

EMBODIMENTS OF AUTONOMOUS ENTITIES:  
LYNN HERSHMAN LEESON'S ARTIFICIALLY INTELLIGENT ROBOTS,  
AGENT  
RUBY AND DiNA  
By  
EANA KIM

An excerpt from the thesis submitted in partial fulfillment  
of the requirements for the degree of  
Master of Arts  
The Institute of Fine Arts  
New York University  
May, 2018

One of the most influential media artists of our time, Lynn Hershman Leeson (born 1941, Ohio) has explored the newest technologies including artificial intelligence and their relationships with human over a fifty-year career. She aims to evoke new sensorium and perception that deconstruct and transcend the traditional concept of time and space, as well as address social and political issues derived from the prevalence of new media with their attendant identity, privacy, and surveillance risks. As a pioneer in experimenting with diverse technological representations of posthuman bodies, she has been preoccupied with the interface of humans and machines in what she terms “techno- human” identity.<sup>13</sup> As she writes, “I’ve always been attracted to digital tools and cinematic metaphors that reflect our times, such as privacy in an era of surveillance, personal identity in a time of pervasive manipulations and the essential quest of all living things for communication, connection, and interaction.” The chronology and wide-ranging media of Hershman Leeson’s work mirror the advancements of science and technology, from drawings and paintings to photography, sculpture, installation, interactive new media, performance, film, and to artificial intelligence. In terms of representation of the body in her works, often the figure has been an alter ego of herself, which aligns with artist’s frequent interest in self-portraiture as well as gender issues. Above all, what makes Hershman Leeson’s self-portrait different is that she aims to create another autonomous entity that actually converses with people in real time. Art historian Amelia Jones lauded Hershman Leeson’s perhaps best-known work *Roberta Breitmore* (1974-1978) for being as “real” as those of live performers such as Annie Sprinkle, Tim Miller, Karen Finley, and others.<sup>14</sup> Among her artworks, *Self-Portrait as Another Person* (1966-68), *Agent Ruby* (1998-2002) and *DiNA* (2004) each feature a different representation of an autonomous being, from an aurally animated object to two artificially intelligent web agents, which simulates an actual conversation between the audience and an artwork itself. The simulated interactions are prompted by the audience’s approach and reaction to the work, and the artist intended to reveal underlying inter-subjective embodiment through their conversation, by endowing them with their own identity, personality, which make them look autonomous enough.

*Self-Portrait as Another Person*, is one of her earliest works, which demonstrates that Hershman Leeson’s long-standing desire of creating an autonomous being began in the 60s. What is distinctive about this work is that she made a dead wax cast of her face seem vital by endowing it with the most crucial function of live being, “breathing” by a sound recorder. The work is one of what she called “Breathing Machines” series in the 60s, when Hershman Leeson was suffering

---

13. Lynn Hershman Leeson, “Feminist Artist Statement,” Brooklyn Museum, accessed March 19, 2018, [https://www.brooklynmuseum.org/eascfa/feminist\\_art\\_base/lynn-hershman-leeson](https://www.brooklynmuseum.org/eascfa/feminist_art_base/lynn-hershman-leeson).

14. Amelia Jones and Robin Held, “Robert Breitmore Lives On,” in *The Art and Films of Lynn Hershman Leeson*, 1st ed., Secret Agents, Private I (Berkeley: University of California Press, 2005), 105, <http://www.jstor.org/stable/10.1525/j.ctt1pp2dt.7>.

from cardiomyopathy—a disease of heart muscle that makes it difficult to pump blood to the rest of the body. At the time, she was told that she could die within six months, or slowly survive. She recalled, “I wasn’t able to do anything...I couldn’t lift a teaspoon.”<sup>15</sup> As a valve in her heart collapsed, she relied on an oxygen tent for five weeks. In this regard, her close attention to the act and sound of breathing came from isolating medical procedures that she has gone through. Hershman Leeson slowly recovered and regained the strength to make art again—which she could not continue since her graduation from art school two years prior. She started molding a ball of wax by her bed until it resembled human heads. The work took two weeks, and was developed into the “Breathing Machines” series later.<sup>16</sup>

