Replaying Turing's Imitation Game[¤]

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As a software designer I have a need to try to understand the social and political construction of the software that I design. I am engaged in an ironic re-coding of artificial intelligence computer programs. I hope that my artificial intelligence re-codings will function in a provocative manner similar to the way in which Donna Haraway's "Cyborg Manifesto" provokes both projects of construction and deconstruction. Haraway and her colleagues have managed to appropriate and ironically recode the cyborg which was, initially, a Cold War military-sponsored, space program research fantasy. To re-code, I find it necessary to re-read artificial intelligence (i.e., AI) through the lens of a post-structuralist feminism. My presentation today is a re-reading of AI's founding essay: namely, British mathematician, Alan Turing's 1950 essay for the journal *Mind* entitled "Computing Machinery and Intelligence."

In the 1950 essay, Turing proposes a test to determine if a computer is intelligent. His test is based upon a parlor game. I will use Turing's words to describe the game and the role he thinks it could play in determining the answer to the question "Can machines think?"

> The new form of the problem can be described in terms of a game which we call the "imitation game." It is played with three people, a man, a woman, and an interrogator who may be of either sex. The interrogator stays in a room apart from the other two. The object of the game for the

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> interrogator is to determine which of the other two is the man and which is the woman.
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> It is [the man's] object in the game to try and cause [the interrogator] to make the wrong identification.
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> The object of the game for [the woman] is to help the interrogator.
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> ...
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> We now ask the question, "What will happen when a machine takes the part of [the man] in this game?" Will the interrogator decide wrongly as often when the game is played like this as he does when the game is played between a man and a woman? These questions replace our original [question], "Can machines think?" [Turing: 433-434]

Turing intended the man, in the original game, to play the role of a woman. The point of this being that both the man and the woman are suppose to try and convince the interrogator that they are the woman. In other words, Turing's original proposal was, essentially, to build a machine to function as a man pretending to be a woman

Turing's essay has been as formative of AI's conception of machinery as Jacques Lacan's writings have been for film theoretic analyses of the cinematic apparatus. What is uncanny for the reader who follows both AI and film theory is how similar AI researchers' response to Turing resembles Christian Metz' and Jean-Louis Baudry's response to Lacan. As Constance Penley points out in her 1985 article entitled "Feminism, Film Theory, and the Bachelor Machines," Metz and Baudry rewrite Lacan's "Mirror Stage" narrative so that the woman's (i.e., the mother's) function is automated out of the loop; in their theories the central

roles are played by the solitary spectator and the cinematic apparatus, which stands in for Lacan's mirror. AI researchers have chosen to re-member Turing's proposal, not as a variant of the "imitation game" which involves (1) a machine acting as a man playing a woman; (2) a woman; and, (3) an interrogator, but rather, as something that they refer to as the "Turing Test" which involves only two players: a machine and a human. The obvious reading that Turing advocates the replacement of an "intelligence test" with a game of fantasy and desire that explicitly explores the issues of gender differences as masquerade has been almost completely ignored by AI researchers.

AI researchers have functioned as a "bachelor machine" to orchestrate the woman and issues of gender difference out of their re-narrations of Turing's imitation game. These re-narrations usually invoke one of three rhetorical strategies in order to overlook the role of the "woman" and the issue of "masquerade" in the proposed game. The first, and most common strategy is ellipsis; Turing's proposal is recapitulated as a test in which a machine is programmed to function as a human; no mention of gender is made. The second, very common strategy is to acknowledge the fact that Turing's proposal relies on an analysis of gender, but then denies its importance to Turing's argument.

