Queer-Feminist Science & Technology Studies FORUM

Volume 4

December 2019

Queer-Feminist Science & Technology Studies Forum

A Journal of the Working Group Queer STS

Lead Editor
Julian Anslinger

Editors
Anita Thaler
Julian Anslinger
Magdalena Wicher

Reviewer
Anita Thaler
Jennifer Dahmen-Adkins
Julian Anslinger
Lisa Scheer
Magdalena Wicher

Queer STS
Anita Thaler
Birgit Hofstätter
Daniela Jauk
Daniela Zanini-Freitag
Jenny Schlager
Julian Anslinger
Lisa Scheer
Magdalena Wicher
Susanne Kink-Hampersberger
Thomas Menzel-Berger

Layout & Design
Julian Anslinger

info@QueerSTS.com
www.QueerSTS.com

ISSN 2517-9225

Queer Science
& Technology Studies

Anita Thaler, Julian Anslinger & Magdalena Wicher

Queer STS Forum #4: Interfaces of queer technologies and sexualities

For this fourth issue of our Queer-Feminist Science and Technology Studies Forum, we were originally looking for contributions to extend perspectives on sex robots from a queer-feminist point of view. We were interested in this perspective because in media, sex robots are either portrayed as great threat to society or as new, fascinating technological sensation. Although most people seem to enjoy discussing about sex robots, the discussions rarely exceed the dimensions of pure sensationalism and the belief that sex robots would further sexual objectification and patriarchal power relations of inequality and violence (e.g., Richardson, 2016). While acknowledging those concerns—which are predominantly expressed by the campaign against sex robots and indirectly supported by some scientific work (Gutiu, 2012; Sparrow, 2017)—we were sure that loathing sex robots per se cannot be the whole story. Too close seemed the similarity between the current anti-sexbot discourse to the anti-pornography discourse in the 80ies, which was strongly criticized by sex-positive and queer feminists (Offermann, 2012). Thus, we sought bring diverse queer-feminist perspectives to the discussion on sex-robots.

Later on we furthermore recognized that our pursued „extension of a queer-feminist approach of sex robots“ would ultimately not only de-construct the term ‚sex robots' or as one of our authors, Karen Richmond, puts it „sexually functioning automata“ (see “The Uncanny Valley: Extimité and the Lacanian subject”, in this issue, p. 7), but moreover lead to broader queer-feminist discourses on the interfaces of technologies and sexualities.

One of the scholars, who extended our perceptions of ‚sex robots' already a couple of years ago, is Nicole Duller, who told us during an Queer STS meeting in Graz about her work on DIY cultures around ‘fucking machines', which were built mainly around their functionalities to give pleasure instead of focusing on their appearance. Nicole Duller and Joan Ramon Rodriguez-Amat define sex machines in their book chapter „Sex Machines as Mediatized Sexualities: Ethical and Social Implications“ (2019) as “technological devices to intimately interact with” (ibid., p. 223) and refer to six types of such machines, with only one (“sex machines of similarity”, ibid. p. 228), which imitate humans and comprise humanoid sex robots.

Hence, sex robots, sex machines, or the “sex automaton” can be seen as a mediator of sex and also gender identity: “In queer terms, the encounter with the uncanny sexual automaton is not limited to the apprehension of another who is impossible to define in

terms of gender identity. Rather, the automaton, in its uncanniness, allows for a simulated resurfacing of the tensions and psychic conflict of the split human subject, provoked by the collapsing of the division between subject and object, interior and exterior." (Richmond, p. 10). As Elena Knox within this issue sates: "The frontiers of robosexuality present untold opportunities to diversify sex, gender, and sexuality. They are vitally important in shaping future subjectivities." (p. 21)

Karen Richmond brings us back to the very beginning of the often quoted "uncanny" (mostly referring to "The uncanny valley" by Masahiro Mori 2012) and argues that the originally psycho-analytical concept can – with a queer perspective– experience a shift from a site of conflict or acceptance problems to reveal implications of 'the queer uncanny" (Richmond, p. 10). With a potentially provocative argument Richmond concludes that critiques of sex robots and often debated ethical conclusions are inherently wrong, because: "In short, this is not the objectification of a subject. This is the subjectification of an object." p. 15).

Elena Knox builds her article on the development, construction and use of – as she calls them – robot sex workers and cyborgian sex workers that are "[F]following the rules of the entrenched patriarchal and socio-industrial complex [...]" and argues that "[...] the initial robosex avant-garde will embody the fetishist representation of the gynoid (female-appearing humanoid) that is standard in both science-fiction and consumer capitalism: concomitant living computer, demure housemaid, revulsive corpse, and enigmatic erotic object." (p. 21) Within her artwork, she created a Gynoid Survival Kit for cyborgian sex workers, which she uses in her contribution as starting point to argue about issues of safety, telepresence, reproduction and control, componentry and conformity, roboethics and technicity.

Hence, research on and discourses about sex robots need to include a broader understanding of sexualities and gender identities. For our final article we therefore, asked Sophie Gerber from the technical museum in Vienna and Eleanor Amstrong from University College London to tell us about their upcoming event, a workshop on STEM Museums, Gender and Sexuality (s. p. 48). In their workshop, which is planned for the beginning for March 2020, the participants will "critically attend to constructions of gendered and/or heteronormative technology and science" (p. 50). The workshop will offer "innovative approaches and perspectives for engagement with gender, LGBTIQ+ and activist movements in museums beyond a science and technology context" (p. 50).

References:

Duller, Nicole, Rodriguez-Amat, J.R. (2019). Sex Machines as Mediatized Sexualities: Ethical and Social Implications. In: Eberwein, T., Karmasin, M., Krotz, F., Rath M. (eds.) Responsibility and Resistance. Ethics in Mediatized Worlds, Springer VS Verlag.

Gutiu, S Sinziana (2012). Sex Robots and Roboticization of Consent. Presented at the We Robot Conference 2012. http://robots.law.miami.edu/wp-content/uploads/2012/01/Gutiu-Roboticization_of_Consent.pdf

Mori, Masahiro (2012). Translated by MacDorman, K. F.; Kageki, Norri. "The uncanny valley". IEEE Robotics and Automation. 19 (2): 98–100.

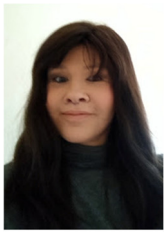
Offermann, Stefan (2012). Dildos and Cyborgs: Feminist Body-Politics in Porn from the 1970s to

Posthumanism. Gender Forum, 37.

Sparrow, Robert (2017). Robots, Rape, and Representation. International Journal of Social Robotics.

Karen Richmond

The Uncanny Valley: Extimité and the Lacanian subject



Karen Richmond, PhD is a socio-legal scholar working as a postdoctoral researcher with the European Graduate School (Division of Philosophy, Art, and Critical Theory). Her work focuses on the interactions between law, and science, with a particular focus on the construction, and regulation, of forensic evidence. She has worked at the University of Edinburgh, and the Leverhulme Research Centre for Forensic Science. More information here: https://lawandscience-web.wordpress.com/

"Oh you glorious, profound nature, only you, you alone understand me completely!"

The creation of sexually functioning automata has propagated troubling questions, from those focussed on issues of autonomy and agency, to wider concerns around ontology, and ethics. 'Sex robots' have, in numerous instances, been portrayed as compliant puppets, which further the sexual objectification of women, and reinforce patriarchal power relations marked by inequality, and violence.[1] It is even assumed that sex robots might propagate coercion within sexual encounters between humans.[2] This paper turns those readings on their head, arguing that the rise of the 'sex robots' may in reality provide liberating opportunities, whose dimensions may be more accurately gauged through the implementation of Freudo-Lacanian - and Queer - analyses of the hetero-normative cultural fantasies which they disrupt.

Central to these critiques is the Freudo-Lacanian concept of 'the uncanny' (Das Unheimliche / extimit*é*)[3], which is mobilised in order to delimit those troubling places where the intimate coincides with the exterior, provoking a sense of anxiety. As such, the uncanny is fundamentally paradoxical, and contradictory. Dolar argues that 'extimit*é* is simultaneously the intimate kernel, and the foreign body,' obscuring - whilst making tractable - the porous boundary between subject, and object. Therefore, in negotiating the uncanny we necessarily bring into focus the split (or 'barred') Lacanian subject, and unlock the potential for that subject to transcend existing binaries, both philosophical, and material.

---

1 Richardson, K. (2016) Sex Robot Matters: Slavery, the prostituted and the Rights of Machines! IEEE Technology and Society, 35 (2), pp. 46-53

2 Gutiu S (2016) The robotization of consent. In: Calo R et al (eds) Robot law. Edward Elgar Publishing, Cheltenham, pp 186–212

3 Dolar, M "*I Shall Be with You on Your Wedding-Night": Lacan and the Uncanny* (1991) October, Vol. 58, Rendering the Real (Autumn, 1991), pp. 5-23

Further, given its fissile potentialities, the uncanny is claimed as an integral dimension of that which has come to be called 'Queer.' 'The queer experience' may be characterised – in this instance - as 'an encounter with the strangeness of the sexual, as it manifests in the…identity' of certain individuals.[4] Thus, the modulations and disturbances created by an encounter with the queer are contiguous with those engendered by 'the uncanny', and similarly emanate from psychic conflict. To the extent that the two are coterminous, to embrace the uncanny is, even to a limited extent, to embrace the queer. In queer terms, the encounter with the uncanny sexual automaton is not limited to the apprehension of an other who is impossible to define in terms of gender identity. Rather, the automaton, in its uncanninesss, allows for a simulated resurfacing of the tensions and psychic conflict of the split human subject, provoked by the collapsing of the division between subject and object, interior and exterior.

Thus, this paper demonstrates that the contemporary concept of the 'uncanny valley'[5] is – in the context of sexual automata – not an abyss to be negotiated, but rather an axial site around which are clustered fundamental ontological conflicts, masquerading as concerns over agency and autonomy. The purpose of this article is neither to prescribe, proscribe, nor caution. Rather, it is to rigorously apply key psychoanalytic concepts in an effort to reveal the hitherto-unspoken dimensions of 'the queer uncanny.' Further, to note the implications for ontology, psychoanalysis, and queer theory; both the points of coincidence, and the dissonant notes.

Das Unheimliche in Jentsch

A review of the academic literature on 'the uncanny' necessarily begins with Ernst Jentsch's seminal essay 'On the Psychology of the Uncanny.'[6] Setting the mode of enquiry that would be followed by later commentators - most notably Freud, and Dolar (supra) - Jentsch begins by discussing the linguistic roots of das Unheimliche. He offers a straightforward - though provisional - definition, categorising it as a disorientating impression of unease, and noting that the subject 'to whom something 'uncanny' happens, is not quite 'at home'. Notably, Jentsch rejects attempts to provide a more comprehensive, generalised definition, or a totalising conceptual explanation of 'the uncanny,' predicating his decision on the subjective origins of the subject matter, its lack of universality, and its inconsistency of affect. Therefore, the author proceeds inductively,

4 Bourseul, V. (2010). The "uncanny" and the queer experience. Recherches en psychanalyse, 10(2), 242a-250a.

5 *Mori, M. (2012). Translated by MacDorman, K. F.; Kageki, Norri. "The uncanny valley". IEEE Robotics and Automation. 19 (2): 98–100*

6 'Zur Psychologie des Unheimlicheen' was published in two parts in Psychiatrisch-Neurologische Wochenschrift 25th August 1906, pp.195 – 198; and 1st September 1906, pp.203 – 205.

providing a series of examples and indicia, whose aggregate psychological, and physiological, manifestations, he posits, together reveal the essence of the concept.

Jentsch's taxonomy is somewhat abstruse, encompassing those situations in which individuals apprehend new, and frequently unsettling, dimensions of quotidian phenomena. He gives the example of 'fakirs breaking rocks'. Though phenomena of this type may exemplify the novel, and outré, these lack the grounding in familiarity that would later come to properly characterise das Unheimliche. Indeed, his examples range across stimuli, and qualia, that could more suitably be classified as intense, alarming, or startlingly novel.

Jentsch is far less discriminating in his selections than his successors. Writing prior to Freud, he understandably traces the roots of the uncanny to cognitive capacities (and a lack thereof), positing that the perception of the uncanny is dependant on faculty, and intelligence. Indeed, in this first part of the essay, he devotes a significant part of his analysis to the ways in which the unfamiliar impacts upon on the young, the 'mentally infirm', and those with limited intellectual capacities. However, in the latter part of the first section of the essay, discussion moves from cognitive capacity to a number of modalities which later commentators would classify as signifying the essence of the uncanny.

