Still, it all begins with the written word, even in this age of computer-generated imagery where the only remaining limitations are imagination and money.

James Cameron - Director of Terminator 2 - Judgment Day

This is a struggle over life and death, but the boundary between science fiction and social reality is an optical illusion.

Donna Haraway, A Cyborg Manifesto

Terminator 2 - Judgment Day (1991) is one of the largest grossing films of all time, virtually recovering its production cost of $90 million in the first two weeks of release. The unrelenting forward momentum of the action combined with Industrial Light and Magic's mind-boggling special effects are often-cited reasons for the film's success. The LA Times described it as a pure adrenaline rush of motion, and the Washington Post referred to its berserk blizzard of kinetic images. There is however, much more to Terminator 2 than this. The film provides insights into technology and culture in the late twentieth century, including the interlinked themes of technology as savior/destroyer, technology as male, and technology as part of the capitalist dynamic. To consider these themes at a gentler pace than is possible when watching the film, I turned to the screenplay.

The film opens in LOS ANGELES, July 11, 2029 amidst the ashes of a nuclear holocaust:

CAMERA comes to rest on a burnt and rusted tricycle... next to the tiny skull of its owner. HOLD ON THIS IMAGE as a female VOICE speaks:

VOICE

3 billion human lives ended on August 29th, 1997. The survivors of the nuclear fire called the war Judgment Day... lived only to face a new nightmare, the war against the Machines...

A metal foot crushes the skull like china.

[screenplay, scene 4]

I've seen the film, so I remember that on Judgment Day a Reagan-like satellite defense system called SkyNet became self-aware, its creators tried to destroy it, and it fought back. The survivors became a guerrilla army, led by the Che Guevara of the future: John Connor....

DISSOLVE TO:

T-1
VOICE (SARAH CONNOR)

Skynet, the computer that controlled the Machines, sent two termi-
nators back through time. Their mission: to destroy the leader of
the human Resistance... John Connor. My son.

The first terminator was programmed to strike at me, in year
1984... before John was born. It failed.

The second was set to strike at John himself, when still a child.
As before, the Resistance was able to send a lone warrior. A pro-
tector for John. It was just a question of which one of them would
reach him first...

[screenplay, scene 6]

The scene is set for a high-tech chase through the present and a battle between technological evil repre-
sented by Skynet (when will Bill Gates get into satellites?) and embodied in the liquid-metal shape-
changing body of the T1000 model terminator, and technological good as portrayed by Arnold Schwar-
zenegger as the lower level T800 model terminator. This savior/destroyer model presents two radically
opposite views that express our current state of technological “panic”.

Jumping ahead to the end of the screenplay, to the scene in the steel mill, the “good” T800 terminator,
virtually destroyed by this stage, miraculously reroutes its internal power and blasts the T1000 into a vat of
molten metal, thus terminating it: the unstoppable killer has become the unstoppable savior [screenplay, production note, following scene 210]. And stop there it doesn’t, this terminator be-
comes a true savior when it demands that Sarah lower it into the vat, thereby self-terminating.

TIGHT CLOSEUP TERMINATOR, turning towards John.
The human side of his face is in shadow, so we mostly see the
chrome skull and the red eye.

TERMINATOR
It must end here... or I am the future.
[screenplay, scene 212A]

 Terminator commits this sacrifice because he contains the computer chip that would make Skynet pos-
sible so this chip must be destroyed to ensure a safe future. The Terminator carries the burden of the
technological sins of man [sic] and he dies to save us all. In the original screenplay, the ultimately dis-
carded final scene is set again in 2029, but this time children play in a park in a sunny sky while an elderly
Sarah looks on benignly. This scene was discarded because as Cameron states: We decided not to
tie it up with a bow, but to suggest that the struggle was ongoing, and might even be an unending one for us flawed creatures trying to come to terms with
technology and our own violent demons [screenplay, Introduction]. The film ends with a simple
voice over indicating hope for the future, possibly through technology: The unknown future rolls
towards us. I face it for the first time with a sense of hope, because if a
machine, a terminator can learn the value of human life, maybe we can, too
[screenplay, production note, scene 215 ].

The idea that a machine can learn the value of human life better than the humans that con-
structed it, and thereby be humanity’s savior, reminds me of Frankenstein6 -- that great technological
myth of the previous century. Mary Shelley wrote Frankenstein during the Enlightenment period, the
aim of which was to discover the link between matter and spirit, nature and culture... the quest for zero
subjectivity, the missing link between nature and culture, the point where the spiritual would spring
directly from material. Men would then know how to create life, culture, and utopia.
Frankenstein’s creature is the realization of the Enlightenment quest, but one that results in disastrous
consequences. After being animated, the massive, ugly creature escapes and wanders aimlessly: it is a
blank slate, a state of zero subjectivity, upon which cultural codes will be written. He eventually shacks up

T-2
in a shed where he hides and learns about culture and goodness from the poverty-stricken family in the adjacent cottage. He is full of loving for humanity, and good intentions: I felt the greatest ardour for virtue rise within me, but he dare not show himself because of his hideous appearance. At this stage he represents the Enlightenment dream of the rational enlightened man, albeit one with an "ugly" face. After several months in the shed, during which time he has learned to understand English (or is it German?) by spying on the family through a hole in the wall, and has absorbed several classic texts by listening to them read, he presents himself to the old man of the family who is blind. He is welcomed, but other members of the family return, see him as a monster, and he is cruelly beaten and rejected.

