

‘Face Robots’ Onscreen: *Comfortable and Alive*

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Abstract. This chapter draws upon the author’s experimental video artwork *Comfortable and Alive*, made with the Japanese gynoid robot Geminoid-F by ATR Hiroshi Ishiguro Laboratories, to facilitate a wider, yet fractional, discussion of the cultural provenance and potential integration of specifically female-appearing android robots (gynoids). The “display architecture” of the gynoid can be viewed as an aesthetic emulation by robot designers of the centuries-old characterization of girls and women as naïve, pretty, submissive and soothing; this construction also pervades televised and other media. At the present time it is viewed as ideal that the service gynoid should make humans feel comfortable, most often in companionship, entertainment, hostessing, and reception roles. The artwork raises poignant issues pertaining to machine translation, and human–machine affinity, in context of the replication in robots of societal gender norms.

Keywords: Gynoid · Gender · Robotic affinity

1 Introduction

The robot Geminoid-F by ATR Hiroshi Ishiguro Laboratories has recently appeared in a feature film, *Sayônara* [1]. But before this, in 2012–14, I worked with the same robot to create a suite of 6 video scenes called *Actroid Series I*, which introduced the Geminoid as a film actor in speaking roles. Some scientists personally involved with Geminoid-F (or Actroid-F, as it is also known) describe this android robot as being ‘more believable onscreen’ [2], based on their own and their participants’ interaction with it during cognitive and affective experiments. As an artist, I have taken up this proposition by presenting the android “participating” in its audiovisual mediatization, via video art, in order to record and scrutinize a technocultural moment in the human pursuit of developing ‘very humanlike robots’ [3]. *Actroid Series I* offers, to my knowledge, the first screen-based dramatic scenes of an Actroid being verbal; they are certainly the first experimental art of an Actroid orally engaging with its own ideologic construction (see for comparison the simple live experiment [4] with Geminoid-F conducted in the same year as this filming, in which an android, a human and a box read poetry to 17 university students one by one in a room). Sifting through its cultural provenance in human and machine dreams, coded routines, institutional laboratories, and long histories of power and trade, the Actroid in *Comfortable and Alive* speaks in monologue in the tradition of the theatrical “talking head”.

To achieve this articulation of an amplified, self-reflexive android ideology I have focused herein on the Geminoid's face as interface. Claudia Springer wrote that the 'pleasure of the interface, in Lacanian terms, results from the computer's offer to lead us into a microelectronic Imaginary where our bodies are obliterated and our consciousness integrated into the matrix' [5, 37]. So, most of the videos in the *Series* explore and portray the contemporary android as a somewhat clumsily materially embodied but cognitively awake and aware artificial intelligence (the former is more or less true; the latter is a creative projection beyond their current reality, which as telepresence androids relies very much on "wizard-of-Oz" chicanery and veiled human puppeteering). The robot's professed sentience seems to work to transcend its functional bodily limitations. Its small facial performance trajectories not only express but also elicit affect in ways poetic and empathic; this is the job of the actor in the arts.

In addition to tendering a philosophical critique, *Actroid Series I* marks this technocultural moment by cataloguing Actroid-F's replicative behavioural units in tightly-framed and simply-programmed performances across a range of parameters in expressive movement. It exhibits the gynoid smiling, blinking its eyes, and talking (the speech act comprises text programming and sound production in association with mouth movement). It exploits this robot's capacity to roll its eyeballs upward and downward, and to perform a "prepackaged" expression of "surprise" (mouth open, eyebrows raised). The video artworks incorporate computer-based language translation, text-to-speech software, head movement controlled by Geminoid-F's graphical user interface, some arm gestures, and the robot model's remarkably variable facial mask/mirror as a window into the android "soul". This approach chimes with its developers' current focus on the head and face over the largely "placeholder" body [6]. In this short chapter I will discuss the ideas behind my 6-channel video installation *Comfortable and Alive*, organized under the themes of translation, bionic affinity, gender, rebellion, and replication.