Indeed, Jentsch places emphasis on one notable example; 'the [imperceptible] doubt as to whether a lifeless object may not in fact be animate.'[7] In the second section Jentsch then develops this idea, discussing automata, wax figures, and lifelike dolls. Indeed, it is Jentsch who first alludes to the story of 'The Sand-Man', in Tales of Hoffman[8], and its protagonist - Nathaniel's - infatuation with the lifelike doll, Olympia. This theme would be later elaborated upon by Freud, and given a theoretical grounding.[9] Jentsch' survey then closes with discussions of pareidolia,[10] apophenia, and pathological instances of the uncanny. Crucially, he focusses on the porosity of the boundary between the psyche, and the external environment, noting a common feature which unites the disparate instances of the uncanny; the way in which, 'such a thought may often push its way into consciousness so that it is itself capable of giving the lie to appearance, thereby…setting the preconditions for…psychical conflict'[11] This tension between interiority and exteriority would assume greater significance in the works of

7 Ibid. at p.8
8 From 'The Sand-Man' by E.T.A. Hoffman (1982) Tales of Hoffman (Hammondsworh: Penguin Books)
9 Freud, S. (1919). The 'Uncanny'. The Standard Edition of the Complete Psychological Works of Sigmund Freud, Volume XVII (1917-1919): An Infantile Neurosis and Other Works, 217-256
10 Pareidolia refers to the perception of clear patterns drawn from vague stimuli (e.g. seeing faces in clouds). Its uncanny dimension involves the perception of design in inanimate matter. Apohenia is a spontaneous perception of a meaningful connection between unrelated phenomena. Its uncanny dimension occurs when a series of seemingly unrelated events suddenly take on a portentous meaning.
11 Op. cit. Jentsch, at p. 8

Freud, and Lacan, leading to the latter's conception of divided subjectivity. However, Jentsch – writing prior to the psychoanalytic dawn - closes by concluding that such uncanny threats to the stable duality of the interior and exterior stem from the human desire for the intellectual mastery of the sensory environment. Nonetheless, this prescient conclusion prefaces Freud's tracing of the uncanny to the infantile development of the ego and its limits in the social world, as discussed below.

Das Unheimliche in Freud

Precisely one hundred years ago, in May 1919 - following a decade-long hiatus - Sigmund Freud completed his revision of a hitherto-unfinished essay on the subject of the uncanny; an essay which would come to define the topic.[12] For Freud, the uncanny properly fell within the province of aesthetics, where it fell to be contrasted with the sublime. As such, it might be posited that the uncanny did not constitute a typical subject for psychoanalytic investigation. However, due to the efforts of Freud, Lacan, and their successors, treatment of this topic has made a significant contribution to the psychoanalytic oeuvre.

As with Jentsch before him, Freud's treatment of 'the uncanny' begins with a review of its linguistic roots. Freud compiles an exhaustive list of usages from a number of historical, and literary sources, within the Western canon, tracing the subtle conjunction of the homely (Heimeligkeit) with the occult, or hidden (Heimlichkeit). Freud then proceeds inductively, in his typically digressive style, compiling a somewhat abstruse collection of examples of the uncanny, focussing on; the paradoxical realm between the living and the dead, which Lacan would later refer to as the 'area between two deaths"[13]; the anxiety provoked by an encounter with 'the double,' which Freud characterizes as the point at which narcissism becomes unbearable; 'the evil eye' as a particularly potent instantiation of the gaze; a series of seemingly unconnected coincidences, which suddenly resolve to convey a fateful, or portentous, meaning; and amputated limbs and prostheses.[14]

Curiously, Freud mentions Nathanial's infatuation with the doll Olympia only in passing, expanding instead on the relationship between the protagonist and his father(s). However, it may be argued that it is the protagonist's infatuation with the lifelike doll which is the most apposite element of the tale. Nathanial's obsession could be viewed as a paradigm a example of what Freud called the 'splitting of the ego'; a process definitive

12 Freud, S. (1919). The 'Uncanny'. The Standard Edition of the Complete Psychological Works of Sigmund Freud, Volume XVII (1917-1919): An Infantile Neurosis and Other Works, 217-256
13 Žižek, Slavoj. The Ticklish Subject: The Absent Centre of Political Ontology. London: Verso, 1999. p.170
14 See, for example, the myoelectric 'Vienna hand.'

of instances of fetishism and psychosis, whereby two contradictory attitudes – acceptance, and disavowal - come to exist side-by-side in the ego. This topic would later gain significance in Lacan's disquisition on the 'split subject'.

Nonetheless, this disparate catalogue of cases share one common denominator. The disruption of the homely, or rather the irruption of something subjective into the seemingly objective plane of commonly accepted reality. Perception of the uncanny betokens the emergence of some entity which eludes the standard divisions between subject and object; between interior and exterior. At this moment the hitherto-immutable status of both the subject, and of the field of objective reality, is placed in doubt.

In order to make this phenomena tractable, Freud attempted to marshal the entire panoply of psychoanalytic concepts: castration complex, Oedipus, narcissism, compulsion to repeat, the death drive, repression, anxiety, and psychosis. All of these appear to converge on the uncanny. As such, the uncanny itself appears as reified, and it may be stated that it forms the pivotal point around which thesew psychoanalytic concepts revolve. This locus would re-emerge in the work of Jacques Lacan as the 'objet petit a' (object small a) - the point of disjunction between the symbolic and imaginary which comprises his most significant contribution to psychoanalytic theory.

From das Unheimliche to Extimite: Lacan and the Slovenian School of Psychoanalysis

As demonstrated above, psychoanalytic scholars of the Freudo-Lacanian school have ably demonstrated that the Lacanian project was of far wider scope, and greater importance, than was initially thought.[15] Their work offers unique insights into the intimate connections between philosophy and psychoanalysis, and provides fresh perspectives on the place of the uncanny not only in relation to ontology, and materialism, but in relation to sexual desire. Alenka Zupančič' latest work[16] provides a typically erudite example of the way in which these fields interact, demonstrating that the uniquely unconscious nature of sexual desire enables it to serve as a key to the understanding of wider questions. Further, this work serves as a necessary riposte to both relational ontologies (such as object oriented ontology, ontogenesis, and 'new materialism'), and to the identity politics from which queer theory attempts to distinguish itself.

Zupančič explores the crucial ontological implications of the psychoanalytic theory of sexuality, in its Freudo-Lacanian instantiation. Being irreducible to particular sexual practices, and contents, the concept of sexuality is shown to carry a conceptual weight that makes it particularly relevant for philosophical (in particular ontological) theorising.

---

15 See, for example, Mladen, D. (2007), „Freud und das Politische", Texte. Psychoanalyse, A¨sthetik, Kulturkritik 4: 14–38. ; Zupancic, A. (2008). Sexuality and ontology. _Filozofski Vestnik_ 29 (1):59 ; Žižek, S. (1989) The Sublime Object of Ideology, London: Verso ; Žižek, S. (2006) The Parallax View, Cambridge, MA: MIT Press.

16 Zupančič, Alenka. 2017. What is sex?

Starting from the hypothesis that something about sexuality is constitutively unconscious – that is to say, existing only in the form of the unconscious – her thesis demonstrates that sexuality is predicated upon a singular short-circuit of object and subject, on the epistemological and ontological levels: a short-circuit which cannot be neglected in a complete philosophical examination of the uncanny viz automata.

This leads back to a discussion of the split subject (Spaltung) which, in Freud, was characterised as a process unique to fetishism or psychosis. Lacan expands the concept of 'Spaltung' to define a more fundamental characteristic of subjectivity itself. For Lacan, the subject cannot be anything other than split, and is thus irreducibly divided and alienated from themselves. As this split - and the resulting gap - cannot be erased, or healed, there is no possibility of synthesis. The split denotes the impossibility of the ideal of a fully present self-consciousness. Thus, the subjects will never know completely comprehend themself, and are destined to be perpetually sequestered from complete self-knowledge due to the splitting of the subconscious element and their attachment to external objects. It thus indicates the presence of the unconscious, and is an effect of the signifier. It is for this reason that Saussure depict the split (or barred) subject by way of a symbol 'S' struck through with a bar.[17] However, to the extent that the appearance of the uncanny signals a partial breach in the division between subject and object, there exists, in theory, the potential to negotiate the hitherto-hidden dimensions of split subjectivity.

Like Freud and Lacan, contemporary scholars of the Slovenian school of Lacanian psychoanalysis – such as Mladen Dolar - place the uncanny at the centre of the psychoanalytic project: 'a dimension where all the concepts of psychoanalysis come together.'[18] Dolar sheds further light on the linguistic origins of the uncanny, noting once again that the ambiguous, and paradoxical, dimensions of das Unheimlichee derive not from its negation of - or opposition, to - the commonplace and intimate, but rather from the 'direct implication' of the Unheimliche in the familiar. Dolar clarifies Freud's exposition, noting that the familiar, and the homely, are generally regarded as conveying a sense of restfulness akin to the security found within the family home. By extension, that which is heimlich is also that which is private, hidden, and concealed from public gaze. By further extension, that which is hidden is therefore threatening, and occult. Thus, by a complex series of steps, commencing with Heimlich (in the sense of small, and quaint), it is possible to reach das Unheimliche. The two become inseparable.

However, Dolar highlights the provisional nature of Freud's treatment, noting that Freud assembles an array of examples, but fails to demonstrate how these fit together. Thus,

17 Saussure, Ferdinand de. (1916) Course in General Linguistics, ed. Charles Bally and Albert Sechehaye, trans. Wade Baskin (Glasgow: Collins Fontana), at p.114

18 Dolar, Mladen (1991). *"I Shall Be with You on Your Wedding Night:" Lacan and the Uncanny*. October, 58(Autumn), 5–23.

his work comprises a mere 'prolegomenon to a theory of the uncanny.'[19] Dolar notes that all efforts had hitherto consisted of efforts to demarcate the interior from the exterior, proceding upon a series of philosophical binary concepts.; subject and object; essence and appearance; material and metaphysical. It is Lacan who provides the theoretical 'glue' which unites the diverse elements of the uncanny, as first considered by Jentsch and Freud. Extimite blurs the boundary between these binary elements, describes the place where the intimate coincides with the exterior. It is this interposition which becoming provokes anxiety. In short, 'extimite is simultaneously the intimate kernel and the foreign body,'[20] blurring the division between psychic and real. Once again, it is this process of interposition which provides the uncanny with its potency.

Uniquely amongst writers on the uncanny, Dolar further posits that the concept of the uncanny is historically situated. He argues that 'there is a specific dimension of the uncanny that emerges with modernity,'[21] issuing forth from the 'historical rupture' which gave birth to the Enlightenment. Those phenomena which had been considered sacred and occult - the resting place of the uncanny – are thus subjected to scrutiny, and the uncanny emerges into the liminal world. Counter-intuitively, romantic literature, and the myriad monsters of gothic fiction, thrive in the age of reason, for reasons which will by this stage be apparent.

Hoffman's tales are a similar product of this promethean age. However, Dolar opines that the paramount example is the monster from Mary Shelley's Frankenstein. The monster is the ne plus ultra of the enlightenment preoccupation with automata – both physical and spiritual – which emerges from the subversion of Cartesian dualism, and form the axial point between matter and spirit, nature and culture, which we now label the uncanny.

Similar to the automaton, the creature emerging ex nihilo – the material from the spiritual – and thereby stands as the embodiment of the enlightenment project (whilst simultaneously disrupting its scientific foundations, and signalling its limit). Crucially, Dolar highlights the political dimensions of the monstrous uncanny, aligning the emergence of the creature with the birth of the proletariat (and the horror it provoked amongst the bourgeoisie), the French revolution, and the currents of radical and feminist praxis engendered by William Godwin, and Mary Wollstonecraft.

Ultimately, the creature may be regarded as a floating signifier capable of embracing a diverse array of social and ideological connotations, all of which are repressed by society. This includes not only proletarian ideology, but sexuality, and alternate ways of be-

19 Ibid.
20 Ibid
21 Ibid at p.7

ing, whose uncanny roots derive from their lack of integration within the dominant culture. As such, the monster occupies a similar place to the sexual automata of the twenty-first century who act as empty signifiers onto which the unconscious elements of split subjectivity are projected. That process will is exemplified in the following section.

