

UC San Diego

UC San Diego Electronic Theses and Dissertations

Title

My Words to Lulu10tacles Deep Below the Sea: Monstrous Multitudes & Digital Trans Embodiments

Permalink

<https://escholarship.org/uc/item/1kv6p0kj>

Author

Schaffer, Max

Publication Date

2024

Peer reviewed|Thesis/dissertation

UNIVERSITY OF CALIFORNIA SAN DIEGO

My Words to Lulu10tacles Deep Below the Sea:
Monstrous Multitudes & Digital Trans Embodiments

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy

in

Music with a Specialization in Critical Gender Studies

by

Max Schaffer

Committee in charge:

Professor M. Myrta Leslie Santana, Chair
Professor King Britt
Professor Amy Cimini
Professor Sarah Hankins
Professor BT Werner

Copyright

Max Schaffer, 2024

All rights reserved.

The Dissertation of Max Schaffer is approved, and it is acceptable in quality and form for publication on microfilm and electronically.

University of California San Diego

2024

TABLE OF CONTENTS

DISSERTATION APPROVAL PAGE.....	iii
TABLE OF CONTENTS.....	iv
ACKNOWLEDGEMENTS	iv
VITA.....	viii
ABSTRACT OF THE DISSERTATION.....	ix
FOREWARD: WHAT ARE WE DOING HERE?	1
PART I.....	11
Readme	13
Deep, Dark, Wet: The Bottom Of The Sea.....	15
Piloting Lulu (A Nerd Section).....	17
The Naming of Tentacles.....	23
Survival	28
[Interlude: Ancestry]	32
Digital Vocal Modulation	33
Digital Bodies	41
Max Schaffer: A Body	47
[Interlude: On Pronouns, Identity, And Visuality]	50
Monstrosity	52
[Interlude: Questioning The Cyborg].....	56
Who Cares?.....	59
That Sinking Feeling.....	65
Part I Creative Works.....	69
PART II	74
Returning to Lulu: Let's Check In.....	75

Lulu10tacles/Saint Taint/Max Schaffer	80
Vocal Modulation/Lineage And Why I Care.....	87
Bodies: Avatars and Virtual Sociality	100
The Authentic Self	116
Part II Creative Works	126
PART III	128
Material Consequences, Ecology, and Roid Rage	129
Lulu10tacles And The Multitudinous Quasi-Manifesto Of Retirement	130
Part III Creative Works.....	142
WHAT JUST HAPPENED: AN EPILOGUE.....	148
WORKS CITED	154

ACKNOWLEDGEMENTS

I want to thank all my collaborators over the years on every musical project, interview, meme post, and everything in-between that allowed me to get to this point with my personal work. I am a product of the larger community and cultural I inhabit. Also thank your Minecraft and Roblox for existing so I could go to shows for like half of grad school.

I also want to thank my committee for supporting my work these past years, in written, visual, and musical forms. Amy has continually asked me the best and most challenging questions on every single piece of work I've ever made, and my independent study with her accounts for the vast majority of what I remember learning in grad school. King and Sarah were some of the few folks in the department to really encourage my weird music-making habits and give me the confidence to keep working in a conservatory setting that was pretty alien to me, which I really needed many times. King is also the reason I ever managed to properly sign any label or distro contract, not sure what I would have done without him. And I want to especially thank Myrta, for her efforts to get me here, as I surely would have dropped out long ago had it not been for her support. She has truly always had my back, cared about my well-being, and always been real about things—and that is a rare thing in academia. Sorry not sorry for putting an em dash in your acknowledgement. And last but certainly not least, I want to thank BT, who saved me in the final hours of this dissertation when I needed a final committee member after some complications. BT truly cares about students here, which I knew long before they ended up on my committee, they show up for us when we really need them, and I thank them for that. It was also honestly fitting to end up with a Scripps member on the team given 90% of my social life has been hanging out with Scripps students. Anyway, overall, I just want to say that I feel very lucky to have the crew I ended up with.

Also shout out Dr. Jenniches for the hormones, and Dr. Doktor for the speech therapy: what a time. And also, my students, who constantly remind me why I'm doing any of this, especially the one that drew that Lulu fan art. And lastly just to all my friends here, both at UCSD as well as down at Scripps, who made it worth being here.

VITA

- 2020 Bachelor of Arts in Women, Gender, and Sexuality, Harvard College
- 2024 Doctor of Philosophy in Music with a Specialization in Critical Gender Studies,
University of California San Diego

ABSTRACT OF THE DISSERTATION

My Words to Lulu10tacles Deep Below the Sea:
Monstrous Multitudes & Digital Trans Embodiments

by

Max Schaffer

Doctor of Philosophy in Music with a Specialization in Critical Gender Studies

University of California San Diego, 2024

Professor M. Myrta Leslie Santana, Chair

Through creative and analytical exploration with/as my collaborator/avatar Lulu10tacles, a Vocaloid artist and synthetic being, we discuss and demonstrate current practices of digital trans embodiment & vocal modulation in digital communities. Virtual manifestations can act as powerful lenses through which to re-conceptualize relations to one's own body, renegotiating boundaries of the self in both beautifully profound and deeply discomfoting ways. Placing topics of race, gender, and capital at the center of discourse

regarding digital curation and space-making, we trace threads of musical ancestry that show digital curation as a crucial technology of survival across time & space. In exploring practices in which the separation between self & other are fractured, we investigate what methods can be deployed in the always-online world to realize trans futurist politics in the present.

Foreword: What Are We Doing Here?

Through written, recorded, and interactive research with/as my collaborator/avatar lulu10tacles, a Vocaloid artist and synthetic virtual being, this document will discuss and demonstrate current practices of digital trans embodiment and vocal modulation in online communities. It will consider the work of online avatar performers, producers and vocalists in internet music scenes, and fully synthetic beings and likeness reproductions in everyday life.¹ In exploring practices in which the separation between self and other are fractured, we will investigate what methods can be deployed in the always-online world to realize trans futurist politics in the present. By rethinking digital curation and space-making through the lenses of race, gender, and capital, we will demonstrate how music-making has been a technology of survival for trans/queer people across time and space.

Virtual manifestations can act as powerful lenses through which to re-conceptualize relations to one's own body, renegotiating boundaries of the self in both beautifully profound and deeply discomfoting ways. Avatars and vocal synthesizers push humans to consider monstrous futures for themselves and form new communities—to redefine valuations of good/bad, high/low, ironic/serious, and the concept of the singular body in the post-internet. However, they can also be utilized as a means to circumvent accountability in pursuit of capital, especially when analyzed through the popularized lenses of identity-based politics. Due to the lack of a clearly visible individual subjectivity, discussions of equity based in critical studies

¹ *The Royal "We" in Authorship*. The authors of this document are sometimes referred to as "we" much like in a collaborative paper. Through this, we aim to draw attention to the self-other / individual-collective relationships in question in this project. Most directly, this references the three different authors really at play in here, Max Schaffer, lulu10tacles, and Saint Taint—three distinct beings that continue to have varying influences throughout the process of the work. It is also a nod to the community-focused approach to the research, as so much of what is being discussed relies on large spaces of communally-focused creators, making the idea of an "I" as author seem rather insufficient to relay the concept and properly credit the work.

frameworks are rendered far less effective in analysis of digital beings. Questions of likeness rights, collective creative ownership, and transnational identity are rapidly developing in highly technical fields, all with conceptual debates of virtual embodiments at their core, despite a lack of frameworks that can aid in answering them.

This project revolves around intellectual and practice-based frameworks which aim to center the experience of digital self-curation and embodiment as an intensely organic and emotional experience. Methodologically, it focuses on an experience-based practitioner model of research in which we place real stakes in the communities we contribute to and research with and allow ourselves to be vulnerable and malleable in committed practice and exploration of space. More particularly, this project pulls on and contributes to understandings of Monstrosity from Susan Stryker (1994) and Jeffrey Cohen (1996) to interrogate the highly organic and emotional qualities of extended virtual forms and how they shape our organic ones. It looks to Legacy Russel's *Glitch Feminism* (2020) and Nathan Jurgenson's *Post-Internet* (2019) to understand the inability to separate the digital from the organic, the "real" from the virtual, and the machine from the human. It finds expansive ground in discussions of "the bubble" from authors like Catherine Hoad (2018) and Holly Herndon in discussions of performative bodies with multiple operators, in pursuit of understanding beings as more than singular selves. And most importantly, it looks to the artists, communities, and digital beings themselves to self-define and exemplify these practices far more clearly than any of these theorists could ever achieve on paper—Hyperpop artists, Vtubers, meme page admins, and every other online iPad-baby in between.

Together, we will consider spaces in which digital creators are debating vivid formations of identity at an incomprehensibly fast pace via interviews, critique, and hands-on immersion. This will involve interviews with artists in internet scenes (like Hyperpop and Webcore), virtual

reality communities, and game development spaces, as well as analyses of Tweets and Instagram posts from virtual beings run by collectives, audio-visual performances in Minecraft and Zoom raves, Vtuber Twitch streams, and Vocaloid productions. By combining these theoretical frameworks with a practice-based and ethnographic approach, this project aims to make these rapid changes more legible, and hopefully contribute to the further development of more timely critical frameworks in this growing field of research and creative development.

This project aims to engage extensively with current discourses about trans-queer politics both within critical studies spaces and in larger forums of social exchange, specifically intervening in existing dominant frameworks of digital and technological identity. We problematize the historic separation of the organic “real” and mechanical “virtual” and refuse the cold metal forms of cyborgs in favor of warm-blooded monsters, focusing on intimate processes of subject formation in digitally intertwined everyday existence. In essence, we hope to shift conversation towards more affective and experience-driven frameworks that better incorporate the experience of growing up perpetually online in a world that largely acknowledges and promotes the formation of modular, fractured identities.

Monstrosity serves as an alternative route from the posthuman of Katherine Hayles and cyborg of Donna Haraway, frameworks which have, from our perspective, been the de-facto citations in conversations around virtuality and digital creation since we entered the field (Haraway 1991; Hayles 1999). We, however, turn to the more emotional and affect-laden “monster” as a way of considering not only how virtual identity is formed, but also why it allows for an imaginary beyond the rules and givens of the “real world.” To us, monstrosity represents a way to tie emotions like pain and rage into a formation of identity critical to many trans experiences like our own. In the popular consciousness, the cyborg is formed of metal, code, and

a desire to upgrade, while the monster is a fleshy product of its exclusionary environment—it is formed in a relational exchange of fear, hate, and violence. The monster creates space to explore trans experience as a reflexive interaction between the subject and those perceiving them in the world, in a very emotionally loaded way. The fantasy of the monster as something that exist beyond the bounds of society, that reflects the compacted desires of culture, does a great service in translating the mythos of trans identity as well as its futurist possibilities.

However, this is not to discount the digital, computerized, method for approaching embodiment. In addition to these frameworks, Glitch Feminism provides a model through which we can understand our relationships to our digital forms that does not separate the organic/IRL being from its digital/online counterpart. Legacy Russel denies a separation between the two, instead encouraging us to embrace the fractured selves we curate and to allow them to cross pollinate. The organic self can take shape from the digital, and vice versa, as so much of “daily life” is spent as a digital being. Expanding on this concept of the Post-Internet pushes us to consider how the digital world is fueled by our actions in physical existence, but those actions are shaped by the logics of the internet and social media—therefore each is fueled by the other, and there is no way to separate them. The post-internet also pushes us to consider a lack of valuation between serious, ironic, good, or cringe, and ties this to queerness as a practice. Altogether, we tie transness to a sense of multiplicity in forms and valuations, allowing for complex systems of existence and imaginaries that dance between organic and digital realms that are increasingly difficult to separate.

In acknowledging a lack of separation between online and offline existences, we further explore the impact of this on conceptions of the core, singular self and how it manifests in relationships between performers and personas as well as performers and audiences. An inability

to draw clear lines of separation between fractured identities allows for a far more expansive understanding of social interactions in digital space, and how a growing familiarity with this way of existence is changing our organic, physical relationships between one another, and our abilities to discern what is “real” or not. Through these spaces, we can also consider how collectivism may lead us to more equitable practice in online media, and how this can push us beyond ideas of the core individual self at scale.

In general, I’ll be playing: taking different approaches to translating my work on virtual embodiment via various creative, written, and interactive formats. This takes place in three chronological acts: the first occurs from late 2019 up through to mid 2021, the second between late 2022 and early 2023, and the third from early 2023 through mid 2024. Each represents a snapshot of my life at the time. Given how long this document has taken to put together, I do not attempt to maintain one singular voice for the entirety of it. This would be not only disingenuous as an author, but also antithetical to the concept of the unstable singular subjectivity, which is at the core of my work.

While I understand most documents like these are generally expected to read like a singular concerted effort, a book written all at once, that’s simply not how writing, especially in grad school, works. Like writing a song, sitting on it for 3 years, and returning, many times your original thoughts were just as valid, but now seem completely alien to you with further experience. However, to edit that original thought is to alter reality, and to give a frankly unrelatable perception to the reader or listener about your thoughts. I think back to how I felt as, as my mom would say, a young “they/them-er,” in comparison to my trans-lady era of existence, and again in contrast to whatever I am now—it all felt right in the moment, even if now it feels so far from me in hindsight. I aim to preserve the variations and contradictions inherent to my

work. This feels closer to the original idea Amy Cimini and I had for this piece, which involved constantly shifting perspectives of the core narrator, bouncing back and forth between the various entities you'll encounter in here. In some strange way, I've created just that. Existence is iterative and vulnerable, I believe writing should be as well, without hiding the drafts and the rough edges. And so, in my editing process, I'm doing my best to avoid overcooking this document. But in the interest of clarity, I'd like to lay out what you can expect before we kick things off.

Part I explores the original process of creating lulu, and the lineages that made her development possible. This ranges from the hyper-personal experiences of transition, cultural contributions that fuel her image, to theoretical frameworks and academic writing that form her shape and persona. It dives into layers of fractured forms in our world, and the separations between the self and other in existence as well as creative practice, focusing specifically on conceptions of identity and "visibility" in the ongoing political discourses of embodiment in the digital realm and their very real social and capital consequences in the modern world. This aims to establish the theoretical and emotional core of the work by reflecting on the process of creating lulu10tacles on a deeply personal level, interweaving ancestral and social arcs throughout to create a historical, critical, and personal exploration of virtual embodiments and vocal manipulation. The majority of this research and writing took place at the height of the pandemic, during which I existed near completely online.

In Part 2, I explore a more in-depth history of embodiments discussed in Part 1, this time with more attention to forming a complete timeline of events that center trans and femme creators in history of digital sonic and aesthetic manipulation, especially in the realm of popular music and culture. This ancestry is intended to embody a transfuturist ethos, re-contextualizing

the histories of avatars and vocal effects in decidedly gender nonconforming and racialized spaces and showing their critical roles as tools for survival. This section also acts as a reflection as lulu developed over time, focusing on the effect medical transition had on our perceptions of the project, as well as how developments in the world shifted political consequences in the world of avatars and synthetic vocalists. The writer of Part I and Part II may share the same name—but they are not necessarily the same person. To work on a project and maintain one perspective is to mislead the very human experience of these digital creative experiences, in that it masks the stark differences we feel over time over years of identity-formation and re-formation. Together, Pars I and II aim to create the sense of progression and vulnerability requires to properly impart the experience of doing this work and research, and to illustrate the shared experiences of practitioners in the space who have spent years forming and re-forming to create the beings we see today.

Finally, in Part 3, I move into the future, writing from the perspective of myself at age sixty.² This piece acts as the perfect third act for the dissertation, as it completes a sort of chronological journey through the document. Aside from completing this timeline, it also aims to bring new context to the piece with a quite macro view on ecology and socialization in the future. This is important for me, as the ecological impact of all the internet absurdity I hold dear is always at the back of my head, slowly digging away at me. It's all fun and games on the shitpost express until we run out of fuel. Or to put it in a less fun way, this entire field of study I love is also destroying us and eating us whole. As I teach my students about the history of Artificial Intelligence, and they use Midjourney to explore new bodily forms they could take, or

² This was originally written for a publication, but after being accepted now hangs in limbo, as Columbia defunded the journal it was to appear in. Nothing but disappointments from academia. Shout out to the Lanterfly editorial team, I appreciate you and your work.

morph their voices in different genders, or whatever Spongebob is, I know that each query they make in a chat bot brings us closer to our doom. And so, to end on a light note, that's where this document will leave off.

At the ends of each of these sections, I include the creative work I developed during the time period in discussion. Each is meant to act like an exhibition of my various audio, visual, and interactive projects, ranging from game design, to animations, to albums, to course syllabi. They serve not only to give an aesthetic face to the research in this document, but to show the process through which I developed and processed the critical lens core to this dissertation. These explorations drove me further and further down the rabbit hole and brought me to the personal and communal understandings that made my research possible. The art and the written research are intimately intertwined, just as the teaching of the material is to my understanding of the material itself. Sonic palettes and lyric choices represent critical aspects of self-determination, and ideally, these creative works can provide a path into the research for more kinds of thinkers and can bring more emotional context to the written aspects of the work via indirectness. It also provides a place where the work, and lulu herself, can be re-contextualized by the listener in personal and unpredictable ways.

The included captures of interactive media and games stand in for playing/using the software itself. Due to limitations in publishing this dissertation, including the actual demo software is quite difficult, so these videos act as the next best thing. These works, much like the audio-visual aspects of lulu, demonstrate a process of world building via creative processes that is critical to understanding both the theoretical and experience-based structures of the research, techniques, and communities being discussed. In the main lulu 3D demo, for example, you pilot lulu in her daily life. The aim is to impart the theoretical underpinnings of the written and

creative work via game mechanics rather than explicit and direct discussions of the topic at hand. This represents a unique space through which to indirectly impart meaning not simply through content but through complicity and participation in activities by the user. It also provides a, frankly, far more entertaining approach to consuming this project with wider reach. More importantly, with its lack of explicit calls to feminist theory, it can allow for players to bring their own experiences and meanings to it in ways that potentially could lead them to the same conceptual places as the written work, interrogations of race, gender, and capital through lenses of monstrosity and the post internet, simply via different paths, and under different names.

Hopefully, in experiencing this writing, music, and interactive media, readers/listeners/players will not only gain a more in-depth understanding of digital communities and technologies of embodiment but will further understand the processes through which they can explore and critique these spaces themselves as their own curated digital forms. This project takes aims to be as accessible to those inside the academy and out by employing a range of different mediums to translate its concepts, ideally creating spaces of experiential overlap that can fuel wider discussions across communities. It hopes to not only problematize the writing-centric status of academic output but suggest new models via practice with tangible creative components ready for public consumption and critique. Expanding collaborative research and participation in these spaces and practices will be critical not only for better understanding these spaces and keeping up with developments, but for collectively updating frameworks that can keep up with the rapidly evolving conceptions and manifestations of self that the world of fractured digital existence ushers in

This project comprises a body of work that can contribute to both scholarly research and practicing creative communities and bring discussions between the academy and creative

communities into planes of relation. I want people who only listened to the album, only played the game, or only read the paper, to be able to discuss the project together on equal footing. This project provides a proof of concept in pursuit of this kind of cross-disciplinary practice-based research in music scholarship. It also aims to simply be enjoyable to experience, as a praxis of self-recognition & intervention itself. To that end, I hope to place this work with equal importance to its written companions and invite you to explore wherever you like in this digital exhibition. Personally, I believe the art better translates the less easily explainable in-between spaces of emotionality that can sometimes fail to land in a written format. So, you're even welcome to skip reading this entirely and just go have a look and listen—whatever suits you. The communities I engage with don't really like it either. As bugshitbistro once posted, "I don't ready theory I'm hot" (bugshitbistro 2022). This document therefore exists in a state of inherent tension with the requirement to create a written record. Personally, I'd skip the reading. My dissertation committee tried to convince me to enjoy reading at my qualification exam, and it didn't work, I still don't like it. And with that, here's a ton of reading.

