The Freudian robot: rethinking the human and the machine

Lydia H. Liu

Critics of instrumental reason since the Frankfurt School have a tendency to focus on the subject-object relationship of the post-Enlightenment era, while taking modern technology as more or less coterminous with the rise of the capitalist mode of production and its domination of the world. Martin Heidegger, in contrast, offers a more supple and interesting approach to the problem of technology by insisting that the essence of technology is by no means anything technological. He writes:

> What is decisive in *techne* does not lie at all in making and manipulating nor in the using of means, but rather in the revealing mentioned before. It is as revealing, and not as manufacturing, that *techne* is a bringing-forth.[1]

---

1 Martin Heidegger, *The question concerning technology, and other essays*, translated by William Lovitt, New York, Harper & Row, 1977, p. 58.

Scientific knowledge, for example, cannot be a cause or origin of technology but rather is dependent upon the development of technological devices for testing, measuring, verifying, and so on. By presenting his argument this way, is Heidegger not echoing the concerns of quantum physicists of his own time?

The answer is yes, for in quantum physics, modern scientists had begun to recognize that—in the words of Werner Heisenberg—

> there are situations which no longer permit an objective understanding of natural processes, and yet use this realization to order our relationships with nature. When we speak of the picture of nature in the exact science of our age, we do not mean a picture of nature so much as a picture of our relationships with nature.[2]

He further suggests that the Cartesian division of the world into objective processes in space and time and the subjective mind in which these processes are mirrored—the division of res extensa and res cogitans—is no longer a valid starting point for understanding modern science.

> The scientific method of analyzing, explaining, and classifying has become conscious of its own limitations, which arise out of the fact that by its intervention science alters and refashions the object of investigation (Heisenberg, 1958, p. 29.)

If method and object can no longer be separated out after the discovery of quantum physics, does it follow that our humanistic critique of scientific reasoning and technology must likewise rethink the ground of our critical

---

2 Heisenberg, *The physicist's conception of nature*, London, Hutchinson Scientific and Technical, 1958, p. 28-9.

consciousness? This question will be highly relevant to the study of the psychic life of digital media which I am going to outline below.

We now know that Heidegger's elaboration of *techne* in "The question concerning technology" was an actual response to the philosophical quandaries of quantum physics, more substantial than his occasional mention of it cared to acknowledge. Cathryn Carson's research indicates that when Heidegger was invited to give a public lecture on "The question concerning technology" ("Die Frage nach der Technik") in 1953, he was specifically asked to prepare his lecture in response to Heisenberg's own lecture "The picture of nature in contemporary physics." Both lectures took place in a symposium hosted by the Bavarian Academy of Fine Arts in Munich in November 1953.[3] I suspect that Heidegger's elaboration of the "standing reserve" (*Bestand*) with reference to the hydroelectric plant in the river Rhine in that conversation might have been a reaction to Heisenberg's own allusion to water management in ancient China. It will be interesting to speculate on such a connection, but here I am going to confine myself to Heisenberg's engagement with ancient Chinese philosophy.

107

Heisenberg's "Zhuangzi"

In "The picture of nature in contemporary physics," Heisenberg alludes to an ancient parable told by Chinese

---

3 See Cathryn Carson, "Science as instrumental reason: Heidegger, Habermas, Heisenberg," *Continental Philosophy Review*, December 5, 2009, http://www.springerlink.com/content/e5772880g7750031/.

philosopher Zhuangzi (369-286 BCE). In it, Zhuangzi stages a confrontation between one of Confucius's disciples who argues for the good of technology to save labor and achieve efficiency and his opponent—an old Daoist gardener—who takes an uncompromising ethical and philosophical stance to reject that argument. Through that confrontation, Heisenberg discovers that philosophical reflections upon the existential and moral entanglement between human beings and their machines did not begin with the modern age but went back several millennia to at least the beginning of recorded history.[4] Here is an English translation of the third-century BCE Chinese text:

> Zigong [Tzu-Gung] traveled south, and on his way back through Jin, as he passed along the south bank of the river Han, he saw an old man working in his vegetable garden. The man had hollowed out an opening by which he entered the well and from which he emerged, lugging a pitcher, which he carried out to water the fields. Grunting and puffing, he used up a great deal of energy and produced very little result. "There is a machine for this sort of thing," said Zigong. "In one day it can water a hundred fields, demanding very little effort and producing excellent results. Wouldn't you like one?" The gardener raised his head and looked at Zigong. "How would it work?" "It's a contraption called *gao* and is made of a piece of wood. The wood is shaped so that the back end is heavy and the front end light and it raises the water as though it were pouring it out, so fast that it seems to boil right over! It's called a well sweep." A scornful smile appeared in the old man's face, and he said, "I have heard my teacher say that whoever uses machines [*jixie*] does all his work in the manner of a machine [*jishi*]. He who does his work in the manner of a machine lets his mind run like a machine [*jixin*], and he who carries his machine-like mind around loses his pure innocence. Without the pure innocence, the life of the spirit knows no rest. Where the life of the spirit knows no rest, the Way will

---

4 Werner Heisenberg, *The physicist's conception of nature*, p. 7-31.

cease to buoy you up. It's not that I don't know about your machine. I would be ashamed to use it!"

Zigong blushed with chagrin, looked down, and made no reply. After a while, the gardener said, "Who are you, anyway?"

"A disciple of Kung Qiu [alias Confucius]."[5]

Wearing the mask of the old gardener, Zhuangzi attacks Zigong and his rationalizing of machine to demonstrate where and how Confucius's teaching has erred. Machine, efficiency, and technical skill are each scorned by him in a fierce celebration of the unfettered spirit and the Way or Dao. And it is not for nothing that water management happens to be the center of Zhuangzi's parable in Heisenberg's lecture and connects meaningfully with Heidegger's discussion of water power—"What the river is now, namely, a water-power supplier, derives from the essence of the power station"—in "The question concerning technology."[6] Within just a few years of their exchange at the Bavarian Academy of Fine Arts, the same Zhuangzi text reemerged verbatim in McLuhan's influential book *Understanding media*. Here, McLuhan quotes the ancient text in order to pay his tribute to Heisenberg for teaching us that technological change alters not only our habits of life, but our patterns of thought and valuation.[7]

109

---

5 I adopt here Burton Watson's English translation and have modified his text slightly according to my reading of the original. See Zhuangzi. *The complete works of Chuang Tzu*, translated by Burton Watson, p. 134-5. For Heisenberg's own quote of the Zhuangzi in English translation, see *The physicist's conception of nature*, p. 20-1.

6 Heidegger, *The question concerning technology*, p. 16

7 McLuhan, *Understanding media: the extensions of man*, Cambridge, MA, MIT Press, 1994 (1964), p. 63.

Heisenberg or McLuhan have not turned to the ancient parable to appreciate the old gardener's opposition to machine but used it to articulate their own conflicted views about modern science and technology. There is something in the Zhuangzi that resonates deeply with their understanding of how humans relate to their machines at some fundamental psychic levels. Heisenberg writes: "The far-reaching changes in our environment and in our way of life wrought by this technical age have also changed dangerously our ways of thinking."[8] More than two thousand years ago, Zhuangzi taught us that our machines were not just tools or prosthetic devices that could perform wonderful tasks for humans; they were also agents of psychic (and social) transformation. On the basis of that understanding, the old gardener takes up a philosophical position against Zigong's prosthetic view of machines, which is being dismissed as flawed and ethically unacceptable.

110

Techne: prosthetic extension or psychic transformation?

The point of the Zhuangzi parable, however, can easily be misconstrued. The tension Zhuangzi asks us to consider is not facile opposition between some irrational human love and hate of machines but rather a carefully stated antithesis of two different conceptions of human-machine relationship, one being the prosthetic/instrumental view and the other interactive/ transformational view. And this is what

---

8 Heisenberg, *The physicist's conception of nature*, p. 20.

brought the ancient parable closer to the time of Heisenberg and McLuhan, making it speak to an often reiterated questioning in the discussion of technology: do human beings become masters of their machines, or their slaves?