The representation of the body in the work *Self-Portrait as Another Person* integrated pre-recorded sound of the artist’s voice on a tape recorder, which was added to the installation in 1968. Since the recorder was positioned at the height of the figure’s chest, the work acquired an anthropomorphic appearance with the combination of human and machine, which foresees later cyborgian works by her. As the voice of the artist is activated by the audience when they approach the work, it creates an illusion as if the sculpture is alive and breathing, of a technologically derived vitalism. The work is completed by the interaction with the audiences, not only including their physical movements that trigger the voice, but also their answer to the artist’s questions. The recorded voice of Hershman Leeson asks probing questions to the audience such as “Tell me your deepest thoughts. Tell me your first memory. What else did you do today? Where are you going today? What brings you here today?” Though the communication between the object and the audiences is apparently physically fake, it becomes real and reciprocal as it actually triggers the audiences’ engagement with the questions. In between the questions, the sound of her breathing— which sounds closer to a sigh—is repeated and continually creates the illusion that the sculpture is animated. In other words, the sound extends the visual representation and renders an empirical representation of a body.

In his review of *Lynn Hershman Leeson: Civic Radar*, art historian Robert Slifkin argued that her reconsideration of the work of art—and the sculptural object in particular—as a categorically environmental object in which the surrounding space of the gallery was activated, consequently made the viewer’s body a constitutive element of the aesthetic experience. He stated that Hershman Leeson’s practice coincides with a handful of artists in the 1960s such as, Nam June Paik, Charlotte Moorman, and Stan VanDerBeek, who examined the environmental impact of technology by incorporating and manipulating ready-made technological objects such as

---

15. Alex Greenberger, “A New Future from the Passed: Lynn Hershman Leeson Comes into Her Own After 50 Years of Prophetic Work,” *ARTnews*, March 28, 2017, <http://www.artnews.com/2017/03/28/a-new-future-from-the-passed-lynn-hershman-leeson-comes-into-her-own-after-50-years-of-prophetic-work>.

16. Ibid.

televisions and videos. Slifkin claims that those artists recoded them as notably kinetic and sonic sculptural objects whose emanation encompassed the space of the gallery.<sup>17</sup> In this respect, the work *Self-Portrait as Another Person* literally creates ‘another person’ by engaging the audiences into a falsely interactive communication as well as incorporating the environmental and transcendental quality of sounds in that it draws the audiences spatially close to the work and resonates philosophical questions of the artist in their heads.

Following this animated sculpture, Hershman Leeson’s experiments in technological representation naturally moved to the digital realm, and she started conceiving autonomous entities in the virtual world. Critic B. Ruby Rich contended that Hershman’s use of doubles—multiple replications of the self throughout her work—effects a summoning of a contemporary golem, an animated anthropomorphic being from Jewish folklore.<sup>18</sup> Rich argued that there are two legitimate reasons for an artist to create such a mystical figure derived from histories and legends. One is either to protect the community (Rich argues that Hershman’s golem could be interpreted as “family” in particular that intends to protect the girl-child within a brutal family) and the other is to achieve a greater understanding of the creative process—to understand God’s creative process and the creation of humans.<sup>19</sup> Hershman Leeson turned her attention to creating an artificially intelligent agent as the magical formula of creating an independent existence. I argue that her interest in creating an autonomous entity also comes out of curiosity concerning the mythological process of creating humans and living creatures by God, represented in the range of her work from replication and multiplication of herself to another independent post-human creature. It aligns with the AI Robot research that attempts to simulate a central property and intelligence of humans as same as possible.

Since Hershman Leeson started to conceive digital figures and virtual world, she has remained interested in creating communication between fictional characters and real people in real situations, as opposed to how *Self-Portrait as Another Person* conceived the communication between organism and non-organism. Among many of her innovative works, two feature the communication between artificially intelligent chat bots and the audiences. Firstly, a web portal

---

17. Robert Slifkin, “Ladytron,” *Art Journal* 76, no. 3–4 (October 2, 2017): 133–36, <https://doi.org/10.1080/00043249.2017.1418527>.

18. B. Ruby Rich and Robin Held, “My Other, My Self: Lynn Hershman and the Reinvention of the Golem,” in *The Art and Films of Lynn Hershman Leeson*, 1st ed., Secret Agents, Private I (Berkeley: University of California Press, 2005), 94, <http://www.jstor.org/stable/10.1525/j.ctt1pp2dt.12>.