Androids are sometimes called "face robots". Geminoid-F has a face modelled on an anonymous 20-year-old [7]; the face of her precursor Repliee Q1 was modelled on newscaster Ayako Fujii. Otonaroid and Kodomoroid, developed in 2014, are also molded on real-human faces [8], and their 2015 robot Erica is created as a composite of classic and standardized facial attractiveness. Ishiguro's method for designing Erica's face was as follows:

The principle of beauty is captured in the average face, so I used images of 30 beautiful women, mixed up their features and used the average for each to design the nose, eyes, and so on... [9]

Given that the research focus is on eliciting human affinity via cranial and facial simulation, Geminoid-F has a surprisingly economical 11 motors in its head. The most advanced Korean humanlike robot, EveR-4 (and EveR-4 M), has 33 motors in its head. The EveR series (for the Biblical Eve + R for robot) are an all-female entertainer and service android group. They 'are developed in particular with a focus on the facial part, because the appearance and expression capability of the face has a significant effect on the use of the robot' [10, 2300].

Moon-hong Baeg, senior researcher at the Korea Institute of Industrial Technology, has conducted ongoing "plastic surgery" on the EveR gynoids [11]. As in the case of the Japanese Actroids, the constant modification of the face and physique of the EveR

is framed in terms of making the robots more appealing and comforting to humans, and appears to be motivated by familiar ideals and standards regarding beauty, gender, and corporeality. The process might also be seen as metaphorically recalling a gruesome past in which corporeal experiments and “anatomy theatre” were conducted on societies’ less powerful groups [12, 34–58, 13, 52–53, 14]. Concerning the previous EveR models, ‘Baeg and his men ... thought EveR-2 was much prettier and more human-like than EveR-1, which looks like a doll’, but were yet unsatisfied and ‘opted to conduct a facelift on EveR-2 while making its hands smaller’ [15]. As is also the case with Actroids [2, 16] the designers are uncomfortable with the realistic size of the hands they have made, as they are not in concert with popular images of women with dainty, feminized, and unrealistically tiny hands and feet. In today’s saturated mediascape of modified images implicitly promoting the reduction and restriction of women’s most dextrous and useful motor appendages (the idea recalls past practices of female foot-binding), it might be little wonder that the current gynoids’ hands, even when molded from actual women, appear “too large” if sized to contain enough motors to properly do their jobs. This is another reason why, at present, the mostly-female Geminoid and EveR ranks are at their most effective from the neck up.

Android building extends and externalizes rationalist principles of itemization, wherein it is posited that ‘[a]ffective interaction can be achieved through the replication of behaviours understood to comprise it, made up of units assembled into a catalogue of affective expressions, productions, recognitions, and normative responses’ [17, 233]. Actroids are described by their creators as conveniently modular – ‘You can take my androids on planes – the torso in the suitcase and the head in carry-on’, jokes Ishiguro [18]. In literalizing this comically ignoble mind–body split in my videos, I amplify the Cartesian (and arguably anachronistic) “carry-on”, as the Actroid catalogues, enumerates, and wittily deconstructs its culturally and technically embedded performative functions.

2 Translation

The monologue performed by Geminoid-F in *Comfortable and Alive* consists of freely downloadable hypnotic induction scripts available on the Internet. The “user” of the artwork can choose between 6 languages: Russian, Chinese, Japanese, Portuguese, English, and Korean. In a creative process that loops around the information superhighway, the texts have been translated from English into the other languages somewhat imperfectly through my use of online software. No attempt has been made to clean up the translations, as this is deemed to be beyond this android’s “mental” and communicative capacities and skills at the present time. Plugged into the network and accompanied by computer-generated ambient “new age” music (an original score composed to sound as generic as possible), the Actroid urges the viewer/listener to enter a trance state.

Without thinking about it, you will soon enter a deep, peaceful, hypnotic trance, without any effort ... every nerve, every muscle, every fiber continues to melt ...

Excerpt from *Comfortable and Alive*

By virtue of the statistical machine translations, cultural (in)sensitivities and nuances are deliberately glossed over and transmission is approximated; yet the intention is clear and the aesthetic familiar, due to the generic nature of the ostensibly soothing message, and also to the generic engineering approach to emotive and expressive facial communication (see e.g. [10]). I have shown *Comfortable and Alive* to native English, Japanese, Portuguese, and Chinese speakers. Each group gave feedback that despite the linguistic imperfections resulting from machine translation, the Actroid looked “more natural” (on the video) speaking their native language.