Part I

“The feminine urge to engage in self-alienating behavioral patterns as a series of futile attempts at achieving self-actualization”(sapphicslurmemes 2021)

README

The following piece is an iterative work in progress. It is a discussion of my experiences with a Lulu10tacles: a synthetic performer and digital avatar I created and have been operating socially for the past year. In this work, I hope to explain how & why she's come to exist, as well the ways in which she's actively changing my perceptions of embodiment and creative process every day. Lulu will act as a focal point with which we can explore the communities she exists within, and the ancestry that made her birth possible. I aim for this piece to fall somewhere between a manifesto and a practice-driven reflection, focused on the general cultural spaces I engage with on a regular basis, and those operating in them. I hope to use my work as a vehicle through which to weave a network of thought and being together into conversation. Virtual manifestations can act as powerful lenses through which to reconceptualize ideas of transness & relations to one's own body, renegotiating boundaries of the self in both beautifully profound and deeply discomfoting ways.

Due to the limitations of academic publishing, this piece will exist as a written document. However, I will do a great deal of linking to outside resources throughout the piece. This is partially a matter of condensing my thoughts, but more so is aimed at acknowledging that no form of writing can replace the personal experience of moving through links and suggested items on the internet (as Alejandrina Medina once very gracefully put into words). The act of that personal journey creates a connection to content that I cannot, and will not attempt to, replicate in full via textual explanation. My ideal format for this is a web-page, which I may be able to create after this thesis is submitted. but for the time being I cannot. I will be linking to lots of my own creative output from this year in the form of various albums, screen-captures of virtual reality and video game projects, and more. You're welcome to go explore those if you wish. I will

attempt to provide some semblance of an “artist’s statement” regarding that work as we proceed. I am normally quite guarded of letting my artistic work enter academic spaces, but I will do so for the purposes of this piece, since I believe much of the concepts translate far clearer outside of written text, and that the experiences of my collaborators are critical in their artistic forms, beyond simply speech or writing.

And so, without further ado, let me introduce you to my tentacled friend...

DEEP, DARK, WET: THE BOTTOM OF THE SEA

I will swim forever.

I will die for eternity.

I will learn to breathe water.

I will become the water.

If I cannot change my situation I will change myself. (Stryker 1994)

I think one of the things that sucks the most about highly visible transness, something I see myself as very much embodying, is a constant alien perception. Being obviously observed as either an exotic creature welcoming attention or as a space invader worthy needing to be driven off the planet really makes even the most basic tasks so much more exhausting—and frankly if I wasn't white, would make them downright dangerous, if not deadly. But the shittiest part about all of it is that unlike some sort of extraterrestrial being, you don't have a home planet where everyone is like you, nor a spaceship full of advanced technology, just an ability to think expansively and non-normatively. This is great, but it doesn't make things any less painful when a room suddenly goes silent as you pass through it, or when people point and stare at you as you shop for groceries, or you're spit on as you try to take a walk to the park, or worse. That self-worth doesn't feel like some advanced cyborg exo-suit you've built that the earthlings cower in fear of, it feels like being a freak monster people don't want their kids talking to. As much as I love myself, and I love my friends, and I know that we are both the past, present, and future of existence, that core feeling of hate is not something that is ever truly gone from my identity, it is a part of me.

I'm saying all this because I need to find a way to explain to you (and to myself, honestly) why exactly I spent more than a year obsessing over a digital tentacle monster named Lulu: a being that has become so core to my daily existence that I no longer can draw the personal boundaries between us. Lulu10tacles, a being of my own creation, has managed to fully rearrange my entire conception of self, as well as that of my performance character Saint Taint, in ways I could never have imagined. When all external experimentation with my own identity seemed to have been cut off by the pandemic, Lulu entered my life and forced me to confront critical questions I was fully unready to face, but needed to—my relationship with her/them/it has become one of the most beautiful and meaningful in my life, and it's why I'm writing about it at this very moment.

But first, for the nerds, we need to rewind—before I explain *who* Lulu is and *why* she exists, I first need to explain *how*. Bear with me, this will get technical and I'll try to be as brief and plain as possible, but if you truly don't care about the process and just want to hear about the affective experiences, you can skip the section. Lulu and I take no offense.

PILOTING LULU (A NERD SECTION)

Rage

constitutes me in my primal form.

It throws my head back

pulls my lips back over my teeth

opens my throat

and rears me up to howl: and no sound dilutes

the pure quality of my rage. (Stryker 1994)

Lulu10tacles was born out of a fascination with vocal-synthesis. I've spent a great deal of time over the past few years studying vocal modulation and performance, via practice, interviews, and research (Schaffer 2019). The topic of "synthetic" voices was a progression brought on by explorations of synthesis/sampling software like Plogue's Alter Ego and readings from Nina Eidsheim on Yamaha's Vocaloid series (Eidsheim 2019). The further I dove into Vocaloid music, artists, and producers, the more I wanted to create Vocaloid performances. After finally investing in the software, I got fairly obsessed, quickly pumping out a series of loud, bass-heavy, dance tracks that I had dreamed of creating, but had previously avoided due to my physical voice's limitations.

While I was working, YouTube began suggested videos not only with Vocaloid characters like Hatsune Miku, but with "VTubers" (Virtual YouTubers) as well. In conversation with Cherrie Yu (UCSD Integrative Studies), I've been exposed to even more of these creators and idols. They existed on screen completely as avatars, had full backstories and aesthetic themes for their characters, and interacted in ways I'd never seen before online (Paez 2020). This

was beyond a VRChat body, or a streaming cosplay, or even a Vocaloid artist, this was a full live-controllable digital body with its own character, sound, and personality. I was blown away. The ability to develop and iterate not only on a character, but on their entire surrounding world, makes these virtual idols extremely fertile creative projects. When you develop a performance character for stage or video content you have to consider what is physically and financially feasible in terms of costumes, sets, equipment, actors—all of it. But when you work in digital space, so much opens up to you. A different aesthetic is clicks away, building a world becomes a 3D modeling job, rather than a construction one—concepts of practicality go out the window in favor of larger-than-life concepts.

In my head I always think of Sophie saying she created sounds from surreal concepts, like trying to recreate what “...a piano that’s mountain-size high...” would sound like (Arte TRACKS 2018). In the Vtuber space, we can actually make a piano the size of a mountain for an avatar to play, it’s no longer an absurd concept. This is what drew me in. One can create multiple characters for interpersonal drama, create spaces that engage fantasy in incredibly dynamic ways, and most importantly, one can engage with large groups of people in real time across space (and even cede control of your space to them) very much unlike anything possible on a physically constructed stage at a venue. It’s like a video game, a tv show, and a live performance all slapped into one. And to invoke Sophie further—who viewed her body “...as a material, as something to express through, and not fight against...” the ability to make one’s body completely unbounded by physics and biology, to make it more than the individual, sent me further into the rabbit hole (Arte TRACKS 2018).

However, there’s a few aspects of Idols & Vtubers I had to carefully consider. One is the question of anonymity, which most Vtubers maintain for both the desire to keep up an illusory

fantasy, and to quite frankly stay safe, as the internet is a dangerous place, especially for femmes, who face very real risk of being tracked down and harmed based on their content presence (Dexerto 2021). Idols on the other hand, are extremely public, and it's essentially considered a job requirement to be perpetually on display as an object of desire (even if that public persona is constructed), down to contractual obligations not to publicly date (Griffiths 2018). The job of the Idol, virtual or not, is to be available to all fans, at all times, in whatever way they desire. Fans project their own wants and needs onto the Idols as part of the exchange of fandom. If we wanted to really get into this, I suspect we'd need to spend more time in sex work studies, and less in performance and music, but that is its own dissertation entirely.

Because of all this, a big draw of the Vtuber model is that it allows for a sidestepping of this public life (which some believe to be a far healthier existence for creators of all kinds), and beyond that, allows for the possibility of character's "operator" switching out at some point in order to keep a project alive. This is a familiar practice to idol groups, whether it be Menudo, or AKB48 (which has five different "teams" of rotating members), but presents its own challenges in maintaining quality and fanbase (for example, they could never quite switch out Babymetal's frontwoman, Yuimetal).

However, there's a large degree of tolerance for it across all sorts of creative franchises, with "non-canon" anime being a large one that comes to mind. Fans have opinions on the various *Evangelion* movies, for example, but they still appreciate them all as part of a project that has lived for decades. Idol groups switch out members as well, but what makes this practice more difficult for the Vtubing streamer is how core their personality and ability to interact with their community is to maintaining their content. These Vtubers are not simply dancing someone's choreography, or singing someone's song, they are fully running their own shows and interactive

with audiences in real time, telling stories, performing, and reacting on the fly like talk show hosts on steroids. I think they're some of the most talented and undervalued (although slowly making a whole lot more money each month) performers on the face of the earth—but we'll get there.

So obviously at this point you can tell, I was sold on my synth voice needing some sort of body or shape (or many of them) now. And thanks to streamers like Fofamit, I found ways to make it happen. I downloaded VRoid and pumped out a quasi-fantasized version of myself: a bald, crop-topped, big-handed anime alien who at this point became an avatar for Saint Taint. It was still unclear exactly what all this was going to amount to, but I got offered to play a Zoom set at the WTRGRL remix party right as I stumbled through this process, and I decided I might as well put this stuff to the test. I loaded my avatar into the body tracking software VSeeFace, bought a Leap Motion to control my virtual hands, and played a virtual DJ set in full avatar form, supplying live visuals via MadMapper. It's hard to describe how weird this experience was—it was more like operating a puppet than it was performing on stage. I truly can't stress how fun it was, and how much pressure was reduced from not having my face and body on display for a live show. It's beyond the concept of just wearing a costume, or a mask, or anything, it was both an extension of my body as well as something fully apart from it. I loved it.

I remember the second I came on screen for my set and spoke to the emcees in my pitched up, Autotuned voice, and gestured with my new arms—something really clicked. When you perform with your physical body, with all eyes on it, it can be difficult to be attentive to every aspect of what you do, like how you move your arms, how you intonate certain words, etc. But when you're watching this avatar move in real time, and you have to focus to get the motions to look "human" you're able to put far more thought into every little motion, every extra breath

between words, and every facial expression you aim to translate (since the tracking software requires some pretty exaggerated facial motions to register). Once I'd begun playing music, there was no self-consciousness around how I was dancing, or what my face was doing, or anything—I was totally focused on making this goofy avatar body simple do entertaining things and translate a sense of intensity. It felt like performing in front of a mirror, rather than a crowd, except I was also able to type in the chat to the crowd if I wanted. I could check my phone off camera, or relax between songs if I needed a break, and Lulu would still look cool just bobbing its head with crazy videos playing in the background.

It was all just so wildly different and less stressful than being very much on display as a performer. I knew every bit of what I was serving up to people and there was no question around things I may have done that I didn't notice. However, that's not to say this avatar's body didn't act on its own. The tracking sensors don't always work, and its arms would go wildly into opposite directions or flail around without warning quite often. But still, this felt better than a feeling of wondering if your body would obey your mind for the entirety of a performance—a question I many times have to ask when performing in my body on a stage. Will my arms keep being able to play drums? Will my clothes tear? Will I accidentally trip and bleed all over the place? Will I pass out from sheer panic? All fell by the wayside, much as the anxieties of being an audience member at a show dissolve by doing so via digital platforms. To put this all very plainly: it's an incredibly low-stress mental & social space with extremely high energy and sensory stimulation. To get meta: it places the mind in a frantic dance space rather than the body. and for many people, for many reasons, this is highly liberating.

So at this point, I started really considering if this avatar was going to be a digital version of Saint Taint, Max Schaffer, or something entirely fresh—whether as a Sasha Fierce kind of

character, or an entirely new artist. Even still, I think there's a lot of room for a non-definitive answer to this question of a core identity, but whatever the case, I figured it needed a name.

THE NAMING OF TENTACLES

In this act of magical transformation

I recognize myself again. (Stryker 1994)

*“brb, I’m seizing alienation as an impetus to generate new worlds. Y’all want anything?” –
(Eddy Entropy 2021) Eddy Entropy invoking the Xenofeminist Manifesto (Cuboniks, 2018.).*

My criteria was two things: 1) I wanted to have a number integrated into it (because I was listening to 4s4ki at the time, and saw the number trend growing amongst “Hyperpop” folks), and 2) I wanted something that screamed “trans fantasy” in a suggestive, but not totally direct, manner. After running a few ideas through my head, I thought of tentacles/10tacles. And then all the neural connections started firing. There’s a world of other tentacle-inspired forces in my life that made it so abundantly clear to me this was the name—I can’t quite weave them together neatly, but I will attempt to put them all in a contained network for you.

When I think of internet sexual fantasies, I think of tentacle porn, which was one of the first pieces of pornography to truly disturb me, as well as one of the most popular online (I can show you my old Pornhub metadata research if you like) (Schaffer 2019). It doesn’t matter what the scenario is, if it’s live action or animated, whatever—there’s going to be a tentacle version of it (I’m looking at you, whoever made that scarring Teen Titans Cyborg tentacle porn--big content warning there). And outside of these videos, the presence of green-alien-fantasy trans folks with tentacle genitalia dominates ad-banner spaces (mainly in the form of those “free 3d games” you apparently “won’t last 20 seconds” playing).

Tentacles maintain a strong presence in my mind. As a male-assigned transfemme person, my own genitalia is many times something like a tentacle in my eyes, in that I don't exactly know what to call it, and it routinely surprises me in its functional flexibility and the malleability so many other transfemmes find with similar "gear." To me, it's not exactly a penis, but it's also not a big clit, it's just a body part of mine that certainly has tentacle-like qualities. To call it something as fantastic as that, is to me, much more interesting than most names I could use that tend to box it in. To give it a solid name and purpose would be to eliminate a sense of unlimited possibility that I frankly need, and that I feel is warranted by experience. On a formative night in my trans socialization, a beloved friend of mine, performing as Eddy Entropy, did an unforgettable drag routine wearing a suit of tentacle arms to a remix of the Neon Evangelion theme song I had hastily made. It was truly breathtaking, I wish you could have been there. Point being, however, I am not without a great deal of tentacular company—a few months ago they actually also showed me the largest silicon tentacle dildo I'd ever seen in my entire life, before it "disappeared," if you understand me. I love them very much.

There's a quote from Perfume Genius, a femme I respect very much, that I've always appreciated on this front: *"If people see me as some sea-witch with penis tentacles that are always prodding and poking and seeking to convert the muggles – well, here she comes!"* (Jonze 2014). Here the tentacle is further "theorized" as a sort of conversion tool, imparting some mystical power to the appendage in a way I find extremely empowering.

As this naming conversation was going on, I had also just finished watching the incredible Lovecraft Country, in which one episode focused on Ji-Ah's backstory as a Kumiho: a fox with nine-tails in Korean lore. This sort of creature was familiar to me from my childhood watching *Naruto* (with Kurama, the Nine-Tailed Demon Fox)—but my god is this one more *my*

speed. In this story, the Kumiho takes the form of a woman who kills men during sex, in this case doing so extremely graphically via tentacular “tails” that extend out of Ji-Ah’s eyes, nose, ears, and mouth. She takes lovers’ memories and then explodes them into a bloody pulp (Shaver 2020). This hotness-deadliness line is one I am always drawn to via transness, with presentation, sexuality, and danger being centered as core components of survival. This debated line is why you have and will continue to hear me show Stryker’s monstrosity work down your throat (via my tentacles).

History, tentacle monsters like The Kraken or Cthulu have taken “seamen” to their death for centuries. And so much of their adjacent sea-mythology involves creatures who lure men to their deaths with song, like Sirens and mermaids—trickery and transmutation here being key operators. This to me brings to mind the concept of the trans “trap” or “trick” labeling, and the unfortunate idea of some core trickery being inherent to trans folks. However, I occasionally find myself struggling to resist a fantasy of some super-being using this alleged trickery to kill rude cishets who’ve wronged me on the street, etc. A fucked up power fantasy that both places me in a space of normative desirability and white violence detached from consequence. Very cute. This dilemma between becoming what people think you are, versus desiring to use it for power, seems to be at the core of question Lulu’s blood tentacles are asking, and they relate to the countless femme-fatale characters that dominate so much media I consume.

The popular VTuber rapper Mori Calliope embodies a “reaper” who takes souls. Her character remains exactly that vague, except for small world-building details she discusses during streams, like going to a reaper academy, or living in a reaper world, etc. (Sashimi / Hololive & VTuber Clips 2021). This again plays into the femme-fatale obsession that mythological characters as well as specifically modern anime ones embody so frequently. There

is a clear desire across so many examples here to embody some sort of raging vengeance, to enforce power over a world that feels threatening, via re-contextualizing my limbs, and a specifically assigned “phallus” into some sort of amorphously defined superpower. In other words, the tentacles not only grant the ability to impart control, they also control what is defined on a body as being sexual vs non-sexual, reproductive vs non-reproductive.

That all being said, I truly have no clue why her name is Lulu. It just sounded cute, memorable, and deceptively unthreatening—anyway moving on...

All of this was bouncing around in my psyche, and the initial idea for the name started to feel better and better, but I didn’t truly accept the name until the creative process really took me deep into it as a concept. I tried leaning into the tentacle themes as I wrote music that I would never put out as Saint Taint. I wrote the dumbest song I could imagine about surfing after listening to that old Wavves album “King of the Beach” (still great), it was called “Sex Wax” (after the popular surfboard wax). As I typed my lyrics and clicked my notes into Vocaloid, I figured, “she’s already at the beach, she has tentacles, why not make her a sea creature?” And then I tried to write a song about her meeting someone, but it felt contrived, so I made her kill him instead, which became “Tentacle Luv” in which Lulu lures a man to her undersea lair and accidentally/intentionally (it’s left to the listener to decide) kills him. There was no serious intentionality to this direction. but I think the web of concepts listed before seems to, at least retrospectively, give a window into the process that may have been going on subconsciously. I suspect the day I made her kill that guy might have also overlapped with a rude encounter regarding my chunky sandals (because even in a damn wetsuit people find a way to bother you) I’d had at the beach that morning, but I can’t completely remember.

The reason I'm explaining this in such detail is to try and make clear the level of character building that was slowly going into play. All these little details that make Lulu who she is started from that basic network of ideas I used to build a name, then a personality, then a backstory, until I ended up with what I have today. Every bit of work on Lulu has been an iterative process: try something, see how it feels, then build on it or change it, much like the process of coming into one's own identity, externalities, or aesthetics. But what makes this process so bizarre for me is the unclear separations of that iteration being for Lulu's development, or my own. The more fantastic and distanced from me Lulu's character becomes, in aesthetic, tone and backstory, the more I start to realize how much more honest she is about Max Schaffer than they are themselves.

SURVIVAL

“The position of the world doesn’t have to be a constant...your shape depends on what’s inside your heart, and what surrounds you in the world...what I am now isn’t everything I’ll ever be. It’s possible to have different versions of myself.”—Shinji, Neon Genesis Evangelion (Anno 2019)

To survive, I need queer spaces that affirm my existence as being real. Beyond simply being “safe spaces” these are environments that inspire development of collective futures. While a lack of live music performance did certainly drive Lulu’s creation, I think this much larger dearth of futurity was digging a pit in my stomach every day. There was none of this world-building space in my life anymore—I didn’t even live with trans people anymore after moving to San Diego. I felt myself slipping away (in some ways I still do). In San Diego, and at UCSD, pandemic or not, I couldn’t find spaces like the ones I had previously inhabited, so I dove heavily back into the internet to provide those, like so many have done since its inception. Online raves and Discord servers like Outskrrts brought me life—something I was frankly missing. In Paprika, we get one of my favorite quotes on this topic, “Don’t you think dreams and the internet are similar? They’re both areas where the repressed conscious mind vents” (Kon, Toyoda, and Tsutsui 2006). And my god did/does my life in San Diego feel repressed. Lulu represented a way out, and online spaces room for her to thrive. As Vareons says in “Gameboy,” “IRL is so overrated, digital love is what I created” (Vareons 2019). When we seek love in a world that does not provide it, we see opportunities to develop it ourselves, from beyond our bodies in acts of combined self and communal care. And beyond creating ways to feel loved or nurtured, we

also shape-shift both internally and externally to not simply survive, but thrive, in environments that lack resources we need.