At the beginning of Terminator 2, in a flash of lightning, the Terminator is born into our world. Apart from its mission imperatives, which correspond to a kind of hard-wired genetic code, it is also a blank slate, and from the young John Connor he learns the street-smart cultural skills to survive in this world...

TERMINATOR
Affirmative.

JOHN
No, no, no. You gotta listen to the way people talk. See you don’t say like “Affirmative” or some shit like that. You say... no problem.
[screenplay, scene 93]

In between teaching him street-smarts, John teaches Terminator that it is wrong to kill, and in an amusing scene cut from the final film, how to smile. The idea is similar to that in Frankenstein. Of course, Terminator has an advantage over Frankenstein’s creature: it’s not hideous to look at (although not that pretty either). Terminator even turns out to be a perfect replacement for the father John has never met:

SARAH
... Of all the would-be fathers that came and went over the years, this thing, this machine, was the only one who measured up. In an insane world, it was the sanest choice.
[screenplay, scene A109]]

The Terminator turns out to be what Frankenstein’s creature longed to be -- accepted and loved by those who had made him what he was. Apparently in contradiction to Sarah's optimistic view, a few scenes later she has a powerful tour-de-force nightmare about the future Judgment Day nuclear holocaust.

Sarah's voice-over at the end of the film expresses the hope that machines can be our salvation, if only we can give them the right "enlightened" input. Mary Shelley’s book leaves little doubt that man’s playing God with technology will result in a nightmare. Cameron’s film is more ambivalent, presenting, particularly through the character of Sarah Connor, simultaneous dream/nightmare possibilities.
Both Terminator 2 and Frankenstein make it clear that the drive for technological creation and salvation is male. In Frankenstein, Victor Frankenstein exclaims:

No one can conceive the variety of feelings which bore me onwards, like a hurricane, in the first enthusiasm of success. Life and death appeared to me ideal bounds, which I should first break through, and pour a torrent of light into our dark world. A new species would bless me as its creator and source; many happy and excellent natures would owe their being to me. No father could claim the gratitude of his child so completely as I should deserve theirs.

In a scene from Terminator 2 that was filmed, but later cut, Miles Dyson, head scientist at Cyberdyne, an artificial intelligence laboratory and developers of the future SkyNet, discusses his work with his wife:

TARISSA
Miles, it’s Sunday. You promised to take the kids to Raging Waters today.

DYSON
Oh. I can’t, honey. I’m on a roll here.

He takes her hands. We see a childlike excitement on his face. He wants so badly to share the almost orgasmic thrill of discovery, the satisfaction of creation.

DYSON
Baby, this thing is going to blow ‘em all away. It’s a neural-net process—
[screenplay, scene 99]

In another scene that again was filmed and later lifted from the final version, Sarah again launches into a diatribe against Dyson and men in general who do not consider the implications of the technology they create:

SARAH
Fucking men... Men built the hydrogen bomb, not women... men like you thought it up. You’re so creative. You don’t know what it’s like to really create something... to create a life. To feel it growing inside you. All you know how to create is death... you fucking bastards.
[screenplay, scene 137]

It is interesting that these two elements, that deal more directly with the consequences of (male created) technology, were cut as not being relevant to the narrative [screenplay, production note, 178]. Nevertheless, these elements are very relevant to the history of technology. Why do men get off on creating machines and weapons? Why is it mainly men who inhabit artificial intelligence laboratories? This type of male obsession for creation through technology is not limited to characters in novels and movies.

For the last few years I have been studying the literature on artificial intelligence and artificial life and could run off a score of illustrations demonstrating this type of obsession. Here are a few examples:

We would like to build models that are so life-like that they cease to be models of life and become examples of life itself.
Chris Langton

T-4
When I wrote the program I never thought that it would evolve anything more than a variety of tree-like shapes... I still cannot conceal to you my feeling of exultation as I first watched those exquisite creatures emerging before my eyes.

Richard Dawkins, Oxford University Professor

I have toiled with my computer for hours on end, dreaming of creating something that would appear to be alive. I have dreamed of merging with the network.

Andy Cox, investigator in the sciences of the artificial

I wish to build autonomous mobile agents that co-exist in the world with humans, and are seen by humans as intelligent beings in their own right. I will call such agents Creatures....I have no particular interest in the philosophical implications of Creatures, although clearly there will be significant implications.