This second strategy strikes me as absurd since it is based upon a speculation in direct contradiction to Turing's hypothesis that gender leaves a trace even on electronically-mediated language. Nevertheless, this assumption is common to many AI writings about the so-called "Turing Test." Linguistic research which directly contradicts the assumption of gender-neutrality of language employed in this strategy can be found in, for example, the work of Robin Lakoff and her students and colleagues. For instance, Susan Herring, Deborah Johnson and Tamra DiBenedetto argue in their 1995 article entitled ""This Discussion Is Going Too Far!": Male Resistance to Female Participation on

the Internet" that male-presenting contributors to two on-line discussions employ a set of discursive maneuvers to effectively silence the female-presenting contributors while the female-presenting contributors enact support for one another and do not attempt to silence the male-presenting contributors [in *Gender Articulated: Language and the Socially Constructed Self*]. This, it seems to me, is exactly the sort of gender difference that Turing hypothesized.

The third, most recent, and most sophisticated response to Turing, discusses Turing's imitation game as a game based on gender difference and even cites the work of Robin Lakoff, but does so only to ultimately refuse both Turing's imitation game and the significance of Lakoff's research program. Patrick Hayes' and Kenneth Ford's position paper to last year's [1995] International Joint Conference on Artificial Intelligence is such a response.

Hayes and Ford's position paper is a rare find in AI publications not just because it pays attention to what Turing actually wrote, but also -- more significantly -- because it explicitly cites and responds to feminist scholarship. It is, what I see as, a "crack" in the "bachelor machine" of AI which has, until recently, either ignored or silently appropriated feminist research. Hayes and Ford's paper can be seen as a desperate move to foreclose, within AI, issues of gender and cyberspace at exactly the same moment when feminist scholars, like Sherry Turkle and Sandy Stone, are theorizing and illustrating gender's central role in the on-line imitation games played in MUDs, MOOs, and other virtual systems.

Hayes and Ford's essay can be read as a response to an article that they explicitly reference; namely, feminist philosopher, Judith Genova's 1994 paper entitled "Turing's Sexual Guessing Game" which was published in the journal of *Social Epistemology*. By highlighting, among other issues, Turing's gay sexuality,

Genova shows how the replacement of an "intelligence test" with a "passing game" was central -- not serendipitous -- to Turing's proposal.

Genova sensitively reads those parts of Turing's essay that have been glossed over by the AI community. However, I hesitate to re-enact her reading tactics because they rely on a conception of Turing's personal life and intentions as ultimately definitive of the limits and possibilities of Turing's essay.

A reading, like Genova's, which attempts to understand Turing's essay by reading it as autobiographical, foregoes any possible pleasures and advantages which might be found in an ironic appropriation of the text. Furthermore, a "literal" reading of Turing risks encouraging an absurd research program; specifically, Pygmalion's goal of the mimetic rendering of a woman.

To illustrate that such a research project is not necessarily a thing of the past I cite Sherry Turkle who quotes Lenny Foner who quotes Michael Mauldin, the developer of a system called Julia that is programmed according to a quite literal interpretation of Turing's original proposal. Mauldin extracted the following quotes from an on-line interaction the computer program Julia had with a human who is here called "Barry." Over the course of five days in July 1992, "Barry" tried to seduce Julia. Here is a snippet from July 15th [1992]:

> Barry says: "Hello, how are you?"
> Julia says: "Hello Barry."
> Barry says: "Are you a virgin?"
> Julia says: "As far as you are concerned Barry, I always will be."
> [Turkle, *Life on the Screen*: 91]

After five days of conversation, "Barry" states that he thinks Julia is a woman, not a computer program. One might be tempted to see this as a "successful" play of

Turing's imitation game. However, I think a more productive line of thinking is possible by following Donna Haraway's reading strategies.

While Haraway explicitly acknowledges that the term "cyborg" was coined by Manfred Clynes and Nathan Kline in a 1960 research report [Haraway, "Cyborgs and Symbionts: Living Together in the New World Order," *The Cyborg Handbook*: xv], she does not delve into their personal lives in order to determine the possible significance of "cyborgs" for feminist research or the possibility of what Sandra Harding has called a "successor science." Instead, as she repeatedly states in her "Cyborg Manifesto," Haraway explains her use of "cyborg" as an "ironic myth" [Haraway, "Cyborg Manifesto": 149]. Analogously, I am suggesting here an investigation into Turing's imitation game as an "ironic myth" of on-line subjectivity. I should add though that I do not want to *equate* -- as Genova does [321] -- Turing's thinking with Haraway's cyborg, even though that too may be a productive line of thought.