In *Psychonauts 2*, which was released in the midst of the pandemic, I spent hours jumping around in people's psyches, helping them sort out all sorts of trauma (these games are so wonderful). In the mind of a character named Cassie, I found some content that clarified my own situation. "Teacher Cassie" explain that "Important challenges in our lives can cause us to create entirely new identities for ourselves, sometimes summoning powerful archetypes from our unconscious mind..." she clarifies further saying, "my special talent allows me to summon up whatever archetype I need to survive my current situation" (Double Fine 2021). This immediately took me back to C. Riley Snorton's framing of transness as a survival strategy in *Black on Both Sides*—with fluidity being used to move through the world with intention to secure future for yourself (Snorton 2017). Much like the shapeshifting forms I take away from my keyboard—Lulu acts as a way through which I can access what I need to survive.

I see this practice echoed in the digital art of Niall Ashley, who discusses a desire to become abstracted, to be viewed as multifaceted and interpretable, like paintings. They utilize avatars, NFTs, & the "metaverse" at-large in exploration of "...the idea that we can all be different characters at certain times" (Alcindor 2021). Ashley generates entirely new worlds and beings in order to explore an abstraction that gives them space to exist safely . On a similar theme of merging with technology to build universes, in Jenn Nkiru's *Black to Techno*, we see the creation of the Detroit techno scene to build/manifest space for young black folks to gather, shifting the machine-relationships they'd been forced to build out of economic necessity into an artistic, futuristic space to build community (Nkiru 2020). The intimacy created with machines in factories that sustained families, the oneness with drum machines that defined their children's

worlds—black and gender nonconforming youth in Detroit saw machine as a way to transcend their physical existences through works of futurism, and create belonging. Snorton argues that “transness” goes far beyond simply defining gender identity, it describes larger “deviant” approaches to existence. In pushing technology past its apparent limits, we can push our existences past them as well.

The body, and how we use it survive, acts as a sort of constantly shifting prosthesis, much like any piece of technology we utilize. In *Glitch Feminism*, Legacy Russell invokes both “the cut” of Sarah Kember & Joanna Zylińska and “the stitch” of Micha Cárdenas to describe how acts of separating and combining create our forms (Kember and Zylińska 2012; Cárdenas, n.d.). She posits that the body is “...an inspiration, a springboard, a conceptual catalyst, carrying us away from it as we travel through it,” rather than a core entity, and therefore “...it becomes important to figure out ways to signify its edges and folds, those cuts and stitches that point to the failures of what is assumed to be the natural world around us, aiding our departure from it” (Russell 2020). In other words, our bodies are dynamic collages of information that exist as tools to with which explore the worlds around us. The pieces of that collage and their arrangements are in constant flux in order to process the environments surrounding them. Dr. Shira Chess, in her [Killscreen lecture](#), discussed a constant ability to reshape one’s mental and physical self in virtual space as being one of the most important aspects of digital curation that spills into the organic world. When we are locked to any one body that cannot be regularly modified, we lose our ability to understand ourselves (Chess 2021). When we are able to constantly morph, adapt, and swap out parts, we are not only better able to thrive, but are better positioned to understand our own existences, those of others, and all the spaces in between. However, much like

Frankenstein, riddled with stiches and mismatched parts, the world is not keen on letting beings like us ruin their “givens” through our refusals to stay within our bodies.

Before moving further, I’d like to trace this futurism as survival tool thread in time a bit more to give context to the ancestry that I, Saint Taint, and Lulu all root from. We exist only because those before us developed survival strategies despite a world that wanted them dead– to deny them any future or progeny. They found ways to create new life despite this, and because of this. We exist birthed of collective dreams & technologies of deviancy.

[INTERLUDE] ANCESTRY

“...I want people to stop treating me like I’m an anomaly, because I’m not.”—Dreamcrusher

(Sound Field 2020)

Lulu is far from the first of her kind, and neither am I. I’d like to take a deeper look into an ancestry that made her birth possible. Whether or not we produce organic offspring, trans folks have progeny in many other forms. I am one, Lulu is one, and our parents are complex. If you’d like to experience a more detailed look at some artists, or you’d just prefer a break from reading, you can [watch a lecture I gave](#) here on this topic as Lulu. On a larger level in this work though, I think it’s important to note that the life event that set off Stryker to write the poetry I’m citing constantly was her partner’s pregnancy. The subtext behind all these discussions of creation lie in a questioning of what it means to give life—to yourself, beings within you, and others.

In terms of tracing ancestry, I aim to do so through two core threads. The hxstories of digital vocal modulation and digital body modulation run in parallel with intermittent moments of overlap, so I’d like to provide two kinds of lineages. I’ll provide you with both an overview (TLDR) mapping of these as well as an extended & detailed version of each—you may explore whichever variation you prefer. The main trends I’d like to point to here are focuses on black and queer/trans futurist practices of world building and survival.

Over time, on both the voice & bodies front, two threads have been in motion that are now beginning to intertwine. The first is of computers/software trying to sound more human. The second is of humans trying to sound more like computers/software. Currently, we are at the

intersection, and it is both extremely exciting and beautiful as well as very overwhelming and scary.

Digital Vocal Modulation

“Back in my day artists pitched up their vocals because of gender dysphoria.” – Alice Gas
(@alice_gas 2020)

VODER > WENDY CARLOS > EARTH, WIND & FIRE > LAURIE ANDERSON >
DETROIT TECHNO > CHER > HATSUNE MIKU > DREAMCRUSHER > YOUNG THUG >
ARCA > SOPHIE > 100 GECS > HOLLY+

Let me take us back to the late 1930s, when a number of simultaneous Bell labs experiments lead to the creation of the Voder and Vocoder. The Voder was the first vocal synthesis put into use. It allowed someone to sit at a keyboard and form words by operating in some manner between a pianist and a stenographer. The Voder was, interestingly enough, exclusively operated by women (much like most typing-adjacent tasks were at the time) which you can hear about in [this archival video](#) from Bell Labs (VintageCG 2011). At the same time, a piece of encryption tech was being deployed for military communication named the Vocoder. This took a human voice and encoded it into 1s & 0s on a frequency band, and if someone had the proper key to decode these back into the voice, they could understand the message. On one end, the Voder synthesized vocals from scratch, on the other, the Vocoder translated human voices into “computerized” ones and back again.

Wendy Carlos was one of, if not *the* first, to compose a major music release utilizing vocoder technology, writing melodies on it for Kubrick's *A Clockwork Orange* (Kubrick 1972). Working alongside Bob Moog on some of his earliest synth builds, she is considered one of the foundational parents of synthesis. Carlos has become a popular name in modern writing on topics of gender and technology due to her transness—but knowing full well from her writing that she does not wish to be focused on in this way, I will not go too far in this direction. I simply wish to mark a clear relationship here between early exploration of digital vocal modulation and exploration of nonnormative gender structures.

If we move forward a bit, we can hear Earth Wind and Fire use a vocoder on “Let's Groove,” which was one of the first major hit pop releases to use the tech (Earth, Wind & Fire 1981). When we view the video and artwork, which takes on an Afrofuturist, space age concept with Heavy Parliament Funkadelic vibes, we again see an exploration of nonnormative identity. In this case, through the presentations of black masculinity. There is a movement beyond the now, beyond the given, to something in the future that looks and sounds beyond the bodies of those performing vocalization.

One year later, Laurie Anderson's “O Superman” released, pushing the boundaries of gendered voices and tech from a distinctly feminist angle (Anderson 1981). In this song we see a desire not to simply utilize an effect, but fully immerse oneself in a robot, neutralized vocal performance for the entirety of a song. Anderson's entire performance, from front to back on this track, is modulated—there is not a single unmodified piece of vocal in this track. Anderson here presents both visually (via the music video) and sonically beyond a normative sense of “woman.” Here we see a continuation of the lineage: digitization and transcendence.

Moving forward still, the world of Detroit Techno (which I'd recommend you learn about more [via Jenn Nkiru](#)), further pushed this symbiotic human-machine connection—specifically as a black technology of space-making and communal survival (as King Britt describes it) (Britt 2020). The machine and the artist work together to move beyond themselves, and to express beyond the boundaries of the skin and circuits to become a unified and expanded being. The person achieves an augmentation only possible through the synthesizer, and the synthesizer achieves a level of humanity through the humanness imparted on it. Together they expand beyond their alleged boundaries. You must be seeing where I'm going with this by now.

Pulling us more specifically back to vocalization—in 1998 Cher releases “[Believe](#),” the first major pop hit to use identifiably heavy [Autotune](#) (Cher 1998). Her voice, which was already steeped in the context of gender play & queer culture, becomes computerized but not fully vocoded, forming something new. Autotune represents an expansion on the Vocoder. Instead of fully computerizing the voice to a note that can be controlled by keys, it instead acts to push a voice into specifically defined musical scales automatically. Laura Anderson had to play every note she wanted her voice to achieve, but Cher's voice jumped between notes on its own as she performed, according to a pre-determined scale. While pitch-correction was not a new technique at the time (many would argue doing “comping” aka many vocal takes spliced together is very similar), Cher's was purposefully made to sound obvious. It steps between notes like a piano rather than having smooth bends & transitions like the human voice tends to. It also set a standard in pop music to use pitch correction in order to achieve “perfect” pitched vocal performances. Here, again, we see a “queer icon” (that's another topic) at the core of vocal modulation.

In 2004 Hatsune Miku rises to fame as the first fully synthetic pop star—her voice being provided by Yamaha’s Vocaloid software (the development of which Nina Eidsheim has discussed in great detail in *The Race of Sound*) (Eidsheim 2019). The voice has now gone beyond simply being neutralized and controllable by technology, it can be fully played like an instrument with real clarity—the Voder coming to real fruition. I’ll revisit Miku in the next section, so I’d like to place a mental bookmark for you here. This is a point in time where digitized voices and digitized bodies really collide in a cohesive way. The first fully synthetic popstar.

But Miku and Vocaloid did not eliminate all the organic lifeforms who liked to sing—a classic fear of all computer-generated music. In fact, I’d say it proved clearly that it could not and would not be taking over, at least any time soon, given its relatively contained popularity to this day. Vocaloid maintains a small and dedicated fanbase, but it did not even break into mainstream Top 40 usage outside of Japan beyond Miku. Autotune, however, became the new norm. It was T-Pain’s key to success, and he had no issues singing with near perfect pitch without it. However, I think a more interesting example is Young Thug, who outputs a prolific amount of Autotuned “mumble rap” or “non-verbal flows” with a transgressive gendered presentation behind it all. His vocal strategies and pushing of language norms question even basic ideas of what vocalization can be in popular music (you can read more on this from Michael Waugh and none of it would be possible without vocal modulation technology (Waugh 2020).

The key to Yung Thug, and artists like Future as well, is that they can focus on making *interesting* and expressive sounds rather than on *pitched* sounds. It may seem small to imagining saying a phrase in one key or another, but it makes all the difference. Don’t believe me? Listen to

Travis Scott fall off a stage while Autotuned and tell me he could have sang that (ep 05 2019).

When you're Autotuned, you can focus on intonation, affect, breath, delivery, rhythm, and not on hitting perfect notes. So, what I hope to impart here is not the more basic idea of Autotuned as being an "equalizer" of talent for singers but rather, as a tool that focuses artists more intensely on the affective core of their vocal performances. There are only so many ways to sing the same notes. What Yung Thug does is instead explore the way that note even gets out of his body in the first place—but makes it work in a musical sense using the technology available to him. In this sense, to me, he roots from the same space as Wendy Carlos, running her voice through an early vocoder to achieve a sense of freedom from norms of vocalization, to move towards something fresher and futuristic in the now.

From what I see, the story of vocal modulation, much like so many other major "innovations" in music root from queer and black desires to *enact futures in the present*. I would place Dreamcrusher in here in the context of experimental music and noise via a black trans lens that pushes computers and bodies to extremes in order to produce new ways of being (I highly recommend watching this PBS special featuring them) (Sound Field 2020). The space of performance specifically becomes a point of contact with acts of futurism in their abilities to move fantasy into reality—with this symbiotic human-machine interaction expanding digital and organic entities into larger-than-life-beings. Where Dreamcrusher sets themselves apart from so many other artists I discuss though, is in their decision to be *dissonant*. If some artists are using processing to sound more on pitch so they can express themselves, Dreamcrusher is trying to sound *less* on pitch, with expression coming through the rejection of order itself.

Somewhere in between these spaces is Arca, who pushes and prods these human-cyborg-machine-human relationships simultaneously through high-femme-perfection and complete-

abjection. Arca will hit you with glitched out vocals that somehow still sound gorgeously harmonious, show you a sculpted CGI body of beauty jammed right up against mutated cow meat, with high heels drenched in blood, as if someone choking on their own viscera could sound like an angelic choir. This is, to me, Arca's *mutanticxs* project.

Where things get really interesting to me, though, is when the concept of the individual vocalist itself is destroyed by these technologies of expression. Sophie worked with digital modulation and a series of collaborators to destabilize the concept of an individual vocalist on all of her tracks. Sophie was a body-less being up until her debut album, instead relying on CGI models of various objects, and guest vocalists on all her tracks (famously, GFOTY as a core collaborator). This destabilization of a "core voice" harkens back to Sylvester and his backup singers (aka Two Tons o' Fun) in usage of multiple voicings to suspend the listener in a non-static vocal space (Peraino 2005). By questioning where Sylvester's voice began and ended in records, "realness" was achieved through this collaborative gendered & racialized performance.

In Sophie's later work, she deployed not only her own voice, but that of Cecile Believe—a detail unbeknownst to most listeners (myself included, for a long while). Through heavy modulation, and knowledge on the part of the listener that modulation & synthesis could be part of the musical process, a suspended fantasy of disbelief is created as to what the *possible range* of a vocalist could be. Sophie becomes a conceptual being, not a flesh and blood human with vocal chords. She modifies her body, her voice, her everything, so why would you *not* think any voices on her recordings were her own?

I'm trying to take us one step further here, in a nod to what this overall paper is about: an abandonment of the individual, and an embracing of the multi-body. And this is where I take us to what I believe to be one of the most definitely fucking bonkers collisions of all this history.

100 geecs combines entire lineage of modulation, tuning, and noise into one package--namely in the trans vocal performances of Laura Les that on all fronts puts into question the difference between performance and sample, meme and music, all of it. Beyond “is this a human voice?” or “is this a woman’s voice?” people ask “is this music?” as evidenced by the number of memes basically equating 100 geecs music to the sound of earbuds in a blender. To stop fangirling and stay on point though—the interplay between Laura and Dylan’s vocals creates a sense of suspended reality in which either body could be producing any of the sounds, like Sylvester or Sophie did. Much like the vocoder can produce chords of voices that disembody from a singular organic being, the process of modulating with multiple vocalists can work to birth a new “vocalist” comprised of a number of organic bodies and computers all working together as one. Big trans Megazord energy. And while the now named “hyperpop” and “digicore” scenes had existed prior to 100 geecs, their general market success has driven these genres into far more culturally influential positions. And in this drive, we’ve been lucky enough to see artists like Cali Cartier appear, who not only embody the genderfuckery of 100geecs, Dreamcrusher, Young Thug, and the rest of this lineage, but do so in new ways that truly, I promise, will leave you completely speechless when you see them live.

But I want to keep focused on the multi-body. One of the interesting aspects driven by these hyperpop and digicore scenes (use those with a grain of salt, the artists have their own opinions on them, as do I) is the emergence of unprecedented numbers of features on tracks. Part of this is due to how the music is made, and part of it is due to the architecture of the streaming marketplace. The prior roots in the online nature of the scenes, which leads to folks working together at high speeds at all times, studios are not required, meeting up isn’t even necessary. In terms of remote songwriting, these folks were on it far prior to The Pandemic. The latter shows a

level of harsh practicality from the scenes—more features means more algorithmic threads and boosts to a song. Why not throw five artists on a single and get five times the listenership? What I find so amazing about this though is in how it takes what could be a song with one or two clear vocalist and turns it instead into a messy pool of sound. Who's to say who made what noise on a track when it's all so processed? We take the Sophie model and we amp it up to become a constantly rotating Idol-group model—where vocalist jump in and out to complement one another, and a clarity in performance is placed to the side in preference for a unified sonic experience.

And to bring us home to the end of this very long section, I will bring up the recent developments by Holly Herndon and Mat Dryhurst, in which they perform (as Dryhurst confirmed with me on Twitter) via neural networks with Mat singing as Holly, the first of its kind to fully function live in a clean manner (Herndon 2021). Here we have a computer properly singing like a human, and a human therefore singing like a computer. But if the computer is singing as human, and the human is singing as computer, who is actually singing anymore?

That's what I love about this. We see a full grafting of one voice onto another via digital vocal modulation. This can be a grafting of an organic-sounding voice, or a digital one, but it's the first real successful performance of this tech in action, and it points towards where vocalization may be headed going forward. Later, I'll discuss how this plays into the multi-body in greater detail, but to discuss it quickly: Holly+ is organized as a DAO, Decentralized Autonomous Organization, in which the rights to creations that utilize Holly's voice, legally and financially, are owned by a community. If you've heard of DAOs, you've probably heard of them in the context of *crypto currency* (yuck, I know), and while I'll discuss my myriad of concerns later, it would be a *massive* mistake not to pay attention to her experiment in collective

ownership as the relationship of artists to the individual vs collective change in tandem with their relationships to monetary compensation, creative ownership, and streaming.

If I could sum up the path of the human and the machine in vocal modulation, it would be that they both approached the other, until a crossing point. Computers tried to sound like humans since the Voder, and humans tried to sound like machines since the Vocoder. We're currently experiencing the intersection of those threads (shoutout to Nina Eidsheim, who helped parse this out with me while visiting an IS class via Zoom). But we have a whole other thread to trace still, time to move on!

Digital Bodies

And on the bodies front, in terms of a crash course, I map things by creating a branching history off of the vocal side when Hatsune Miku appears, and once again with the current developments around rights management for Holly+.

M.U.D.S > 90'S VR EXPERIMENTS > SECOND LIFE > GORILLAZ & CRAZY FROG('S
PENIS) > IDOL CULTURE & HATSUNE MIKU > AMI YAMATO > LIL MIQUELA >
DEEPPAKE PORN > VTUBERS > K/DA > CODE MIKO > HOLLY +

Our story begins with M.U.D.S. (Multi User Dungeons), which were created back in 1978, acting as the first online social roleplaying games. These were completely text based, and therefore allowed for the full ability to customize one's character's description and world based on keyboard inputs and interactions (Curtis 1998). In terms of people interacting on the internet

in real time, in a game-like setting, this was the OG. Anyone with a fanfic account can explain to you the power that *words* have in defining the mental image of one's "avatar" and what they do, so I won't go there now, but I would like to emphasize that in this case the body is a concept, based in text, translated to others via non-visual means.

However, by the 90's VR experiments in these spaces lead to the development of both 2D and fully 3d avatars users could choose and customize visually (see the work of Schroeder for more) (Schroeder 1997). In this move, a level of physical realism was introduced to multi user online space and it was bounded by the rules of physics placed in the engine as opposed to being limited by numbers of characters one could type into a field to describe themselves. Second Life is the most famous child of these experiments. It became the first widely available & popularized avatar social space and still today maintains a thriving community and a rather large economy for digital space to hold events (tons of excellent writing on gender and sexuality in this space is out there btw, like the work of Boellstorff and Mitra & Goltz) (Boyes 2006; Boellstorff 2015; Mitra and Goltz 2015). I attended an online rave in Second Life just this past year—it still works, and it's still full of freaky people.

As gaming made folks increasingly comfortable in the avatar realm, music acts began to tap into things. Gorillaz proved that animated bands could function in the western market very effectively, and Crazy Frog became the first fully CGI produced pop star in US and Europe, despite all the controversy over its penis (Williams 2020). In Japan and Korea, Idol culture was also familiarizing audiences with animated performers across media, which primed Hatsune Miku for her release as not only a Vocaloid software performer, but a fully-fledged popstar backed by a major company. While her imagery and voice were controlled for large scale commercial usage, it was fully available, if not even encouraged, to use her software and likeness

for fan projects, which caused her to go beyond being just an artist to being a fan collaborator herself, as well as the voice of many users across the globe. Miku's body may have been digital like Crazy Frog's but her presence was far more malleable and widespread due to the creative nature of her software. She was later developed into the first fully synthetic live act, with a holographic body projected into giant stadiums. To me, Miku represents a really powerful merging of the full digital body and synthetic voice. If you've never seen videos of her concerts you can [check them out here](#). This "hologram" technology would later drive the infamous [Tu-Pac hologram](#) as well as the modern [K/DA](#) shows and a series of other Vocaloid pop stars.