Rodney A. Brooks, MIT roboticist

The desire to create living and even thinking beings from the ground up, to encode the essence of life into a machine, runs through Frankenstein, Terminator 2, and contemporary research into the sciences of the artificial. The consequences can be disastrous: In Frankenstein, the created creature becomes a ruthless avenger, and in Terminator 2, Skynet’s survival instinct is activated and it unleashes a nuclear holocaust against its creators when they try to destroy it.

A new ecological system is evolving in cyberspace whose DNA is mutable binary information. We have become consumers of this information/knowledge. Knowledge being a post-industrial form of production. Whoever can control this ecosystem and hence the knowledge will control the power. The sciences of the artificial aim to create “beings” that will exist precisely in this binary ecosystem.

Naked greed has been the moving spirit of civilization from the first day of its existence to the present time; wealth, more wealth and wealth again; wealth not of society, but of this shabby individual was its sole and determining aim. If, in the pursuit of this aim, the increasing development of science and repeated periods of the fullest blooming of art fell into its lap, it was only because without them the ample present-day achievements in the accumulation of wealth would have been impossible.

So is that it? A new wave of capitalist expansion presided over by new feudal lords like Bill Gates or his future cyborg incarnation, with the rest of us left looking on, breathless, wallowing in the spectacle? And why not? At least we’ll be provided for with lots of pain-free virtual reality games, pain-free cybersex, and a never ending stream of controlled information from the Microsoft Network. And perhaps by the time Skynet becomes self-aware we’ll all be safely disembodied in the network; let the bomb drop--we’re not coming home. Where do you want to go today?

Perhaps this is a “panic” position. But, the idea of an autogenous Bill Gates Frankenstein Terminator hybrid demonising the networks, self-cloning ad infinitum is scary. I think it is wise to panic at the prospect, but perhaps there are ways we can pass through the current capitalist/technological system to something that will save us from this.
Complete rejection is not possible. There is no outside of the system. There is no new territory to start over.

The way lies ahead, in taking the inventive potential released by capitalism so far that we become so other as to no longer act in the perceived “private” interests of a separate Self that we have in any case already ceased to be (if we ever were it)\(^7\).

Such a way ahead is posited by Donna Haraway in her *Cyborg Manifesto*\(^8\). We must learn to view our technological world from two perspectives: 1) a technological world where we are subject to a domination of informatics and 2) a technological world that might be about lived social and bodily realities in which people are not afraid of their joint kinship with animals and machines, not afraid of permanently partial identities and contradictory standpoints. By adopting these nightmare/dream perspectives simultaneously, like Sarah Connor in *Terminator 2*, we will be better able to unleash new possibilities.

In the late 20th century our close relationship and reliance on machines makes us *already* cyborgs. Haraway’s manifesto is a call for us not to be dominated by something that is already part of us.

> taking responsibility for the social relations of science and technology means refusing an anti-science metaphysics, a demonology of technology, and so means embracing the skillful task of reconstructing the boundaries of daily life, in partial connection with others, in communication with all of our parts\(^9\).

It is time to take responsibility for our technological creations.

*Hasta la vista, baby.*

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**Notes and References**


4. Cameron, op cit. All references to the screenplay in the text are henceforth referenced as “screenplay”.


8. Shelley, op cit, p 123.


10. This research culminated in my *Frankenstein and the Postmodern Prometheans, A Para-Artistic Investigation into Artificial Life* - a multi-media performance at New Langton.
Arts, San Francisco, May 18th, 1995 and a performance/research document. This document is available from the author.


12 Quoted in Levy, op cit. A biology professor at Oxford University, Dawkins is probably best known for his book *The Selfish Gene*, a neo-Darwinian look at evolution, which includes a description of the "meme" - a cultural gene. Dawkins' insects, which he calls "biomorphs" were produced by using a kind of genetic algorithm. A version of the program is included in his book *The Blind Watchmaker*. See also Richard Dawkins, *The Evolution of Evolvability*, in *Artificial Life*, op cit.

13 I have written several computer programs that manipulate images using theories of artificial life. I spent hundreds of hours conceiving and debugging these programs.

14 Quoted in Steven Levy, op cit, p. 271. For a discussion of Brooks' work at MIT see Levy, pp. 273-282. More recent information, including the companies with which Brooks is associated can be found at the MIT AI web site (http://www.ai.mit.edu), you can check out Rodney Brooks' most recent "Creature", Cog, the humanoid robot at: http://www.ai.mit.edu/projects/cog/cog-himself.html.


16 “Where do you want to go today” is the slogan used in Microsoft’s current advertising campaign. The ads imply that Microsoft’s operating system give the user freedom, when in reality all users are tied into a similar way of working.


18 Donna Haraway, op cit.

19 Donna Haraway, op cit, p 181.

**Sources of Images**

All images are from the Terminator 2 screenplay referenced in Note 1.