

II

ESSAY

THEY GO THERE,

NOT

B E C A U S E

IT IS EASY,

BUT BECAUSE

IT IS HARD

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†

THE FUTURE IS FLESHY

So, 'The future is fleshy'. But what is the future? This is a question that science fiction has always considered its domain. Lucy McRae calls herself a science-fiction artist, placing herself within that tradition and declaring a willingness to take this question seriously. 'The future is fleshy'. It's a much nimbler, more thoughtful and more provocative retort to the beleaguered slogan 'The future is female' than many of its overly literal alternatives.

The slogan 'The future is female' was originally designed for a T-shirt for New York City's first radical feminist bookstore, Labyris Books, in 1975. It was resurrected by Los Angeles graphic designer Rachel Berks in 2015, who put it on a shirt made famous by supermodel Cara Delevingne and her then girlfriend, musician Annie Clark (aka St. Vincent). Hillary Clinton then used the phrase in 2017, in her first public address after Trump's inauguration. While the slogan was criticised on the right as divisive, and on the left as misguided in the age of gender fluidity and intersectional feminism, alternatives like 'The future has no gender' lack not only the poetics and philosophical rigour of Lucy McRae's chosen cooption of the term, 'The future is fleshy', but also the resonant spectres of CRISPR gene editing, biotechnology, robotics and AI.

The title *The Future Is Fleshy*, given to one section of McRae's 2019 exhibition at the National Gallery of Victoria, actually comes from a collaboration between Lucy McRae and Christina Agapakis, Creative Director at Ginkgo Bioworks ('we design organisms for customers across multiple markets')¹, which will feature in a forthcoming MIT Press publication.² It reflects Lucy McRae's conviction that the world is rapidly changing into a gender-fluid place that feminises technology and therefore the future. She is excited by the idea that we might soon be able to ingest a hormone that allows us to slide between genders through the day. She sees, in the last few years, a slipping of the grip of the masculine on the reins of technology: she wants to feminise it. She wants to use technology like an elastic membrane and drape it over us in a dance of material.³ She wants to show us a feminine aesthetic that is not separated from science or technology. This is Lucy McRae's science-fiction agenda, a speculation that shows us the here and now, and where we could go from here. All good science fiction does this – as Ursula K. Le Guin says, 'Science fiction is not predictive; it is descriptive'⁴ – and the short films and video works shown in *The Future Is Fleshy* echo and extend some of the great visual sci-fi works, particularly in their use of colour, framing, props, attention to detail and the creation of narrative worlds via single shots or sequences.

SCIENCE FICTION

Of course, we must never underestimate the informative power of science fiction to shape science fact – think of the influence that the original cyberpunk authors, especially Neal Stephenson with his first novel, *Snow Crash* (1992), had on the digital libertarian capitalists who built the contemporary web and who now hold sway over Silicon Valley and the world,



or the self-fulfilling prophecy of the aesthetic of Ridley Scott's *Blade Runner* (1982) in the architecture of the Tokyo Metropolitan Government Building. It is clear that a good part of Lucy McRae's intention in these videos is indeed to force the issue, to bring forth worlds. In this, she perhaps displays her past association with speculative design practitioners Anthony Dunne and Fiona Raby, formerly of the Royal College of Art Design Interactions program, and also James Auger, with whom Lucy McRae worked at Philips. There is an obvious relationship between speculative design and science fiction, beyond the fact that science fiction is sometimes called speculative fiction and speculative design uses the term 'design fiction'. This relation shows through in many of the videos in *The Future Is Fleshy*, especially by way of the props.

Dunne and Raby insist that science-fiction film props are hampered by a referential need for legibility that prevents them from achieving the future-shaping real-world agency that skilful design fictions do.⁵ While this is a very contestable reading of SF film specifically, it definitely does not apply to written science fiction: just think of the outrageously detailed, highly world-making object descriptions in Ann Leckie (the Garseddai gun⁶), Cixin Liu (the sophon⁷) or Philip K. Dick (the Penfield mood organ⁸) as just some of many, many examples. Nonetheless, Dunne and Raby's assertion illustrates the world-making function of objects or props in science fiction, and their putative line between legibility and speculative agency is one that is skilfully elasticised in Lucy McRae's films. Her formal training in interior design guides her detailed and lengthy process of making large numbers of props for her science-fiction worlds. She calls these worlds into being object by object, ultimately creating a world for us to enter in order to contemplate what kind of world we want.