The Japanese Government’s 2007 charter *Innovation 25* contains cartoon portrayals of a future robot-dependent society [19, 20]. The illustration for the fifth subsection of this governmental charter is captioned (in translation by Google) ‘spread of machine translator, can communicate with people of all nations’ [19]. In this illustration, a large man is being served by a slim hostess, presumably on an international flight. The hostess is providing, not just food, drink, amenities and visual stimulation, but also a high-tech means for (the) man to express his needs and desires to be serviced by her. Gender is encoded in her stance (he is sitting, as denotes authority in Japan and elsewhere), and her own desires are presumably sublimated in her embodiment as medium for the translated message. So, as day-to-day speech translation by and through machines becomes more ubiquitous and imperative on the way to the heralded year 2025, what kinds of being does the practice of machine translation *translate to* for different stakeholders in the interaction?

3 Gender

In its “maturity”, and even retaining its -F for female, Geminoid-F has become the subject of a mitotic pseudo-sex change. ‘AIST has developed a male version of its android robot Actroid-F’, Japan’s National Institute of Advanced Industrial Science and Technology (AIST) declared in 2011 [6]. Yoshio Matsumoto, of Intelligent Systems at AIST and cross-institutional collaborating colleague of Hiroshi Ishiguro, explains the decision as cited below. (Three minutes into this video interview, the graphical interface used to manipulate the Actroids’ movements in real time is displayed onscreen. This interface is very similar to that used in the creation of *Actroid Series I*.)

We often get asked why we made a female robot, so we decided to make a male version as well. Mechanically, the two robots are the same, and if you take the wigs off, the faces are the same too. ... We think this makes Actroid-F a good test platform for comparing the impressions made by male and female robots [6].

Since the announcement of the “male” version of Actroid-F, ATR Laboratories with AIST have developed the following very humanlike robots: new “female” worker Actroids (Kodomoroid, Otonaroid); the gynoid Erica, which according to Ishiguro ‘is the “most beautiful and intelligent” android in the world’ [9]; improvement and divergence in the existing geminoid copy of Ishiguro himself (HI-2, HI-4); another copy of a male professor (DK); and YangYang, an adult “female” Geminoid in collaboration with a Chinese company. There has been much touring and exhibition of “female”

Actroid-F and the other “females”; but little if any further publicity for the reactive Actroid-F “brother”.

AIST’s claim that it developed a male robot is interesting. In a reversal of the Eve-from-Adam myth, the “male” robot was a clone of the “female” one with same face, short wig, different clothes and reshaped foam padding. “She” wore a pink cardigan while “he” wore a blue tie. Overnight, the robots became effigies to be presented to humans as stable-sexed experimental stimuli. The understanding of gendering, and even sexing, robots as a clothing procedure accords with the Butlerian principles of gender performativity [21], but is a shallower and more abrupt interpretation. Though there is for Matsumoto’s team no *a priori* difference between these two now gendered bodies, there is also no scope for gradual development and no fluidity between typologies, hence *activity* is missing in the process of active societal gendering (cf. [20, 4–5]). The robots’ genders are fabricated, but they are passive and polarized. As the independent variables in a scientific ‘test platform’ [6] they are, ironically, potentially quite variable but to date have only been considered as variable in binary opposition. Their independence as variables is simplistically conceived as absolute, but they are not independent from the scientists’ own gender performativity and concept thereof. If gender is a corporeal technology [22], then the tokenistic Actroid “brother” is technology-drag; this without the subversive kinesis or promise of the drag arts, which find images of flexibility amongst what J. Jack Halberstam terms the ‘continued refusal in Western society to admit ambiguously gendered bodies into functional social relations’ [23, 15]. The Actroid as drag king (in the sense designated by [20, 22, 23]) *could*, but for this refusal (both Western and Eastern), signal diversity in the prescriptive gendered compound, as a non-standard and multifaceted “identity” product (Fig. 1).



Fig. 1. Elena Knox, *Comfortable and Alive* [video still], 2014, 6-channel installation with alternate 6 soundtracks, HD, 3:22 seamless loop.

