

Biodigital Being(s): Speculative Work-In-Progress

Galit Ariel

PhD Candidate and Instructor
Department of Cinema and Media Arts, York University
Toronto, Canada
galitar@yorku.ca

Abstract

Antonio Gramsci famously stated that "(A) crisis consists precisely in the fact that the old is dying and the new cannot be born." [1]. Such a crisis is situated within our emerging biodigital selves due to our inability to accept that digital materiality is not an independent body space but an extension of our physical embodied state and thought.

Digital Being(s) is a research-creation project that applies speculative design frameworks stemming from our novel biodigital state. The project utilizes digital and immersive technologies to fiction emerging modes of embodied presence.

Keywords

Embodiment, Post-materiality, Body Culture, Body Politics, Digital Art, Speculative Design, Aesthetics, Research-creation.

Introduction

Biodigital Being(s) explores the formation of a new evolutionary state nestled between the digital and physical, forging a body space that blurs the boundaries between the real and the fantastic to sprout novel conceptions of human presence and modes of existence.

This research-creation PhD project, conducted at York University (Toronto), aims to outline how immersive technologies in the digital era enable new bodily imaginaries through alternative modes of self-representation and hybrid presence. The project applies digital interventions of embodied deconstruction, reassembles and cross-interpolations of digital and biological embodied *forms*, *functions* and *aesthetics* that redefine corporeal hierarchies and intimacies and foster novel body aesthetics, poetics and cultures.

The Crisis of Material and Digital Bodies

Human history and evolution are bound to technical mindsets that fundamentally define human modes of being and becoming. (Stiegler 2011, Leroi-Gourhan 1993) Such nature/culture entanglements permeate every aspect of human existence and are vastly pronounced in our species initial point of contact with the world and reality—the human

bodies. With technoscientific body interventions aiming to “extend the limits of the fleshy body and position it within technological and computational spaces,” [2] digital body mediations represent a unique facet of the human ‘body crisis’, which embed deterministic ideologies of rejection and detachment from our ‘carnal entanglements’ (Johnson, 2008).

Digitally mediated bodies offer a ‘perfected’, othered and disembodied manifestations of selfhoods as a substitute to the ‘restrictive’ and ‘flawed’ biological body space. Such notions of embodied ‘transcendence’ are alluring, yet undermine the interlaced relations intrinsic to humanity’s biological/phenomenological embodied reality. Human/body relations can be (somewhat) altered but not completely dismantled. Our species’ individual and collective consciousness and sense of self are bound to our embodied states, as are “human thought, human language and human phenomenological reception.” [3] The fantasy of achieving a digitally constituted presence, completely detached from bodily spaces, abandons the “social totality of the human as an object of knowledge,” [4] offering instead a suspended state of being that “underwrites and enables the empirical or subjective experience of casual temporal relations: of “before” and “after” and “because.” [5]

Biodigital Being(s) reimagines and reframes assertions related to the human body and ultimately enables the emergence of new philosophies of biodigital presence. Deploying speculative design methodologies and tools that can anticipate undesirable and exploitative practices of embodied presence (be it biological or digital), such a framework envisions alternative ideas “of possible futures and using them as tools to understand the present better and to discuss the kind of future people want, and, of course, ones people do not want.” [6] The project explores both pragmatic and conceptual notions of embodied presence and representation that inquire about epistemological principles and propositions within the domain of new body spaces that reside across *form*, *matter* and *substance*. Mixing and glitching biological and digital conceptions of embodied representations makes possible a glimpse into fictional & speculative body futures. Ultimately, *Biodigital Being(s)* aims to apply a critical gaze regarding the opportunities and challenges biodigital embodiment encapsulates and establish a speculative design approach that can challenge past, present and future notions of embodied presence.

Biodigital Being: Speculative Body Poetics

Body aesthetics are often addressed through the context of the 'dry body' (referring to structural and surface tissues such as bone, hair and skin), a predominant cultural and political body space "in which one's representation is a means of social distinction and hierarchy" (referring to structural and surface tissues such as bone, hair and skin). Dry Body representation is, after all, a predominant cultural and political body space, means of forging social distinctions and hierarchies (Weheliye, 2014). Skin, in particular, holds a core role within the sociocultural performance of the 'dry body.' Besides being the largest organ of our body, it acts as a "mediating vector and filter between the individual body and its identity" [7], and plays a formative role within our aesthetic representation by establishing the "boundaries of perfectibility of the body" [8]. Digital mediation encapsulates the ability to replicate and translate' one's appearance as a digital 'skin', as well as defy one's determined body aesthetics. Yet even altered and reconfigured digital representations are bounds us to existing 'dry body' identity politics, resulting in playing the same game – only with different avatars.