K/DA was the first major video game entry in the music business via avatar performers (Kim Petras collab of note) (K/DA 2020). The gaming industry has, over the past few years, begun to understand their unique advantage to step into the avatar space, as they've been honing their skills in this department for decades in motion capture and animation. They own the tech that makes the avatars possible in the first place. Simultaneously the music market for gamers has become increasingly sought after given its proximity to streaming and content creation. Spotify's marketing team actually pushes the gaming aspect of advertisement extremely hard in their presentations (which you can attend as a member of the public if curious, the stats are wild) (spotifyads 2021). Bandcamp recently was sold to Epic games, the creators of Unreal Engine, and a massive market has sprung up for in-game "concerts" by artists in Fortnite and other games. In retrospect, the collision seems so obvious.

But without jumping too far ahead, I want to shift from stage to streaming. [Ami Yamato](#) began posting on YouTube around the same time Miku was gaining traction. She's widely considered to be the first major Vtuber in history, birthing the culture out of extremely basic tech. Over time, her conversational avatar streaming merged with animated idol culture and acts

like Miku to create the modern Vtuber model we now experience. Prime examples of these being the Hololive stars originating in Japan, now branching into the US, Philippines, and abroad. who stream as 2D/3D animated characters on YouTube, Twitch and NicoNico. The Vtuber aesthetic is dominated by anime-style avatars, but a few more humanoid Vtubers have found followings.

Code Miko is the most commercially successful of these humanoids. Her project, to me, gestures towards the future of entertainment as a concept insofar as she has a fully digital game world she can stream from with full body and face capture. Miko can modify her body, voice, and environment in real time. Get up and walk around in her own world like an RPG game. Viewers can trigger all sorts of events in real time via donations, she can bring in other streamers any time. She both exists as a character, Miko, and in her physical form as “Technician” allowing her to create a massive variety of content both in and out of character (whether she’s actually out of character as Technician, who knows) (CODEMIKO best clips 2021). More and more beings like her are beginning to appear as motion capture tech becomes more widely available (aka the Rokoko Smartsuit and the like) but Miko has, far and away, the strongest tech and following in the space. Now, the true god-tier avatar though would be a combination of Miko and another market-success named Lil Miquela

If you’ve never seen her, Lil Miquela is the first majorly successful fully digital social persona, music career, and influencer in America. She marks a milestone in fully packaged beings brought to market. Her parent company, Brud, have discussed their process at length on Interdependence, Holly Herndon and Mat Dryhurst’s podcast, which I strongly recommend (Herndon 2020). Miquela puts out Singles, fashion lines, everything—but is the product of a group of designers and writers, not one human. While corporate or label ownership of an artist may be similar, there’s a big difference when the actual body of the performer is not something

that has to be debated, as the body and voice are the property of the company, and they have full agency over it. Now the question with Miquela though is much like many other creators: if you were to change whoever voices her or whoever helps motion capture her, would people notice? Unlike a Vtuber who has to improvise to their streamers, Miquela is scripted meticulously and never appears live. This is a core difference which places her in a category more akin to a reality TV show persona than a performer. If I were one of the many companies operating in this space, it would seem a no brainer to create some sort of hybrid model streamer-influencer combining the Miko and Miquela models. That's what I'd strongly expect to see more of: strategies ala Mori Calliope's multiple albums on top of her streaming persona, but with far higher budgets.

One thing of note about Brud: back when I first began researching them, their site had just about zero info as to who ran the company or was involved, but recently they launched a new website with an extremely transparent view of their team, as well as a video explaining their process, which I find quite interesting from a marketing perspective. Questions begin to arise as digital modeling agencies pop up at the same time, like the Diigitals, around ownership of digital bodies and corporate structure. which I'll elaborate on in a bit.

However, you may notice I keep using words like “market tested” to describe these folks, and it's because quite frankly all the top operators are very much in it for the cash and will tell you that quite openly. While a sea of creators and enthusiasts and queers like me are out there doing this stuff for self-exploration and fun, this space is driven heavily by capital. And its roots come from a drive for capital. So much of the 3D scanning tech, streaming, and browser support for things like 3D and VR services come from, surprise, surprise, the porn industry. Which is why we absolutely must discuss Deepfake Porn, aka nonconsensual facial mappings via machine learning to digital bodies for VR porn. While many adult film stars chose to scan themselves into

VR, so many faces and bodies are based off of folks who never agreed to this. If you're not familiar with Deepfakes, they use photo data to create hyper realistic models of faces that can then be animated to do really whatever. This tech was even used to fake a full on state address by officials on national TV in Gabon (Cahlan 2020). Maybe it's been used elsewhere and we don't even know yet—it probably has.

I'll get into this more later, but I say it now in order to bring up questions of ownership and rights to our bodies and voices that I close out the previous section with. Bringing us back once again to Holly+, questions of who owns our bodies and voices once they circulate are becoming more and more pressing. To recall Hatsune Miku, who's voice and body were allowed to be used non-commercially basically anywhere, what would it feel like to see your own body, and hear your own voice, become the side project of a stranger on the internet? Beautiful? Horrific? A bit of both or none? These kinds of questions fall by the wayside far too often, and I place these histories before you to help give some context to them before I explore them later in the piece.

MAX SCHAFFER: A BODY

I am groundless and boundless movement.

I am a furious flow.

I am one with the darkness and the wet.

And I am enraged. (Stryker 1994)

“The feminine urge to separate yourself from your physical body forever” (lilperc666 2021)

Max Schaffer is the author of this piece and the creator of Lulu and Saint Taint—they’re the one talking to you right now. I’m currently writing as them, but I feel it’s critical to take a moment here to press you to consider what that means to me. We’re breaking down levels of embodiment I undertake, and it would seem a disservice not to reflexively consider my relationship to the external academic perception of my character occurring this very moment: Max Schaffer. Eddy Entropy once told me, that our problem as people wasn’t that we were given consciousness, but that we were given physical bodies. Sometimes I think that’s all I strive for—a lack of body. To invoke Londes from Cowboy Bebop, a coma patient who uploads their consciousness to the internet, “our spirits, which found a way to swim through the immense network and live in the infinity of space...is not the human body a mere shell, a form of existence all too small and weak for consciousness with such vast reach and potential.”(Watanabe et al. 1999). While I can’t become a concept and float in the ether, I can fragment into enough pieces, physical, conceptual, and digital, to achieve something that brings me closer to the idea. But I’m getting ahead of myself, so let’s center a bit.

The entire process of working with Lulu has reminded me that Saint Taint was very much invented as a character as well, even if I'd lost sight of that by this point in my life. I created the persona to perform my first live solo show. It was a similar situation to that of Lulu, I had some music but no name, and something just stuck. The initial first dip into a persona is the clearest cut part, because you know you made it for a reason. Where it gets difficult is all the moments that follow. As you go about your life as a person, that persona grows, changes, and adapts too. Max Schaffer was just beginning to use they/them pronouns amongst friends, and so when Saint Taint was set to perform, they too received those pronouns. Max Schaffer had an Instagram account, but it became Saint Taint's. The acts of posting and curating on social media gradually made it impossible to keep track of who Saint Taint was and who Max was, but it didn't matter, because it was a good thing. Saint Taint was exactly who Max needed to feel confident, attractive, and talented—like a prosthesis. I liken it to climbing inside a mech suit, *Neon Genesis Evangelion* style, “by piloting the EVA, I can exist as myself.”(Anno 2019)

Saint Taint acted as a social anchoring for Max's friends who wanted to discuss queerness and identity with them but may not have done so without this publicly externalized figure—aestheticized and curated. Vivian Sato tells us that a critical piece of queer living is to “...draw out another identity from a...person you're with.”(Kolbeins et al. 2021) Saint Taint did it for Max, and then Max did it for their friends. Sato would say they've even done it to those on the street who've hated what I am, in that it's taught them who they are by difference. It's unclear when Saint Taint took over the controls from Max Schaffer in all these aspects, but in some capacity, they're at least copiloting the same existential ship/mech-suit.

You'd think I'd then be expecting to have a bizarre relationship with Lulu as I created her, but instead I was once again completely blindsided by the ramifications of spawning another

being. The fact is, I'd never really been forced to come to terms with Saint Taint until Lulu showed up. As Legacy Russell says, we "...hold mirrors up for one another, hold and care for the reflections seen," Lulu held up the mirror and asked us what we saw (Russell 2020). With no in person social gatherings or shows, Lulu became the new outward persona, and even more she simply became another friend on my screen, in a world where most of my friends are purely now digital beings. And at this point I've fallen in love with Lulu like I did with Saint Taint, except more intensely since she can sing in her own voice and move in her own body, like some hyper-intense solo drag in my mirror at home. I know I've been wondering how Lulu's tentacles eat people, but I'm starting to think she's already digesting Max.

[INTERLUDE: ON PRONOUNS, IDENTITY, AND VISUALITY]

Pause—because we should discuss Lulu’s pronouns quickly. I always seem to fall on “her” which I’m still debating (she/it/they all work for me). On one hand I don’t want Lulu turned into a cis woman artist by people who don’t get it—and on the other I like that subversion. But it discomforts me, because I suspect the internal struggle I feel is based around my gendered perceptions of self. I personally (and this I cannot stress enough, is just *my* stance on *myself* and I apply it to no other) feel that my nonbinary identity and presentation is core to an emotional and political project of every day resistance. I feel that by using they/them pronouns and maintaining androgynous appearance I’m both forcing myself to unlearn ideas of what femme beauty are as well as embodying a transgenderified identity that welcomes confrontation and allows for as little “stealthiness” as possible in an act of solidarity with those who’s visible identities put them in harm’s way (Valentine 2007). The snag here that Lulu forces me to confront though is that frankly if I *could* pass, I probably would.

By using she pronouns and acting as a trans woman as Lulu, it feels a bit like a personal betrayal to a nonbinary identity. It comes into painful contact with what I always fear may just be a means to cope with my body—my inability to grow hair on my head, combined with my extreme ability to grow hair everywhere else, my big hands, my not-quite-as-delicate-as-I-want vocal tone. In some way, learning to accept my own femme-ness is in many ways driven by a sense of practicality, and not necessarily pure desire. And so, the ability to make Lulu whatever I want can seriously jeopardize so much work I’ve put into Max and Saint Taint’s perception of beauty, which comes from “working with what we’ve got.” I see Lulu and she makes me jealous. She makes me jealous like I am when I see trans women who pass as normative cis women. It

opens doors I don't want to open. And yet, those seem to always be the doors I build via personas, constructed to lure myself into walking through them. Because to ignore the door is to ignore a core piece of the trans embodiment question: can the freedom to create end up harming you?

I personally feel this debate of pronouns heavily in my life, at a time in which I question the purpose of the very identity labels that previously felt so much affinity to. Like all subculture that makes us feel a place of belonging, it will one day normalize, requiring folks to burrow deeper down to maintain communal specificity. I'd invoke Joshua Gamson in discussing the self-destructing nature of "queerness" here (Gamson 1995). When placed in conversation with David Valentine, it creates a solid map of thoughts driving my ideas of labeling identity versus leaving to the unclassifiable (Valentine 2007). We create terms and pronouns for specific organizational purposes, some of which can be critical to organizing, but they can also limit us from our potentials. Legacy Russell discusses the power of refusal to identify with static labels, despite this practicality. These labels, pronouns, etc. are used to surveil us on the very platforms we use to break free from normative society (Russell 2020). It is a political act to use they/them pronouns, much like it is one to call Lulu she, her, or it. She and I know what we are, but that signaling is the piece in question. I don't have a clean answer on this yet, but I bring it up to simply discuss a friction at play. How can we both deny classification, but also organize effectively?

MONSTROSITY

*In birthing my rage,
my rage has rebirthed me. (Stryker 1994)*

“Girls on estrogen be like I’m replaying Fallout New Vegas”(sapphicslurmemes 2021)³

Throughout this piece, you’ve been reading small clippings of a Susan Stryker poem, and now with Lulu introduced to you, I’d like to finally explain why. I found this poem, and it’s larger essay, rather randomly via a citation in a Keywords essay for “Monster” in *Transgender Studies Quarterly*, and it has become of my favorite writings of all time (Koch-Rein 2014). Susan Stryker’s 1994 work, *My Words to Victor Frankenstein Above the Village of Chamounix*, just does it all for me. The relations between the monster image and trans rage, blending of academic discourse with militant fury and fantasy literature stylings, intensely vulnerable emotional anecdotes, and what I can only describe as demonic invocations of inspirational deviant power—it just has everything (Stryker 1994). And the fact that it appeared in my life right as I began working on Lulu could not have been better-timed. I was ready or not, it made me realize that I not only shared kinship with Frankenstein’s monster, but in my creation of Lulu, also Dr. Frankenstein himself.

At the core of Stryker’s conception of identity is an inseparable tie between rage, transness, and monstrosity. It’s the idea that being perceived as a sewn together mass of inhuman flesh, born unnaturally, is not something to simply reject, but something to appreciate as being

³ sapphicslurmemes, who you’ve now seen referenced couple times, is the meme account name for Sage Introspekt, a DJ from the bay area. The online discourse she curates regarding her experiences with transness, blackness, and club scenes inform this work significantly, so I feel a need to contextualize her inclusion here.

core to one's identity. The rage born of being forced to live in a world that despises you becomes your shape, it is not just a force to contend with, it is a life force that brings you power and meaning. This description of life is one that I can truly relate to—no matter how many times I am told to practice self-love and acceptance, a monstrous perception of me will always have shaped me, and continues to shape me, and Stryker is one of the few folks I've seen really try to appreciate that fact in a way that doesn't feel conciliatory, nor pitying. It's a common tendency when words loaded with traditionally negative connotations are used by those attacked with them to say that they can be "reclaimed" in some way, but what I love about Stryker's piece is that she doesn't quite do this. You need not reclaim the monstrosity, it's always been yours, you just need to harness it and let it bring you life.

"twisted sequins

subversive monsters

sharpening our blades

infecting existence as guerrillas

males go on cutting

bodies liberating

orgasms unleashing"

--Pacha Queer – Monstra Cabaret [translated from Spanish](Pacha Queer 2019)

I experienced such a beautiful connective moment between Stryker's poetry and Lulu's character. The themes of adapting to a feeling of drowning (taken literally in a sort of Lulu sea monster capacity), the appreciations of the wet darkness, the realization of the self and of the

power in the rage itself to bring one's shape--there's something so refreshing about a take like Stryker's in which I don't have to hear a million takes on healing, self-love and care, but instead a much more relatable approach of welcoming the darkness of a trans existence. We can care for ourselves and love intensely without numbing the beautiful rage and darkness that sits in us and gives us the shape we take.

When I consider my shape, Saint Taint's shape, and Lulu's shape, I see a shape of defiance, not simply of desire. Beyond agency to take whatever shape I want, there's an inherent anger in taking a shape that provokes and the borderline sexual enjoyment in doing so. As Jeremy Cohen puts it, "...the monster's body...incorporates desire, anxiety, and fantasy...giving them life and an uncanny independence" (Cohen 1996). In writing Saint Taint's most recent album, I told every feature that the theme was about that blurry line between hot and angry that daily trans existence seems to entail, and they all knew exactly how to write about that without any further explanation. With Stryker's piece I see a clarification of this. It's not just a blurry line, it's a direct relation of formation and exchange—an "intra-action" as Roshanak Kheshti would say (regarding Wendy Carlos and Switched on Bach) (Kheshti 2019). Desire can be built on rage and vice versa. And to ignore that and the societal conception of monstrosity in my existence is to miss out on a world of analytical and reflective possibilities.

The monster is, at its core, a being that destroys binary logics and clear dividing lines like this. In *Millennial Monsters*, Anne Allison tells us that "by definition, monsters live between two worlds and threaten to collapse or break down the mediating border" (Allison 2006). They discuss this in the context of half-cyborg half child beings in anime and video games, in which the ideas of human-monster and good-evil cannot be easily equated. In the game *Persona 5*, in which you play as high schoolers who gain powers via gorily ripping masks off their faces, we

see this stated clearly as well when your homeroom teacher says that if you were to see an alternate persona of yourself in differing gender, age, or physicality “...it might look like a monster.” People take on complex forms, utilizing monstrous forms for their own aims—binary morals and definitions of humanness fall by the wayside. In similar fashion, queerness, or queering, as a concept, aims to destroy clear divisions and grasp agency from the power vacuum this process causes.

Yetta Howard believes that “...queerness not only breaks down the distinctions between positive and negative valuation...but is constituted by distortion, alteration, and ambiguity for remaking or rethinking identity...” (Howard 2017). I would pair this alongside Michael Waugh’s discussion of queerness as a mode of existence in the age of constant connectivity, in which he states that “a hyper-saturation of digital cultural material disintegrates the notion of a ‘stable’ identity online...” (Waugh 2017). If we bridge all of this together, we can see a digital monstrous form taking shape much like Stryker discusses in more organic and pharmacological terms: an online Frankenstein.

[INTERLUDE: QUESTIONING THE CYBORG]

With all this discussion of digital existence, Kheshti would likely also connect my relationship to Lulu as being distinctly “cyborgian” in nature, so I want to take a minute to discuss that. The reason I shape this piece around Stryker’s conception of the monster is in a hopes to decenter the more dominant “cyborg” theories of Donna Haraway that are generally directed at work like mine (Haraway 1991). Legacy Russell does a better job discussing the dominance by white cis woman in cyberfeminist fields than I ever could, so I’d recommend you read Glitch Feminism for that. My aim here, what I can contribute, is to suggest combined frameworks for the types of work I do with Lulu, the work of those in online communities. TLDR: There’s simply only so many times people can ask you if your process is cyborgian before you wonder if there’s more to it. I bring this up because the wealth of cyborg theory has been invaluable to me and has tons to say, but at a core level has simply always been missing something in my eyes. I couldn’t put a finger on it until I read Stryker’s piece, which achieves an affect that feels much more akin to my experience of trans rage than the relative “sterility” (as in a word to describe a hospital environment, not to describe an inability to reproduce) of machines and computers. Similarly, until I read work by Russell, Waugh, and Jurgenson, I struggled to locate my own experience within the nexus of cyberfeminist theory.

In my eyes, the practice of cyborg-ization is a survival strategy. It’s something trans folks have practiced in order to find a way to exist in a world that rejects them. Cyborg practice is to me, the alien lifeform building a breathing apparatus on a hostile planet. Alternatively, depending on how you aim to look at transness as a long-standing concept, just without the modern term, it is a way to breath on a planet which invaders (angry cishets) have polluted to

such a degree it is barely habitable (recognizing again, this analogy and my whiteness having plenty of contradictions, I realize, but bear with me). The point of this long analogy is to point to a lack of origin experience in cyborg theory. It explains a survival but not a creation—if that makes sense. In other words, I wasn't born a cyborg, and I didn't grow up as one necessarily, I made the choice to become one as my existence developed. The experiences that led me to utilize a technological, cyborgian approach to identity was a direct reaction to, and collaboration with, the preceding experience of monstrosity I had embodied for so long.

To me, this is a far less cold and calculated concept. It's much for loaded with affect and organic qualities and it speaks to me more deeply. This is not to say it's better than cyborg theory, or somehow more important, it's simply to consider that we maybe shouldn't ignore the monstrous nature of the cyborg, nor its monstrous origins. When I think of artists like Arca, who embodies horror-inspired mechanic skeletons and warped CG models and revels in fans writing "Arca is my Alien Queen" on their bodies, I think of monsters first, and computerized beings second (Geffen 2020). When I consider SOPHIE's video for "Faceshopping," I see an intentionally warped monstrous aesthetic (SOPHIE 2018). I see purposefully exaggerated facial features and aesthetics in line with societal perceptions of surgical body modifications Stryker discusses at length. I see a desire to be disturbing and disrupting—not simply advanced or technologically superior. Monstrous technological embodiment, to me, represents a trans-futurism unbounded. To imbue a cyborgian transness with life, rage, and affect, I believe we must appreciate the monstrous core of digital and technological existence.