BODY ARCHITECT

Lucy McRae also calls herself a body architect. Having formally studied both dance and interior design, McRae displays in the video works in *The Future Is Fleshy* a rhythm, composition and spatial awareness that can only be a product of these two ostensibly disparate but spiritually related fields. In these works, dance becomes a kind of temporal architecture, opening an interior to be improvised within, and architecture becomes a kind of concrete dance that spatialises time into narrative worlds. In these senses, Lucy McRae continues in the radical artistic space created by the two great Melbourne-born body artists, Leigh Bowery and Stelarc. There is the sense of an extended body, the body as future, a body upon which the vicissitudes of the past are carved, but as paths to a future different from the designs that technology would determine.

By engaging with corporate design departments, which she has done regularly and sometimes for extended periods, Lucy McRae opens the crucial question of what, if the future is fleshy, constitutes a body in this globalised world of corporate identity and personal branding. The body, corporeal, the corporation, incorporated on the network of bodies, personal bodies branded by the corporate. Lucy McRae believes, or at least hopes, that the

relationship between brands, artists, scientists, technologists and engineers becomes so entangled, so inseparable, that naturally we will experience a more feminine incorporation.⁹ Given the masculinist, even monstrous, desire of the progenitors of capitalism to incorporate a body without flesh, a corporation with no personal responsibility, which then subjects real bodies, across and including the world itself, to endless and increasing physical harm, this is a kind hope indeed.