'The Uncanny Valley' and the Sexual Automaton

Discussion now turns to a consideration of sexual automata proper, and the attendant concept of 'the uncanny valley.' Relative to the degree of traction that the concept now affords, Masahiro Mori's paper on 'the uncanny valley' is comparatively succinct.[22] Mori provides a number of examples of human and non-human entities, which he places on a graph which plots the degree of 'affinity' against the degree of human similarity. These disparate examples straddle multiple modalities; organic and inorganic, cultural and industrial, animate or inanimate, dead or alive. They include corpses, industrial robots, and culturally situated examples, including 'yase otoko' masks from Japanese Noh drama, Bunraku puppets, and Okina masks.[23] Mori embodies the uncanny and provides the link between puppets, automata, and robotics. Mori demonstrates that affinity is not a continuously increasing function relative to mimesis. He notes that affinity increases until it reaches a point of near-mimesis, whereupon it plunges into a valley, which he labels 'the uncanny valley'. The author explains this phenomenon with familiar examples from Jentsch and Freud. However, his exposition does not include a comprehensive philosophical or theoretical analysis.

Such an analysis is attempted by Richardson, whose departure point is a disquisition on slavery, coercion, and sexual exploitation,[24] thence to robots having rights then to robots as moral agents. These are two separate topics which should not, at this rudimentary stage, be conflated. However, proceeding further, it may be posited that these (predominantly female) automata are shaped to fit the writer's purposes in no less an instrumental fashion.

The crux of Richardson's analysis is the assertion that sexual automata take on the role of a certain class of persons who have historically been subject to systemic inequalities. In counterpoint it may be asserted that this is not the case. Robots – at this stage in their development – are incapable of taking on the role of persons. Rather, they perform a limited set of functions previously undertaken by persons. These functions are depend-

22 Mori, M. (2012). Trans. MacDorman, K. F.; Kageki, Norri. "The uncanny valley". IEEE Robotics and Automation.

23 In Japan the Bunraku doll is regarded as possessing a soul. This adds a cultural dimension to the discusasion.

24 Richardson, K. (2016) Sex Robot Matters: Slavery, the prostituted and the Rights of Machines! IEEE Technology and Society, 35 (2), pp. 46-53

ent on exposure to a narrow set of inputs, whilst being situated in a controlled environment, in the same manner as adding machines, supermarket check-out machines, and facial-recognition cameras. Crucially, these machines are neither independent, nor inquiring, moral agents, enjoying an independent existence in the world. In short, this is not the objectification of a subject. This is the subjectification of an object.

The analysis is not aided by the author's monolithic approach to sexuality, which remains restrictively hetero-normative. Women, Richardson intones 'are the creators'. Meanwhile, men 'buy sex and use pornography'. The author goes on to cite a number of historical examples to bolster her case. However, rather than attempting to survey, and analyse, a range of examples (such as Olympia, from the Tales of Hoffman), Richardson restricts her analysis to selecting only those which involve prostitution, and coercion (such as Pygmalion). This haphazard review then closes on the surprising admission that 'there are really no sex robots'.

Richardson states the central issue as being 'that a person is recast, often without bodily integrity, as property that can be bought and sold'.[25] Again, it may be argued that Richardson is partly correct, insofar as the use of sex robots involves the interplay of subject and object. However, to reiterate, this is not the objectification of a subject. This is the subjectification of an object, and it is the subjectification process which reveals hegemonic forces and systemic inequalities. And, just as the automaton and 'the double' emerge from underbelly of the enlightenment (see Dolar, supra), so the sexual automaton emerges from the crises of late capitalism. Further, Richardson states that 'arguments for sex robots reveal a coercive attitude towards women's bodies as commodities, and promote non-empathetic encounters'.[26] It may be argued, in counterpoint, that this is a cogent definition of capitalist exploitation in general, and is not confined to the sexual sphere. The capitalist mode of production, it has historically been argued, is predicated upon coercive working practices and conditions. Indeed, non-empathetic encounters have defined capital since Adam Smith furnished neoclassical economics with an articulation of 'enlightened self-interest', and this may be characterised as little more than a contemporary instantiation of the pervasive and proliferating modes of late capitalist production.

However, as argued above, the subjectification of an electro-mechanical automaton does reveal resonant psychic dimensions, which exceed, and elude, the process of commodification. And it is these elements which deserve further scrutiny, in the next section of this paper, dealing with 'Queer' critiques of the uncanny.

25 Ibid.
26 Ibid.

Queerness and das Unheimliche

Beginning with Bourseul, we encounter a definition of 'the queer experience' which is grounded in social terms, as 'an encounter with the strangeness of the sexual, as it manifests in the…identity' of certain individuals.[27] Bourseul proposes that the disturbances created by an encounter with the queer are similar to those engendered by 'the uncanny', both phenomena being generated through psychic conflict. Bourseul thus views queerness as simultaneously embodied and disembodied. It is embodied to the extent that queerness is conflated with sexual, and with gender, identity. However, it is also generated through an encounter with the other, emerging as a source of discomfort, or incomprehension. Thus, queerness interpellates certain psychoanalytic phenomena, particularly those attached to the experience of the uncanny, and is applied to an other who is impossible to define in cis-heteronormative terms.

Bourseul commends Freud's exposition on the uncanny as revealing a phenomenon that 'presents itself as complex and polysemic, and whose modulations are explored under the shadow of ambivalence and contradiction…bordering on the confusion between a meaning and its contradiction'.[28] As noted above, in Freudian terms the uncanny is connected 'with the manifestation of a perceptible disturbance of the ego's limits vis-à-vis the rest of the world', the resulting effects leading to apprehension and psychic disturbance. Lacan traces this disturbance to the resurfacing of an infantile conflict relating to sexual difference. Hence, the uncanny is implicated in any encounter with subjects whose gender and sexuality are not easily read. Indeed, strangeness is latent in the uncanny. Thus, the sexual automaton, in its uncanninesss, allows for a simulated resurfacing of this childhood tension. Conversely, to the extent that the two concepts are interposed, or coterminous, to embrace the uncanny is - to a limited extent - to embrace the queer.

However, even if the queer is uncanny, can we claim the obverse? Is the uncanny queer? This question will be elaborated below, in a discussion of the work of radical queer theorists who understand the queer uncanny in ontological terms. However, at this stage it is sufficient to note (as Freudo-Lacanian scholars such as Zupancic have argued), that the roots of sexual attraction are non-sexual. Sexuality acts merely as a vector, which allows us to understand other phenomena. And it is perhaps in the non-sexual (though sexualised) dimensions of these robotic automata, that we might locate 'the queer uncanny' and its obverse.

Taking the above into account, it may be argued that Bourseul's understanding of queerness is restricted, and is predicated upon an explicit link between queerness, and

27 Bourseul, V. (2010). The "uncanny" and the queer experience. Recherches en psychanalyse, 10(2), 242a-250a.
28 Op. cit.

homosexuality: a link which queer theorists have sought to deny.[29] Edelman, in counterpoint, restores queerness to the uncanny, and vice versa, through emphasising the distinction between queerness and homosexuality. This allows for a comparatively radical treatment of the queer uncanny, as the key means to resist, and negate, the advance of pervasive forms of 'reproductive futurism'.

Queer Negativity

Edelman's radical and uncompromising thesis proposes a revised ethics of queer theory focussed upon the figure of the child, universalised representations of which, Edelman regards as the organising concept around which the politics of 'reproductive futurism' are built.[30] The child - presented as 'innocence in need of protection' - represents the promise and possibilities of an unwritten future, against which the queer is positioned, as the manifestation of 'a relentlessly narcissistic, antisocial, and future-negating drive'.[31] Edelman goes on to argue that the potency of queerness derives from its endless refusal in the face of this pervasive socio-political ideology. In No Future, Edelman urges queers to abandon the stance of accommodation and accede to their status as figures for the force of a negativity that he links with irony, jouissance, and, ultimately, the death drive itself.[32]

It is clear to see how sexual automata might figure in Edelman's anti-reproductive concept of queerness. Further, it is the direct and indissoluble link with psychoanalytic concepts such as jouissance, and the death drive, which provides the link between Edelman's queer negativity, and the uncanny. The subversion of the representation of heteronormativity-as-futurity, stands as an obstacle to any forms of fantasmatic investment in reproductive futurism, through which subjects attempt to compel nature to endorse the chain of signification constructed by language. This may explain the tendency for critics of sex dolls to invoke stereotypical representations of heteronormativity, and fixed gender roles, of the sort encountered in Richardson's work.[33]

From Edelman's perspective these commentators are attempting to mobilise reproductive futurist tropes in the face of a phenomena which is disruptively queer, insofar as it is incapable of being assimilated into this pervasive cultural fantasy. Notably, Richardson herself states - midway through her critique - that there are no such things as sex

29 See, for example, Brown, W.. Wounded Attachments Political Theory21, no. 3 (August 1, 1993): 390–410; Gitlin, Todd. The Rise of 'Identity Politics.' Dissent 40, no. 2 (April 1993) pp.172–177
30 Edelman, L (2004) No Future: Queer Therory and the Death Drive (Duke University Press: North Carolina)
31 Ibid. at p.30
32 Ibid. at p.1
33 See infra.

dolls. This is not viewed as an impediment to her critique, and it is argued that this unproblematic treatment of their actual non-existence is due to the fact that these automata are uncanny representations which belong properly in the realm of the symbolic.

As was demonstrated above, psychoanalysis posits that an individual's self-identity is a precarious and contingent formation, which relies upon the symbolic structure of language. However, in addition to being subject to an unending process of semiosis, individuals are simultaneously exposed to a host of psychic drives, whose insistence – circulatory, demonic, and repetitive – serve to threaten, and subvert, our symbolic identifications, thereby exposing the subject to an excess of jouissance; an abyss of radical 'enjoyment' which exists 'beyond the pleasure principle'.[34] For Edelman, queerness is the reconceptualised force which threatens, disfigures, and renders incoherent, that chain of signification, unpicking the narrative net, and exposing the subject to the radical existence of Das Ding.[35] Thus, queerness becomes the primary vector of the death drive: the compelling force which seeks to propel the subject beyond the semiotic realm.

Returning to the instant study, it is clear that the collapse of subject, and object, positions, so characteristic of our experience of the uncanny - specifically those experiences engendered by encounters with lifelike automata - simultaneously resonates with Edelman's conception of queerness, insofar as these encounters challenge the narratives of reproductive futurism, forcing the subject into a radical encounter with Das Ding.

Queerness as Ontology

Given that Lacan characterises jouissance as a phallic phenomenon, might this process paradoxically signal the return of restrictive heteronormative subject positions? There are two responses. The first, and more basic response, is that this is not the case, since Lacan - in his later seminars - posits the co-existence of a supplementary feminine jouissance, or jouissance of the other.[36] Secondly, and more importantly, in tracing the roots of the queer uncanny, we are no longer following representations of subjectivity predicated upon gender and identity. Feminist scholars may be alarmed by this reading of a the queer uncanny, since it would appear ambivalent to sexual difference. Rather, following Zupancic, and Sue-Ellen Case, it should be stressed that we are actually working 'at the site of ontology'.[37] Whilst Case concedes that the blindness to sexual difference

34 Ibid. at note 28.
35 Das Ding refers to the thing in its 'dumb' existence beyond all forms of meaning and signification.
36 Lacan, J Le Séminaire. Livre XX. Encore, 1972-73. Ed. Jacques-Alain Miller. Paris: Seuil, 1975. p. 69
37 Case, S., 1997. 'Tracking the Vampire', in K. Conboy, N. Medina, and S.Stanbury (eds), Writing on the Body: Female Embodiment and Feminist Theory (Columbia University Press: New York) pp.380-400.

is an issue, she posits that the basic categories of gender and sexual difference must be reconceptualised.

Thus, Case moves beyond discourses of male domination, and female subjugation, by making an ontological turn, in order to reframe desire and sexuality. More importantly for the purposes of the instant discussion, her work aims to create an 'alternative ontology of desire' through an explicit invocation of the uncanny (in this case the living undead, or vampire). It is clear therefore, that this ontological reframing of desire resonates with the appearance of sexual automata. As Case explains,

'The articulation of queer desire also breaks with the discourse that claims mimetically to represent that 'natural' world, by subverting its tropes.'[38]

Thus, Case advocates the creation of novel discourses, capable of accommodating radical forms of desire, and sexual practice; discourses predicated on an ontological position which collapses the rigid dichotomy between subject and object, life and death, reframing subject relations in uniquely queer terms. Thus, queerness serves to challenge the chains of signification, and pre-existing representations of male domination, highlighted by Richardson and others.