Relevant to our discussion is the etymology of the word "robot," which originally denotes "slave" through its association with the Czech word robota, meaning "compulsory labor." Some robot engineers such as Rodney Brooks try to distance themselves from the idea that humans use robots as their new slaves; Brooks asks,

> Is there, or will there ever be, enough similarity to us in our humanoid robots that we will decide to treat them in the same moral ways we treat other people and, in varying degrees, animals?[9]

This curious moral stance is complicated by an observation Brooks makes elsewhere in Flesh and Machines. Recalling his childhood experience of watching the Stanley Kubrick film *2001: A space odyssey* (1968) and in particular the robot character HAL, Brooks writes: "HAL turns out to be a murdering psychopath, but for me there was little to regret in that."[10] Not only is HAL a murdering psychopath, but he murders astronauts and engineers whom he is supposed to serve. It appears that something or someone is missing in this parade of robot-slaves and

111

---

9 *Flesh and machines: how robots will change us*, New York, Vintage Books, 2003, p. 154. For further treatment of this and other issues relating to machine and morality, see Wendell Wallach and Colin Allen, *Moral machines: teaching robots right from wrong.*

10 *Flesh and machines*, p. 64.

robot-psychopaths… Recognizing a similarly missing figure in a different context, Jacques Lacan observes:

> When people had become acquainted with thermodynamics, and asked themselves how their machine was going to pay for itself, they left themselves out. They regarded the machine as the master regards the slave—the machine is there, somewhere else, and it works. They were forgetting one thing, that it was they who had signed the order form.[11]

And what are they?

"It's unfortunate that we've become slaves to these damned things [computers]."[12] Admiral Thomas H. Moorer's reply to the investigation by the U.S. Senate Armed Services Committee on the secret bombing of Cambodia in 1969–70 is well worth recalling here. When President **112** Richard Nixon decided to bomb Cambodia and hide that decision from Congress, the computers in the Pentagon were "fixed" to create a double system of accounting— "one to keep the truth from the people, the other to tell the truth to the computer" (*ibid*.). The computers transformed the genuine strike reports about the 3630 recorded B-52 sorties in Cambodia and their bombing of a neutral nation into false reports about strikes in South Vietnam. The US government officials who had access to the secret reports had to believe them because they came directly from the Pentagon's computers.

---

11 Jacques Lacan, *The seminar of Jacques Lacan. Book 2, the Ego in Freud's theory and in the technique of psychoanalysis, 1954-1955*, edited by Jacques-Alain Miller and John Forrester, New York, London, W.W. Norton, 1988, p. 83.

12 "(…) Admiral and computer," *New York Times*, August 14, 1973.

Commenting on that war crime, MIT computer scientist Joseph Weizenbaum wrote: "George Orwell's Ministry of Information had become mechanized. History was not merely destroyed, it was recreated." Those officials "did not realize that they had become their computer's 'slaves,' to use Admiral Moorer's own word, until the lies they instructed their computers to tell others ensnared them, the instructors, themselves."[13] Gilles Deleuze and Félix Guattari would insist on a distinction here: "One is not enslaved by the technical machine but rather subjected to it." [14]

In *Understanding media*, McLuhan suggests

> by continuously embracing technologies, we relate ourselves to them as servomechanisms. That is why we must, to use them at all, serve these objects, these extensions of ourselves, as gods or minor religions. An Indian is the servomechanism of his canoe, as the cowboy of his horse or the executive of his clock.[15]

McLuhan's inversion of the master-slave relationship is provocative and contains some truths in it, but it nevertheless asserts a cybernetic (machine) view of human-machine relationship that puts his momentary nod to Zhuangzi and Heisenberg in a double bind. For it is well known that cyberneticians have conceived of the central nervous system itself as a cybernetic machine like all other servomechanisms

---

13 Joseph Weizenbaum, *Computer power and human reason: from judgment to calculation*, San Francisco, W. H. Freeman, 1976, p. 239.

14 Gilles Deleuze and Félix Guattari, *A thousand plateaus: capitalism and schizophrenia*, trans. Brian Massumi, University of Minnesota Press, 1987, p. 457.

15 Marshall McLuhan, *Understanding media: the extensions of man*, p. 46.

capable of maintaining equilibrium or homeostasis. Norbert Wiener, for example, would have agreed with McLuhan, while Zhuangzi and Heisenberg would have found his mere inversion of a prosthetic view of human-machine relationship just as problematic as the straightforward instrumental view of machine.

Clearly, McLuhan's critique of the technocratic civilization is contradicted by his enthusiastic endorsement of the cybernetics that has been the hallmark of that same civilization. In that sense, McLuhan and many of his followers are still toeing the line of Confucius's disciple Zigong when they repeat *ad nauseam* that the physiological deficiencies of the human species are in need of prosthetic extension through technology. It is one thing to argue that the memory capacity of the human brain can be greatly extended by the increased power of a microchip computer and quite another to argue that the logic of the computer—and communication networks in general—is the same as the logic of the human psyche itself. In fact, the argument of technological prosthesis never works well in the latter case, especially in regard to cybernetic research. The prosthetic argument is actually an alibi for something more fundamental, and this is the cybernetic conception of the human psyche as a computing machine.