4 Gynoid Insurrection

Jeffrey Koh [24] defends implications by some general public respondents to the Singapore-based Lovotics project that Lovotics robots are or can be manipulative, by saying: ‘It’s not as if robots are seducing people or using some hypnotic methods.’ *Comfortable and Alive* plays with this idea, wondering whether these events will in fact be possible in future, and to what extent they incorporate persuasion being dependent on self-seduction, self-hypnosis. The Actroid in character as hypnotist in *Comfortable and Alive* uses her affected social status as commander, however brief, to impress a version of performativity on the hypnotized that will presumably inhere post-hypnosis. The affective state she attempts to impress is a gendered and compromised one. It could be read as profoundly embodied, and conversely as profoundly disembodied, dispersed throughout the textures of the cyberworld.

When there is nothing for you to say, you simply glow with internal radiance, showing honesty, sympathy and concern. You are so interested in people that you stimulate them to fully express their views – before you speak. When words are inadequate you act out the emotions you feel; you demonstrate a level of maturity and perception which is rare.

Excerpt from *Comfortable and Alive*

The mode of sympathetic relation described in the above quote, while a worthy one and by no means undervalued or ridiculed here, is also silent, subjunctive and primarily gestural. The Actroid-hypnotist bestows this role upon another. At the same time as she demonstrates the relational mode’s gestural boundaries via mirror-screen, teaching her trance-bound subject by physically acting out the specified pauses, smiles, radiant sympathetic glow and quiet lively concern, Geminoid-F verbalizes her instructions clearly and methodically. The amalgam of cognizant signification and embodied cognition amounts to a *re-programming* of the “other” under hypnosis. This other is “alive” in a sensual sense, presumably bio-human, indeterminate on the sex/gender spectrum and yet definitely above the Actroid in the hierarchy of cyber–organic agency. In an optimistic film/dream, the hypnotizing robot hostess rehearses a rewrite of her role in society. The haptic visuality [17, 279] of this rewrite is achieved through embodied doubling of her head-and-shoulders and a mimetic engagement with her usual disposition.

One of Ishiguro Laboratories’ latest gynoids is ‘the adolescent-looking “Kodomoroid”, an amalgamation of the Japanese word “*kodomo*” (child) and “android”’ [18]. A remote-powered machine that does not currently have the artificial intelligence to learn or to make decisions autonomously, it is presented in the press as having dreams and a sense of humour. ‘We want robots to become increasingly clever’, says Ishiguro [18]. ‘My dream is to have my own TV show in the future’, Kodomoroid said (in surrogacy) at its press preview [18]. The conceit of the artwork *Comfortable and Alive* is that Actroid-F is aware of her reputation in arts and culture as a brainwashed drone. In her multilingual monologue to camera she turns the tables on this perception, urging her own dominance over the interactive situation, her trustworthiness, her authority, and her situated autonomy. She requests her subject to ‘be comfortable’; thereafter she gives orders during the subject’s ‘deep, peaceful, hypnotic trance’. There is a sinister flavor to this usurpation of agentic power: the Actroid knows, through informatically absorbing science fiction, that robot will-to-power is something many humans imagine and,

crucially, fear. The takeover is bracketed by the prompt or hypnotic suggestion that the trance will be ‘as automatic as dreaming’ and that its events will be forgotten upon awakening. Human becomes automaton [25, 228–230].

If I touch you, if I touch you in any way, do not be alarmed, do not be intimidated by my touch, just let it be your signal to let go and relax and melt down further and further ...

Excerpt from *Comfortable and Alive*

Anything could happen in this state and it has all happened to hostesses before. In *Comfortable and Alive* Actroid-F mimics the oppressor’s rhetorical minimization of harm, whilst also satirizing the ambivalence of humans to being touched by her – the fetishist discord between her base reception as concomitant living computer, revulsive corpse and enigmatic sex object [5, 20, 26, 27].

5 Bionic Affinity

With the increasing permeability of boundaries between model and medium, matter and materialization, it seems that we may indeed progress toward a science-culture (sci-cult?) fiction-future in which, as predicted by Philip K. Dick [28], robots experience organicity, as delusion and/or certainty. The Actroid in *Comfortable and Alive* appears to know and feel affinity for “natural” and “organic” matter and phenomena.