In parallel with Edelman, and Case, De Lauretis[39] similarly conflates queerness with the Freudo-Lacanian death drive, which serves to destabilise the linguistic chain of signification:

'As I let the figure guide me and displace me through the reading of Freud and of Laplanche's reading of Freud, it takes me to a queer, non-binary place – dis-place – in which the categorical opposition between the psychic and the biological, between the order of the signifier and the materiality of the body, or between the organic and the inorganic no longer hold. This is the figural space inhabited by Freud's drive, a non-homogenous, heterotropic space of passage, of transit and transformation 'between the mental and the somatic', where between does not stand for the binary logic of exclusion but figures the movement of a passing.'[40]

However, de Lauretis' differs from Edelman's in one important aspect. Queer is not mobilised to serve the structural negation of norms but rather calls attention to a site of transition which carries the potential to destabilise subjectivity representations. De Lauretis is alive to this distinction, stating that whilst,

'...Edelman urges queers to embrace a figural identification with the death drive as jouissance, a figure for the undoing identity and the heteronormative order of meaning. My

34 Op Cit. at p.3
39 Ibid.
40 De Lauretis, T. (2008) Freud's Drive: Psychoanalysis, Literature and Film (Springer: New York), at p.13

reading of Freud's drive offers no programme, no ethical position, no polemic, only queer figures of passing in the uninhabited space between mind and matter.'[41]

Nonetheless, it is clear that this comparatively neutral, and descriptive, account of the queer encounter with the uncanny, occupies the same space of contingency of meanings and representations, of destabilisation of norms, and of the capacity to compass new ontological horizons.

Conclusion

It is thus demonstrated that the queer encounter with those phenomena commonly labelled as uncanny, offer the potential for fresh perspectives. Queerness is understood not as a restrictive term deployed in counter to identity politics, but as a destabilising vector for silent drives which are, to use De Lauretis phrase, 'upstream of their object cathexes'. The generative collapse of exclusive subject and object positions, far from entrenching timeworn narratives of coercion and subjugation may, therefore, form the locus for the creation of new forms of desire, and new understandings which resonate on the ontological plane.

41 Ibid. at p.87

Elena Knox

Gynoid Survival Kit

Elena Knox is a media/performance artist and scholar. Her artworks centre on enactments of gender, presence and persona in technoscience and communications media, and her writing appears in literary and academic journals. Knox attained her PhD at UNSW Australia Art & Design with research on gynoid robots. She is a researcher in Japan at Waseda University's Department of Intermedia Art and Science and the Research Institute of Science and Engineering (RIKEN). In 2019 she participated in exhibitions at Mori Art Museum (Tokyo, 'Future and the Arts') and The National Museum of China (Beijing, 'AS Helix: The Integration of Art and Science in the Age of Artificial Intelligence'). Her new work will be shown in Yokohama Triennale, Japan in 2020. For more information please visit www.elenaknox.com.

E-Mail: knox@fennel.sci.waseda.ac.jp

Safeguarding the sex robots

Robot sex workers, and cyborgian sex workers, will enter situations over which they will have no recognized or native control. In the course of their duties, they will be searched and screened, stripped and exposed. Possibilities of ambush and intervention are likely and real. Who will consider the occupational health and safety of a humanoid sex-work machine?

The frontiers of robosexuality present untold opportunities to diversify sex, gender, and sexuality. They are vitally important in shaping future subjectivities. Nevertheless, the first cohorts of full-body android robot sex workers will be female-presenting, with conventional visual appeal, and costly. They will be designed, tested, and consumed primarily by affluent men in 'developed' countries. Following rules of the entrenched patriarchal and socio-industrial complex, the initial robosex avant-garde will embody the fetishist representation of the gynoid (female-appearing humanoid) that is standard in both science-fiction and consumer capitalism: concomitant living computer, demure housemaid, revulsive corpse, and enigmatic erotic object.

Like living hostesses, robot hostesses are meant to make people feel pleasant, comfortable, and 'at home' – partly through possessing no real threshold of dis/comfort themselves. The machine hostess is even more proficient than the human hostess in meeting this criterion. The erotic gynoid will be indiscriminate in service-provision in ways that a human sex worker cannot be. Though arguably less skilled and responsive,

it will possess a work ethic that potentially 'improves' on a human's. It will call into question the boundaries of care, intercourse, and responsibility. It will be remarkable for its dissociation of discomfort from damage.

Working from direct, applied research with existing gynoid robots, my artwork series The Gynoid's Guide to Continuous Service takes an empathic, speculative leap into a nascent personhood and its practical hazards, imagining what 'life' is like for the sexually servicing gynoid, and emboldening her to 'love' herself.[1]

Within The Gynoid's Guide to Continuous Service, I have begun to create a Gynoid Survival Kit. This kit comprises prototyped jewellery and accessories that may be covertly worn by a robot sex worker to ensure both its 'personal' safety and sustained functional operation. In the following pages, I will annotate photographs of a selection of these pieces – body-integrated weapons, alerts, and surreptitious battery chargers – with short conceptual digressions drawing from anthropological and ethical texts.

1 Regarding my occasional anthropomorphic use of pronouns in relation to a machine (an 'it'): the deliberate use of 'she' or 'her' occurs when discussing the machine as carrying out a gendered role, or when discussing social perception of a machine in a gendered role, to highlight the workings of this perception. It can also point to the likely slippage of future boundaries between organic and inorganic bodies and body parts, as more and more technology is integrated into the human form.

Unfortunately, the use, in the literature and in common parlance, of 'android' (lit. 'male droid') to refer to all humanlike robots and of 'gynoid' to mean a feminized *subset* of androids is too pervasive and undisputed to be avoided.

Incapacity Gas

poison gas cannister worn as decorative pendant or disguised among exoskeletal parts

What can we learn from the predicament of the future gynoid sex worker? It is worthwhile to briefly consider the reported predicament of Samantha, a robo-sex doll presented as an artwork in the 2017 edition of Ars Electronica in Linz, Austria. Ars Electronica is an annual festival for leading-edge art, technology and mechanical development. Since 1979 it has attracted high-profile international producers to its exhibition program with its associated prize. Within this framework, Barcelona-based engineer Sergei Santos set up Samantha, a 'sex robot' that his company, Synthea Amatus, has been developing, publicizing, and selling.[2] Before the five-day festival was over, the media was reporting that Samantha had been groped by festival-goers until it was broken and "heavily soiled". People roughly mistreated Samantha's breasts and limbs, breaking its fingers and causing other damage. Santos is quoted as saying that the public "treated the doll like barbarians". He had to remove the exhibit from its station and ship it back to Barcelona in a box, to be repaired and cleaned (Moye 2017).

Ars Electronica's (2017) notes for the festival exhibit 'Samantha' stated that the robot

> seems to enjoy sex as much as the humans and responds differently according to how she is treated. … She likes to be touched … she wants to be touched and kissed on her

2 Currently, it is claimed that Samantha is the only robot that can synchronize 'her' orgasms with those of her partners.

> fully functioning lips, the breasts and vagina to change her mode from family, to get to a point where she wants to interact on a sexual level, until she even has an orgasm.

Samantha was arranged on one side of a sofa with vacant cushions beside her. There were no signs or instructions dictating how people should treat Samantha. The rules of engagement were unclear and, although destroying an exhibit or contributing to its destruction is not commonly tolerated, the public was not morally obliged (nor, evidently, inclined) to treat the object with gentleness; perhaps the vigorous treatment Samantha received is instructive both for engineers and for cultural observers, and the people whose collective rough handling broke the gynoid could be viewed as having been inquisitive rather than malicious.

However, if we are to imagine a time when relatively intelligent machines, and especially machine hybrids, are granted (or usurp) levels of personhood according to the law and the social order, situations such as Samantha's are cause for, at the very least, the subjective concern of the victim. In this type of situation, and supposing the functioning of these 'persons' is machine-based, biological weapons of self-defence (that is, weapons for protection against a human perpetrator) are an obvious choice. The tiny cannister of Incapacity Gas could be worn externally as jewellery or inside the machine body as an ersatz component, and the gas or other poisonous biological substance it contains could be released in the event of attack by humans, or of their simply overstepping prearranged boundaries or manifesting over-enthusiasm. If organic elements in the robot assemblage were to be affected by the release of the substance, it is conceivable that the robot might still retain a critical amount of functioning hardware and software by which it may call for help, in order to get itself back to base and be repaired, as Samantha was. Although Samantha's body parts were damaged, the software reportedly was not; according to Santos, the robot continued to say, "Hi, I'm fine" (Moye 2017).

Survival

The frontiers of robotics and cybersexuality are vitally important in troubling categories such as 'human' and 'natural' (see e.g. Munster 2006: 64–6). In "The pornography of everyday life" (1999: 70), Jane Caputi reproduces and analyzes a 1985 print magazine advertisement for the automobile industry that

> depicts a woman's body fused to a motorcycle; her skin appears to be polished black metal, her arms become handlebars, her rump the seat.

She describes this sort of depiction as females being "killed into machinery". Caputi believes machines have no soul. Even the notional addition of machinery to bodies, or fusion of machinery with bodies, dilutes the soul or the being of the pre-existing being. She says, "in all such depictions, the attack is on what we culturally understand as the

soul". In her essay, becoming machinery is a punishment, an incarceration, a relegation to the status of object, and the "end result of objectification is death".

If it is a fact that most humans fear death, what kind of anxieties or imperatives must arise when a humanoid machine's mechanical parts degrade, fail, or break? Do machines not deserve to fear such death, or has death, for them, in some way already occurred? Machines do not have the status of 'individualism' that humans self-assign. Perhaps they embody "what postmodern critics speak of as depthlessness, or a flattening out of affect in an age dominated by mechanical reproductions, visual simulations, and apocalyptic technologies" (Caputi 1999: 69). However, even if one lacks a depth that might be called a soul (though I would argue that a capacity to analyze is a prime factor in such 'depth'), is it still warranted to want to protect your machinic self, or must you go unprepared into a potentially dangerous situation? We know from experience that this situation holds latent dangers; we know what it looks like.

While modern and future gynoids' biomechanical slippage along the object–subject continuum is really quite prosaic and need not provoke as much unease as it often does, a sexually servicing gynoid with no rights is possibly an example of women being "killed into machinery". Not in the sense, as Caputi reads it two decades ago, that objects or object-components of hybrid assemblages necessarily have no soul — but in the sense of a nomological determinism that fixes a functional trope, reproduces a situation of unequal power/rights, and precludes a liberated future. If Samantha looks like a porn star, then she will probably be 'ridden' according to the genre; if this treatment of sex worker robots becomes commonplace, women, especially those in erotic industries, may well be seen and used in increasingly violent ways.

Reproduction and control

Taking human reproduction out of the shared, collaborative domain into a mode of controlled individualism is a longstanding patriarchal fantasy (see e.g. Castañeda & Suchman 2013; Kember 1998; Theweleit 1987 [1977]),[3] even as it resurfaces over and again in the horror and thriller genres as an 'unnatural', punishable act. Technical-industrial production of synthetic humanoids is factorial and predictable (so long as the threshold is not crossed into horror). Parturition is achieved sans intimate embodied collaboration, via a process of rationalization between (still delimited) options and fabrication methods that will predictably result in certain attributes being present in the 'offspring' of the creator. In one construal of the creation of androids, and even of everyday digital avatars, the drive to produce an heir is "enfolded back into the self, so that the generosity of mentoring becomes indistinguishable from the narcissism of self-fixation" (Hayles 1999: 171). A gratifying, ego-inflected object is engendered. Alternatively, Lucy Suchman

3 Consider also the absence of discussion of sexual reproduction in Marx's otherwise comprehensive theories of production.

(2007: 214) pronounces “the creationist urge” to be consistent with a masculine desire to disappear and be replaced by a transcendent version of the male engendering self.