By the 1940s, we began to witness the first generation of cyberneticians arriving upon the scene when Warren McCulloch and Walter Pitts, sought to demonstrate that psychic events follow the "all-or-none" law of communication circuits and constructed their formal neural nets isomorphic to the relations of propositional logic. In the early 1960s, AI

114

scientists such as Kenneth Mark Colby and Robert P. Abelson began to develop their cognitive computer programs to simulate neurosis and paranoia. Marvin Minsky, founder of the MIT Artificial Intelligence Laboratory, attempted to derive cognitive models from computation; he calls himself a neo-Freudian. And there is the interesting story of Lacan, who closely followed the work of Norbert Wiener, Claude Shannon, and the cyberneticians of the Macy Conferences as he tried to rethink Freud and advance his own theory of the symbolic order. Where do all these developments add up? Can they tell us something new about the development of digital media that we do not already know? I have proposed to study "the Freudian robot" in my recent work and would like to push this idea further here to allow for a critical analysis of the psychic life of digital media and artificial intelligence. [16]

For there is a great deal more going on—politically, socially, and psychologically—than the perceived need to overcome human physiological deficiencies with technological prosthesis. From the standpoint of Heisenberg, people and their machines are always mutually entangled in the pursuit of scientific knowledge. With the coming of the Freudian robot upon the scene—where "the distinction between us and robots is going to disappear" or has already begun to disappear[17]—the redoubled simulacra of human

---

16 Lydia H. Liu, *The freudian robot: digital media and the future of the unconscious*, Chicago, University of Chicago Press, 2010.

17 Rodney A. Brooks, *Flesh and machines*, p. 236. My interpretation of the disappearance of the human-machine distinction is very different from

machine entanglement are bound to complicate Heisenberg's observation by bringing the extremely fraught neurophysiological and psychoanalytical dimension of that relationship into play.

These days, the public is bombarded with the prophecies of engineers and science fiction pundits who try to persuade us that we are on our way to becoming immortals through the implants and prosthetic extensions they will invent. Minsky, Hans Moravec, Ray Kurzweil, and others have repeatedly announced that human beings will transcend biology in the near future. Kurzweil puts it symptomatically:

> As we move toward a nonbiological existence, we will gain the means of 'backing ourselves' up (storing the key patterns underlying our knowledge, skills, and personality), thereby eliminating most causes of death as we know it.[18]

The familiar psychic defense mechanisms against the death drive that Freud identified long ago bring us face to face with the looming figure of the Freudian robot in Kurzweil and his colleagues. The return of the repressed may well lurk in the shadows of their updated myth of human transcendence in the manner of a pseudo religion.

Minsky and the cognitive unconscious

Marvin Minsky is the most influential pioneer in AI research and the computer simulation of the mind who has sought to embody Freud's discoveries in the conceptual-

---

Brooks's affirmative conception because he does not recognize the Freudian robot in this relationship.

18 Kurzweil, *The singularity is near: when humans transcend biology*, p. 323.

ization and designing of robots. The robot figure HAL in Stanley Kubrick's 1968 film *2001: a space odyssey* was inspired by the AI developments and the actual robots that screenplay writer Arthur C. Clarke saw at the MIT Artificial Intelligence Laboratory. This laboratory was founded and directed by Marvin Minsky.

One question that is seldom raised by those who study the AI field is where Freud stands in Minsky's work on robotics and in the AI research programs initiated by him. From the time he is said to have played a role in Shannon's designing of the Ultimate Machine to the publication of *The society of mind* (1986) and *The emotion machine* (2006), Minsky has long engaged Freud in unique and fascinating ways. His work suggests that Freudian psychoanalysis has shadowed the cybernetic experiments of AI engineers and theorists throughout the second half of the twentieth century down to the present. This effort is bound to raise some questions about the *techne* of the unconscious in digital media.

117

Minsky's early work on randomly wired neural network machine had been inspired by McCulloch and Pitt's speculations about neural nets.[19] Later, he professed conflicting allegiance to McCulloch and Freud and practically characterized his own project as "neo-Freudian."[20] With the AI

---

19 See Minsky's discussion of McCulloch and Pitts in *Computation: finite and infinite machines*, Englewood Cliffs, NJ, Prentice-Hall, Inc., 1967, p. 3266.