The biological skin also acts as "the boundary and container of the internal body" [9], an effective physical barrier that separates and cloaks' wet body' elements from external elements. 'Wet body' elements and qualities (body organs, tissues, and fluids) define bodily matter as a living 'entity' and carry a unique sense of selfhood, body politics and economies (Waldby & Mitchell, 2006). They also hone distinctive cultural significances as mediators and substances of the 'essence' of cosmic or divine life forces (Turner, 2011; Douglas 2002). With such nature/culture roles, 'wet body' elements ingrain a reminder of the fragile and temporal human biological state, resulting in various visibility and aesthetic restrictions and taboos spanning one's life and even post-mortem (Troyer, 2020; Davies 2002).

Biodigital Being(s) reintroduces embodied representation beyond the social comfort of 'dry body' ideologies and aesthetics. Diverting from the digital skin as a mimicking barrier that separates and cloaks our wet embodied essence, it deploys digital tools to explore "the fleshiness of the world which inhabits us and is inhabited by us – flesh, not understood simply as matter, but as the very sensibility of the seen, and the very sight of the sensible" [10]. Interpreting Ibn Sinā's exploration of materiality through the *distinction and synergy between essence and existence*, the project deploys digital aesthetics that embrace a fuller (and freer) representation of fleshy selfhoods and perceptions (Weheliye 2014, Van der Kolk 2015), through assemblages and reassemblies of dry and wet aesthetics.



Image 1: No. Matter. What. (Body Bouquet). Galit Ariel. 2024.

Biodigital Beings - Vibrating Selfhoods

Biodigital Being(s) utilizes immersive technologies to re-dasein¹ familiar and novel body concepts and intimacies. Mixed Reality (MR) technologies² act as a lens for a hybrid embodied experience, as the remediates inside-out and outside-in embodied perspectives and consciousness. Within the context of MR technologies, the body is a connecting and an acting experiential agent, since effective MR experiences require:

- The delivery of a convincing sense of 'immersion', compatible with the phenomenology of embodied presence. That is, to provide persuasive transferences of embodied functions and perceptions (Joy et al, 2021) that forge a sense of "being".
- Clear and accessible interactions and relations with(in) digital spaces, actors and artefacts, to establish our sense of "presence" (be it dynamic or static).

Whilst rooted in embodied functions and phenomenology, MR technologies also allow for the expansion of body such spaces across existing ('bounding') and imagined ('aspirational') body representations and relations. The project reflects upon such shifts within current philosophies of Digital Materiality as a strand within the field of new materialism, considering notions of alternative embodied paradigms as a desirable glitch across physical and digital realms; Aiming to extend concepts of embodied presence following Flusser's assertion, "if 'form' is the opposite of 'matter'... And if form is the 'How' of matter, and 'matter' the 'What' of form, then design is one of the methods of giving form to matter and making it appear as it does and not like something else." [11]



Image 2: Out. Of. Body. (Sitting in the Flesh). Galit Ariel. 2024.

The project also explores *NuBody Plasticities* (Ariel, 2023) through novel body configurations of embodied states that are "gooey, blurry, full of seams, or simply glitched" [12] morphing into a body that "both absorbs and refracts, becoming every-body and no-body simultaneously" [13]. The regeneration of biodigital embodied expressions through abstract and subversive body representations and assemblages simultaneously defy organic and computational hierarchies and limitations, resulting in alternative modes and modules of being(s).

Application Tools

The application of digital tools to represent and mediate embodied presence enables us to explore body-related culture/nature entanglements and frictions. Following visual and contextual analysis of physical, digital and immersive body representation within visual and performance arts, the *Biodigital Being(s)* creation process explores aesthetic re-configuration and reassemblages through:

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- The generation of a digital 'library' of (digital) embodied matter, structures and aesthetics; cross-breeding skeletal, epidermal, liquid, muscular and cellular logic with algorithmic tools and architectures utilizing *Blender* 3D tools such as: Differential Growth nodes and Neuron Fractal simulations and particle systems, in combination with *Unreal Engine's* blueprints and Niagara particle modulation. Textures were primarily generated as Physically Based Rendering (PBR) materials.
 - The generated procedural tools and materials were then used to explore alternative cultural choices and aesthetic languages related to embodied representations, reconfiguring body and tissue assemblages, hierarchies and aesthetics through a series 3D 'fleshy' artifacts and architectures (titled 'No. Matter. What.').
 - The conceptions for alternate self-imaginaries and representations, through the reconfiguration of speculative biodigital bodies, structures and spatial relations (titled 'Out. Of. Body.')
- used *Unreal Engine's* Metahuman and *blender* modelling tools,

EmberGen and *Unreal Engine* used for volume and particle generation and animation.