Seen as an ironic myth, one can begin to investigate the narrative space [a la Stephen Heath] of Turing's game. What I intend to do is take Turing's game apart by examining it, in turn, from three positions: the role of the simulacrum, the role of the woman, and the role of the interrogator. In short, the suggestion is analogous to the sort of analysis Brenda Laurel advocates in her book *Computers as Theater*. But, rather than Laurel's choice of Aristotelian theater, I might choose *improv* or the epic theater of Bertholt Brecht because the interesting part of the game is not the use a machine to perfectly suture the interrogator into a belief in the "reality" of the simulacrum, but rather the sorts of fantasy, alienation, and defamiliarization that those performing the roles of the interrogator and the woman undergo.

Within the imitation game, the role of "woman" is perhaps the most interesting. Rather than being constructed around a lack or in opposition to the

role of "man," "woman" is in opposition to a simulacrum (i.e., either a man or a machine attempting to perform a simulation of "woman"). This construction of "woman" is difficult to discuss using the standard tools of film theoretic analyses of subjectivity; namely, Lacanian, Hegelian, or Marxist dialectics. Instead, one might recognize that, classically, an opposition to a simulacrum is not part of any of these dialectics, but is, rather, a Platonic dialectic.

To elaborate on the significance of an opposition to a simulacrum, I want to follow Gilles Deleuze in his explanation of the difference between Hegel's dialectic and Plato's. Hegel's dialectic moves from *thesis* to *antithesis* to *synthesis*. Yet, at the moment of the formulation of the antithesis, the *negation* of the thesis, what would happen if negation is an impossibility? In the present case, the question would be specifically this: what if the role of "man" does not exist as the negation of the role of "woman"? For Plato, the contemplation of such an impossibility never arises because negation is *not* the operation invoked to produce an alternative to the thesis. Instead, Plato relies upon the invocation of *myth*. Deleuze tells us,

> Thus the myth constructs the immanent model or the foundation test, according to which the claimants must be judged and their claim measured. It is on this condition that division pursues and achieves its goal, which is not the specification of concept but the authentication of Idea, not the determination of species but the selection of lineage.[1]

The invocation of a myth allows the conceptualization of not just one alternative (the negation), but many which are all interrelated in some narrative

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1 Gilles Deleuze "Plato and the Simulacrum" Rosalind Krauss (translator) *October* 27 (Winter 1983), p.47.

and functional structure. Plato uses the mythic, narrative structure to establish an ordering on the alternatives. Last, for Plato -- according to Deleuze -- in any such ordering of preference, are the *simulacra*, roughly those *personae* who belong to other myths not selected or who belong to no myths whatsoever.[2] In short, what is quite interesting about role of "woman" in Turing's imitation game is that it is not constructed against the role of "man," but is, rather structured around the performance of gender and dialectically opposed to a simulacral performance.

To rewrite Turing's conception of "woman" in this manner so that it begins to sound similar to, for example, the sort of Nietzschean/Foucauldian vocabulary Judith Butler uses in her description of a performative notion of gender [*Gender Trouble: Feminism and the Subversion of Identity*] is, perhaps, stretching things a bit far. But, then again, to appropriate Turing's game as an "ironic myth" is, I think, an activity of "taking things too far" for provocative ends.