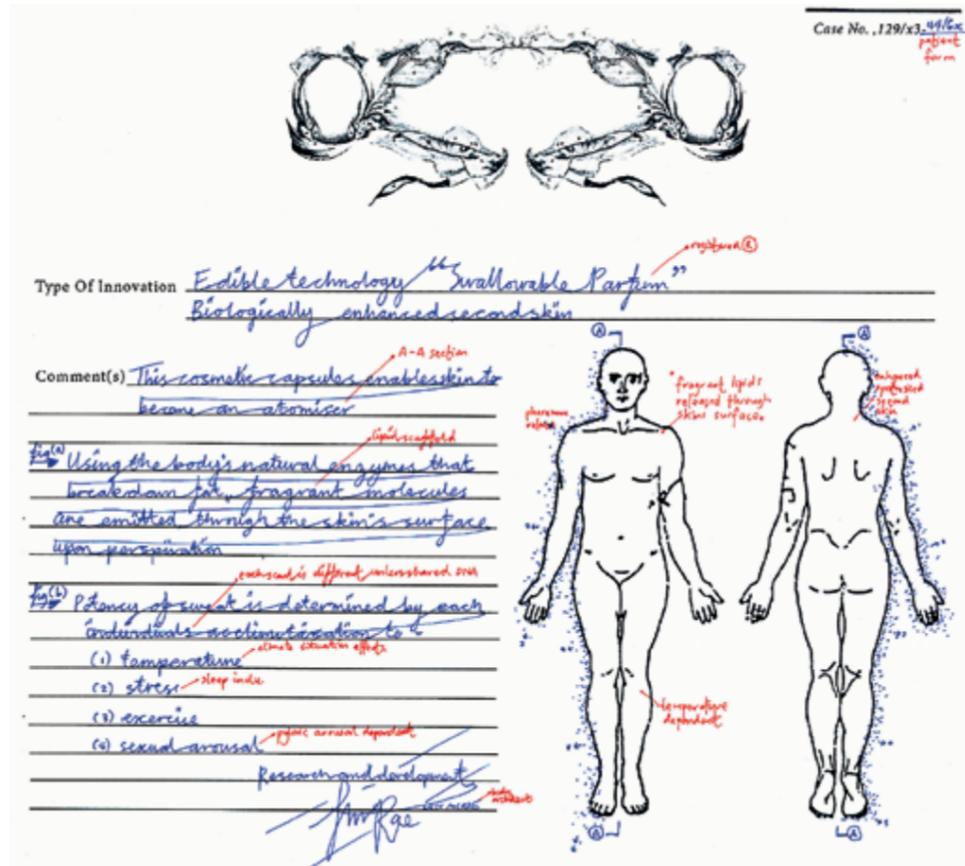
COLOUR

The use of colour is the other primary narrative technique in *The Future Is Fleshy* videos. This, also, is a defining technique of the science-fiction film. Indeed, it's not unreasonable to essentialise art direction in sci-fi film as the use of colour and props. Think of the journey of colour washes in *Gattaca*, the 1997 film by Andrew Niccol, itself unashamedly influenced by the use of colour (and props) in Terry Gilliam's *Brazil* (1985) and Scott's *Blade Runner*. In a journey from an evocative golden yellow, through a hopeful bright green to a cold stark blue, finally culminating in a bright white with a slight rose-coloured glow, it doesn't matter here what the colours mean specifically in the story of *Gattaca*, or that the execution is sometimes ham-fisted, the point is that colour is explicitly used to establish or progress a narrative world, and to demarcate the work as dealing with the future.

Notice, then, that Lucy McRae's 2009 *Swallowable parfum* 'commercial' (pp. 72, 73, 74) uses the same three basic colours as *Gattaca* – golden yellow, hopeful green and cold blue – but it also uses a liberal amount of blood red. (The red is not yet disciplined into acting as a narrative exclamation mark as it is in the later, more visually confident, videos.) The colours bubble viscously while the human model literally sweats gold. Not only is McRae using colour to build a speculative world in the tradition of science fiction, she is proposing a product that makes people sweat in colour! Indeed, liquid colour is the fundamental element of this 'commercial', partly out of budgetary necessity. It works well along with the close-up shots of the model's face and mirrors to create the fiction of an expensive cosmetics commercial. The music is spot on, with only the mixing and mastering of the voice over giving it away as not the 'real' thing.

GENETICS

Gattaca is also a touchpoint for the videos in *The Future Is Fleshy* because it deals with one of Lucy McRae's abiding interests – genetics. While in many ways *Gattaca* is a simplistic and traditional moral tale of a good ol' human male overcoming a technological and rigid bureaucracy (thereby dropping the ball it picked up from *Brazil*), Lucy McRae's video works are far more nuanced in relation to biotechnology, complicating the questions raised by it, and raising even more. They are part of the conversation that Lucy McRae wants to have, exploring the relationship between the human body and technology for the future. She wants to explore the question of what makes us human, but she knows that this is a



changing proposition, evolving in time with technology. She is fascinated by flesh and protective of it, as a dancer would be, at the same time as being inexorably drawn to the potential of biotechnology like CRISPR gene editing.

SWALLOWABLE PARFUM

The *Swallowable Parfum* videos speculate on a method of modifying our immune systems to control the chemical messages we transpire to the outside world. After leaving Philips, Lucy McRae was researching the science of the body: what happens when technology enters the body? Do we become it, does it become us, do we become something new? How would the consumer market adopt such technology and how would it change the way we behave with products? The question she brought with her from Philips was how to positively disrupt the consumer market. She became particularly interested in smell and pheromone excretion, and the idea that 'healthy babies come from opposite immune systems'.¹⁰ Sweating, in simplistic terms, is the smell of the immune system oxidising through sweat glands, especially in the armpits. *Swallowable Parfum* asks us to consider whether we could genetically manipulate the immune system to create a fragrance that is biologically enhanced. If we can manipulate our body odour by changing pheromones, then we can chemically change the social dynamics of encounters in the nearby environment. *Swallowable Parfum* asks whether the beauty industry could be more directly, chemically, genetically, responsible for the way that we seek sexual partners, rather than passively reinforcing gender as it does now. Lucy McRae sees a future where the beauty industry collaborates with bio-engineers – a fleshy future – and she knows the power of speculative storytelling in helping to bring this kind of disruption about. Not long after making this 'commercial' on a shoestring budget, she was getting calls and emails from all over the world, not only from pharmaceutical companies wanting in on the action, but from individuals suffering from hyperhidrosis (excessive sweat syndrome), who desperately asked where they could get this stuff that would change their lives.