Image 3: Biodigital Gooey Explorations. Galit Ariel. 2024.

Project Outcome

Biodigital Being(s) applies speculative design tools to explore theoretical frameworks from scholars such as Ibn Sīnā, who explored the *distinction and synergy between essence and existence, being and oneness*, and notions of existence as presented by René Descartes and Jean-Paul Sartre's exploration of 'the phenomenon of being,' that considers *Being and Nothingness* as the two types of reality which exist beyond our conscious experience.

The project will be concluded through an immersive installation, '*Biodigital Becoming*,' that implements immersive simulations and performances of elements that encompass and reflect on the shift from a stable sense of embodied reality into a fluid one: *Biodigital Being(s)*.

Conclusion

Humanity's primal anxiety about its biological 'condition' has led to a cultural construct that wishes to abolish embodied paradigms through technological and algorithmic overrides. This project offers, instead, an integral development of body futures that leverage our fleshy experience with(in) the world. Experimental modes of body configuration and reconfiguration play a foundational role in the ongoing and upcoming reframing of embodied politics and ideologies, through the exploration of (existing and new) body aesthetics, assemblages and attachments.

Biodigital being(s) enables an exploratory state of inquiry that examines what we have lost along our technofantastic aspirations to dismiss our organic embodied state, offering instead novel body freedoms through digital/organic correlation and co-existence. To create "sticky, runny spaces where everything can come into contact and blur. That blur is a beginning again, a journey. That journey is a genesis." [14]

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- [3] Francesca Ferrando, "The body" in Post- and Transhumanism: An Introduction (Frankfurt am Main, Germany: Peter Lang, 2014):154
- [4] Alexander G. Weheliye. *Habeas Viscus : Racializing Assemblages, Biopolitics, and Black Feminist Theories of the Human* (Durham, MA: Duke University Press, 2014): 32
- [5] Shane Denson, *Post-Cinematic Bodies* (Lüneburg, Germany: Meson Press, 2023):127
- [6] Anthony Dunne and Fiona Raby, *Speculative Everything: Design, Fiction, and Social Dreaming* (Kindle Edition, MIT Press, 2013): 63.
- [7] Terence Turner, "BODILINESS," in *A Companion to the Anthropology of the Body and Embodiment* (United Kingdom: John Wiley & Sons, Incorporated, 2011): 104.
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- [10] Sara Ahmed and Stacey Jackie, *Thinking through the Skin* (New York, N.Y.: Routledge, 2001): 5.
- [11] Vilém Flusser, *The shape of things: a philosophy of design* (London, UK: Reaktion, 1999): 26.
- [12] Legacy Russel, *Glitch Feminism: A Manifesto*. Verso. New York, NY: Verso, 2020): 137
- [13] Legacy Russel, *Glitch Feminism: A Manifesto*. Verso. New York, NY: Verso, 2020): 137
- [14] Legacy Russel, *Glitch Feminism: A Manifesto*. Verso. New York, NY: Verso, 2020): 137

Footnotes

¹ The concept of *Dasein* was introduced in Heidegger's *Being and Time* (1927). The term is a combination of the German words *Da* (here/there) and *Sein* (being), Heidegger frames the condition of "being-there"/"there-being" or a "conscious existence" as a distinctive human trait.

² Here I stick with the 1994 Milgran & Kishno's definition of Mixed Reality within the Reality-Virtuality Continuum (whereas Mixed Reality encompasses Augmented Reality (AR) and Virtual Reality (VR) technologies).

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Author Biography

Galit Ariel is a scholar, technofuturist, author and creative, exploring the wild & imaginative side of bleeding-edge technologies. Through her experimental art/tech practice Galit challenges resemblances, gaps & glitches across digital, physical, and cognitive spaces. Her award-winning work spans across Mixed Reality installations, subversive animations and speculative digital interactions.

Currently a research-creation PhD candidate at York University, her research focuses on the intersection between embodied technologies, culture and imagination. Galit is an OGS (Ontario Graduate Scholarship) recipient, a graduate research fellow in York's Sensorium Centre for Digital Arts and Technology, and York's Feminist Digital Methods Research Cluster.

As a stream leader at the Feminist Digital Methods Research Cluster, Galit explores trans-feminist presence within digital spaces. The group's 2023 research-creation project utilizes location-based AR to discuss femme digital appropriation, representation, and harassment – as Toronto public-facing walk-n-learn immersive activation. The project was featured at the 2023 HASTAC conference and the 2023 Humanities Congress.