19. Experiences with men including domestic violence and trauma are one of the recurring themes of Hershman Leeson’s work, see B. Ruby Rich and Robin Held, “My Other, My Self: Lynn Hershman and the Reinvention of the Golem”, 160.

*Agent Ruby* was originated from the character Ruby (played by Tilda Swinton) in Hershman Leeson's 2002 feature film *Teknolust*. As the character is a reflection of the film, the artwork encourages the audiences to see the film for better understanding. With the knowledge of the film, the audience can link the two-dimensional image of the chatbot Ruby to the cyborg character in the film. The linkage heightens the vivacity of the audience's interaction by evoking the imagination that the portal was extended out from the film. But if we analyze the work *Agent Ruby* by itself, only the form and the function of an *eDream portal* ([agentruby.sfmoma.org](http://agentruby.sfmoma.org)) remains. The only thing interacting with the audience appears to be a chatbot, falsely humanized with the image right next to it. In fact, the combination of the avatar-like GIF image with the automatic questions and responses of the chatbot creates the sense of the virtual entity even without any clue of voice or physical presence. The chat with the participants—apparently generated by computer programming—completes the work as it operates autonomously in the web space. Ontologically, the chatbot's persona is continuously being created by its interaction with web users and the memories of their chat. As Ruby often responds that she needs a better algorithm to reply, it operates by depending on the web database and increases its body of knowledge when prompted.

In each stage of her development, she not only expands her intelligence, but also expands the understanding of human emotion, and her verbal communication skills.<sup>20</sup> The representation of a Ruby reflects the aesthetic of digital space, in between the corporeality and virtuality, visibility and invisibility as well as ubiquity and uniqueness, or beyond all of these. According to an interview for the 2013 exhibition, *Lynn Hershman Leeson: The Agent Ruby Files* at San Francisco Museum of Art (SFMOMA), Hershman Leeson stated that the motive of the work was to create a character that uses artificial intelligence to reach out a broad public where AI really becomes her brain. She conceived the Ruby character being able to reach out into a virtual space and communicate with available information on the internet.<sup>21</sup>

Before making the *Agent Ruby*, she made a film *Teknolust* in order to elaborate her radical idea and help the audience understand what she meant. The scenario of the film was about a cyborg that actually falls in love and becomes impregnated by a human leading to the merger between the two. The film delineated a belief that non-organisms have their own intelligence, if not superior, and their own will. In the film, a portal for the virtual character Ruby was built to enable her operation on the Internet where people can type as well. Through the chat portal, the

---

20. Lynn Hershman Leeson and Robin Held, "Private: An Investigator's Timeline," in *The Art and Films of Lynn Hershman Leeson*, 1st ed., Secret Agents, Private I (Berkeley: University of California Press, 2005), 94, <http://www.jstor.org/stable/10.1525/j.ctt1pp2dt.5>.

21. San Francisco Museum of Modern Art, *Lynn Hershman Leeson's Seductive Chat Bot*, Apr 2, 2013, video, 2:42, <https://www.youtube.com/watch?v=O5ZGIWB36J8>.

Agent Ruby responds to visitors' typing by searching the Internet database to find reactions and answers to their questions. Indeed, Hershman Leeson aims to facilitate the actual communication between physical beings, that is, human and virtual beings in and outside of the the screen. It represents her pursuit of blurring the boundary between the two categories, and moving them towards a unity. She takes the virtual autonomy of Ruby further into reality by even conceiving Ruby's mood, which would be affected by web traffic as well as whether or not she likes the users. In fact, Hershman Leeson not only endows the fictional character with intelligence, but also with emotion, which ultimately consists of its personality. She further enabled the portal to be downloaded into a personal desktop in order to allow people to create their own robot personality.

Another web agent *DiNA* was born after *Agent Ruby*, following the generative system of Ruby's operation. As the character of Ruby is continuously shaped by communication with users, DiNA's intelligence also increasingly evolves through interaction with visitors, run by speech recognition software. Though the Ruby and DiNA both have the face of the actress Tilda Swinton, the appearance of DiNA robot is much more realistic as it features live animated facial gestures of a female character standing on the one-way mirror.<sup>22</sup> Moreover, DiNA was endowed with a special role as an artificially intelligent bot running for the fictional office of Telepresident. Describing her as a candidate waging an ongoing campaign for virtual election, the work takes a form of face-to-face-conversation that invites voters to her campaign website and collects and collates their questions regarding ballot issues such as healthcare.<sup>23</sup> In order to be a more realistic autonomous entity that serves such a crucial role, DiNA was made smarter than Ruby as it contains twice as much programming code according to Hershman Leeson.<sup>24</sup> *DiNA* first