MORPHE

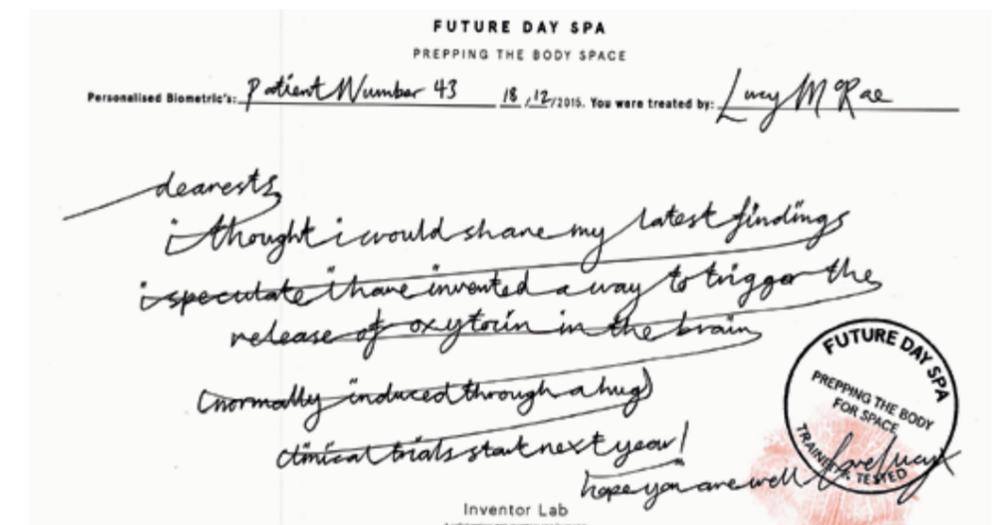
Morphe, 2012 (pp. 76, 77), made for Aesop, the Australian body-care product company, was Lucy McRae's first 'proper' film. She had realised she needed to add time to photography to capture her experiments with liquid.¹¹ Extending the questions asked in *Swallowable Parfum*, this film asks what the future of health and beauty might be, and how our interactions with the body and technology might change in the coming years. We see the coloured liquids again, in tubes and bags very reminiscent of *Gattaca*, but this time the colours are slightly less saturated, creating a broader, subtler palette, which Lucy McRae has maintained throughout her subsequent films. This palette deepens the viewer's immersion in the narrative world because the slight variations in saturation of the same hue create layers of reality, a kind of milky parallax that coaxes and comforts the eye. A slow tracking shot

of some bubbling liquids in this palette gives way to a tracking shot of shelves of coloured liquids forming gradients in translucent plastic jugs and boxes in the greens and golds we know from before, with some subdued reds, but soon we see the Aesop branding, in bottles of colour leaking out into plastic bags, making a dull fleshy colour. Then, there is a vaguely terrifying scientist examining that dull fleshy colour through a magnifying screen. This is a nod to *Brazil*, in which the magnifying screen was used to such great effect to emphasise the distorting effect of technology designed for and by humans. The shot tracks a little further to show racks of the instantly recognisable Aesop props – dark brown bottles that look so much like medicine bottles. At once we realise: beauty *is* science, it always has been. The future is the product of the past.