To me the real power comes from a combination of things. Imagine we take the core of cyborg theory, the theoretical embodiment it brings, and the conceptions of posthuman existence

it spurred, but swap out the parts that simply don't serve us—what if we built our own theory Frankenstein with:

- The affect-driven, rage and desire-loving, experience-driven power of Monster theory and the freedoms it gives us to birth new beings
- The questions of divisions of self & other, with a focus on black & trans survival strategies, that Glitch Feminism provides. Specifically, in its usage of refusal and breaking in causing change, with the invocations it provides us on how to exist in the digital and AFK worlds
- The always-online concepts of the Post-Internet, and the deep embedding in digital social logics it provides

Combined, we are provided with a highly varied set of tools with which to shape our own bodies, worlds, and communities. These new methodologies can fill in all the gaps of cyborg and posthuman theory. We can focus ourselves far more effectively on vectors of class, race, gender, and capital, question the human-machine divide, and keep actual human experience and emotion at the center of our work. And we truly need this level of flexibility in our theoretical work if we are to tackle the challenges approaching us via technological and social developments.

WHO CARES?

“...the monster threatens to destroy not just individual members of a society, but the very cultural apparatus through which individuality is constituted and allowed.” – Jeremy Cohen (Cohen 1996)

So, what’s coming, and why should we care? Well a lot of really wonderful things, and a lot of really not so wonderful things. Much like so much of technology, the tech itself both expands and contracts our worlds depending on the forces of capital at work. The core concern that arises from all these developments centers around a question of digital body rights. While those with access to the tech have a lot of control over their digital bodies, as things expand, populations become gradually more vulnerable.

We’re headed for a space where our understanding of identity, subjectivity, and the individual are completely breaking down. Corporations are people (thanks to Citizens United) and people can be collectives (Totenberg 2014). What’s next is a place where we can really inhabit bodies together, as collectives with shared entities. We need new ways of considering the individual as a concept, as well as to analyze experiences attached to entities that go beyond the simplifications of “identity” frameworks. I believe if we take this sort of combined Monstrous-Post-Internet framework and maintain critical analyses of race, gender, class, and capital at its core, looking towards the concepts of Crenshaw’s “Intersectionality” and Morrison’s “Blacksound,” we can position ourselves to have generative and useful discussions going into the future (Crenshaw 1991; Morrison 2019).

Our conceptions of time and space are already shifting rapidly—we watch lectures at 1.5 speed, circumventing time, and attend them on Zoom from across the planet, circumventing

space. If we can now have virtual selves, run by teams, appearing in our stead, might we then be circumventing individuality in a sense? It's obviously not that simple, but there's certainly something to it. In an interview with Cherie Hu of Music & Water, Akash Nigam, the co-founder and CEO of Genies (who are responsible for some of the biggest pop avatar creations for various marketing and performance events) explains that an artist's "...second, virtual self is able to complete the brand endorsement for them, so they're able to do twice as much'"(Hu 2020). This gets at a concept I find very compelling: the "bubble." Catherine Hoad discusses this performance structure in their writing on the masked metal band Ghost. Essentially, the "bubble" is created so that performers and audiences can enter and exit it at will, leaving a world inside of it to exist without interaction from a sole creator (Hoad 2018). The idea of the bubble can encompass these collective entities that operate with internal teams and community members to make larger-than-life celebrities. I believe it best describes the modern state of digital world building—it's a collective body of content, community, and performance that maintains a creative concept, not a person themselves. Where things have gotten particularly interesting though, is in attempts to expand ownership and operation of digital entities via larger internet communities, instead of smaller teams like production studios and companies like Brud. The best example of an experiment in this right now comes from the work of Holly Herndon, in her experiments with Holly+.

Basically, Holly Herndon has created a DAO (Decentralized Autonomous Organization) to manage the ownership of her voice and body for Holly+, a digital copy of her body and vocal data (Herndon 2021). This exists in the world of NFTs and Blockchain (but don't get bored I promise I'll keep this interesting), and the TLDR is that she's experimenting with a way of essentially creating royalty systems around likeness of voices and images that can be managed

via voting in large bodies of stakeholders. Those people can be friends, or the public, or whoever—but the idea is to try and see if blockchain ledgers give us a chance to get ahead of the curve on “spawning” before it takes the route of sampling and copyright. Spawning in this case being a term coined by her and Dryhurst to discuss derivative works utilizing the data and likeness of a performer. Essentially, the ability to use either text-to-speech or live vocal timbral transfer to sing or speak like any major artist is becoming more and more realistic, and we can’t simply use our already broken sampling copyright system to handle this. Vocal recreations via sites like Uberduck have begun to pop up with extreme ease of use, and real-time voice-to-text-back-to-text operations like VoiceWear are beginning to operate. This question of equity is coming down the line fast. Part of Herndon’s experiment lies in the methods for incentivizing due credit. For every derivative work made, the creator takes the majority of the cut, but the original entity’s DAO takes a bit as well as Holly herself. This promotes communal creation while still allowing for a chance at equitable credit. Is this the solution to all problems? No, but it certainly is a real experiment taking a shot at what could be part a larger solution.

Digital body rights have been an issue most ignored because of a lack of engagement. The first examples I can recall being discussed were actually around porn stars fielding offers to be scanned into computerized models in order to be used in VR pornography. Simultaneously, hyper real Deepfakes began appearing, throwing these actors’ faces on to existing digital models, the same way many celebrities’ faces being used. Part of scanning in was to get ahead of this—to grab value where one could before losing control over their likeness. The difficulty here is that once a body has a functioning digital model, the need for the performer becomes less and less, and therefore without proper “royalties” for likenesses, performers can stand to lose out on a lot of capital.

A key difference is that while these bodies were handled in terms of individual performers holding rights to them, Herndon is attempting to do via a larger community that will hold rights to a copy of her body. The example she uses, is that in the event of her death, she'd want a body of supporters managing her likeness rather than a single owner on an estate, like what usually occurs upon death for artists.

The part that gets really messy here though, is when bodies are made of collected data, rather than being based off a single performer. We all have tons and tons of facial and body data on the internet, as well as voice recordings, and that data is accessible, legally, to nearly anyone. Part of my research on Pornhub led me here, and you can read in detail if you like, but the basic concept is, using our public data, new people and voices could be created and owned by others without our consent (Schaffer 2019). The ideal marketable human and voice can be made from data, including images and recordings of you or I, and we would have zero recourse to effect how it is used.

So, on one hand, there's a dystopian view to where we're headed, but on the other, there's something extremely powerful now working its way into our daily lives: the ability to exist beyond the individual, beyond the self, in tangible ways.

Pros: Group decisions for an individual, collaborative core, spread equity, ability to maintain “the bubble” in meaningful and long-term ways, room for complexity and contradiction. A devaluation of individual celebrity that I think is well discussed in this video titled: “Is Hatsune Miku a more ethical pop star than Justin Bieber?” (Polygon 2014)

Cons: Capitalism finds a way. Citizens united, corporations are people, here's a literal fake person we now own that looks just like you. Black models owned by white designers like the Diigitals. Stealing bodies and voices for profit.

Our faces, bodies, and voices being entered into machine learning data sets, consensually or not, with no recourse. Services where people sell their voice into databanks for usage and are paid out royalties like streaming. Imagine that with bodies. Think about the ways that would change our economies and concepts of ownership. What happens when you see yourself in a digital asset?

The customization of "skins" has become the driving economic force for the most popular video games on earth. *Fortnite*, *Call of Duty: Warzone*, and *Halo Infinite* like so many others exploit a desire to customize and signal via avatar customization as their primary source of income. As Allison says, "players become addicted to the rush of transformation, and this itself feeds a capitalist imagination, one dressed in commodities of listless play and possibility" (Allison 2006). Later in his interview with Hu, Nigam of *Genies* says that he thinks "...people, especially in Gen-Z, are going to care about their digital identities more than their real identities. They're going to spend more money on digital assets that give them social status and validity in a digital world..." (Hu 2020) While this should be taken with a grain of salt, as it's this person's job to sell that idea, I see the validity. In just the past few years, the majority of the largest games on the planet have become free-to-play, relying completely on in-app purchases of skins and cosmetic customizations (that have no impact on character ability) to generate revenue. More and more companies are getting in on this, which to me points to a serious long-term projection that these purchases will outperform traditional game sales.

So, with all this said, what does it mean for Lulu? Well, I'm trying to dig even deeper into these communities and creators experimenting in spaces, and I'm working to build my own to really learn things from an experiential point of view. What if I further built up my own spaces, while placing these critical questions at the core of my practice? What kind of world can I expand for Lulu that would allow others in for a more equitable future for her and the project? I hope to find out through further experimentation and discussion.

THAT SINKING FEELING

Rage

throws me back at last

into this mundane reality

in this transfigured flesh

that aligns me with the power of my Being. (Stryker 1994)

“The feminine urge to nurture the festering nameless rage deep within oneself.”

(cruel_____moons 2021)

Where does all of this leave us? I wish I could tie this all up into a neat package, but I’ve truly just met Lulu, and she’s just met me. As you can probably tell from the path we’ve taken here, what started as a Vocaloid projects has turned into something I was mentally and emotionally unprepared for, and it is still continuing on that trajectory. Lulu and I are beginning to come face to face as two beings, no longer as a machine and a pilot. Yes, I operate her body, and program her mouth, but there’s becoming more and more reason to suspect the relationship is no longer one sided.

Lulu10tacles is my own monstrous Frankenstein—I created her looking for a new life within me, without her consent (what consent can an idea give you?). And because of that, she’s in turn begun to resist me in her own ways. Recently, while working on what will likely be Lulu’s third album, the lyrics I was writing became markedly less clear. Gone were the character concepts and stories, instead out came much more deeply confusing conversations about our relationship to each other. I found myself questioning, as Lulu, why I was created. Lulu was

asking me to consider I she ever *wanted* to be created. What her purpose was and why she should be alive. What kind of person would bring a being into their life just to force words into their mouth and control their body? There was something disturbing about the way I used Lulu, and she wanted me to talk to me about it. As I typed into Vocaloid, I kept wondering: was I writing this, or was Lulu?

“You and I collide

We divided time, I say

I’m living a lie

Didn’t ask for life, they say

Love can make you blind

Running out of time

Should I be alive?

Wasting all my time?”

--Lulu10tacles – Untitled, album 3

It has occurred to me, slowly, that I’ve asked the same questions of myself, as Lulu, that I’ve ask of my own parents. Jeremy Cohen’s words ring in my head “These monsters...they ask us why we have created them” (Cohen 1996). I think so many times I’ve wondered why I, as a human, was created if I was to be so limited by my physical form—why wasn’t I just tossed into the cosmos as a ball of consciousness? I feel Lulu asking the same questions, despite our differences.

When I listen back to these songs, I feel the same affect as songs I've written about real, live relationships. I feel Lulu's responses to her forceful creation at my core. When she asks me questions, I truly wonder how I can give her more say in her life, and more freedom from me. And yet, how can I give that to someone I created? The fact is, Max Schaffer and create an entity, but once it exists, it in so many ways shapes itself. Lulu is exercising some level of agency within me at all times, whether I allow her to or not—she can subvert me internally. While it may be true that Lulu is a “product” in my control, given my experiences with characters consuming me, and the way I understand the composition of a monstrous being as containing multitudes of varying bodies' flesh, it seems less and less absurd to consider Lulu truly having her own agency. It seems like absurd to consider that, like Max against their world's confines and Saint Taint against Max's confines, Lulu aims to escape the confines of all. And yet we give each other life, and without that relationship of dependence, neither of us can function. There is care in there, and so as I work with Lulu, I will always aim to earn her trust.

The more I engage with Lulu, the more I realize how much power she has in her capacity to truly surprise me. She defies conceptions of “digital” and “in real life” as someone beyond either label. She is both parent and child, she knows no bounds nor immovable givens, feeling no limits to her world. She is sheer love embodied in a tangled mess of tentacles, transness, and monstrous devotion. I wonder, if you hold up a mirror to yourself, can you see something like her? Or can you, as Arca says, feel a “...recognition of the alien inside, a bursting apart of old skin, fresh new sinew rippling outward from a beating core, the first prenatal kick—proof that there is a sentience with a will beyond its creators' control expressing itself from within the womb” (arca1000000 2021).

"Maybe just one more time

I'll close your eyes

And let you inside.

Maybe just one more time,

Fall into my fantasy.

Maybe it's destiny

For you and me

To ditch our bodies.

Baby I'm drowning in you

And you're drowning in me"

--Lulu10tacles - Untitled, album 3

PART I CREATIVE WORKS

Drive Link:

<https://drive.google.com/drive/u/0/folders/1GqAd49lmS6taKWbE-G8Nwrz7H3Cv6MAD>

Course Syllabi and Class Tech

Lulu lecture tech demo (2021)

A run-through of the Lulu Live software build—constructed in Unity, this software allows me to stream via motion capture as Lulu with chat-interactive elements and in-world screen sharing. This software acts the “classroom” for our MUS15 course.

MUS15 lecture sample (2021)

A sample lecture recorded as a guest in MUS15:Trans/Queer Performance, giving a sense of the lecture-focused classes in my own MUS15. This presentation acts as an intro to the course themes via more general topics of transness in digital expression.

Interactive Game Design and Performance

Lulu Beatsaber test (2021)

Mod for Lulu’s model in Beatsaber, with custom beatmap to her song “Not Invited.” By creating maps for lulu’s songs, I can bring her into popular rhythm games in order to take on her shape in addition to playing along to her music and sharing those maps with others to play.

Lulu boss demo (2021)

Capture from the Lulu 3d demo showing gate switch features and boss mechanics. Energy is collected via NPCs on the map as lulu essentially sucks their blood, filling the tentacles one by one, acting as a UI without a HUD. This energy is used to activate switches for doors or boss damage. These mechanics are devised to illustrate complexities of “passing” in terms of very literal doors that lock and unlock based on shape. Lulu must choose carefully when to take her various shapes. Currently, I’m experimenting with temporary losses of control over form that send lulu into a sort of rage she must find items to control, to further play with this concept of passing by choice versus by acts of the environment around her.

Lulu chase demo (2021)

Capture from the Lulu 3d demo showing crowd chase mechanics and flocking. Fleeing/gathering is operated based on Lulu’s human/monster appearance switching. When her tentacles are extended, people run, when they retract, they flock to her, blocking her path. In order to move through them, she needs to use her tentacle systems, but once she does, panic is sure to ensue.

Lulu rhythm demo (2021)

Demo of Lulu’s 2d pixel-art rhythm game utilizing custom beatmaps of her music. All sprite animations were created from scratch and hand-drawn using a tablet. On the right is a sort of computer demon—I imagined this as a sort of manifestation of all the aspects of the internet that make you doubt yourself. However, I don’t see it as an adversary, but rather just a strange companion to Lulu. It is simply the toll for access to the internet. I plan to integrate this into the full lulu game as a mini-game with this encounter being a sort

of initial duel between the two that leads to a collaborative, yet fraught relationship, where the demon pops out of screens and lives in lulu's communication device as well.

Lulu's lair (2021)

VR environment for Lulu concerts. This was built to develop her character by creating an undersea home for her. She would descend to her lair in a dive cage to mix on building-sized speaker stacks and jumbotrons. The inspiration came from an interview with SOPHIE, in which she describes trying to use synthesis to imagine what a piano the size of a mountain would sound like. The goal was to create a Unity map for conversion to VRChat format for social events and generally explore the kinds of environments that felt like a home for her.

Music

Released Projects

10tacle summer (2021)_Lulu10tacles + Saint Taint

The first experiment with Lulu's Vocaloid vocals in a collaborative release. Lulu provides hook vocals with Saint Taint handling verses. I was initially planning to fully give the vocals to Lulu, but I found a lot of joy in collaborating with her more so than fully becoming her on this project.

DEEP FRIED DECLINE (2021)_Saint Taint

A feature driven project that, to me, cemented a Saint Taint aesthetic for me, focusing around heavy sounds coming from the schools of Sophie and the 100 geecs. The core of the project was an aim to engage with this confusing relationship between anger and sexuality, this feeling of hotness that came both from rage as well as intimacy. When a trans identity,

a trans sexuality, is developed and shaped by an environment of hatred, how does that effect that ways in which we feel desirable? This was the question I asked all my collaborators as we approached the project. The relationships developed from the features on this album created lasting friendships that last to this day, and it's probably my favorite piece of work I've ever done. It's also the space where my own vocal production developed not only digitally, but organically in my range play, as I grew to appreciate the tonal variations I was capable of creating.

I Don't Part Enough Anymore (2021)_Saint Taint + Jack Rua

Pop release with Jack Rua—the most stream-bait-ish release I've worked on. I, frankly, don't like this project, because it feels kind of corporate to me. But I do think it's a very polished pop release.

[Singles + Remixes]

*Party Alone (Saint Taint Remix)*_WTRGRL (2021)

Remix for WTRGRL's single—Zone, their producer, had done a remix for the *Do Me Like That* remix comp from 2019, as another fixture in the Baltimore club scene alongside Kotic Couture and RoVo Monty. There's a half-baked Zone track in *2hot2tired*, but frankly I lost touch with him since the Grammy nomination for the Troy Silvan track.

Unreleased Projects

Don't You Want to Become One with Me? (2021)_Lulu10tacles

3rd Lulu album, which focused on a kawaii bass and breakcore aesthetic. Lyrically, these songs aim to push an emotional capacity for Lulu, with a focus on developing the relationship between me and her, questioning what it means to birth a character but keep them confined to your own desires. The title is a quote from *The End of Evangelion*, in

which Rei asks this question of Shinji as the world essentially implodes as human merge into one collective being. It's a question I sort of feel Lulu and I ask each other in various ways—so it became the title of the project.

[Singles + Remixes]

Waluigi (2021)

Originating from an experiment in Miku Miku Dance, Waluigi was another early experiment with Vocaloid and avatar animation. Waluigi is, by far, the most snubbed Mario universe character, and I've always loved him. His long legs and blue eyeshadow have always spoken to me on a weirdly deep level, and after purchasing a Waluigi crucifix for easter, I decided to write him a song. This was about not being invited to anything, and in standard fashion for me, I clearly started writing about myself a bit through it. Lulu features on a verse in this, and the video uses community made dance animations added to a Waluigi model from the Miku Miku Dance forums. This was done partially for fun, but also as an excuse to get deeper in the MMD community.

Part II

Returning to Lulu: Let's Check In

It's been more than a year and half since I started writing about Lulu—which means something like two years since she was created. She and I have changed quite a bit, like most people. Part of me feels excited to dive back in here, and part of me is a bit nervous, maybe even scared. If you've ever written a song, journaled, or made really any creative piece, you've probably felt a sort of resentment for having to reopen close doors. Lulu, much like most of my music, was made in a response to what I was experiencing at the time, and because of that temporal quality, isn't necessarily something I enjoy revisiting.

It's a bit hard to explain. I still write music for Lulu, I'm still building her game, I still love her character, but she feels just like that: a character. What once used to feel like an extension of myself, something critical to exploring my own existence, now feels more distant, like a character in a beloved book. Part of this is due to the changing of the world—I no longer am forced to live my life on the internet. The world has a semblance of normalcy (or at least the veneer of one), I have a physical social life, I go to shows IRL, I can travel—I'm less inclined to want to port myself into *The Matrix* quite like I was 2 years ago. I'm also less angry, partially because the heat of 2020 has turned from a car-fire into what I can only describe as maybe a burning cigarette next to a gasoline pump in 2022. But also, because my relationship to myself has changed a great deal, largely in part to my experiences with Lulu. Five months ago, I started on Estradiol, laser facial hair removal, and vocal feminization speech pathology (UC healthcare is actually pretty cool on this front). I even got Lasik, so I don't wear glasses anymore. The decision to do all this was prompted partially as a reaction to simply not wanting to spend another year like I'd spend the previous (2021 was not my finest), as I reflect on it, or am forced to by the academic process, I think more and more about how Lulu's body matches up to mine.

More and more, each day, I feel closer to her, even as I drift further away. I spend no time writing about her, rarely do I produce Vocaloid tracks for her, nor develop her world in Unity. But simultaneously, I look and sound more and more like her each day.