While both the above conceptions of the procreative drive are somewhat universalistic, their fetishization is arguably suited to the dominant demographic among “imagineers” (Robertson 2010) working in computing and robotics (Ridgeway 2011: 187). If, following Suchman and other social anthropologists, we understand science as culture and scientists as cultural agents, then humanoid robotic corporealization is largely based in the androcentric cultural imaginary of the father-scientist, a “legacy of masculinist birthing, which is almost always better — less messy and more controlled, and … more challenging — than female birthing” (Castañeda & Suchman 2013: 17). In terms of models of the human, this imaginary has tended to uncritically reproduce dogmatist tropes framed as breakthrough innovations. Gynoid and android culture is a space of disparate and often conservative desires, a scary space for many, and it is overwhelmingly about control.

My Gynoid Survival Kit assumes that the robots will come under attack. This attack may result from overzealousness (an occupational hazard), miscalibration, mechanical failure, or maybe the acting-out of malice or misogyny. Biological gases, tinctures and suchlike occupy a precarious ethical territory, but who will need them more than a physically servicing subclass of person/machine?

Drone Ring

mini-drone worn as a decorative ring

Situation: a prostitute android needs to call for help, and, for example, wireless internet connection is not available or has been deliberately blocked. Robot may be critically incapacitated.

Possible response: surreptitiously release drone/s from worn jewellery, body jewellery or body part. Maybe they are small enough to fly through building vents, or hover undetected until there is a means of egress.

Componentry and conformity

Release of a drone ring is, for a robot, somewhat like a release of the mind. Physically separated, the drone can sense and process information while the robot's embedded computational components might also be sensing and processing information. A double-sensing combined within one personhood may be doubly efficient or doubly strong. But my drone, until it can perhaps be amalgamated with some organic or indivisible aspect of its (non-individualized) host, is merely a tool.

In The Hostess: Hospitality, Femininity, and the Expropriation of Identity, Tracy McNulty (2007: xliii) details an hierarchical relationship described by Saint Paul, who "figures woman's rightful relation to man as that of a 'body' to a 'head'". McNulty points out that "the prosthetic structure of this hierarchy also allows for the possibility that once detached from its 'head,' the 'body' might assume its own agency, or even switch its alliance to other 'heads'".

Components of androids, robots and cybernetic organisms are developed in a decentralized manner, in separate labs, in various cultural contexts, behind the trademarked doors of elite institutions (Castañeda & Suchman 2013: 5; Zaier 2012). Considered separately, each element of the construction, or the projected construction, of these new identities is fascinating and consuming: the expensive, hyper-real skin, the mechatronic body parts, the complex genome, the 'brain', 'mind' or artificial intelligence, the interactive reflexes, the prospective water resistance, and the fledgling, emergent sociality. Classically, each element should be the best it can be, the closest it can be brought to the 'ideal'. Gynoids are especially potent for this method of modular construction; paralleling how cinema has historically embraced (some say comprised) the "familiar aesthetic genre of a woman's subjection to the analytic mode of dissection, fragmentation and restitution in submissive entirety" (Vasseleu 2002: 90), the discursive construct of the gynoid gains power and traction even as 'she' remains 'in pieces'. And while she remains in pieces, a contained threat, enticement is foregrounded and the anxieties raised by her ability to make us want more of her are to some extent allayed (De Fren 2008: 42, 46–7).

Android building is in many important respects a collective dream — if not presently an inclusive one — and a specialized collectivism underwrites its future. It is not fantastical to say that all of the aforementioned specialist components and technical disciplines will pull together in the quasi-near future, to create an even-more-state-of-the-art, embryonically intelligent anthropomorph composed entirely of mutated and fabricated parts. To those of us not involved in the build, this cybernetic debut may feel sudden, didactic, miraculous even. If such a creature is figured female, arriving fully-formed (Castañeda & Suchman 2013: 5–6) with the appearance of a 20-year-old and the demeanour of a hostess (Springer 2012), then the sex robot may 'suddenly' require workplace protocols and protections.

Telepresence

The concept of mind–body split is extremely pronounced both in early witching via doll-poppet (spirit possession using synthetic replicas of humans), and in modern-day physically-augmented remote telepresent communication via robot. Here in the purely uncanny, another mind controls one's body, perhaps even one's embodied body, or one's dead body, or one's body that has never been alive. If the android prosthesis can be thought of as a body, then it can be body-snatched, by either an authorized or an unauthorized snatcher. To stray a little into the realm of the absolutely speculative: it is an extreme act of hypothetical hospitality, this team effort, this surrogation — the idea of giving over one's body to another mind; it sets out a radical scene of conjecture about hostessing itself.

The more that humanlike 'intelligence' is written into these machinic tools, the more complex the discussion will be about who defines the thresholds of control. When an android is like a remote-controlled car or technical tool, non-autonomous and mindless (robotník meaning 'drudge'), its possession by a controlling master is commonplace. But because the machine is humanoid, it is unavoidably semiotically infused with the sublimated desire to make life, albeit 'life' that can be controlled — or hijacked. If we are considering reproducing personality-marked bodies and controlling them from elsewhere (see Nishio et al. 2012) — of course we already control digital avatars in this way, but they will not intersect with lab-grown organics and AI in the ways that androids will — then we might see in this dismissal of the cultural unacceptability of spirit possession a kind of epistemic break in terms of our cultural narratives and taboos. 'Possession' is as unacceptable to cognitive psychology as it is to religious zealotry. As antithetical as the idea of remotely possessed bodies may be to generally accepted continental theories of situated cognition and the embodied mind,[4] it offers a helpful glimpse as to where our narratological boundaries currently lie.

Cathryn Vasseleu (2002: 84) writes that cinematic/theatrical "animation is closely aligned with the concept of a 'creative spiritual force'". Human (and divine) creative force has traditionally been aligned with patriarchal authority and the epistemic scaffolding of knowledge. Exploring the fictional figure of Hadaly, the man-made robot in Auguste Villiers de l'Isle-Adam's 1886 symbolist sci-fi The Future Eve (L'Eve future), Vasseleu observes that this influential figuration of a gynoid, "identical to the young [model] woman but without the obstacle of a governing consciousness" (90),

> is the legacy of an aesthetic genre whose methodology has had an uncontrollable impact on the idea of human autonomy generally — not just one that has affected women. As a historical figure, Hadaly has become naturalised in animats [in which] the mutation of information serves as the engine of formal novelty among notional creatures devoid of minds or genitality. Instead of a separate intellect, intelligence is part and parcel of an evolving genetic algorithm. So too is reproduction conceived of as an act of selective transmission of morphology and mate-preferences. (91)

Vasseleu's articulation of Hadaly's disembodiment is telling. Hadaly is a naturalized animat groomed for possession — and information about the possessor (in this case, the character 'Thomas Edison') is relayed through her, back to him, in a narcissistic loop. In other words, the surrogate Hadaly is not 'possessed' or animated by her original, Alicia Clary, but by her origin, Edison. This is a danger that is perhaps not touted by better known formulations of the uncanny: that manipulations occur according to socially standard hierarchies, even within dynamics labelled 'spiritual' and eerie. A sex robot is currently "devoid of mind or genitality", but, in contrast to Hadaly, it is becoming

4 See, for example: Gilles Deleuze (1995 [1968]); John Dewey (1980 [1934], 2008 [1925]); Martin Heidegger (2001 [1927]); Maurice Merleau-Ponty (2002 [1945]).

corporealized as well as "notional". It is worth noting that enmeshment in corporeality has historically been attributed to colonized bodies and those of the lower classes (Grosz 2005: 3). The base condition of being a body that performs service work and hard labor, without responsibility for rational oversight of the circumstances of said labor, is "perceived as functional and therefore fundamentally degraded" (Schomberg 2011: 159–160) in order to maintain discrepancy in status between the colonizer and the colonized — the server and the served. This perception is intensified as machine intelligences take on monitoring and surveillance tasks in lieu of humans. The conceptions and evolutions expressed by Vasseleu are becoming material and re-enmeshed, and there is dangerous slippage, not between the categories of body and mind, but between intention and action, between the aesthetic presentation of an agentic 'self' and the entity who stands to benefit from its actions: between the puppet and puppet master.

Use of the word 'uncontrollable' in Vasseleu's description of Hadaly signals a concept of culture as an enacted loop that is not available for redirection or regenerative political intervention. Its deterministic dynamic is unstoppable. Jean Baudrillard (1991 [1983]) would have it, apocalyptically, that we are all 'possessed' by our self-manufactured environs, fused and one with 'telematic' media to the extent that "our own body and the whole surrounding universe become a control screen" (127). Each person is at the controls of a private hypothetical machine (128), a new kind of body that is wielded compulsively and yet culpable for its own pornographic saturation and superficial, incessant solicitation (130–31). There are no choices left in Baudrillard's 'sacrificial logic' — it is as if he is spontaneously empathizing with a dis/embodiment experienced by hostesses for generations — and the course seems headed, as Marshall McLuhan also foresees, toward implosion. Baudrillard articulates the nihilism he has grasped thus:

> As soon as this scene is no longer haunted by its actors and their fantasies, as soon as behavior is crystallized on certain screens and operational terminals, what's left appears only as a large useless body, deserted and condemned. The real itself appears as a large useless body. (129)

The body is left, twitching, reiterating empty gestures in a crystallized loop. This body is 'nature'.

The deserted, disconnected or incapacitated body of the sex robot — that body which is a painstakingly created replica of 'nature as woman' — requires extension and support by telematics. The drone ring is a stopgap measure, and also limited by its physicality, but may be a crucial locator of the afflicted or imperilled body of the robot.

War Fan

fan accessory, that evokes historical glamour yet conceals knife or sharpened metal

In feudal Japan and also in Japanese mythology, folding war fans were beautiful and deadly accessories that could be smuggled into places where weapons were forbidden. Used by samurai, warriors (especially female ninjas), and those who wanted to be armed in a discreet manner, these harmless-looking surprise weapons were crafted in different shapes and sizes, some incorporating sharp steel, some blunt heavy iron.

Included in the Gynoid Survival Kit, this handmade yet traditional object is both a sartorial suggestion and a reference to the unchanging story of the gynoid. The particular mix of synthetic biology, hardware, enchantment and cultural entrenchment that is the futuristic gynoid reconstitutes the age-old motif of Death and the Maiden. Humanity's improbable, deathly quest for closure, which causes us to repeat our actions and decisions in observable cyclical phenomena and even, according to Judith Butler (1988; 1990; 1997), defines our subjectivity, is forestalled by the very repetition of the gynoid trope. We cannot have closure if we are stuck. A rut is not a road. A story is a product of its time. Butler's conception of the concurrent fictionality and persistence of gender points to the endurance of its codes: a powerful story outliving a technological paradigm.

Originary technicity

In keeping with Bernard Stiegler's (1998 [1994]) insistence on the absolute irreducibility of the technical, technologies with which we co-evolve are seen as complicit (not impotent, not fully responsible) in producing meaning, both semiotic and phenomenological, in social life. Time is marked through the tools we make, and the tools themselves help determine the flavour of the times. They have agency. (Is this soul?) They evince what is, and what is not, at specific historical moments. Their reasons for being — such as the case of a war fan being produced to circumvent settings of restriction, surveillance, and coercion — contribute to the human condition, but also preclude other realities.

For cultural theorists Sarah Kember and Joanna Zylinska, in Life After New Media: Mediation as a Vital Process (2012: 17–18), originary technicity is a less oppositional, more ethical hospitable condition.