20 Minsky, *The society of mind*, New York, Simon and Schuster, 1986, p. 184.

robotics program in mind, Minsky draws on Freud's ideas about the unconscious and tries to reformulate them with the help of Jean Piaget's work on cognition and learning processes. This is an interesting and difficult enterprise. The construction of such robots entails formidable technical obstacles and, more importantly, it raises fundamental philosophical issues about cognition, memory, reflexivity, consciousness, and so on. For example, what makes human beings unique, or not so unique? Or what is it that makes robots endearing or uncanny to humans? In developing his robotic model of the mind, Minsky frames these problems in explicitly Freudian terms, as is demonstrated by the following diagram from *The emotion machine* (Fig. 1).
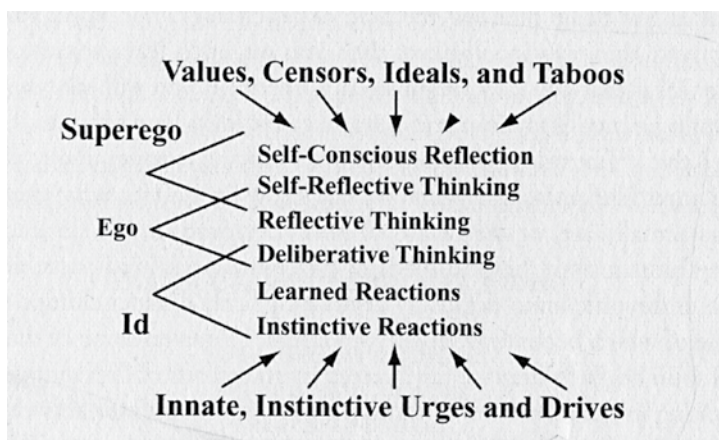
118

Figure 1: Marvin Minsky's simulation model nicknamed the Freudian Sandwich.

Minsky calls his diagram "The Freudian Sandwich," in which the Id, Ego, and Superego are duly replicated in that

order.[21] The main difference is that his particular model—rather than some alternatives—also serves as a model for humanoid robots. The future robot must be equipped with "mental" correctors, suppressors, censors, and so on to allow it to function at a highly intelligent level. This neo-Freudian view leads to Minsky's dismissal of rationality as "a kind of fantasy" (p. 92). Minsky argues that "our thinking is never entirely based on purely logical reasoning" and predicts that "most of our future attempts to build large, growing Artificial Intelligences will be subject to all sorts of mental disorders" (p. 341). More interestingly, HAL-2023 pops up in the midst of his discussion to confirm that "my designers equipped me with special 'backup' memory banks in which I can store snapshots of my entire state. So whenever anything goes wrong, I can see exactly what my programs have done—so that I can then debug myself" (p. 128). If this sounds like science fiction, Minsky proposes that "we must try to design—as opposed to define—machines that can do what human minds do" (p. 107), because until one can simulate the cognitive machinery of the mind in all its respects, one cannot fully understand how the mind works.

Until that moment comes to pass, however, one must be content with human reasoning and theoretical speculation. And this is what Minsky has been doing. His "Jokes and the Logic of the Cognitive Unconscious" merits special attention

---

21 Minsky, *The emotion machine: commonsense thinking, artificial intelligence, and the future of the human mind*, New York, Simon and Schuster, 2006, p. 88.

here, not merely because the author engages with Freud's notion of the unconscious in a more sustained manner than he does elsewhere. More important is his rediscovery of the relationship between nonsense and the unconscious, which has not drawn a great deal of attention from Freudian scholars. In 1905, Freud raised an interesting question about sense and nonsense in *Jokes and their relation to the unconscious*, asking in what instances a joke might appear before the critical faculty as nonsense. He shows how jokes can make use of the modes of thought in the unconscious that are strictly proscribed in conscious thought. The effect of jokes thus has something to do with the repression of unconstrained verbal play and with the mechanisms of psychological inhibition in general. When a child learns how to handle the vocabulary of his mother tongue, it gives him pleasure to experiment with it in play. Freud writes that the child "puts words together without regard to the condition that they should make sense, in order to obtain from them the pleasurable effect of rhythm or rhyme"[22] As the child grows up, this play is brought to a close through the strengthening of the critical faculty or reasonableness, for "all that remains permitted to him are significant combinations of words" (*ibid*.). The preoccupation with meaning and signification in the world of grownups leads to the rejection of pure play as being meaningless and, as a result