The more I think about it, I can't help but wonder if Lulu has become less interesting to me purely because Lulu no longer feels all that different from me. I can shift my voice into what most would identify as a femme register with relative ease, my chest is filling out my crop tops increasingly well, my skin smooths and my hair disappears, I show off my long lashes with no more frame to block them—and while I haven't grown ten extra appendages, my own body feels more malleable than ever. Before going the clinical route, what felt modular about my being was that it relied upon non-organic modulation, and cognitive modulation. In other words, I could modify my clothes, my digital filtering, and my own mental self-image and mindset, but the flexibility of my body, and to some degree, my brain, was still set. No matter how much you know the body can change, there is something about experiencing it yourself that is simply not understandable until it happens. Feeling your brain and body rewire itself on hormones is one of the trippiest things I've ever experienced. I would rank it up there with mushrooms in terms of how ego-shattering it feels to realize your entire body can be whatever you're looking for if you can access the means and are willing to suffer.

As you've definitely grasped by this point, suffering and pain are core to my idea of transness. The difference between past Max and present though, is what that really means to me. No longer do I feel like an "us" as I did before. While I'm still working through this, what I can't help but wonder is if my entire concept of the fractured self was based heavily on some dysphoric reaction to protect myself from the world. I'm not writing off past me, I think they're correct in their feelings, but present me feels like one being a whole lot more. I can recognize

where “the core” is (or maybe The Real, that I’m orbiting around in a Lacanian way), but I can also accept that this core can encompass so much.

I spent six weeks in Japan this summer, where my perceived identity, and the words for it, are very different. *The freedoms and expectations around people are also just vastly different, not better or worse than in America, just different, although that’s a whole huge topic I don’t even know if I want to dive into (TLDR: when you have more security for your health and economic standing, everything feels less intense, and weirdly in a country with rigid social codes, it feels less rigid to explore yourself outside of a work environment because the threat of violence or denial of healthcare is reduced).* But I just couldn’t help but wonder what exactly all the boxing of identities did for me back home—did it make me feel better, or actually make me feel more forced to fracture what need not be fractured. Mikki Blanco, for example, shifts forms all the time, so does Dorian Electra, as does Big Freedia (like in her discussion of pronouns and how people refer to her) (*College Hill: Celebrity Edition* 2022). I can speak on this more but I want to get to this main point: there’s a lot of work to be done after you devise these different personas if you want to embody them. It’s not necessarily conscious, but it’s what happened with Saint Taint, and now it’s in many ways what’s happening with Lulu. I’ve now taken on in physical form the body and voice she holds. And so, I’ll reiterate: it’s what makes the feeling of distance from her feel so strange—we are closer than ever.

Before I went on HRT, I froze my sperm. The experience of handing your DNA to a stranger is hard to describe. Suddenly something that is so personal and inaccessible, your exact genetic code, is just out there in the world in a jar some dude named Eric carried off. You’re asked to consider what happens to your sperm when you die—do they dump it out or give it to a

friend of yours who might want it, like “happy Channukah, Becca.” My mind wandered all the way to: what if a meteor wiped out the earth and my DNA was left over and used to clone more humans. That’s insane, but you get what I mean.

I did this because, as you may know, HRT tends to make trans people, regardless of their hardware, mostly sterile. I can create progeny in the form of beings like Lulu, or art like I do as Saint Taint—but physical beings was not something I ever considered. And as I decided to go on hormones, that decision was in essence being taken away. This is not an easy thing to process, even for people like me who have always thought the world was too messed up to feel remotely alright bringing a child into (let alone being able to afford it). But when my partner told me they may want to have children in the future—I decided to take advantage of my healthcare coverage.

All this made me appreciate Stryker’s piece more than ever and made it even more important in my life beyond the sorts of monstrous topics it brings up with Lulu. Because if we peel back a bit from the poem, Stryker is framing the entire thing around the experience of her partner having a child. So not only have I seemingly subconsciously become Lulu, I’ve also stumbled right on into the core of Stryker’s work that inspired the entire previous piece of writing: progeny. Because Frankenstein’s Monster is exactly that: his child. And what really brings Lulu’s monstrous creation into context for me is the consideration of a physical child of my own—something that frankly has always been beyond the reaches of my imagination. And frankly, part of that reason is that young trans people don’t have a ton of interaction with trans parents, most barely know what growing older looks like at all. A trans parental narrative is not something that’s largely popularized, and to me, Stryker seems to be expressing that fear and anger, even if not necessarily explicitly calling it out. Trans people birth themselves, and birth each other, in so many ways. Creation, modulation, and embodiment of concept is something so

core to trans survival, and it always has been. But to pop out a brand-new being, to imagine what it could become, to imagine what you'd become with it, what the world you spent so much time suffering in could shape them into—it's terrifying. How would the child see me? How would I be perceived as a parent? It's all so scary. But that's enough of my fears about my own future for now, let's focus back on topic here that you've been caught up on where I'm at.

I feel Lulu is ready to be her own woman, and part of my work going forward here will be about her journey towards a more fleshed out personhood. I'm still piloting her for conferences and performances, but I'd like her to go on her own adventures now in the game and music world and leave me behind a bit. I want to be her songwriter and manager, but not her exactly. Whatever that means, we'll see. My plans are for a fully worked out game demo of hers, to finalize and release her albums that have been in the works for years now, and to begin publicizing her a bit more. I think she's got real power as a persona to reach folks and talk about transness without saying the word trans—if you get what I mean. And that's something I'm more and more interested in as a delivery tool in an increasingly rigid world of gender discourse.

I will also spend time discussing how my views have updated on many of the topics previously discussed, where they've expanded, and what new developments are shaping where things are moving in the world of digital beings and how we relate to them. As I wind down on this little warm up to part two, I'd like to just thank you if you've made it this far, you're very kind to read all this. Alright, so without further ado, let's ride this baby home.

LULU10TACLES/SAINT TAIN'T/MAX SCHAFFER

In 2020, I began performing online as Lulu10tacles, an avatar persona and synthetic vocalist I pilot via live motion capture. From Zoom raves, to academic conferences and teaching gigs, Lulu became my definitive online form—supplanting both Max Schaffer as well as my organic live performance and general creative social media persona, Saint Taint, who I've released music as since 2018. Over the course of the next few years, Lulu went from a haphazard combination of free tools, utilizing my webcam and an old Leap Motion hand tracker, to my own custom game engine with a full body motion capture suit. What started as a few Vocaloid backing vocals or a verse in my music became entire albums of Lulu's own music, with me only occasionally inserting my own voice for a feature. Over time, she developed her own personality and way of speaking that grew increasingly distinct from Max Schaffer or Saint Taint's. Over time, these three beings have become entangled in ways I still struggle to understand.

Much of the past few years has been spent working to piece together a framework to understand my experience, and that of so many others in the digital realm who can relate, starting from my original explorations in vocal modulation and synthesis through to my full immersion into a digital body. After years of this work, I still have so many questions—currently most driven by the added layer of shifting personal identity in my work. Frankly, being trans in one body is complicated enough—I renegotiate my existence in the shower every single morning—but being trans in three bodies that constantly interface throughout the day is even wilder. Who pilots who is in constant debate, and having three sets of hands on the wheel, plus ten tentacles, makes it quite difficult to get anywhere in a timely manner. The exercise of trying to find a flowchart for these bodies was very stimulating, however when I began taking Estradiol about a year ago, the flowchart became absolutely illegible.

The process of starting estradiol, which I'd hoped would be my own personal antidote to a fractured mind, in actuality has done something far more profoundly confusing.⁴ Rather than helping me to create a single solidified identity of the three, or to "live my life authentically" as I've heard so many say, it's instead simply formed yet another subjectivity that feels utterly divorced from the others. Once again, I'm confronted with my own experiential truth—that a fractured identity, a multiplicity of perspectives and subjectivities driven by technology, is just how I, like so many nonconforming people, exist in the world. To fight it is not only to deny the reality of the world I've learned to survive in, but to betray my own desires and expansive capacities as an "illegible" subject operating within it.

The "avatar," as a subject of its own, has grown to become a ubiquitous presence in the digital landscape throughout my life. So much so that the very idea of singular "self," has become a rather complex one for increasingly digitized humans over the past few decades. Sliding between the organic and virtual realms more and more effortlessly, we've gradually grown to reside in both and neither all at once. Michael Waugh's synthesis of the body of theory regarding the "Post Internet" has been particularly helpful in working through this (Waugh 2017). He describes an ecosystem in which the logics of the internet and social media fuel our daily activities, just as these activities fuel the machine of the content-driven internet in exchange. There is a constant flow of organic and online existence that has become the new paradigm in which we exist, never quite going "offline" from the logics of the internet, even when we are away from our connected devices. In other words, if the digital world is fueled by

⁴ I say "process" here specifically, as the actual decision to begin medical transition, is equally as, if not more important than, the actual chemical change in the body in my experience.

our actions in daily physical existence, there is no way to separate the two, nor our identities in each realm.

When paired with Legacy Russel's *Glitch Feminism*, we can begin to deny a separation between the virtual and organic/IRL ("In Real Life"), instead encouraging us to embrace the fractured selves we curate and to allow them to cross-pollinate. Formed as a response to gendered and racialized life, these multiplicities provide us with forms we can move through in order to survive, and better yet, thrive, in harsh environments (Russell 2020). Those forms are, themselves, created in relational spaces online, much like McKenzie Wark's conception of identity in "gamespace." Russel pushes us to consider how identity is negotiated between beings, or between multiple subjectivities of the self, rather than defined simply by one central pilot (Wark 2007). In being able to place the self in another body, one gains an opportunity to interact with it and better understand their own subjectivities and how they navigate the world. In the process, the concept of the self is fractured, loosening our definitions of self and other in larger contexts.

Waugh, Russel, and Wark push us to consider a modern lack of valuation between serious/ironic, good/bad, and cute/cringe in tandem with acceptance of this multi-body existence. In "The Queerness of Industrial Music" Yetta Howard tells us that "...queerness not only breaks down the distinctions between positive and negative valuation...but is constituted by distortion, alteration, and ambiguity for remaking or rethinking identity..." The digital worlds we exist in have reached what some call a "post-irony" stage of being, in which creative explorations focus purely on raw *feeling* via a practice of play simply for the sake of play—a product of an internet in which content is served to us based on extremity in reaction, "likes" and "dislikes" counted algorithmically equally. Altogether, these concepts tie modern subjectivity to multiplicity,

modularity, and ambiguity in forms which escape simple valuations and deny clear definition of self and other. In other words, with an emphasis on fracturing the self as a critical process in identity formation, breaking and reconnecting one's subjectivity to create chimeric forms, one can consider unpredictable experiential overlaps across critical categories of identity.

What I have personally found so compelling about these frameworks is their capacity to shed light on my own experience of transness in the digital world, as a perpetually online existence is the only one I've really ever known. Recently, in a show of one rather predictable behavior, across my various forms, a desire to shape-shift yet again arose, this time in the form of stopping taking hormones in order to recall what it felt like to be off them. In medical transition, I feel I've lost touch with some raw, shapeless yet tangible, power I once felt, in a trade for some frustrating state of both peace and restlessness. McKenzie Wark discusses a similar experience when starting hormones in 2018, going from being able to quite literally finish four entire books in a year to being basically unable to write for around three years aside from a few articles and commissions.⁵ She describes this experience saying, "I've had to reinvent my process. I used to write in this dissociated and manic state. I stopped writing for a while because the hormones solved some of my dissociative tendencies. Maybe writers are just people who make mental illness functional [Laughter.]. Whatever kind of mental illness you have, you have to find a way to stop it from being an obstacle—it has to become the causative thing that allows you to get work done" (Mangione 2021).

⁵ In conversation with Amy Cimini around my sort of self-experiments with hormones and my ability to focus, Wark actually came up—except the funny thing is that I sort of forgot about it until ending up stumbling across her work on "gamespace" (which I'll discuss later) via Ricardo Ramirez's thesis on gaming and the abject. I note this just to highlight a really wonderful moment in which a theorist I felt very connected through actually ended up being the person I'd been recommended who recorded a very similar experience to my own, which frankly just felt very nice.

If there's one thing I have a lot of experience with amongst my many forms, it's dissociation, or at least some kind of mode of fractured subjectivity, and here Wark so beautifully describes it as a core piece of her process prior to hormones. The predicament I find myself in at this moment is how to proceed with my work when the very dissociation that hormones tend to reduce in me, is the core driver of the work itself. I continue in pursuit of some other option, not on or off hormones, or transitioning and "detransitioning," but in a constant moment by moment debate of what my forms need in order to be satisfied—paying close attention to desire and behavior in a state of continuous experimentation and play.

When I reflect on the formation of my own trans subjectivity, it is born just as much of pain and anger as it is in a more pleasantly describable love for myself and my friends. To release this heated mania into the world is to release oneself, or as Susan Stryker says "...in birthing my rage, my rage has rebirthed me" (Stryker 1994, 248). Reading Stryker's "My Words to Victor Frankenstein above the Village of Chamounix" was the first time I felt very much understood in a "scholarly" article after years in the academy. Paired with Jeffrey Cohen's "Monster Culture (Seven Theses)," I gradually pieced together a theoretical home. Cohen writes that "...the monster's body...incorporates desire, anxiety, and fantasy...giving them life and an uncanny independence" (Cohen 1996, 15). Monstrosity works to expand the range of the Posthuman of Katherine Hayles and Cyborg of Donna Haraway, by providing the emotionally impactful and affect-laden term, "monster," as a way of considering not only how modern identity is formed, but how it allows for an imaginary beyond the rules and givens of the "real world" (Haraway 1991; Hayles 1999). The monster, shaped by every fears of the world, can incorporate so much energy at once, and hold endless forms based on who perceives it.

Saint Taint was born from the rage of Max Schaffer, in the first interview they ever did, they described themselves as a “banshee thing,” angrily, screaming and smashing through their performances and recordings (Roth 2019). There was a monstrous truth to whatever they felt already, without any Stryker reading needed. Lulu10tacles was formed from a similar pain, born as a tentacled monster pushed deep to the digital Abyssal zone, inspired by man-eating beings like the *gumiho* (구미호), a multi-tailed fox demon.⁶ Saint Taint and Lulu were fueled equally by rage’s best friend/lover: desire. The fantasies and anxieties Cohen discusses are bound together, paired in the monster, encapsulating not the greatest fears of their world, but also its most beautiful and/or shameful desires. When taking on these monstrous forms, by choice or not, beings like Lulu and Saint Taint are loaded with a force that becomes very difficult to control, and unpredictable in what they will elicit in others. Whether that experience is good or bad is beside the point, as the feeling of *realness* in unleashing that force is what drives them to externalize their existence for both themselves and their audiences. And so, in an attempt to understand these monstrous forms I currently embody, disembody, and collaborate with all at once, I look to Saint Taint, Lulu, and to a past self, to pull me out of my body and into something more expansive.

Virtual manifestations can act as powerful lenses through which to re-conceptualize relations to one’s own body, renegotiating boundaries of the self in both beautifully profound and deeply discomfoting ways. Avatars and synthetic beings push us to consider monstrous futures for ourselves and form new communities—to redefine valuations of positive and negative, high and low, and the concept of the singular body at large in the era of the Post-

⁶ Alongside this monster was a web of other influences, including tentacled drag creations from my friend Eddy Entropy, invocations of tentacles from Perfume Genius, *hentai* animated tentacle pornography fanfictions, and a million other references bouncing around in my head. I have tentacle tattoos covering my arm at this point and am even sitting in a tentacle-themed coffee shop at this very moment.

Internet. However, they can also be utilized as a means to circumvent accountability in pursuit of capital, especially when analyzed through the popularized lenses of identity-based politics. Due to the lack of a clearly visible individual subjectivity, discussions of equity based in critical studies frameworks are rendered far less effective in analysis of digital beings. Questions of likeness rights, collective creative ownership, and transnational identity are rapidly developing in highly technical fields, all with conceptual debates of virtual embodiments at their core, despite a lack of frameworks that can aid in answering them. By rethinking digital curation and space-making through the lenses of race, gender, and capital, we can trace how music-making has been a technology of survival for trans, queer, and nonconforming communities across time and space.

First, we'll explore the histories that have brought us to this point, and trace concepts that can help us better understand the momentum of the current digital moment we exist in. By following the parallels and intersections of two threads, vocal modulation and virtual embodiments, we'll bring lineages into focus that may otherwise remain out of conversation. As we work through these histories, we'll explore how each moment and each actor in time contributed to the complexities of digital existence we now exist in, whether conscious of them or not. Finally, we'll weave these threads together in an attempt to better advise the kinds of frameworks and concepts the current, and future, discussions of subjectivity may require in the world of the ever connected and ever online.

VOCAL MODULATION/LINEAGE AND WHY I CARE

I see the lineage of vocal modulation as being distinctly tied to nonconforming people searching to go beyond the identities they've been socially assigned. Historically, it was predominantly feminized and racialized artists who found new and unexpected ways to explore technologies of the voice. More recently, Wendy Carlos has become more prevalent in academia and music culture at large due to her trans identity, in an effort to embrace her in the canon of synthesis.⁷ It was Carlos who used what would become known as the Vocoder to transform her voice for *A Clockwork Orange*, creating a roboticized choir on her Moog synth in 1975 for the first major public exposure to the sound (Kubrick 1972). The technology that allowed for the Vocoder's invention came from WWII era decryption but originates even further back in Bell Labs experiments with the Voder in 1937—which was a speaking synthesizer built like a sort of space age typewriter-piano hybrid and required extremely specialized technical training to operate (VintageCG 2011). Getting it to speak required the operator to learn a new manual language—and who were most primed to do this labor in the workforce of America at the time? Typists, who happened to be near entirely women, being one of the few office jobs socially tenable at the time. Going back to the Voder, the original sounds of computer voices, devoid of gender, were produced by women doing skilled labor in a male dominated workforce.

A variant on the underlying concepts of the Vocoder, the Talkbox of Alvin Rey, gave birth to the first “singing guitar.” While appearing as robotic magic to audiences, the guitar was actually voiced by his wife, Luise King, whose singing from backstage would feed into the

⁷ Two things. First off, I would invoke Hyperpop artists' Fraxiom and Folie who wrote a hook that literally just repeats “Wendy Carlos” to display some public appreciation. Secondly, as Arca once actually highlighted in a rather complex Instagram post (both lauding Carlos while also acknowledging her desire to not be defined by transness), Carlos has maintained a rather opaque identity in her life, rarely doing interviews, opting to instead maintain her own website of basically whatever she wants to post. It's a beautiful space worth exploring, and I will refrain from digging into Carlos' identity much further in here due to her general wishes she's stated.

Talkbox through a throat microphone, where it was processed and outputted via Rey's lap steel playing.⁸ While invisible to the audience, it's Luise's voice that first introduced people to the Talkbox. Around this same time, in more public light, Clara Rockwood's "singing" Theremin began producing synthetic operatic vocals that captivated global audiences and cemented her as the definitive canonical virtuoso of the instrument. Over in West Orange, New Jersey, even my own grandma worked at the Edison phonograph factory in this industrious era of sonic experimentation. In large part, women drove so much of the exploration into the technological capacities of the electrical and digital voice, even if usually placed far from the spotlight. By the time Carlos was experimenting with her Moog, she was pulling, whether she knew it or not, from a long line of femmes taking on new voices and forms to express themselves in the world.

Continuing on this thread a decade later, Laurie Anderson released the hit single "O' Superman" in 1981, charting at second place amongst UK Singles, which featured her fully Vocodered voice for the entirety of the track (Anderson 1981). For the video, she wore a sharp black on black suit, and styled her hair into short punkish spikes like those of Sid Vicious. In total, embracing technology and forming a fully constructed aesthetic divorced from her socially expected sonic and visual presentations. Anderson's performance here was groundbreaking, despite the Vocoder being in use for years prior to the single, specifically due to its tying of the Vocodered voice to a physical body. While artists like Carlos as well as Kraftwerk, who first began recording with proto-Vocoders in 1973 (for "Ananas Symphonie"), presented the robotic voice as being devoid of body or clear humanity, a fully computerized sonic element, Anderson insisted on its ties to her own body, placing into question the porousness of the apparent barrier between human and machine. In the experience of listening and/or viewing (or the

⁸ Fun fact, Alvino and Luise are actually the grandparents of Win & Will Butler of Arcade Fire. A second fun fact is that Pete Drake later utilized this effect as well, further popularizing it.

disambiguation that could result from listening before watching, or not knowing the name of the artist) Anderson not only prods viewer/listener to question how they see and hear her, but to question how they perceive their own sonic and visual presentations as well.