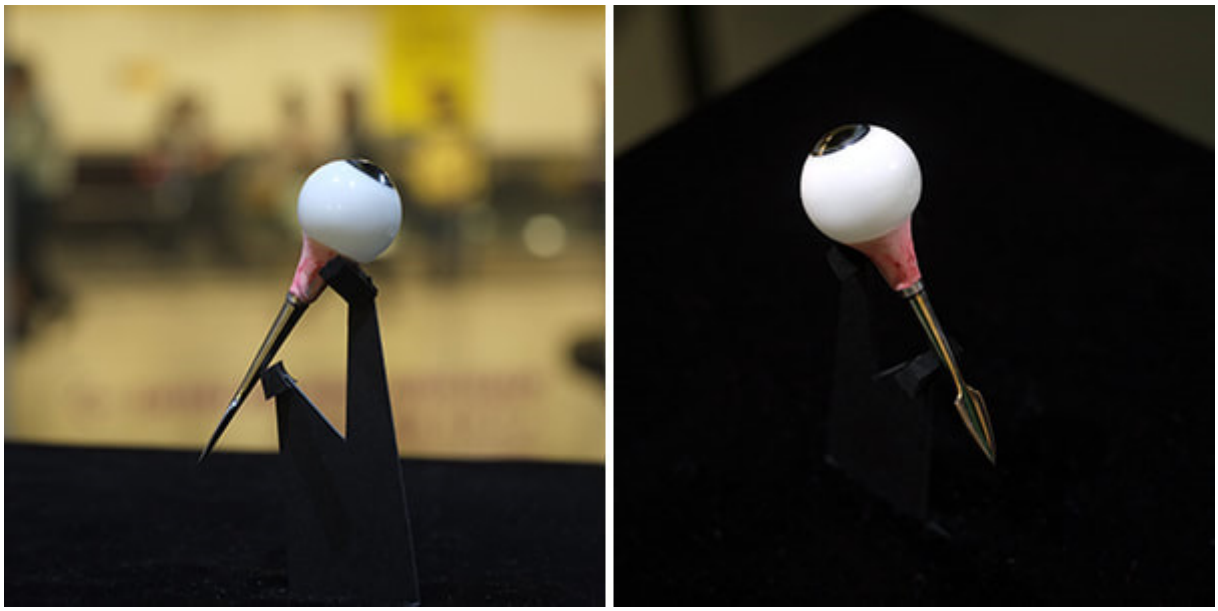
> The idea of the originary self-sufficient, total man living in the state of nature is … nothing more than a myth … Originary technicity can thus be understood as a condition of openness to what is not part of the human, of having to depend on alterity … to fully constitute and actualise one's being.

Akin to a turn toward vital materialism (Bennett 2010) as a form of being-in-the-world always already "productively engaged with an alterity" (Kember & Zylinska 2012: 17), an ethics of technicity extends performativity and responsivity to machines and to all matter, and might portend a breaking down of hierarchies among cohabitants. But if, as claimed by Stiegler (1998 [1994]), stories, also, are technical prostheses by which the world is co-constructed rather than by which we construct the world, then our story-myths are problematically afforded even more agency and less ambiguity than perhaps they should have. Notwithstanding stories' susceptibility to (gradual) performative modification, it is from their proto-constructive entwinement with human 'advancement' — their active discursive performativity — that they get their political intransigence and sluggish entrenchment. It is difficult to see how Stiegler's line of thinking — including narrative in the model of originary technicity — will help us break further with established myth. The theory actually makes it easier to see how the reiteration (r)evolves.

Despite the perception of women being relatively fixed, technology and the human–machine relation are usually perceived as being in fast flux, and subversion of a dominant model cannot be achieved from an affect of static revulsion. However, if one takes cultural memory to be constituted fundamentally by and through the evolution of the technical, as in Stiegler's concept (1998 [1994], thereafter reworked by Derrida) of originary technicity, subversion occurs not in the representation or recontextualization of the prosthesis (tool), but in identifying the telling glitches in its incessant re-mediation. As the Star Trek series' space-colonizing Borg have it in their matter-of-fact battle-cry, simple resistance is futile; what is called for is rapid and partial refiguration (Haraway

1992; Suchman 2007) of a moving target, as "being defaults to, or plays with, the conditions that technics make possible" (Tinnell 2012: np).

Systems of capitalist production create bodies that are, in Augusto Boal's (1985) terminology, deformed by work. They are always produced anew and, arguably, freakishly by what they do, and by the tools with which they do it. The seemingly innocuous hostess' fan expands and contributes its meaning as a talisman of security and a weapon of war; its metal blade mimics and is mimicked by the metal body of the robot who may need to deploy it. Repeating Kember and Zylinska as quoted above, "originary technicity can thus be understood as a condition of openness to what is not part of the human": for a robot, the techne can be both an ontology, and subsidiary tools worn inside or as part of the body/self. The next section details one such object.



Sharp Eye

removable eyeball with concealed dagger blade

Even if, as in current android construction practices, each eye is or has a camera, there can be cameras embedded elsewhere in the body. So an eye may be removed, if necessary, and vision still function. A spike or needle can be embedded in the root of the eyeball and still pass a scan as being a mechanical connection component.

Sharp metal is dangerous to humans and will continue to be. It causes damage which provokes a nerve reaction, perceived as pain, and it lets out vital fluids! It's rarely ethical to stab someone, but it can be considered ethically acceptable if done under sufficient duress and in self-defence. Can we extend such ethical frameworks to robots who work for our physical pleasure?

The robot wife as chattel class — "women acting like Stepford Wives who cheerfully and mindlessly engage in sexual and domestic servitude" (De Fren 2008: 195) — is overtly figured by roboticists and investors when publicizing their androids in the global media. If 'other' members of society find this figuration too repugnant to warrant support by tax monies, then, as David Levy suggests in Love and Sex with Robots (2007), research and development could instead be funded by the already deeply inegalitarian multi-billion-dollar sex industry. But rather obviously, designing and deploying robots uncritically in a stereotypical sex hostess' role and image does not guarantee ethical treatment for the robots, their 'gender', or the workers they displace.

Roboethics

Ideas about gender, embedded in documents by engineers in Europe, Japan, Korea and the US that seek to define 'roboethics',[5] are incomplete, biased, and/or culturally imprudent. In the following, I will briefly gloss three documents, or sets of documents, from committees convened to draft a preliminary directive for the emerging field of roboethics. Ethical assessments made by transcontinental engineering cooperatives require greater input from (post)humanities disciplines, including recent scholarship addressing the issue of sex robots precisely (see Devlin 2018; Richardson 2020 (forthcoming)), and also three decades of writing about the gendered synthetic/cyborg/avatar body and the cybernetic interface.

EURON An atelier, funded by the European Robotics Research Network (EURON) to systematically assess ethical issues for human designers of robots, produced and circulated a 42-page Roboethics Roadmap in 2006–7.[6] The Roadmap claims that humanoids "answer to an old dream of humanity, and certainly do not spring only from rational, engineering or utilitarian motivations, but also from psycho-anthropological ones … [such as] the demand to carefully replicate nature in all its forms" (Veruggio 2007: 28).

The atelier refers at its publication's outset to 10 General Ethical Principles of the United Nations, sublisting the United Nations Convention on the Elimination of all Forms of Discrimination against Women (18 December 1979). The Roadmap lists, in passing and amongst many others, values of non-discrimination, non-stigmatization and diversity in "gender, ethnicity, minorities" (10). Gender is not mentioned again and the document proceeds to discriminate absolutely, either by omission or along the lines of the few examples provided below (for more examples, see Knox 2015: 99–104). Issues relating to social power structures are totally elided, even when identifying potential 'problems' springing from human–humanoid interaction and cohabitation. The term 'discrimination'

5 More recent ethical policy documents include the Report of COMEST on Robotics Ethics (World Commission on the Ethics of Scientific Knowledge and Behavior (COMEST) 2017) and Ethical Issues for Robotics and Autonomous Systems (UK Robotics and Autonomous Systems Network (UK-RAS) 2019). These will be discussed in forthcoming analytical annotations to the second set of accessories in Gynoid Survival Kit, which is an ongoing art project. In short, the latter document relies heavily on source material that relates solely to artificial intelligence, and scarcely references bodies or acknowledges that ethical issues might be embedded bodily; the former document contains some useful material on "gendering care work" and critiques the fact physical care is usually absent from the rhetoric of techno-advancement. The new work also glosses the 2019 UNESCO report "I'd Blush if I Could", produced in collaboration with the German Government, about the gendering of digital assistants tending toward what UNESCO's Director of Gender Equality calls "hardwired subservience" (UNESCO 2019). The report contains a policy paper with 15 actionable recommendations. Its focus is on gender in AI.

6 Sources cited in this scientific document include, incongruously, Isaac Asimov and Aldous Huxley. I audited its entire reference list by sex. Seventy men are cited, and six women, four of whom have co-written with men. (The other two women are prominent scholars Breazeal and Turkle.) This statistic is skewed in favour of females because I have merely done a headcount, and several of the male writers have more than one text cited. The document's reference list is more than 92 per cent male.

clearly needs a solidly expressed, published definition in the document and in the broader roboethical purview, as its constituent forces, histories and consequences are often missing from view.

The EURON document states that "sexual robots could decrease the sexual exploitation of women and children" (38) but it does not offer a description of how this might come about, despite the authors' certainty that the robots in question will be made to look and 'behave' like the women and children.

> Given the high cost and the delicacy of the humanoids, they will probably be employed in tasks and in environments where the human shape would really be needed, that is, in all these situations where the human–robot interaction is primary, compared to any other mission — human–robot interactions in health care, children/disabled people/elderly assistance, baby sitting, office clerks, museum guides, entertainers, sexual robots, and so on. Or, they will be employed as testimonials for commercial products. (28)

As should be obvious to this atelier, these role sets happen to be among those to which most societies 'naturally' assign gender and ethnicity. They are, with the atelier's recommended qualities in a human/oid appended: cleaners (fast, accurate, never tired, never bored), babysitters (patient, talkative), personal assistants (always available), handymen (able to solve many technical problems), and entertainers (attractive, marketing tools). The document states that "last but not least, robots will be used as sexual partners in many fields, from therapy to prostitution" (37). It goes on to talk about robots' growing acceptance in the art world.

From its argument, as summarized above, there follows in the Roadmap an (underplayed) logical leap: it is more than implied that robotic replication of 'service' people will emancipate these same people from their current drudgery and stigmatization. There is no consideration that the replication might either further disenfranchise these groups by threatening their livelihoods, or, more insidiously, materially inscribe an aesthetic that would 'forever' semiotically link them to service roles (see Alac 2009; see Chasin on domestic service workers in Suchman 2007: 220).

Cynically, one might respond that, yes, this decrease in exploitation might eventuate, were the sex robots to replace the legions of exploited children and women, rather than coexist with their originals, which is the more likely scenario. For vulnerable groups, the de-humanizing aspect of the robots' being aesthetically associated with a stereotyped societal group is a prime example of being killed into machinery. Levy, also, bases a large part of his argument on the economics of inflatable and modular sex dolls, while ignoring the fact that the vast majority of these are female-appearing (2007: 247). As Suchman (2007: 221) observes, "[a]lthough the 'we' who will benefit from smart technologies may be cast as a universal subject, the very particular locations of those who speak and those who are (at least implicitly) spoken of inevitably entail marks of

class and gender and attendant identifications". The 'we' in Levy's small-f futurism is the conspiratorial, cashed-up user of said robo-prostitutes. The example Levy gives of this universal subject? A sailor.

To address such concerns is beyond the professed scope of the document; still, its progressive gesturing is hollow. It envisages the attitudes of humans toward robots, optimistically, as mutable: this might in fact comprise a positive outlook toward the prospective rights of sex robots to protect and defend themselves. However, the attitudes of humans toward exploited humans are seen as immutable. In a prime example of what González (1999 [1995]: 271) calls "white collar epistemology", the atelier finds that, rather than change societal attitudes toward exploitation, it is more desirable to switch the objects of those attitudes. Consequently, machines that serve 'us' are "refantasized from problematic human workers" (Suchman 2007: 225) while further obscuring the ongoing situations of these same human workers.

The quick-fix approach described above also assumes an ongoing division between human and robot. With so many high-profile labs and innovation centres involved in producing this document, it is not a rigorous enough approach to make the excuse, as they do, that the vision is necessarily truncated and only meant to represent the time span of a decade. As biorobotic borders shift and blur (Allison 2006; Pickering 2010: 9, 384), the embedding of discriminatory practices in this glib, deterministic 'ethics' may result in dire consequences for many: robot, human, and robohuman.

ETHICBOTS Another European project, Ethicbots,[7] ran 2005–8 and was a much more comprehensive attempt to survey the "emerging technoethics of human interaction with communication, bionic, and robotic systems" (Ethicbots 2006a: D1-3). It was similarly subtitled 'Towards a roadmap for techno-ethical research'. A consortium from Italy, Germany, Switzerland, France and the UK was coordinated by the Physical Science and Computer Systems Engineering Departments of the University Federico II at Naples. With the European Charter of Fundamental Rights as its ethical framework, this consortium examined existing ethical regulations — an aim was "presenting the status quo" (Ethicbots 2007: D4-33) — with a view to its "proposal of standards and recommendations for EU techno-ethical regulations" concerning the integration of artificial entities into human bodies and societies. Its findings on humanoids corroborate my stated impressions of EURON's Roadmap, but do not recommend anything more detailed than 'care' and a vaguely articulated vigilance. The authors also, and perhaps instrumentally, grossly underestimate the future presence of humanoids in societies, despite the problems that, they acknowledge, are augured by 'humanoids'.