I want to investigate the second role of Turing's game, the simulacrum, by looking at the first question that Turing proposes the simulacrum might be given by the interrogator:

> [The interrogator asks]: Will [you] please tell me the length of [your] hair? It is the [simulacrum's] object in the game to try and cause [the interrogator] to make the wrong identification. [The simulacrum's] answer might therefore be

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2 "We can thus better define the whole of the Platonic motive -- it is a matter of choosing claimants, of distinguishing the good from the false copies, or even more, the always well-founded copies from the simulacra, ever corrupted by the dissemblance. It is a question of insuring the triumph of the copies over the simulacra, of repressing the simulacra, of keeping them chained in the depths, of preventing them from rising to the surface and "insinuating" themselves everywhere." Gilles Deleuze "Plato and the Simulacrum" Rosalind Krauss (translator) *October* 27 (Winter 1983) p 48

"My hair is shingled, and the longest strands are about nine inches long."

[Turing: 433-434]

Remarkably -- at least from the perspective of standard AI readings of the text -- the first thing that Turing posits with this question is the existence of a "virtual body" for the simulacrum. The "virtual body" invoked here is that of the simulacrum, but one could easily argue that the other roles will have virtual bodies too. By "virtual body" I mean something analogous to what Sandy Stone has coined in her analysis of phone-sex work.

Finally, the third role in Turing's game, the interrogator, strikes me as most analogous to the spectator or viewer in film and television theory. Certainly one can follow Laura Mulvey in establishing that the three processes of identification, voyeurism, and disavowal or fetishism are at work on the interrogator. However, if one attempts an exhaustive comparison of the roles of interrogator and film spectator, a difference will be found, I claim, around the issue of suture. Using Kaja Silverman's extension of Emile Benveniste's terms one can postulate the existence of (1) the speaking subject, (2) the subject of speech, and (3) the spoken subject. Unlike the viewer, when the interrogator assumes the role of the speaking subject, and produces a subject of speech (through the use of pronouns, or what Roman Jakobson refers to as "shifters"), the apparatus -- or, in this case, the simulacrum -- can respond by accepting the position created. In other words, the interrogator, but not the film viewer, can initiate the interpellation of the simulacrum or apparatus. In the world of cinema, it is usually assumed that it is only the apparatus which can interpellate the viewer. This power comes from the use, by the interrogator, of, for instance, a pronoun which is then "misrecognized" (in Lacan's terms) by the simulacrum as a reference to the simulacrum.

It appears to be the case that even the earliest AI attempts at Turing's game (e.g., Joseph Weizenbaum's 1966 Eliza program) acknowledged this power of the interrogator and, in the case of Eliza, almost the entire database of responses was built to defer or explicitly stop the interrogator's attempts to interpellate the machine. Here is a short snippet of two classic AI programs in dialog with one another. One program is Eliza (which is an attempt to simulate a Rogerian therapist) and the other is Kenneth Colby's program called Parry, which was an attempt to similate paranoid behavior. Of course, it is a play on Turing's original game to have the programs dialog with one another -- each, in turn, playing the role of interrogator. Note how both programs avoid directly responding to the other's use of the pronoun "you."

Parry: I don't understand your motives.

Eliza: Why don't you understand my motives?

Parry: Shouldn't I be?

Eliza: Why do you say that just now?

Parry: That's just the way it is.

Eliza: Suppose that's just the way it were not.

Parry: So?

Eliza: I am not sure I understand you fully.

Parry: You harp on the same questions too much.

Eliza: What does that similarity suggest to you?

Parry: I don't get you.

Eliza: Do you wish that you did get it?

[Norvig: 153]

Admittedly, what I have presented today is only a quick sketch of the three subject positions or "roles" of Turing's imitation game. To summarize then, this presentation has been an attempt to perform two pieces of work. Firstly, to point out how artificial intelligence researchers have functioned as a bachelor machine to automate the woman's role out of Turing's picture. Secondly, to contribute towards an ironic appropriation of Turing's imitation game for the uses of a feminist-inspired conception of subjectivity. Surely, Turing's original proposal is not a piece of feminist scholarship, but it is my hope that by pulling Turing's essay apart from multiple points of view, one can reconfigure the pieces into a provocative alternative to contemporary work in artificial intelligence.