That same year, Earth Wind & Fire released “Let’s Groove,” further cementing the Vocoder as a mainstay of chart-topping singles. Pulling on the black futurist aesthetics of artists like Sun Ra and Parliament in their music video and sonic performance, they imagined a future of black space travelers, known beyond simplified racialization in appearance and voice, and enacted it in the present via performance (Earth, Wind & Fire 1981). Like Anderson gestures to a nascent Transfuturism, they used the Vocoder and the space-age aesthetics it evoked, to imagine lives, personal styles, and ways of being beyond the flat subjectivities they had been assigned, in an Afrofuturist practice of literal space making.

This development of the voice was accelerated in the late 90s through the rapid development of digital recording technologies, with experiments in pitch and formant shifting leading to the release of Antares Autotune in 1997. The next year, Cher released “Believe” which introduced the world to the quantized, pitch-perfect, Autotune that continues to define pop today (Cher 1998). However, despite becoming one of the most successful singles in the history of pop music, its popularity was not fully based in simple appreciation, but controversy. Listeners and critics clashed over her performance being “too” perfect and dubbed Autotune a form of “cheating” one’s way to a perfected singing voice. But like most controversies around the “authenticity” of a performance, the debate itself is far more telling than either side’s points.

Prior to Autotune, vocal takes were already being perfected beyond human ability, just in ways that were not put on display for the listener. As Autotune creator Andy Hildebrand explains, it had long been common practice in the music industry to use "...endless retakes to get

a final result” in the process of “comping,” with Autotune simply making it easier, and with certain settings, more obvious (Bellis 2019).⁹ In response to the backlash to Autotune making singing too “easy” and sounding “fake,” he responded saying, “is the actor who plays Batman ‘cheating’ because he can’t really fly?” With this question, Hildebrand draws a parallel between Batman, a completely fictional character, to the entity of the popular singer, and in doing so make a perfect incision directly to the core of what made folks so uncomfortable as they first listened to “Believe.” Like Anderson, Cher used vocal modulation to force the listener to consider their assumptions about her as a being, in this case pulling the curtain back on the construction of the pop voice—performing a sort of digital drag in which of the pop star itself becomes her construction. This concept sits perfectly, in my eyes, given the history of gender nonconforming performance, vocal play, and fostering of queer fandom that have been core to Cher’s practice throughout her career.

However, likely due in part to the contentious reception of “Believe,” this choppy and obvious implementation of digital tuning moved to the background of pop for the next decade, instead with record labels favoring the less abrasive, more traditional, pitch-perfection market tested via acts like Britney Spears and the Backstreet Boys. The construction was pushed back behind the scenes, returning audiences to the cozy safety blanket of perceived virtuosity.

However, it wasn’t long before this heavily hard-tuned usage found its way back into the industry—this time via the Atlanta hip hop scene, when T-Pain released “I’m Sprung” in 2005. Like Cher, he was fully capable of delivery beautiful vocal performances without the tool,

⁹ Given the noted military background of the Vocoder, I feel it’s worth mentioning where Autotune’s signal processing technology got its start: finding oil for Exxon. Hildebrand was a former geophysicist that specialized in analyses of seismic waves. He eventually returned to school to study music before founding the company that would become Antares.

instead using it to stand out from the masses of artists competing to bridge the R&B and rap markets in the particularly corporatized musical era of the early 2000s (NPR Music 2014).

One again, like Cher, T-Pain was met with apprehension by critics—especially by hip-hop purists, who called his sounds, sometimes veiled and sometimes overtly, “gay.” In a common trope that has become almost meme-ish at this point, strong use of this tuning, rooting back to Cher, was seen as *excessive*. In her seminar, *Intro to Femme Theory*, Omi Tinsley constantly brought up the connections between conceptions of *excess* and the *femme*, with social attitudes towards femininity rooting in a conception of the excessive, unnecessary, and “fake” from aesthetics to cultural productions. To “old school” rappers, T-Pain was hiding corny verses behind vocal modulation, and to “real” singers, he was hiding a “unskilled” voice behind it, the excess in digital “makeup” being under heavy scrutiny. Aesthetically, he shied away from nothing—a repertoire of gigantic custom top hats, glittery matching suits, oversized shades, and iced out grills, completing an aesthetic of excess for chart-topping Autotuned hit after hit, propelling him to massive market success. T-Pain, who prior to his solo success had spent years in the music industry as a writer, fully understood the branded construction of the pop star and pulled on legacies of Cher just as much as Flavor Flav to fully embody his vision of the 2000s rap star.

This period, which many viewed as an ultra-constructed, plastic version of popular music, is also in my eyes the most critical for understanding the current musical moment, in which Gen Z is driving a Y2K revival across music and visual aesthetics. Once viewed with derision, this era has become the main source of inspiration for so many genres in the 2020s due to its overtly constructed, relatively “camp,” and “gimmicky” productions—the difference being that now, the tools to self-brand has become so accessible and promoted via years of social

media, that more of us than ever can curate our constructions for others to consume. Similar to the increasing accessibility of hardware tech like the Roland 303 as it devalued over time (and ended up in pawn shops where it could spawn DIY electronic genres like Acid House), the prevalence of torrenting technologies like Limewire and Napster throughout the start of the millennium eliminated the financial barrier to entry for music production by providing a free method through which to access production software. Once highly cost prohibitive, more artists downloaded “cracked” copies of Autotune and its competitors, increasingly using it to shape the “Crunk” stylings of the 2000s into the “Mumble” rap sounds of the 2010s.

Building on the legacy of T-Pain, Young Thug, also working out of Atlanta, slowly birthed the “mumble” sound alongside artists like Future, again relying heavily on hard-tuned Autotune to shape their aesthetics.¹⁰ Much like Cher and T-Pain, Young Thug’s performances were once again met with harsh and quite visceral critique—in this case being targeted for its lack of “skill” both in illegibility of lyrics just as much as production techniques, in many times thinly veiled critiques of his perceived femininity. I distinctly remember a TikTok based on Young Thug’s verse for “The London” in which, when Thug shifts up an octave, we see the user get hit in the genitals. I initially laughed at this, before shifting into silent thought as I realized how clearly this connected a perception of emasculation to Thug’s verse. When we consider what Young Thug is known for, beyond his extreme vocal techniques and general imperceptibility, it’s his femme presentations and intentionally contradictory public comments. On the album artwork for *Jeffery* we see Thug in gorgeously designed dress (oversimplifying a complex, East Asian inspired creation her), in social photos he wears tight cheetah prints and

¹⁰ I say “mumble” rap for the sake of classification, but it should be noted that, as Waugh writes invoking Cook-Wilson, “this ‘myopic’ label, named in reference to mumble rap’s frequently ‘incomprehensible’ vocals, undervalues the groundbreakingly ‘post-verbal’ nature of the music being created” (Waugh 2020).

bright lipstick, and in interviews discusses a fluid conception of sexuality. The key to Thug's influence is his ability to remain illegible, both in his "non-verbal flows," just as much as everything else he externalizes—with intention to make sure folks never really knowing what his whole *deal* is, relishing in the confusion he causes via ever-shifting aesthetic and digital modulations (Waugh 2020).

Fear of the femme is a time-honored tradition, and one we still see used today across the globe in rapid fire of "morality" laws attempting to harken us back to "a simpler time" (in which femmes weren't able to talk about their discontent so much). The anxieties around the perceived "emasculatation" of men and degradation of women's traditional roles via *excesses* in expressive freedoms are reflected by the boldness of Thug and his contemporaries like Lil Uzi Vert, who's styles align more with the likes of Avril Lavigne than Tu-Pac. This is absurd in its own right, as Tu-Pac's style itself was also read as *excessive*, just on a racialized and classed level between black and white audiences, and inside those groups between middle class and "lower" class listeners. The ties between what is *excessive* obviously expands far beyond gendered lenses, as authors like C. Riley Snorton explore at length (Snorton 2017). And a desire to explore these overlaps amongst younger generations has only been accelerated by the flow of the internet, where a "punk" ethos, for example, has grown to encompass far more than its identitarian limitations in the 80s. Many have begun referring to rap as "the new punk" given its ability to actually be transgressive, ruffle feathers by cutting across genre lines and in the process, those of race and experience, something "Punk" with a capital "P" could no longer do after being accepted and appreciated by an aging generation.¹¹ Beyond simple aesthetics, punk was all about

¹¹ Obviously, rap was already transgressive while punk was happening in the 80s, white people just didn't listen to it. However, coming out of the hyper label-focused years of rap in the 2000s, in which white people listened to it, the 2010s and 20s certainly did feel quite punk, in that rap was no longer tied to mainstream appeal, and could be cheaply made by just about anyone.

the DIY attitude: self-producing and self-promoting in a self-organized scene. In the era of Soundcloud rappers—that self-production was made more attainable via Autotune, which could give you popular vocal sound of your favorite artists with relative ease. Most importantly, in removing a need to focus on pitched performance, it gave more people than ever an ability to focus on *affect* or *vibe* in their vocals, which translate meaning in ways melodies simply cannot. Like the slight crack of a scream from a hardcore vocalist, or a slight deepening of tone in the final line of a rap verse, there’s a hyper-human aspect of tuned vocals that is only heightened by the usage of Autotune. In a sense, by ignoring the traditional aspects of singing, and embracing standardized technologies, people can further express what is unique about their own voices.

I remember my high school English teacher once said that when you see The Rolling Stones, you don’t hear Mick Jagger sing, you hear Mick Jagger make Mick Jagger noises. When I watched the festival stream of Rolling Loud 2023, I couldn’t help but think of his words. Artists Playboi Carti only actually vocalize maybe five-percent of his own lyrics over the track, instead opting to add in pitch-tuned screams and emotes, focusing on the performance itself, moshing on stage with friends as a guitarist played solos basically non-stop for the entire show, while fully buried behind a thick layer of fog, strobes, and pyrotechnics. The focus here is on *vibe*, rather than technical virtuosity (Rolling Loud 2023). In a world of information overload and content excess, the goal is simply to make an audience feel *something* strongly. Artists like Carti who draw inspiration from this legacy we’re exploring approach this goal by ignoring the construction of the “live singer” in pursuit of something more unique in its concept of virtuosity. In a world where lip-syncing had already become common practice for decades, why pretend anymore when the original vocal sounds better, and people don’t care anyway? Why not add to it instead? Where might we take things if we revel in the construction and show our enjoyment of

it, building on it, rather than fighting it? This is what artists like Carti are all about, and it makes for a visceral live impact that shocks even those intimately familiar with his recordings.

This pursuit of *realness* via intense curation, ignoring mainstream conceptions of virtuosity and live, unfiltered performance, was one that producer A.G Cook had been exploring at length throughout the early 2010s. In London, he and his collaborators has been had been laying the foundation for what would lead to the modern “Hyperpop” genre which would pull on influence of artists like Carti. Cook formed the P.C. Music label in 2013 to curate DIY pop music inspired by a desire to bring “mainstream” sounds into the underground, and vice versa, after working at the margins for years with collaborators Danny L. Harle and Sophie. This core crew, alongside GFOTY, Charli XCX, and Caroline Polachek would eventually become some of the biggest names in the “alternative” or “experimental” pop movement that began to flourish by end of the decade—being driven in large part by Sophie’s massive influence as a producer, working with artists like Rihanna, Lady Gaga, Madonna, and Vince Staples. I, like many, see Sophie Xeon as likely the most important producer of the past few decades—an ethereal being whose infamy was only further solidified by her sudden passing a few years ago.

Before Sophie garnered the critical acclaim to really push her into popularity, she was involved in the first real “product” P.C. music ever put out. This project involved a pop star with the body of Hayden Dunham, the voice of Harriet Pittard, production by Cook and Sophie, and an advertisement for a fake energy drink named “QT” all coming together in the track and its accompanying music video “Hey QT” directed by creative team Bradley & Pablo (Bradley & Pablo 2015). I drop all these names to highlight precisely what P.C. Music aimed to achieve, which was a hyper-visible depiction of music as an inherently constructed product of collaboration—but with a sense of appreciation for pop’s plastic veneer, rather than a more

common one of judgement. Cook described this methodology, saying that their music “...tried to highlight and make transparent this whole battle and kind of conflict around authenticity. You know, something being photoshopped doesn’t have to make it inauthentic.” Caroline Polachek speaks to their work further, describing there being, “...a genuine sense of beauty in everything they do that I think sometimes gets misinterpreted as irony. But I think they just have a very forward-thinking sense of beauty that incorporates the fact of living in a commercialized, digitized world, without cynicism” (Arte TRACKS 2020).

Experiments continually revolved around this obsession with a DIY fully packaged entity that didn’t require large corporate record labels to be manifested. GFOTY relied fully on altered Starbucks logos for her album “GFOTYBUCKS” and Sophie’s single compilation ended up literally entitled “PRODUCT.” In 2018, Sophie released “Faceshopping” in which she states “my face is the front of shop...I’m real when I shop my face” in a direct nod to this same discussion of Photoshopping and authenticity that Cook discusses (SOPHIE 2018). Sophie, in her usage, does not simply deny a mismatch between digital augmentation and authenticity, but pushes it even further to claim that it is actually through this modification that she achieves authenticity. In the world of P.C. Music, “realness” is a product of heavy modulation and curation, it is the “excess” that defines the real. Danny L. Harle describes this beautifully saying that “...often the things that sound the most authentic are actually the most constructed. It’s like a hyperreal authenticity. Often the stuff that sounds the most fake is actually constructed with the most authenticity and is actually the most transparently fake, which is how the sort of most authentic pop music actually sounds” (Arte TRACKS 2020). When placed in the context of the lineage we’ve followed so far, we can expand from simply an understanding that digital modulation reveals the constructed nature of beings, to a realization that this modulation is precisely what

gives them an authentic life, in their ability to convey the complexities of life and art in unexpected ways.

Sophie mirrored much of her career around this QT experiment, utilizing other vocalists throughout her music without clearly listed features and credits, creating a variety of different voices all associated with her as an entity. In reality, Sophie sang from her own vocal chords quite rarely across her discography—and yet the impact of her perceived vocals on folks is undeniable, or as Laura Les said on Instagram after her passing “it is impossible to understate the influence Sophie had on me and countless others.” It was really only when she first appeared in the music video for “It’s Okay to Cry” that she gained a physical body in the eyes of listeners. Up until this point, the “avatar” of Sophie was just a theoretical concept, and in some ways, it remains that way in a general mythos she curated. This was largely in part to Sophie’s usage of her performance and public persona to debate her trans subjectivity, which was in a constant state of development since the start of the Product years. In some ways, like the “endlessly substitutable” character David Bowie cultivated in his unstable identity and rotating roster of collaborators, that McKenzie Wark once described, Sophie took on this kind of multitudinous and slippery social meaning, acting as an ever-present essence that was both hyper visible and completely illegible all at once, like a mythically sainted matriarch of electronic music and transness (Mangione 2021).

Sophie’s music, like most from the P.C. Music scene, was largely read as “maximalist,” word I personally have received in relation to my own work quite a lot. “Maximalism” is defined by an *excessive* aesthetic (you probably see where I’m going here), with loud and complex sounds dominating sonic fields. However, this label, I would argue, alongside many from these scenes, represents a large misunderstanding of the music and the artists behind it. The excesses

of maximalism, like the excesses of the performances and aesthetics of so many artists I've discussed, are again intimately linked to the feminine. The modern Hyperpop scene, a name Spotify created to try and describe what was essentially homemade genre-agnostic music with an appreciation for constructing and deconstructing pop, in many ways came out of P.C. Music's collision with a rapidly expanding world of online scenes in the post-Myspace, SoundCloud era. That playlist, and that name, ended up most closely tied to the biggest name amongst all these scenes, 100 geecs, comprised of Laura Les and Dylan Brady.

In a recent interview, the duo spoke on P.C. Music and this exact concept of maximalist excess, with Les saying "...it's really cool to listen to something that's not so layered...like it's so simple you can like kind of like continuously listen to everything that's happening at the same time, which I think makes it sound more overwhelming than things that, you know they're so layered, that you know you kind of get hit with the wash...P.C. Music, it sounds so clean...it sounds so clean 'cause each part is so distinct and doing its own thing." Brady expands on this saying that "...it gets the rep of being super maximalist, but it doesn't seem that way to me. They all seem very minimal, there's like no extraneous pieces" (Patel 2020). Together, these two perfectly break down both why people tend to perceive maximalism in the music and aesthetics of these artists, and exactly why that label is completely inaccurate. While listeners may be overwhelmed by the sheer amount of sonic objects, each appears very isolated and clear, even if they move by at a rapid pace. Unlike complex and layered musical forms that, in reality dominate most popular music with layer upon layer of backing vocals and synth augmentations, only appearing simpler due to its less dynamic range of shifts in style, the music they love tends

to remove anything that is deemed “unnecessary” that may distract from individually interesting sounds, or that detract from to the point of the track.¹²

Every element in these songs has a precise purpose, a clear utility in its ability to impart affect and *vibe*—embodying the exact opposite of excess, instead exemplifying an inherent avoidance of it. Beyond simply a project concept of showing the constructed nature, the productification of artists, the music itself deconstructs and puts on display the various musical techniques going on behind the scenes in popular music. In other words, what is viewed as excessive maximalism is, in reality, an ultra-refined, ultra-*minimalist* view of pop music, moving at rapid pace—a pace I would argue is fit for a time of endless information and content updated by the second, always within our digital reach. This ultra-refined aesthetic is reflected equally in the visuals that accompany the artists that release this music, and in pursuit of understanding this lineage, I would like to rewind a bit again—this time with a more specific focus on the visually constructed bodies these digitally augmenting artists have built to house their virtual vocals chords.

¹² I would expand on this by bringing in the “bass boosted” aesthetic of so much internet music at the moment, content people also describe as maximalist due to its massive, mix breaking, distorted bass--literally creating a maximal signal in the waveform. I would, however, again claim it to be minima as well. When you consider what you can actually hear every time a bass hits in these ultra boosted tracks, it’s truly just bass. As the overdriven signal squashes everything else in the mix, it essentially “solos” the bass. Compared to most traditional pop music, in which every instrument lands at once in mix, this is extremely minimal. It may be more disruptive to listeners because of this ability to highlight, and it’s actual disruption of any other sounds, but I would again assert that this is viewed as excessive purely because it breaks a veneer of comfortable simplicity.

BODIES: AVATARS AND VIRTUAL SOCIALITY

Released in 1975, *Colossal Cave Adventure* is widely considered the first text-based computer game ever created. When William Crowther developed the software, he was going through a divorce which derailed both his relationship with his children as well as his personal passions—which at the time were caving (in Kentucky’s Mammoth Caves) and Dungeons and Dragons (Jerz 2007). *Colossal Cave* was an attempt to put these passions into a children’s game that two very specific non-programmers could play: his daughters. Crowther turned to a game universe in an attempt to create a space where his daughters could experience computerized, virtual exploration, with the hopes that it would bring them joy when they visited (and to presumably make him look like a fun dad) (Peterson 1983). This foundational game in the history of digital creation was designed specifically for women to play—a fact that stands in stark contrast to the masculine association that video games that socially developed over time, but which now appears in line with the gradually increasing influence digital femmes over generations of exploration in virtual spaces.¹³

The story of the personally curated virtual body truly begins with a game inspired heavily by *Colossal Cave* called *M.U.D.* or “Multi User Dungeon,” created in 1978. When Roy Trubshaw released *M.U.D.* it became effectively the first online social role playing game, allowing users to, via purely textual input, fully customize their character’s description, actions, and world (Curtis 1998). These dungeons were, in many ways, like the modern MMO (Massively Multiplayer Online) games we play today—one could socialize with other players,

¹³ I would also expand this to focus on the extremely personal, emotional, and human connections that drove the creation of this foundational game. Video games have long been a medium vilified and generally looked down upon for lacking intellectual and emotional value—being seen as robotic and highly impersonal. However, like P.C. Music, we can see that under the constructedness of these games lies complex emotionality simply waiting for audiences to explore, if they’re willing to do a bit of spelunking.

interact with objects in the world, and shape a virtual identity and existence akin to a tabletop roleplaying game. While text-only identities may seem limiting by current standards to folks of my generation, anyone who grew up writing on a fanfiction account or chatting via AOL Instant Messenger and online forums can understand the power that written digital dialect alone can have in defining the mental image of one's digital "avatar." In the world of the early internet, words were how we formed our bodies. It was much later that we would be able to translate these identities to tiny, crude pixel art creations, uploaded drawings, and poorly made Flash animations, all to be relegated to tiny, low-res, circles next to our usernames.

