After all, the news stories *are* accurate as far as they go: an increasing number of Johnnys can't read (the last survey I remember seeing pegged functional illiteracy among adults in the United States at around thirty percent). Our genus, *Homo*, has been non-literate through so much of its (not "his," or even "hers and his") history, why should we now gawp and shake our heads when reporters train their myopic gaze on early indications of its incipient post-literacy? What is the big deal about reading and writing?

Considering its brief and unstable history, it seems more accurate to regard writing as derivative of other cultural processes than to treat that specialized facility as an indispensable condition of our humanity. The generativity of animals and machines, of group membership and exclusion, and of the creative and destructive forces of nature can be given expression without the use of writing. The history of our species, *Homo sapiens*, is largely a collection of just such non-literate expressions: the Paleolithic cave drawings of Lascaux; the innumerable iconic and abstract artifacts of "primitive" peoples; the institutions of warfare and tourism; and all our monuments, shrines, and cathedrals. If semiotic or semiological approaches to culture have tended to place (a narrowly conceived) narrative and language, and almost always *written* language, at the heart of their theoretical concerns, it is because those approaches have typically taken root and flourished in university departments of comparative literature, languages, and philosophy (Roland Barthes' semiology being a prominent

example). In those cloistered settings Olduwan tool kits, Paleolithic drawings, family life, and race relations are not on everyone's mind (and surely not in everyone's dissertation). *Anthropological* semiotics or cultural analysis as done by anthropologists, however, cannot afford the luxury of the narrow, "cultured" definition of the subject matter of other disciplines. It is simply impossible for an anthropological theory of culture to ignore the fact that an artifactual intelligence – a tool-making consciousness – has been around a lot longer than writers have.

The final lesson of the *Star Wars* trilogy and of the little episode in my bookstore is that the cultural processes involved in generating humanity through its relations with machines – mechanosemiosis – is an endless sorting through and rearranging of the meaningful properties of *artifacts*. Implements, shelters, clothes, as well as the generic "machines" that have come to embody artifactual activity over the last century, all these items of "material culture" once dismissed as lifeless and relegated to the museologist's shelves are the elemental stuff of an emerging anthropological semiotics. In that inventory of artifacts, writing, with all its chameleon-like properties, is one of several particularly intriguing entries. It is not, however, what impelled tens of millions of *Star Wars* viewers through the theatre turnstiles or what motivated the bookstore kids to buy their Jedi bookmarks. The movies, the bookmarks, the R2D2 toys, the Darth Vader masks, even the *Return of the Jedi Storybook* are the productions of an intelligence that never forgets its debt to the synthesis of eye, hand, and object, to the world of artifacts, of which humanity itself is a principal inhabitant.