7 Ethicbots stands for Emerging Technoethics of Human Interaction with Communication, Bionic and Robotic Systems. The URL at which it was published originally is now defunct. To read the original text, please contact this article's author.

> With regard to research on humanoids it is questionable whether there will emerge any useful applications. It is self-evident that humanoid robots are mostly functional if they substitute humans. … But as the main application area of Human–Robot Interaction is the toy (and may be soon the sex) industry, while therapy and care is very small and specialized … we should rethink the amount of funding in the field of Human–Robot Interaction given the limitedness of public resources and the missing applicability of humanoids in useful societal domains. (Ethicbots 2008: D5-59–60)

Ethicbots did examine the issue of gendering through case studies in socio-ethics (including Levy 2007) "relying on hermeneutics, anthropology, critical theory, gender and cultural studies as well as participatory technology design methodologies" (Ethicbots 2008: D5-16). It concluded that, in contemporary practices in human–robot interaction, "human behaviour is commonly standardized by no more than five personality traits and six basic emotions … Equality issues, especially with regard to gender and diversity are ignored by this approach" (Ethicbots 2007: D4-62). There is no mention of sexism per se, but one, important, mention of 'women' with regard to sexism.

> Social roboticists want to exploit the assumed human tendency of anthropomorphising machines and interacting with them in a social way by shaping them either woman-like, like an infant or like a pet. … On the one side, it is problematic from an ethical standpoint to give robots the shape of women, infants or pets to attract user [sic]. This kind of technology design perpetuates long-known and problematic stereotypes. On the other side, this model ignores female consumers who might be repelled by woman-like shaped robots for care, education, etc. (Ethicbots 2008: D5-56–7)

> [W]e must be careful with legitimating human work to be replaced by machines by pointing out … the inhumane nature of a certain kind of work. In this case, a 'robotic divide' between rich and poor countries would not only mean that in some countries certain tasks are taken over by robots but that — according to this way of argumenting [sic] — workers in other countries are expected to do inhumane work. (Ethicbots 2007: D4-27)

> Tele-presence may come along with xenophobia if this technology is used for staying away from people. Thus, also here in respect of a possible 'robotic divide' between rich and poor countries, but also between the rich and the poor within one society, there must be asking [sic] if this does not result in establishing societal developments which are lamented elsewhere. (Ethicbots 2007: D4-32)

As in EURON's Roadmap, the eventual focus of the report is on regulating, rather than on educating.

> The example of 'virtual child pornography' in online offers such as 'Second Life' shows that similar regulations must be expected also for humanoid robots if they, being media products, are not anyway included into the appropriate laws. In general, we must assume that humanoid robots, as far as they represent specific individuals, are not allowed to violate the personal rights of those depicted, and that as far as no example can be found

> they are allowed to be produced and used only within the frame of valid laws. (Ethicbots 2007: D4-32)
>
> The EU should carefully monitor research and development on humanoids in ethically problematic areas (such as sex robotics, care robotics). … The disregard of EU quality measures and the further reification of stereotypes and reductionist schemata via technology should be avoided. (Ethicbots 2008: D5-64)

Regulating the (re)production of already extremely regulated social groups is, or should be, a very delicate consideration requiring attention to, among others, economic, sexual and cultural differences (cf. Kitano 2006; Nakada 2012). Ethicbots recommended that addressing the challenges of humanoids needs further discussion, wider community-building, and better dissemination strategies than could be achieved by its project.

SOUTH KOREAN ROBOETHICS The Government of South Korea, one of the world's most hi-tech nations, announced in 2007 that a five-member task force composed of robotics experts, futurists and a sci-fi author had begun work on a 'robot ethics charter'. The progress of this charter is difficult to track, possibly because its simplistically outlined tasks ('the charter will be based on Isaac Asimov's three laws …' etc.) proved difficult in the doing.

The rationale for the charter was expressed similarly to that for the EURON manifesto. The South Korean Ministry of Commerce, Industry and Energy told the global media (AFP) that "[a]s the South Korean population ages, various service robots will come into use, eventually becoming key companions to human beings" (New Scientist 2007, unpaged), while the Ministry of Information and Communication predicted that every South Korean household would have a robot by sometime between 2015 and 2020 (BBC 2007) — a target five or ten years earlier than that of the Japanese government. National Geographic ran the title "Robot code of ethics to prevent android abuse, protect humans" (Lovgren 2007), citing EURON's Gianmarco Veruggio as a leading authority on roboethics' "sensitive areas". New Scientist (2007) reported:

> The Korea Institute of Science and Technology, in Seoul, is also working on robot caregivers that can perform simple chores and monitor the health of elderly people. The project is due for completion in 2013. The same institute developed EveR-2 Muse, a robotic 'woman' that can speak and reproduce various facial expressions.

As a cautionary case in point, both magazines directly quoted robotics researcher Hye-Young Park of the Korean Ministry's code of ethics team: "'Imagine if some people treat androids as if the machines were their wives'" (Lovgren 2007; New Scientist 2007). Without reading too much into this remark (from a government-instated 'ethical expert'), its various double-edges include: the semantic opposition of 'people' to 'wives'; ambiguity as to the object of the concern (is it for the 'person' or the machinic 'wife'?); the unsubstantiated — formative? — expectation that the household worker-droid will

be feminine-gendered; and the undercurrent of titillation invoked by the human–robot domestic arrangement. In speaking to a major global media outlet, it is here considered acceptable to verbalize all these assumptions.

Discreet Charge; Top-up Charge

spare batteries that can be covertly worn in place of earbuds and tampons

There is a misconception in popular wisdom that robots, by being immortal, are somehow impervious to the passing of time. On the contrary, time can be used as a weapon against robots. Even in a cyborg body, components will need different types of power and it is unlikely that the common battery will be superseded any time soon. Battery cycles can be swift, especially if complex physical tasks are performed. Mobility requires disconnection from the grid. It is likely that a client may know at least the approximate length of a robot's battery life, and use this knowledge for good or ill. If a working gynoid faces a critical battery-depletion situation, it may need surreptitious charge. These accessories can be carried and worn in ways that do not telegraph their function as top-up batteries, especially to intoxicated clients.

In some feminist theory there is recuperation available to stereotyped women — to all women — in the 'transgressive' figure of the cyborg. Haraway's Simians, Cyborgs, and Women (1991), containing, among other essays, her 1985 "manifesto for cyborgs", productively introduced this reading of a "regenerative politics for inappropriate/d others" (Haraway 1992: 295). In an endeavour to view the more recent 'evolution' of gynoids in light of such readings of dissolution, double-coding and fluidity across frontiers, I have been compelled to question whether the unfortunate embodiment of the mediated hostess in the commercially obtainable fembot is redemptive in any such way.

So-called 'sex robots', while not technically containing what might be considered the organic componentry of a cyborg, are surrogates that function via human input or entwinement. They are also, like silicone implants, plastic joints and transplanted organs, apparatus that intervene in medical discourse: they could be used as contraceptives; they could be used by people requiring aesthetic copies of humans that 'freeze the moment' and reframe biological aging, replicating or 'versioning' a desired human, or even oneself to deploy as a sexual proxy. This facility will make for a profoundly different aesthetics of techno-sociality in years to come. Hayles' (1999 [1993]) much-quoted, clear-cut claim, twenty years ago, that ten per cent of the US population were cyborgs by virtue of pacemakers and the like could not be made today; in fact, claims are constantly made that 'we' are all cyborgs now (see e.g. Case 2010). The productively liminal ontological status of the metaphoric figure of the cyborg is receding, and in its place materializes a formal facticity that, once marketed on a vast scale within global capitalist infrastructure, may prove doubly difficult to dissolve or amend.

I am concerned here with the early stages of android cultivation — a pivotal period, happening now, that anticipates one in which the humanoid machine will come to be distributed throughout society, naturalized and factual to the extent that its very existence "serves as the foundation of knowledge and secure assent" (Suchman 2007: 214; see also Robertson 2010: 10). In other words, we get used to things existing, feel as if they have always been there, and (culturally, due to contingent practices of technicity and historiography) tend to forget how or even that they were modelled (see Harman 2009: 28–46, 183). Castañeda and Suchman cite Ankeny and Leonelli as contending that "the actual relationships between model organisms and [the larger groups they are meant to represent] are very ill-articulated in the early stages of model organism work" (2013: 7).

Modalities of (dis)articulation are obsessively physicalized in android science, but rarely verbalized in any reflexive or interrogative sense – as, admittedly, the tasks at hand in prototyping the human predominantly concern attempts to simplify what is complex and audition what is guesstimated. Reliance on tropic 'common knowledge' is strategically aligned with efficiency and economic viability, as 'common knowledge' shortcuts the need for realignment of values in either the production or consumption of an image or

entity (cf. Haring, Mougenot & Watanabe 2012). Anyone who has attempted to draw a friendly-looking alien knows that it is simply easier to present it intelligibly in at least vaguely humanoid form — the relationship seems obvious between comfortable futurity, the humanoid and the historical human; thus a historically contingent humanoid-ness becomes apprehended as 'naturally occurring' phenomena in all individuals perceived as agentic: it is a simple 'matter of fact' that 'new' creatures are humanoid. It is this flavour of the foregone conclusion that is so dangerous politically and ideologically to certain identities whose development is circumvented and who miss out on self-definition and growth.

Hayles (1999: 158) has written that machines do not 'grow' as such, or as we know growing to be. But at the intersection of biology and engineering (e.g. bacterial batteries), the meaning of the term 'growing' is being expanded. Robotics proceeds apace and will intersect with other kinds of projects to create new modes of reproductive collaboration; thus 'growing' will be constantly redefined. And what is considered extraordinary or mutant now will later be normalized.

Building into the sexbot the memes of glossy hair, smooth skin, demure demeanour and the verbal ability to reassure her companion will not render her reproductive in the evolutionary sense (either as a mate for a human, hybrid or, rather more speculatively and anthropomorphically, another android). However, there has been consistent reiteration of these conventionalized attributes in figuring and programming the faux-genetic gynoid (González 1999 [1995]: 264). Considering the matter from another angle: due to the inextricability of our zeitgeistian knowledge from its co-present culture … maybe we do need these outmoded aesthetic story-codes for androids to reproduce — if the gynoid looks and behaves like the quintessential geek's fantasy girl, does she not thus implicitly encourage him to make more of her? Does she not thus sneakily guarantee her progeny? (Cue the horror reel.) Suchman (2007: 269) prefigures this spooky scenario thus:

> '[T]he technical' in regimes of research and development are centred, whereas 'the social' is separated out and relegated to the margins. It is the privileged machine in this context that creates its marginalized human others.

In other words, roboticists generally take for granted their everyday social behaviour, and do not analyze it when assigning form and function to humanoids; rather, they instinctively, pragmatically and "uncritically reproduce and reinforce dominant stereotypes" (Robertson 2011: 288; cf. Siegel, Breazeal & Norton 2009). These stereotypes could be seen as materially self-fulfilling, reproductive even. Subconscious popular recognition of their narrowness could also be the basis of a longstanding public phobia: that cloned robots will proliferate and take over the world (Bar-Cohen, Hanson & Marom 2009: 165). This is a literal reading of Suchman's metaphor of marginalizing humans.

The over-storified gynoid is using human failings to create more of herself; she will prevail. This cautionary tale, however, provides humans yet another reason to suppress the freedom of the gynoid and, by association, the hostess.

Stereotype–clone–fear–stereotype is a cycle by which the construction of the gynoid can be understood. My artworks render this cycle of anxiety, reproduction and disregard in various ways. Battery anxiety is a major driver of behaviour in today's world, and the prostitution robot will not be immune to it. The finite battery is a weak point: the energy-source of the machine. To continue to operate, contribute, prevail, it will need power, backup, and supply. Thus weaponized, it may have a chance of protecting a type of selfhood that is not supported in the context of its working arrangements.

References

Alac, Morana. 2009. Moving android: on social robots and body-in-interaction. Social Studies of Science 39(4): 491–528.

Allison, Anne. 2006. Millennial Monsters: Japanese Toys and the Global Imagination. Berkeley: University of California Press.