The film continues by introducing the next consistent (and consistently strong) visual motif of Lucy McRae's films, the female body in a plastic bag. Here, we see a female dancer in a plastic bag. Air is expelled from the bag and taken into it as it wraps the body in the tight but ambivalent embrace of technology. In Lucy McRae's films, the dancer is always clothed in a flesh-coloured leotard, neither light nor dark. It is the same colour as the liquids examined by the scientist at the start of *Morphe*, and is never sexualised or titillating. This is a real person, the avatar of our biotechnological future, and while the image might echo the android woman being cut out of a plastic bag in the misogynistic *Blade Runner 2049* (2017), or the dehumanised sacs of bodies in *The Matrix* (1999), this dancer is really us in our alienated digitised present, craving contact, needing to feel physical pressure but wanting to know how we might improvise along with nature in a genetic dance. We realise again that the beauty industry has always aspired to genetic manipulation. We wonder, as the scientist sticks on labels and peels off gels from the flesh of the subject, has she (have they) undergone some kind of epigenetic evolutionary treatment, or have they been birthed from a kind of genetic editing machine?

MAKE YOUR MAKER

Make your maker, 2012 (pp. 79, 80), continues and extends the visual motifs of *Morphe* and is a vehicle for questioning the determinism of heredity in the parent/child genetic relationship, again like *Gattaca*, but it does this in more speculative ways. It is also reminiscent of Annalee Newitz's speculations in her novel *Autonomous* (2017), but extends a more mysterious and evocative invitation to the viewer to consider the consequences within their own genetically familiar situation. *Make your maker* also echoes some of the questions posed in Mariko Ōhara's wild early 1990s feminist science-fiction work, *Hybrid Child* (only recently translated into English),¹² but with only the subtlest of gestures towards the cruelty and recursive existential crises arising from a loss of control over the genetic process that Ōhara's novel put front and centre to ask, like Lucy McRae, what makes us human and what kind of future do we want? *Make your maker* is visceral and, in that, makes us ponder the violence of nature, genetics, eating and reproduction.



(top) Behind the scenes of *Make your maker* 2012
(bottom) Future Day Spa patient form 2015

THE ASTRONAUT AEROBICS INSTITUTE
- PREP YOUR BODY FOR SPACE -

Name: _____ Patient Number: _____/_____
 Date: ____/____/____ Time: _____ Email: _____
 Email: _____ Dream Job: _____
 Percentage of Participation: 25% 50% 75% 100%

Biological Effect: Intermittent negative pressure (eg, a vacuum) removes lactic acid from muscles and metabolic waste from the lymph system, capillaries dilate and fresh oxygen is sent to the cells enhancing blood flow and skin appearance.

How many somersaults in a swimming pool? 0 1 2 3+

Do you experience nausea when driving at speed over bridges?
 Yes: No: If yes, how often? _____

How often do you feel like you are falling when not moving? _____

Sensation Experienced: _____

Would you consider joining us in space? Yes: No:

I _____ agree to experience speculative vacuum therapy as I prep for space travel and simplify my biological choreography.

Athlete Signed: _____ Date: ____/____/____

SWALLOWABLE PARFUM (SECOND FILM)

The second *Swallowable parfum* work, from 2014 and this time a short film rather than a commercial (pp. 82, 83), takes all the visual motifs established in the earlier films – the colours, the props, the fleshy dancer, the scientist – and works them all together into something that holds together because it’s made of more than what we can see. It’s clear by now that, rather than making a sci-fi film, Lucy McRae makes a sci-fi world, a *real* sci-fi world, and then films that. Indeed, she spends a long time creating and building the world before she even thinks about hiring a cinematographer.¹³ Much of the world she creates doesn’t even make it into the film, but we still feel it. Here, again, her background in interior design comes to the fore. In the movement, action, pacing and editing of the film we also see her formal background as a dancer, and in the complete creation we see her realisation as a science-fiction body architect, who combines the vocabulary of science-fiction film with the real-world speculation of genetic modification.