---

22 Sigmund Freud, "Jokes and their relation to the unconscious," in *The standard edition of the complete psychological works of Sigmund Freud*, Volume VIII, translated by James Strachey and edited by James Strachey, 24 vols., London, Hogarth Press, 1953-1974, p. 125.

of censorship and self-censorship, the play becomes impossible except on those rare occasions when the inhibition is lifted momentarily by verbal transgression such as jokes (p. 128-9). Condensed with double meanings and ambiguity, jokes can fool the critical faculty so the latter sees only surface meanings and fails to catch the eruption of forbidden thoughts.

Minsky accepts the above explanation and further points out that "Freud's theories do not work as well for humorous nonsense as for humorous aggression and sexuality."[23] It is true that Freud has discussed the distinctions between nonsense jokes and other types of jokes but does not specify which mechanism is responsible for initiating nonsense. Minsky offers a cybernetic explanation by showing **121** that humorous nonsense has something to do with what he terms "frame-shift" control in the cognitive unconscious. He gives the example of "meaningless sense-shifts" from a schizophrenic's transcript in which the patient sees a penny in the street and says "copper, that's a conductor." He then runs to a streetcar to speak to the conductor. Minsky argues that this meaningless frame-shift from one sense of "conductor" to another on the basis of coincidental word-sound resemblance—which we may recognize as the psychic basis of the literary bond uniting the schizophrenic and the poet—can occur only when the "bad-analogy"

---

23 Marvin Minsky, "Jokes and the logic of the cognitive unconscious," in *Cognitive constraints on communication*, edited by Lucia Vaina and Jaakko Hintikka, Boston, Reidel, 1981, p. 175.

suppressor is disabled to enhance the general analogy find-
er (*ibid*., p. 185).

Minsky's formulation of the cognitive unconscious con-
sists of Frames, Terminals, and Network Systems as well
as Bugs, Suppressors, and other mechanisms of a network
of interacting subsystems. His term "the cognitive uncon-
scious" derives from Jean Piaget, whom Minsky often cites
along with Freud. Whereas Piaget introduces a distinction
between affect and intellect as in his use of separate terms
for "the affective unconscious" and "the cognitive uncon-
scious," Minsky has reformulated Piaget's ideas to absorb
affect into the intellectual sphere, hence the Emotion Ma-
chine. Compare Piaget's earlier observation:

> (…) affectivity is characterized by its energic composition, with charg-
> es distributed over one object or another (cathexis), positively or neg-
> atively. The cognitive aspect of conduct, on the contrary, is character-
> ized by its structure, whether it be elementary action schemata, con-
> crete classification, operations seriation, etc., or the logic of proposi-
> tions with their different "functors" (implications, etc.).[24]

The functions of the cognitive unconscious formulated
by Minsky seem not very different from the general work-
ings of the unconscious as originally formulated by Freud
except that Minsky rejects any association of nonsense with
some basic "grammar of humor" or "deep structure." He ar-
gues that there is no single underlying structure from which
all humorous nonsense springs and, even if we look deeper
for that underlying structure, we will still encounter a lack
of unity in the mental event, whether it be Freud's joke or

---

24 Jean Piaget, "The affective unconscious and the cognitive unconscious,"
Journal of American Psychoanalytic Association, n. 21, 1973, p. 250.

Wittgenstein's problem of defining "game." This lack of unity derives from the interplay of sense and nonsense in a complex web of relations among laughter, faulty reasoning, taboos and prohibitions, and unconscious suppressor mechanisms in the unconscious. For that reason, the pursuit of semantics can never get us very far when the "clarity of words is itself a related illusion" as far as the cognitive unconscious is concerned (p. 189). The first-generation computer simulation of verbalized beliefs was built just upon such an elaborate illusion.