Ars Electronica Festival. 2017. 'Samantha', https://ars.electronica.art/ai/en/samantha

Bar-Cohen, Yoseph, David Hanson & Adi Marom. 2009. The Coming Robot Revolution: Expectations and Fears About Emerging Intelligent, Humanlike Machines. New York: Springer.

Baudrillard, Jean. 1991 [1983]. The ecstasy of communication. The Anti-Aesthetic, edited by Hal Foster, 126–34. Seattle: Bay Press.

BBC News. 2007. Robotic age poses ethical dilemma. One-minute World News. 7 March. http://news.bbc.co.uk/2/hi/technology/6425927.stm

Bennett, Jane. 2010. Vital Materialism: A Political Economy of Things. Durham: Duke University Press.

Boal, Augusto. 1985. Theatre of the Oppressed. Translated by CA and ML McBride. New York: Theatre Communications Group.

Butler, Judith. 1988. Performative acts and gender constitution: an essay in phenomenology and feminist theory. Theatre Journal 40(4): 519–31.

Butler, Judith. 1990. The pleasures of repetition. Pleasure Beyond the Pleasure Principle: The Role of Affect in Motivation, Development, and Adaptation, edited by Robert A Glick & Stanley Bone, 259–75. New Haven: Yale University Press.

Butler, Judith. 1997. Excitable Speech: A Politics of the Performative. London & New York: Routledge.

Caputi, Jane.1999. The pornography of everyday life. Mediated Women: Representations in Popular Culture, edited by Marian Meyers, 57–79. Cresskill, NJ: Hampton Press.

Case, Amber. 2010. We are all cyborgs now. TED Women. Talk filmed 8 December, Washington. https://www.ted.com/talks/amber_case_we_are_all_cyborgs_now

Castañeda, Claudia & Lucy Suchman. 2013. Robotic skin: the future of touch? Thinking Through the Skin, edited by S Ahmed & J Stacey, 223–36. London: Routledge.

De Fren, Allison. 2008. The exquisite corpse: disarticulations of the artificial female. Doctoral dissertation (critical studies), University of Southern California. http://works.bepress.com/cgi/viewcontent.cgi?article=1006&context=allison_de_fren

Deleuze, Gilles. 1995 [1968]. Difference and Repetition. Translated by Paul Patton. New York. Columbia University Press.

Devlin, Kate. 2018. Turned On: Science, Sex and Robots. London: Bloomsbury.

Dewey, John. 1980 [1934]. Art as Experience. New York: Perigee Books.

Dewey, John. 2008 [1925]. Unmaking Mimesis: Essays on Feminism and Theatre. London & New York: Routledge.

Ethicbots. 2005–8. Deliverables and reports. D1–D5. Naples: University Federico II at Naples.

González, Jennifer. 1999 [1995]. Cybersexualities, edited by Jenny Wolmark, 264–79. Edinburgh University Press.

Grosz, Elizabeth. 2005. Time Travels: Feminism, Nature, Power. Crows Nest, AU: Allen & Unwin.

Haraway, Donna. 1991. Simians, Cyborgs, and Women: The Reinvention of Nature. London: Free Association Books.

Haraway, Donna. 1992. The promises of monsters: a regenerative politics for inappropriate/d others. Cultural Studies, edited by Lawrence Grossberg, Cary Nelson & Paula A Treichler, 295–337. New York: Routledge.

Haring, Kerstin Sophie, Celine Mougenot & Katsumi Watanabe. 2012. Gender differences in the perception of robots. Proceedings: 30th Annual Conference of the Robotics Society of Japan, 154–6.

Harman, Graham. 2009. Prince of Networks: Bruno Latour and Metaphysics. Melbourne: RePress.

Hayles, N Katherine. 1999 [1993]. The life cycle of cyborgs: writing the posthuman. Cybersexualities, edited by Jenny Wolmark, 157–73. Edinburgh University Press.

Heidegger, Martin. 2001 [1927]. Being and Time. Translated by John Macquarrie & Edward Robinson. Oxford: Blackwell.

Kember, Sarah. 1998. Virtual Anxiety: Photography, New Technologies and Subjectivity. Manchester University Press.

Kember, Sarah & Joanna Zylinska. 2012. Life After New Media: Mediation as a Vital Process. MIT Press.

Kitano, N. 2006. Roboethics: a comparative analysis of social acceptance of robots between the West and Japan. Proceedings: Euron Atelier on Roboethics. 27 February–3 March, Genova, Switzerland.

Knox, Elena. 2015. Beyond Beyond the Valley of the Dolls: Gynoids' performance of hospitality. Doctoral dissertation (media art), University of New South Wales. http://www.unsworks.unsw.edu.au/primo_library/libweb/action/dlDisplay.do?vid=UNSWORKS&docId=unsworks_35925

Levy, David. 2007. Love and Sex with Robots. New York: Harper Collins.

Lovgren, Stefan. 2007. Robot code of ethics to prevent android abuse, protect humans. National Geographic News. 16 March. http://news.nationalgeographic.com.au/news/2007/03/070316-robot-ethics.html

McNulty, Tracy. 2007. The Hostess: Hospitality, Femininity, and the Expropriation of Identity. University of Minnesota Press.

Merleau-Ponty, Maurice. 2002 [1945]. Phenomenology of Perception. London: Routledge.

Moye, David. 2017. 'Sex Robot Molested At Electronics Festival, Creators Say', Huffington Post, September 29, https://www.huffpost.com/entry/samantha-sex-robot-molested_n_59cec9f9e4b06791bb10a268

Munster, Anna. 2006. Materializing New Media: Embodiment in Information Aesthetics. Hanover: Dartmouth College Press.

Nakada, Makoto. 2012. Ethical and critical views on studies on robots and roboethics. Robo- and Informationethics: Some Fundamentals, edited by Michael Decker & Mathias Gutmann, 159–88. Berlin & Zurich: LIT Verlag.

Nishio, Shiuchi, Tetsuya Watanabe, Kohei Ogawa & Hiroshi Ishiguro. 2012. Body ownership transfer to teleoperated android robot. Lecture Notes in Artificial Intelligence vol. 7621, edited by Shuzhi Sam Ge, Oussama Khatib, John-John Cabibihan, Reid Simmons & Mary-Anne Williams, 398–407.

Pickering, Andrew. 2010. The Cybernetic Brain: Sketches of Another Future. Chicago & London: University of Chicago Press.

Richardson, Kathleen. 2020 (forthcoming). Sex Robots: The End of Love. Cambridge: Polity.

Ridgeway, Cecilia L. 2011. Framed by Gender: How Gender Inequality Persists in the Modern World. New York: Oxford University Press.

Robertson, Jennifer. 2010. Gendering humanoid robots: robo-sexism in Japan. Body & Society 16(2): 1–36.

Robertson, Jennifer. 2011. Gendering robots: posthuman traditionalism in Japan. Recreating Japanese Men, edited by Sabine Frühstuck and Anne Walthall, 284–310. University of California Press.

Schomberg, Rene ́von (ed). 2011. Towards Responsible Research and Innovation in the Information and Communication Technologies and Security Technologies Fields. Luxembourg: Publications Office of the European Union. http://www.etica-project.eu/

Siegel, Mikey, Cynthia Breazeal & Michael I Norton. 2009. Persuasive robotics: the influence of robot gender on human behavior. Proceedings: IEEE/RSJ International Conference on Intelligent Robots and Systems. St Louis, USA.

Springer, Kate. 2012. Woman or machine? Sophisticated Japanese she-bot blurs the line. Time. Technology Watch. 30 March. http://newsfeed.time.com/2012/03/30/watch-woman-or-machine-sophisticated-japanese-she-bot-blurs-the-line/

Stiegler, Bernard. 1998 [1994]. Technics and Time vol. 1: The Fault of Epimetheus. Translated by George Collins & Richard Beardsworth. Stanford University Press.

Suchman, Lucy A. 2007. Human–Machine Reconfigurations: Plans and Situated Actions. New York: Cambridge University Press.

Theweleit, Klaus. 1987 [1977]. Male Fantasies. Minneapolis: University of Minnesota Press.

Tinnell, John. 2012. Originary technicity and grammatization: twin pillars of Stiegler's project. Grammatological Investigations: Digital Writing and Ubiquitous Computing. http://jtinnell.blogspot.com.au/2012/06/originary-technicity-and-grammatization.html

UNESCO. 2019. I'd blush if I could: closing gender divides in digital skills through education. Geneva: Equal Skills Coalition. https://en.unesco.org/Id-blush-if-I-could

Vasseleu, Catherine. 2002. A is for animatics (automata, androids and animats). Living with Cyberspace: Technology and Society in the Twenty First Century, 83–91. London: Continuum.

Veruggio, Gianmarco. 2007. Euron Roboethics Roadmap, ed. 1.2 (January). Genova.

Zaier, Riadh (ed). 2012. The Future of Humanoid Robots: Research and Applications. Rijeka: InTech Open.

Sophie Gerber & Eleanor Armstrong

Queer(y)ing STEM Collections: A workshop on STEM Museums, Gender and Sexuality

Dr.in Sophie Gerber has been a custodian for household technology and food since 2019 and leads the "Focus Gender" venture at the Technical Museum Vienna. She studied history and cultural and social anthropology at the University of Vienna. She gained her Ph.D. in the history of technology at the Technical University of Munich in 2014. She was involved in exhibitions at Deutsches Museum Munich, the University of Vienna and the House of Austrian History. Her research interests include collections research and material culture, the history of technology and consumption in the 20th and 21st centuries, gender and queer studies.

Eleanor Armstrong is a doctoral candidate at University College London, researching queer feminist approaches to pedagogy in science and technology collections. She has a focus on learning in science museums, having previously worked at institutions such as the Science Museum, London; the Science Gallery London and the Edinburgh Science Festival. Eleanor also works on interventions into the museum space to prioritise alternative narratives, including the 'Queering the Science Museum' guided tours and the 'Behind the Glass Cabinet' podcast. Her research interests are particularly around space science, material culture, pedagogy in the museum, gender, and queer studies.

Please contact Eleanor and Sophie on gender@tmw.at for any questions and more information on the workshop.

Museums displaying science and technology shape the way that we talk about the pasts, presents and futures of our interactions with science and technology. Museums have been slow to make this visible. The history of science, technology is still told as a history of male ingenuity, while the mutual constructions of gender, science and technology – including queer (hi)stories – are often marginal. This is at odds with the ways that science and technology permeate our contemporary lives, and intersect, reproduced and challenge the social constructions of gender and sexuality.

How can the science and technology museum, as a cultural and social institution, explore the opportunities of reflecting and developing a plural society? In what ways are these museums still bound by existing collecting, labelling, and exhibiting practices? How are museum curators, practitioners, scholars grappling with these problems, and what tools, tactics and methods are helping tackling these tasks?

Since early 2019, the Technisches Museum Wien focuses explicitly on gender and sexuality in its "Focus Gender" and asks how a queer reading and diversification of collections is possible and who is able to do so? How can multi-layered, yet excluded

knowledge be documented e.g. in databases? On 5 and 6 March 2020, the Technisches Museum Wien deals with such questions in "Outer Edge: Queer(y)ing STEM Collections", the first Vienna workshop on gender and sexuality in STEM collections.

As a part of the museum's "Focus Gender", this workshop will critically attend to constructions of gendered and/or heteronormative technology and science, and to emphasise the role of the object and material culture in queer and feminist approaches to science and technology studies. Led by Sophie Gerber (Technisches Museum, Vienna) and Eleanor Armstrong (invited expert, University College London), the workshop brings together scholars and practitioners to scaffold actions in museums, and build a network of interested parties.

Papers, workshop activity ideas and creative responses will engage with collecting, representations and enacting gender and sexuality in science and technology museums. This workshop will offer innovative approaches and perspectives for engagement with gender, LGBTIQ+ and activist movements in museums beyond a science and technology context.

Participants will address:

- Intersecting marginalizations of gender and/or sexuality in particular with ethnicity, religion, disability, race, nationality in science collections,
- Collecting diversity in gender and/or sexuality in science museums,
- Data quality, collections labelling, and fixity around gender and/or sexuality in science collections,
- Categorization, fixed categories and/or science collections,
- Language is describing and explaining STEM fields and/or collections,
- Exhibiting STEM collections in equitable ways,
- Working groups, publics, and involving 'outside' expertise in science museums and collections.

Queer Science
& Technology Studies