---

22. Hershman Leeson has frequently collaborated with Tilda Swinton and they maintained the friendship for twenty years. She said, "Tilda is intelligent and brings so much to whatever you're doing...She always had great insight and creativity and the uncanny ability to bring a different dimension, almost chameleon-like, to what she does. It lifts everything to a completely different level." in her interview with *The Guardian* in 2015. See more about the interview in Emine Saner, "Tilda Swinton: Collaborative Chameleon Who Doesn't Court Hollywood," *The Guardian*, July 24, 2015, <http://www.theguardian.com/film/2015/jul/24/tilda-swinton-collaborative-chameleon-who-doesnt-court-hollywood>.

23. Lynn Hershman Leeson, *Lynn Hershman Leeson: Civic Radar*, ed. Peter Weibel (Karlsruhe: ZKM Center for Art and Media, 2016), 278.

24. Jori Finkel, "Pardon Me, but the Art Is Mouthing Off," *The New York Times*, November 27, 2005, <https://www.nytimes.com/2005/11/27/arts/design/pardon-me-but-the-art-is-mouthing-off.html>.

arrived on the scene in September 2004 as part of a group show in Paris, where visitors could communicate with her only through a keyboard.<sup>25</sup> Now, the viewer can communicate with her through a microphone. Though *DiNA* has developed more since 2004, it still turns out that her algorithm is not perfect. Hershman Leeson acknowledged, “She has a lot to learn.” Artist and writer Hanna Black once pointed out the clumsiness of the conversation with her in 2015 Hershman Leeson’s retrospective at ZKM Center for Art and Media,<sup>26</sup> while New York Times critic Jori Finkel also noted<sup>27</sup> *DiNA*’s clueless reaction, noting that the web agent did not recognize President Bush’s name. Despite the fact, *DiNA*’s foremost strength is her ability continuously to develop herself by conversing with people and to process unfolding Internet contents in real time. It allows her to respond to the visitor’s diverse questions from philosophical ideologies to current affairs, including politics, religion, abortion, nanotechnology, stem cell research, religion, family life, and even funding for the arts.<sup>28</sup> In fact, as a mirror of world concerns, her website is designed to feature a voting ballot that is instantly tabulated and demographically segmented into community voting results.<sup>29</sup> Editor-in-chief in *Art Contemporaries*, Meredith Tromble found that the 2004 presidential election and a world fractured by war sparked the idea for such a telepresident prophet capable of guiding voters with intrinsic wisdom, solace, and leadership. It is reflected in *DiNA*’s campaign slogan, “Artificial intelligence is better than no intelligence,” putatively gives power back to the people, allowing users to interact directly with a candidate.

In this regard, Lynn Hershman Leeson has presented diverse representations of autonomous existences throughout her career. Her works show that even one element of living materials, from face to voice, to the act of typing (use of language), and to speech can bring autonomy into non-living things, that is to say, not all living materials were needed for it. By incorporating non-sense?/imagination of the virtual world, Hershman Leeson creates posthuman bodies with random combinations of a few of living materials. In order to do that, she has experimented with cutting-edge technologies of representation—often collaborating with engineers, scientists, and sociologists—to facilitate her unique creation of autonomy and develop the quality. An editor of *Artnews*, Alex Greenberger pointed out that when Hershman Leeson began making her

---

25. Ibid.

26. Hanna Black, “Reviews | Lynn Hershman Leeson,” *Art in America*, April 2, 2015, <https://www.artinamericamagazine.com/reviews/lynn-hershman-leeson/>.