From the standpoint of psychoanalysis, Minsky's psychic machine—or at least his conceptualization—comes closer than the earlier computer modeling of verbalized beliefs to embodying the dynamic of sense and nonsense in the layered networks of the cognitive unconscious. Minsky does not shun complexity nor does he approach the cognitive unconscious via semantics and established concepts. The latter—verbal sense and nonsense—can be explained by the complex pathways of the interconnected network systems in the unconscious, but not the other way around, which has been the mistaken approach represented by computer simulations built by Kenneth Mark Colby and other AI psychiatrists who fetishize semantics. How large and how complex are the interconnected network systems in the human cognitive unconscious? No one has an answer yet. Minsky speculates that "it would take more than a million linked-up bits of knowledge, but less than a billion of them, to match the mind of any sage."[25] Would this

25 Minsky, Introduction to Marvin Minsky, ed., *Robotics*, New York, Anchor Press, 1985, p. 16.

not put the computer simulation of the human mind out of the question? Minsky believes that such a task is indeed difficult and complicated but not out of reach.

To design machines that can do what human minds do in Minsky's words is to build the Freudian robot of the future. We must ask, however, where the science fiction will end and virtual reality begin. And why humanoid robots? Minsky replies that this has something to do with our dream of immortality. If the question is "Is it possible, with artificial intelligence, to conquer death?" his answer is an unequivocal yes.[26] Minsky predicts that human beings will achieve near-immortality by using robotics and prosthetic devices. We will be able to replace all damaged body parts, including our brain cells, and live a healthy and comfortable life for close to ten thousand years (*ibid.*, p. 303). And we can even transfer our personality into the computer and become computers—i.e. Freudian robots—and "we will be able to install in a human form an intelligence uncannily close to our own" (p. 302). The word "uncannily" slips out from somewhere to recast the extraordinary ambition of AI research in less sanguine terms if we remember what Freud has said about the uncanny. A self-styled neo-Freudian, Minsky has somehow neglected to consider the mechanisms of repression with respect to death. And what would be the place of the "uncanny" once death is conquered? Can death be conquered? Is the will to the mastery

124

---

26 Minsky, "Our robotized future," *ibid.*, p. 298.

of the unconscious but another manifestation of the death drive that Freud has discerned in human civilization?

Conclusion

These questions lead me to believe that the study of the Freudian robot promises a firmer and more critical grasp of the precarious nature of our networked society than can reasonably be accommodated by the human-machine competition theory (Hubert Dreyfus, John Searle, *et al*.) of what computers can or cannot do, or Donna Haraway's celebration of the cyborg, or the transhuman variety predicted by others. It seems to me that the idea of the cyborg or transhuman obfuscates the political and psychic foundations of human-machine entanglement in the digital age more than it clarifies it. For Haraway, the cyborg is "a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction."[27] And she is right to point out further that writing is preeminently the technology of cyborgs. But she goes on to assert that

> cyborg politics is the struggle for language and the struggle against perfect communication, against the one code that translates all meaning perfectly, the central dogma of phallogocentrism. This is why cyborg politics insists on noise and advocate pollution, rejoicing in the illegitimate fusions of animal and machine (Haraway, *op. cit.*, p. 176.)

This may sound empowering as far as the rhetoric goes, but until we figure out what kinds of psychic and political

---

27 Donna Haraway, "A cyborg manifesto: science, technology, and socialist-feminism in the late 20th century," in *Simians, cyborgs and women: the reinvention of nature*, New York, Routledge, 1991, p. 151.

transformation remain open and available to cybernetics and digital media, it is unlikely that Haraway's cyborg can do better than become a Freudian robot and submit to the compulsion to repeat in the feedback loop of human-machine simulacra.

Ultimately, we ought to be concerned with the political consequences of an emerging society of Freudian robots, which is where American society is headed and attempts to lead the world. It is not for nothing that the sciences of robotics, artificial intelligence, and neurophysiology have served the defense and naval research programs so well and been generously rewarded with grants and taxpayer's money. In fact, many of their pundits do not feel any qualms about their participation in the imperial domination of the world and the universe.[28] Would democracy still have a substantial meaning for a society of Freudian robots who are consumed by the desire to control, militarily or otherwise, and are ultimately driven by the cybernetic unconscious?

126

---

28 The majority of the AI researchers and cyberneticians have participated in such programs and benefited from such grants. Kurzweil has mentioned his own role in the five-member Army Science Advisory Group (ASAG) while discussing smart weapons in *The singularity is near*, p. 3305. One courageous dissenter I have come across is the late exiled German-Jewish scientist Joseph Weizenbaum at MIT, the famed inventor of the first mind simulation program, ELIZA. For Weizenbaum's scathing criticism of his MIT colleagues and technological messiahs whose work merely justifies military spending and masks real political conflicts, see Weizenbaum, *Computer power and human reason*, p. 241-57.