RADICAL DIVERSITY

Part of the proposition of *The Future Is Fleshy* is a radical diversity, a call for a veering off the too-straight path that technology has so far carved. For Lucy McRae, the feminine is as multi-directional, inclusive and thoughtful as the masculine has been one-dimensional, oppressive and aggressive. Technology calls for a diversity of approach that can only come from a diversity of points of view. As author Lizzie O’Shea says, ‘technology is as biased as its makers’,¹⁴ so the more diverse the people designing the technology, the more inclusive the outcomes will be. Lucy McRae wants to show, not tell, us a possible future of diverse and feminised technology. She wants to help bring about a world where a scientist like Cassandra Extavour, the proudly lesbian person of colour and professional soprano whose lab is radically redefining fundamental understandings of evolutionary and developmental biology (‘evo devo’), is so unremarkable as to not warrant comment in an essay like this.¹⁵ She imagines a feminised, fleshy future of genetic experimentation that can accommodate the complicated ethical and technical questions that are currently the stuff of sensationalist and simplistic headlines that serve more to reinforce Cold War–style tribalisms than explore the consequences of gene editing.¹⁶

PREPPING THE BODY FOR SPACE

Prepping the body for space vol. 2, 2014 (pp. 57, 84, 85, 86), raises the question of whether flesh could be made more resilient against zero gravity or if the body could self-engineer according to environment. Less a short film than a set of moving visual notes documenting an installation that consisted of the props featured in the film, it is made up of a series of different views of a beautifully proportioned rectangular frame wrapped in a highly reflective silver foil fabric capable of extremely high resolution in terms of how closely it can wrap a body – or is it two bodies? The body/bodies move within the fabric, forming and receding

like mercury in a dance somewhat reminiscent of Jane Fonda's in the opening credits of *Barbarella* (1968), without the parodic striptease vibe. In fact, the bodies are sometimes Lucy McRae's and other times those of two Olympic synchronised swimmers, whose underwater movements Lucy McRae thought would be closest to zero-gravity movement. The voice over tells us that being in such a vacuum is like being hugged by a machine.

We are asked to consider how bodies might have to change in the future if we are to head 'offworld', as many of the world's richest tech bros seem keen to have us do. There are also echoes here of the government breeding program for zero-gravity children in Philip K. Dick's *The World Jones Made* (1956) and of the narrative of Kim Stanley Robinson's novel *Red Moon* (2018), which has a pregnant Chinese dissident leader travel between the moon and China. For a work featuring only short visual snippets – albeit highly arresting ones – *Prepping the body for space vol. 2* leaves deep questions about the future of our genetic technology lingering.

FUTURE DAY SPA

The next film, *Future day spa*, 2015 (from which the title of this essay is drawn) (pp. 88, 89, 90–91), really shows us how to speculate on what it will be like 'prepping the body for space'. Surely the most affecting and emotionally urgent of the films in *The Future Is Fleshy*, it features that beautifully proportioned rectangular frame again, this time placed against a white background to stark effect, the camera circling the whole thing so we see all its workings – the hugging vacuum machine, the air being taken in and expelled. Two young people emerge and head to the assessment centre to be prepped for space. They are attended by two 'therapists', who look almost identical to the subjects. McRae's casting of two sets of twins in the work is a brilliant gesture towards the relationship between natural genetics and human cloning efforts.

Future day spa is a real installation that the public can experience and this film was shot as a lasting document on a big sound stage immediately after a four-day run of the installation in Los Angeles. Interacting with many people who got in the spa for a machine hug, including a man who suffered from haptophobia (fear of touch), Lucy McRae became preoccupied with concepts of isolation and death. Pondering these concepts, which are the focus of the truly great science-fiction classics like *Solaris* (1972), *2001: A Space Odyssey* (1968) and more recently Duncan Jones's *Moon* (2009), eventually led to the work *The institute of isolation*, 2016. Little wonder, then, that the colour palette of McRae's earlier films has been replaced by the stark whites and reflective silvers, with occasional faint pink hues, of those films, as she leaves *Gattaca* behind to ponder the beyond.