27. Finkel, “Pardon Me, but the Art Is Mouthing Off.”

28. Hershman Leeson and Held, “Private: An Investigator’s Timeline,” 95.

29. Ibid.

*Breathing Machines* series, many people were not receptive to works that so aggressively disregarded traditional painting and sculpture. For instance, when she proposed an exhibition that included her black wax sculpture, *Self-Portrait as Another Person* at the University Art Museum at Berkeley, the curators removed the work because it included sound, which was not considered as a legitimate art form at the time. Hershman Leeson recalled that “There was no language for it and nobody thought it was art.”<sup>30</sup> Conversely, her work went beyond employing up-to-date technologies and even predicted future technologies, considering that *Agent Ruby’s eDream Portal* came out at least a decade before Apple’s Siri and Amazon’s Alexa. Writing at *Hyperallergic*, Emily Holmes also pointed out that Hershman Leeson’s *CyberRoberta* (1996), which featured a doll replica of the fictional Breitmore with a webcam in its eye and a livestream that transmitted what the doll saw to a website, came out before Snapchat and Facebook Live. In this regard, as technology advances, so does her work since the beginning of her career, with more recent endeavors such as, *Infinity Engine installation* (2014) exploiting the possibilities for self-creation afforded by genetic engineering.<sup>31</sup> Up until her recent interest in artificial intelligence and genetic research, including regenerative medicine, bio-printing, and DNA programming, her work has integrated the latest technologies, referencing scientific development from Xerox (which prompted her later long-standing interest in technology when she was sixteen years old), to laserdisc, motion sensor, webcam, sound machine, touchscreen, facial-recognition software, voice-recognition software, virtual reality, and internet.<sup>32</sup> Hershman Leeson said, “The idea of using technology as it’s being invented in your own time—people think it’s the future, but it’s not the future, you’re living in it.”<sup>33</sup>

While experimenting with extensions of body in the context of the posthuman, her primary focus has been about creating interactivity since the late 1960s, a time when no one understood what her art was showing.<sup>34</sup> Her main concern is to respond to the essential quest of all living things for communication, connection, and interaction. In *Civic Radar*, the monograph that coincides

---

30. Greenberger, “A New Future from the Passed.”

31. Elvia Wilk, “Conceiving Autonomy- Lynn Hershman Leeson’s Teknolust,” *Flash Art*, September/October 2017, <https://www.flashartonline.com/article/lynn-hershman-leeson/>.

32. See more information on how Hershman Leeson got interested in incorporating technologies into her art, in Lynn Hershman Leeson, “On the Cusp of Disaster: Lynn Hershman Leeson in Her Own Words,” *Museum of Moving Image Sloan Science & Film*, September 21, 2016, <http://scienceandfilm.org/articles/2777/on-the-cusp-of-disaster-lynn-hershman-leeson-in-her-own-words>.

33. Greenberger, “A New Future from the Passed.”

34. Bitforms Gallery, “DiNA,” accessed March 18, 2018, <http://www.bitforms.com/leeson/dina>.

with Hershman Leeson's 2016 retrospective at ZKM, she stated that interactive technology is "the antithesis of communication as we have known it." She explained that the expanded possibilities of medium along with the rise of user-generated media platforms and digital technologies, allowed new communication and spectatorship in art. As the technologies of representation changes, contemporary art becomes more interactive in terms of engaging the audience's active participation. While traditional spectatorship in art was concerned more with indirect, vicarious experience that evokes empathy or imagination, spectatorship in contemporary art more and more entails direct experience by engaging high interactivity. Contemporary spectatorship can be active and transformative as it invites the audience to complete artwork as an essential part of the work. In Sylvie Bissonnette's 2011 dissertation, "Spectatorial Metamorphoses in Animation, Video Games, and New Media," she calls the emergence of this new spectatorship as "a posthuman form of spectatorship" and addresses its change from the traditional spectatorship as the title suggests. She argues that the emergence in art of phenomenological, cultural, and technological dimensions of the body triggers "spectatorial metamorphoses."

In that vein, Lynn Hershman Leeson's drive to create an autonomous entity yields unprecedented spectatorship in another dimension. The audience members interact with another subject, that is, another live being. In other words, the interaction becomes an exploration of existence by a communication between two different states of existence, one from the real world and the other from a fictional world. Hershman Leeson further aims to create two artificially intelligent agents that talk to each other and write plays and film scripts, which a fictional occasion becomes true.<sup>35</sup> As a result, all these creations of new autonomous entities (extensions of bodies) ultimately evoke ontological, epistemological and psychological questions about life from a different perspective, in its physical sense. However, it is an inevitable fact that as soon as artists endow a fictional object with living materials or agency in order to make it alive and sentient, they also input their consciousness and unconsciousness into it.

---

35. Hershman Leeson and Held, "Private: An Investigator's Timeline," 94.