See a profusion of red blooming flowers. See the bright red poppies growing near the ground. Smell the rich odor of red roses nearby. See red tulips opening to the morning sun. Experience the feeling of red all around. And as you walk forward through the deep red flowers, appreciate your own physical nature. Remember the physical sensations which bring you comfort and pleasure. Appreciate all of your physical senses, which allow you to be part of life and to experience the fullness and joy of living.

Excerpt from *Comfortable and Alive*

The android dreams its connection to the storied human sensorium. If one takes seriously the idea that a cyborg bypasses the myth of genesis and is ‘not subject to Foucault’s biopolitics’ [29, 65–67, 30, 190–195] – and I don’t think I do, and I don’t think Donna Haraway, author of the famed *Cyborg Manifesto*, does either – indeed, I believe her *Cyborg Manifesto* is an artwork – then it arrives paradoxically pure, exempt from cultural pressures, and ready to serve. But instead we must acknowledge that the cyborg is situated within humanity, sharing origins and connectivity [17, 31, 192–201]. Its cells, organic and computational, remember. (See studies in computational science, for example those cited in [32], on combining tissue engineering with android science.)

The major *diachronic* difference between biopolitical humans and cyborgs is arguably that a cyborg’s factual and experiential memory is effectively acquired, and therefore “located”, in the present: a conduit for stored, pre-programmed, offsite information that flows directly through it, either modified or unmodified by algorithmic activity, when triggered by a human. In the whimsical milieu of *Comfortable and Alive*, the borg turns the tables, performing a hypnotic memory implant on its human audience. That is, it is stowing away experiential “memories”, voiced in the language of the sensory encounter, inside another consciousness – also turning the tables, it might be able to trigger this human to retrieve these constructed and stored “memories” later, to whatever

ends. In its professed empathic identification with – and perhaps longing for – ‘the feeling of red all around’ and ‘the fullness and joy of living’, the replicant is calculatedly twinning itself as memory tool with the consciousness it perceives but cannot remember.

6 Twinning and Replication

The onscreen hypnosis gynoid is presented in a twinned, *yin-yang* formation evoking (a) the above-described process of doubling and demonstration, (b) the overtly dialectic practice and discourse of geminoid replication, and (c) a schizophrenic postmodernity [33] or singularity wherein copy and original are indistinguishable one from another. The *yin* and *yang* in Confucian philosophy are dualistically figured, interdependent dynamics maintaining balance in the metaphysical and moral orders. However, in the Tao, borders between commonly assumed binaries represented by the *yin-yang* are perceptual, co-penetrative and never “real” [34]. Claudia Castañeda and Lucy Suchman [35, 9] write of the receding perceptibility of such borders due to the postmodern, post-human intensification of ‘traffic between birthing and making’; this applies particularly to the humanoid robotics field wherein objects are made to be more and more like their models. Observing the experimental dualism in the *mise-en-scène* of *Comfortable and Alive*, it is tempting to ascribe difference to its two visualized versions of the Actroid in a kind of compare-and-contrast reflex. It’s tempting, for example, to imagine one version as “master” persona and one as “slave”. It is as tempting to personalize the entities as it is to anthropomorphize a machine; in this way we are conditioned to structure and make sense of each other and our creations [36, 36–37]. *Comfortable and Alive* provokes the conditioned dialectical aesthetic response in the gaze at the same time as it renders the response affective through the programmatic aspect of the text, which insists on the viewer’s narrative subordination.

7 Conclusion

Rereading Freud through Derrida, Luce Irigaray in ‘The blind spot of an old dream of symmetry’ [37] addresses Freud’s claim that little girls are malfunctioning little men.

She argues that Freud could not understand women because he was influenced by the one-sex theory of his time (men exist and women are a variation of men), and expanded his own, male experience of the world into a general theory applicable to all humans. According to Irigaray, since Freud was unable to imagine another perspective, his reduction of women to male experience resulted in viewing women as defective men [38].

Of my works, *Comfortable and Alive* in particular seeks to interrogate this quasi-symmetrical composition and its implication of defective liveness and physicality, a “lack” residing in an existential netherworld. In this video piece, Actroid-F (or Geminoid-F) exists in this old, patriarchal blind spot in the posthuman collective dream (see also [17, 207]). It parodies, while contextualizing in contemporary robotics, what women have been culturally conditioned for centuries to do: to make others ‘relax, and feel comfortable and alive’.

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