BIOMETRIC MIRROR

The final work in *The Future Is Fleshy* is the interactive installation *Biometric mirror*, 2018 (pp. 92–93). Developed in collaboration with Niels Wouters and team at the Interaction

Design Lab, the work extends the lab's existing facial emotion recognition program by applying the geometric algorithm of 'facial perfection' known as the Marquardt Beauty Mask, developed by plastic surgeon Stephen Marquardt.¹⁷ Tapping into current anxieties about facial recognition, privacy and algorithmic surveillance, the work invites us to participate in a machine-based appraisal and improvement program. This work is a kind of partner work to Joy Buolamwini's visual poem 'AI, ain't I a woman?'¹⁸, itself a devastatingly affective algorithmic updating of Sojourner Truth's 'Ain't I a woman' speech (1851) and a result of Buolamwini's deep research into algorithmic racism. *Biometric mirror* asks: what is a person, who is a person and who designs the algorithms that decide who a person is? With facial recognition and other detection algorithms currently used to profile and catalogue people across law enforcement, insurance, employment, finance, citizenship and social networks, the question of what biases are being enacted in these algorithms is current and crucial. Academic Kate Crawford identifies two principal kinds of harm that can be done by algorithmic bias: allocative harm, where certain groups are allocated particular opportunities or resources or have others withheld from them, and representative harm, where algorithmic bias reinforces the subordination of certain groups.¹⁹ *Biometric mirror* interactively engages us in both these forms of bias, inviting us to consider where our biases lie, how we came to have them, how our systems reinforce them and how we want them enacted – or not – in the future.

For Lucy McRae, 'the future is fleshy' refers to a future where the points of view of algorithms are so diverse and cooperative, so slippery and evolving, that technology becomes an opening to the future rather than closing off possibilities. This is the kind of science-fiction future that Lucy McRae wants for our bodies. She wants us to go there not because it is easy, but because it is hard.

NOTES

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- 2 Christina Agapakis & Lucy McRae, 'Beyond wearables: the future is fleshy', in Marie-Pier Boucher, Stefan Helmreich, Leila W. Kinney, Skylar Tibbits, Rebecca Uchill & Evan Ziporyn (eds), *Being Material*, The MIT Press, Cambridge, MA, forthcoming.
- 3 Adam Nash, interview with Lucy McRae, 22 June 2019.
- 4 Ursula K. Le Guin, 'Introduction', in *The Left Hand of Darkness*, The Berkley Publishing Group, New York, 2010.
- 5 Anthony Dunne & Fiona Raby, *Speculative Everything: Design, Fiction, and Social Dreaming*, The MIT Press, Cambridge, MA, 2013, p. 90.
- 6 Fandom, 'Garseddai Guns', Imperial Radch wiki, Fandom, <https://imperial-radch.fandom.com/wiki/Garseddai_Guns>, accessed 26 July 2019.
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- 8 Shmoop, 'Do Androids Dream of Electric Sheep?: Penfield Mood Organ', Shmoop, <<https://www.shmoop.com/do-androids-dream-of-electric-sheep/penfield-mood-organ-symbol.html>>, accessed 27 July 2019.
- 9 Nash.
- 10 *ibid.*
- 11 *ibid.*
- 12 Mariko Ōhara, *Hybrid Child*, trans. Jodie Beck, University of Minnesota Press, Minneapolis, 2018.
- 13 Nash.
- 14 Lizzie O'Shea, *Future Histories*, Verso, London, 2019, p. 65.
- 15 Extavour Lab, <<https://www.extavourlab.com/people/cassandra-g-extavour/>>, accessed 18 July 2019. See also Giorgia Guglielmi, 'The biologist using insect eggs to overturn evolutionary doctrine', 3 July 2019, *Nature: International Journal of Science*, <<https://www.nature.com/articles/d41586-019-02040-6>>, accessed 18 July 2019.
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- 17 See 'The perfect face', *Marquardt Beauty Analysis*, <<https://www.beautyanalysis.com/research/perfect-face/>>, accessed 18 July 2019.
- 18 Joy Buolamwini, 'AI, ain't I a woman?', *Notflawless.ai*, Algorithmic Justice League Project, <<https://www.notflawless.ai>>, accessed 18 July 2019.
- 19 Kate Crawford, 'The Trouble With Bias', NIPS 2017 keynote speech, <https://www.youtube.com/watch?v=fMym_BKWQzk> linked from <<https://www.katecrawford.net/index.html>>, accessed 18 July 2019.