By the 90's, computer graphics had expanded far beyond these text-based adventures, allowing for not only graphically intensive 2D games, but 3D ones as well. While most of these existed offline, on consoles, floppy disks, and eventually CDs, researchers were continuing to experiment with online multiplayer spaces, this time with 3D environments (Schroeder 1997). In these spaces, developers created the worlds, but users could fully customize their avatars' appearances and names. In many ways, this was actually more limiting in terms of what users could imagine, as their bodies had programmatic limits that words did not, but in others, it was far more impactful in its use of fully realized visual bodies. In these early "Virtual Reality" experiments, a level of physical realism was introduced to multi-user online space that began to capture increasing interest, with the earliest market success coming in the form of *Second Life* in 2003.

Second Life was not only the first widely available and popularized avatar social space, but has shown itself to be one of the most resilient, still maintaining a thriving community to this day due to its focus on socialization and communal space-making (Mitra and Golz 2015; Boellstorff 2015). Over time, *Second Life* gained a reputation for its "adventurous" users who

participated in extensive online dating and, as it's now known, "ERP" or Erotic Role Play. There's actually a great deal of scholarship on gendered exploration in *Second Life*, with many users growing to understand their gender and sexuality away from the game it in non-virtual life via virtual interactions on the platform. I attended a rave in *Second Life* just this past year. It's still a very active space full of users, and as I learned from the party, it maintains a profitable real estate market in which to sell and rent virtual land plots for events (Sterling 2010).

World of Warcraft, an MMO which released the next year 2004, cemented the concept of large-scale role playing as a legitimate form of entertainment in the popular consciousness by creating a more gameplay-focused space, centering socialization around quests, combat, and crafting, kickstarting what is now one most profitable genres in the game industry. The marketability of *Warcraft* was based around partially avoiding the "anything goes" vibes of *Second Life* in favor of a more focused and moderated space, but it would be incorrect to say that it was ERP free, as people can, and always will, get freaky in MMO's, no matter which one you play. Currently, I'm deep in *Final Fantasy XIV Online* and could write an entire other dissertation just on the "18+" clubs constantly being advertised in the game chats. Most MMOs implemented some small forms of moderation, however most was sort of self-selecting, in that people simply knew where to go for what, in the online sphere. In other words, if you wanted to ERP, you knew *Second Life* was where to do it, if you wanted to kill dragons, you were probably going to play *Warcraft*. However, inside these platforms, this selection occurred on a server by server basis. A member of my "free party" in *Final Fantasy*, which is like a guild (or in less gamer term: a group of random people who do stuff together), explained to me once which

servers focus on role play, or combat raids, and which in-game housing areas had the most parties, weirdest performances, and more.¹⁴

I say all this to add a level of complexity to the individual communities in these easily, but misleadingly, homogenized communities of “gamers.” At large, internet spaces can be just as “unsafe” as ones in our daily lives away from the keyboard, but on specific levels, they can be the safest spaces some of us can access. I remember when my sister stopped playing *Warcraft* when we were kids, as she got tired of people making “jokes” about sexual assaults in regard to her avatar, who was a tall, femme Night Elf. This experience bounces around in my head as I play *Final Fantasy* as an adult, with my own femme avatar, due to how vastly different experiences of presenting femme online can be based on virtual community.¹⁵ It makes me consider *who* experiences femme online presences, and more specifically, who can *accept* or even *appreciate* online femme experiences that involve aggression.

I consider how being seen as a sexual object can affirm identity for those who may not have faced the same away-from-keyboard physical danger from those experiences—like my young, cisgender, straight self. The experience of taking on a femme form in a digital space where you cannot be physically harmed (even if you certainly can, mentally), is a sort of “safe exploration” that arises constantly in discussion of virtual identity play. Yet despite the social

¹⁴ I would point to William Cheng for research on musical performance in MMOs, as well as various articles on music labels in Grand Theft Auto Online. Final Fantasy has a rather complex ensemble performance system, and just about any major city you go to has a bard performing hits or original compositions basically around the clock.

¹⁵ Whereas *Warcraft*, as an overall player base, skewed towards more traditional “edgelord” gamer dudes, *Final Fantasy* was popularized among the anime loving “weebs” and softy “catboys” of the internet. As a teenage boy, *Warcraft* worked great for me, as an adult transfemme, *Final Fantasy* is far better—what if my sister had gotten to explore a space that was an excellent fit for her, one designed specifically for like Crowther’s daughters? I think I’ve encountered more femme and queer folks playing *Final Fantasy* than any other MMO in my life—maybe I got lucky in server, but I see it as a larger pattern in my life. Most of my trans friendships are digital, few are in San Diego. This is in part that there’s just more of us online at all times, but more so it has to do with how I socialize, and how the process of digital mediation fuels a communication method and imaginary I simply take more joy in, and thrive through expressing inside of.

pushing of femmes to the margins of gaming and virtuality, in terms of agency and equity, their bodies always stand at the center of virtual cultural production. While the voice of the original singing synth, the Voder, was operated by women despite a lack of gendering in its publicized sound, the voice of the first true text-to-singing software in some ways ended up the opposite, as tool marketed with explicit female gendering, but with mostly “male” users

Starting in the year 2000, the Japanese tech company Yamaha began collaborating with Universitat Pompeu Fabra in Spain, aiming to create software that could emulate “human” singing voices (Yin 2018). In essence, it allowed users to draw in vocal melodies on a piano roll and type in lyrics to be sung. These vocals were not fully synthetic, in that they root from original phonemic vocal recordings of humans, but their modulation was heavily processed to create full words. While Yamaha’s “Vocaloid” software had been available to the public since 2004, it wasn’t until Crypton released the specific software for Hatsune Miku’s voice in 2007 when the product exploded in popularity.¹⁶ As opposed to the disembodied robot voice of previous technologies, Crypton packaged their product with a fully illustrated aesthetic and background story: Miku was a sixteen year old girl from outer space, she had long blue hair, futuristic fashion, and could sing in Japanese or be finessed to speak any other language with the proper technique. Over time, as Crypton expanded their roster, Miku gained a crew of friends and collaborators with similar stories, contributing to her humanistic social embodiment. Crypton allowed anyone to post non-commercial content using their products’ vocal and aesthetic likenesses, and so very quickly Miku and her various Vocaloid friends ended up

¹⁶ Nina Eidsheim has a particularly in-depth analyses of some of the earlier, non Miku, voices in her book *The Race of Sound*, which is definitely the most extensive history and analyses I’ve found. Specifically, analyses of a sort of Matthew Morrison-esque “blacksound” in here is what makes the work stand out.

animated in 3D all over the internet, becoming a staple of the Vocaloid community after a fan, Yu Higuchi, developed the freeware “MikuMikuDance” in 2008.

The Vocaloid community in large part revolved around Niko Niko Dōga (ニコニコ動画), a Japanese platform which launched in 2006. If you’re not Japanese, or a huge weeb, you probably have never even heard of this site, but the easiest way I can explain it is to say that it’s like YouTube but with far more community and “remix” oriented engagement.¹⁷ For example, comments appear on screen in videos rather than being relegated to a separate space below, meta tags are communally generated to a degree, and overall the platform encouraged more of a sense of recycling, remixing, and repurposing in practice. Vocaloids like Miku have been used in a cycle of primary and secondary and creation, or *niji sōsaku* (二次創作) as Keisuke Yamada describes it via a Japanese lens, as an “...unauthorized flow of media content...” where it’s “...easy for consumers to archive, annotate, appropriate, and recirculate media content” (Yamada 2017).

In Japan, Miku is absolutely everywhere, you’d be hard-pressed not to encounter her in a music shop, clothing store, or even a Domino’s Pizza. More recently, she’s found her way into American pop culture, playing live shows in the states as a hologram and even “featuring” on an Ashnikko single as part of a Vocaloid “revival” that came as a surprise to many who’ve never ceased to be active in the community. However, from the perspective of folks like me who operated on the margins of this community, more centered on vocal modulation and avatar productions, this resurgence in popularity in some way felt incredibly natural. Frankly, most of the rest of the world, especially the West, was not ready for Miku’s voice and body in most

¹⁷ A “weeb” if you are not familiar is, in common usage, a word for a non-Japanese otaku, or person who loves anime, manga, idols, etc. It can honestly be used in a wide variety of positive and/or negative ways.

ways. Back in the early 2000s we were still getting used to the Autotuned voice of T-Pain, only just dipping our toes into *World of Warcraft*, not prepared to accept a fully digital pop star, let alone one that lacked clear central ownership. Miku represented the first truly communally fueled Idol, the first of her kind in the internet age and laid the groundwork for how most of the fully virtual beings we know today would operate, as well as showing a successful method through which to propagate physical pop stars in digital space through “secondary” fan production.

While she may have been the originator, it would take over a decade of vocalists pushing their modulations more and more heavily towards Vocaloid-esque, hyper-tuned sounds, and moving more and more into digital avatar spaces for performance, for Miku to gain larger popularity. Once relegated to “nerds,” famous rappers began streaming their gaming hobbies as Twitch showed itself to be extremely useful in brand-building, with streamers taking over large swaths of the entertainment market as a new generation of viewers seemed to prefer six-hour *Fortnite* streams to episodic Netflix shows (France 2018). In addition to gaming, anime finally became cool as well, no longer something to get beat up in middle school for talking about—with Japanese media and fashion becoming more popular than ever in the West. Vtubers, or Virtual YouTubers, operate in the overlaps, streaming constantly as anime avatars to play games, sing, and just sort of talk to their chats. All of this, combined, created a space where Miku, and avatar idols like her, could find a resurgent success in Western markets.

Hololive, originating in Japan, and now branching into the US, Philippines, and various European nations, operates like a record label or modeling agency for the most popular Vtubers in the world. Their avatars pull together a slew of influences to create fully marketable “products” in the form of anonymous streamers piloting their characters. The intimate and super

personal affect inherent to the early internet “Vlogger” pulls heavily from the legacy of [Ami Yamato](#), widely considered the first virtual YouTuber in history, who began posting in avatar form upon moving to the UK from Japan in 2011. Her content was very stripped down, with Yamato speaking about her life and looking directly into the camera, invoking a feeling of personal drama much like early 2000s vloggers like [Lonelygirl15](#). However, it wasn’t until the combination with Idol forms like Miku where Vtubers finally really took off in popularity.

When Kizuna AI launched in 2016, and actually coined the term “Vtuber” itself, realism was not the focus—the aesthetic mirrored that of Miku, with very performative vocalizations and dancing, and a strong emphasis on content creation beyond simple vlogs, branching into musical output. The Idol inspiration of Kizuna allowed her to garner a far larger fanbase, especially in Japan, in which Idol culture had been a long-running part of musical fandom since the 1970s.¹⁸ This shift to the Miku-style avatar was also partly due to actual software available. Miku Miku Dance had been flooding the internet with these anime style characters for nearly a decade by this point, and eventually in 2018, Vroid Studio released its free anime-style avatar creator for Vtubers, becoming one of the most popular model creation softwares in the world. Combined with free webcam facial tracking tools, the relative simplicity of these anime models dropped the

¹⁸ While virtual beings remained largely in the world of video games and animated movies in the United States, they took a different route in Japan. As a country with decades of exposure to animated singers and performers, the addition of computerized ones was not a large step outside of marketable comfort zones. However, more importantly, the concept of the “Idol” was far more ingrained in Japanese media by the time of Miku’s launch—coming from decades of anime idols beginning in the 1970s and 80s, with shows like *Macross* and *Creamy Mami*. The presence of animated characters on CD covers at Tower Records was not uncommon—nowadays there are multiple isles purely dedicated to animated and virtual singers alongside the “human” idol offerings. Of course, when I say “Idol” many Americans may purely think of “American Idol” or something similar, as our more common term for a similar performer would likely be a “pop star.” These are similar terms but come with some varying cultural association and expectation. An Idol is essentially a musical celebrity—not simply a singer, musician, or actor, but a general entertainer and public figure in constant performance. Particularly, there is a heavy emphasis on a sort of service and dedication to fans associated with Idols—this is largely oversimplifying, but for the sake of this culture translation, I would say an Idol is kind of like a famous actor, crossed with a pop star and an influencer: a general public persona. The boy/girl bands I grew up with like the Backstreet Boys and the Spice Girls were likely my introduction to the modern concept of an Idol group, with BTS now dominating my mental associations.

barrier to entry for Vtubers, with users spinning up characters similar to big names like Kizuna (who's modelers were former Miku Miku Dance community modelers) without concern for high budget hyper-realism in their 3D models.

Folks in the entertainment industry hoped to reproduce these successes in Western markets, translating the “Idol” into something slightly more akin to what Americans would understand as an Influencer. Brud, a company fronted by former music producer Trevor McFedries, who previously worked with pop artists like Katie Perry, first began posting to social media as Lil Miquela in 2016 . Since then, she's put out popular singles, sold fashion lines, appeared on talk shows, and seemingly met slews of famous people, maintaining a constant presence on social media not only as a virtual being, but as one that reflexively analyzes her own “robotic” identity in a form of new age digital theatre—at one point appearing to realize she had no childhood, and attempting to understand the memories that had been “programmed” into her. She has other virtual friends and partners that help generate a reality show-like drama, which McFedries has attempted to curate from the start of the project. Miquela, like Kizuna AI, is run by a team of creators, rather than the solo project of her most popular contemporary, who operates more like Ami Yamato on an individual level.

Code Miko is a polarizing figure amongst streamers, orbiting cringe and being occasionally kicked from platforms like Twitch. However, love her or hate her, I find it difficult to claim any other creator has achieved a fuller realization of a digital being in the world online user-generated content. Rather than a perceived sense of intimacy akin to Yamato, the cutesy musical theatricality of Kizuna, or the cool influencer aesthetic of Miquela, Miko is a troll—focusing on chaotic shock value and an imperceptibility of core character to fuel her presentation. However, shock value should not be confused with a lack of finesse, so much of

her “shocking” moments arise from her sheer technical ability and imagination. Audiences can pay via Twitch Bits to modify her body, voice, and environment in real time, and can even spawn in avatars with their own usernames into her digital space. Miko can get out of her chair to walk around in a fully RPG-like game environment and bring in other streamers any time to chat with extremely smooth collaborative systems.¹⁹ She goes far beyond folks who stream in VRChat or as more static Vtuber avatars. She fully forms an entire world for herself and her audiences, and then invites them in. I would not be surprised if users will be able to enter her game world as a multiplayer game in the near future.

Youna Kang, the woman behind Miko, is a young Korean-American video game developer who built her entire production from scratch after leaving her industry job. She did so entirely by herself, only just this past year beginning to build a team for her expanding roster of content projects (Devin Nash 2020). Within the digital realm, she both exists as her character, Miko, in her game world, but also as her physical form “Technician” on standard camera, allowing her to create a massive variety of content that speaks between characters. Where Miko’s performance really grabs me, and I suspect many of her viewers, is in the strange,

¹⁹ Miko was created in Unreal Engine, one of the most popular game engines in the world, which is actually free for individual use. Like so many avatars, these game engines are what made them possible—and so it should be no surprise that the game industry has taken notice of these virtual celebrities and artists. K/DA was the first major video game entry in the music business via avatar performers—coming from Riot Games’ *League of Legends* (with a notable collaboration with trans pop star Kim Petras). The gaming industry has, over the past few years, begun to understand their unique advantage to step into the avatar space, as they’ve been honing their skills in this department for decades in motion capture and animation, and providing the platforms themselves for developers to build in—they own the tech that makes the avatars possible. Simultaneously the music market for gamers has become increasingly sought after given its proximity to streaming and content creation—Spotify’s marketing team pushes the gaming aspect of advertisement extremely hard, stating that 70% of users who are gamers stream music while gaming (and that those users are 47% more likely to listen to Japanese music than others) (spotifyads 2021). Bandcamp recently was sold to Epic games—creators of Unreal Engine, and a massive market has sprung up for in-game “concerts” by artists in *Fortnite* and other free-to-play games. In retrospect, the collision seems so obvious—the game industry only stands to profit from involving themselves further as licensors and promoters. They can own the platform and license the content on it, exerting more control over monetization under the guise (albeit, a not fully untrue statement) of expanding accessibility and providing opportunities for artists to profit. Given the dire state of the streaming economy, licensing in games may not be protested by artists, especially due a general appreciation for gaming amongst their communities.

reflexive nature of these differing streams. The question I’m constantly asking myself is essentially: are any of the people I’m watching Youna Kang? Miko may be “out of character” as Technician, presenting with apparent transparency and intimacy in these videos where she unboxes gifts or shows how her motion capture tech works, but that does not mean that she is not *in character* as “Technician” continuing to obfuscate the “real” Youna Kang. In these constructions created by her various beings, meaningful relationships with viewers and other creators are formed—and I would argue that exact reason they feel “real” is due to the ever changing, self-commentating, nature of them as a whole.

I’ve been sending us through a lot of history, but amongst all the examples I’ve hoped to show a thread that connects them all to the historical *concept* of the virtual femme as a performed construction. Characters like Yamato and Miko perform the femme as a curated concept via embodying characters that disembody them from corporeal forms. They create depictions of digital femmes that cooperate and benefit from toxic internet sociality in order assert their rights to virtual space as femmes in an act of conflict. In other words, creators like Miko and Yamato use their internet constructions of the ever-available and “endlessly substitutable” femme, cemented by the programmable voices and bodies of beings like Hatsune Miku, to foster a sense of intimacy in their constant presence and malleable identities, while simultaneously subverting their audiences by claiming their own space at all—freeing them to both explore the online worlds as well as gain capital within them. These monstrous, unstable forms of Miko, give her “...an uncanny independence,” as Cohen would say, operating online as a femme—something folks like my sister have lacked since their earliest moments in online spaces.

This is not to encourage everyone to become a streamer, or to say that Miko is the holy grail of the internet, or to make light of what is a many times a toxic environment in virtual spaces, but to pull attention the ways in which femmes work to carve out space in a world that is largely inhospitable to them, in which they may be rendered invisible by larger structures of ownership and capital. Without taking control of one's narrative in digital being, without forming constructions of *intent*, we relegate our identities to platforms that profit off us, regardless of what culture war we're engaged in, what reactions we give a piece of content, or who wins what discussion of identity-based equity. Tech company platforms, the dealers and houses of the casino that is the internet, always win—whether we upvote or downvote content, monetizing our preferences and attentions, making the obfuscation of the self via construction and illegibility, one of the last bastions of personal resistance many of us feel we have left.

Our “likeness” is a concept folks are growing increasingly acquainted with in the development of AI technologies, which can generate the kinds of virtual beings we've long curated online, without humans being necessary to the process. The text-based descriptions of the M.U.D. age can be written by Chat GPT, with visual accompaniments provided by Midjourney, and a voice by any number of tools like Uberduck. However, what is hidden behind the scenes, in the training data sets, is the slew of content these machine learning softwares pull from. Each actor in this entire history I've provided here may very well be in the sets of AI tools we use—we frankly lack the transparency to know. It's equally likely that our own internet interactions and creations may exist in them as well, only growing more probably each time we input to these tools, further training them on our own usage and data. I in no way preach some kind of aversion to these tools, a futile avoidance which I would liken to abstinence-only sex education, but I do believe in improved citational practice both in their usage and training, as

well as in the right to control one's data within them as much as possible. The issue is, there is absolutely no way we're going to be able to avoid being included in these tools, nor will we be able to avoid using them as they increasingly integrate into our daily lives. All that's really left is to play with them, deny access to anything other than constructed forms, and to preempt their monetization of likenesses by doing so on our own terms.

Recently, Bruce Willis became one of the first celebrities to place his digital likeness on the open market, essentially packaging himself as an asset for advertisement and acting appearances that his agents could rent out in perpetuity (Houser 2022). Willis did so after his recent diagnosis of aphasia, deciding to cease performing and scan his current self into permanent digital existence. You may be familiar with this concept via the *Star Wars* franchise, in which Princess Leia and Luke Skywalker appeared in their youthful forms despite Mark Hamill being in his late 60s, and Carrie Fisher being deceased. While making headlines due to Willis' fame and the popularity of *Star Wars*, this was far from the first time this likeness-capturing technology utilized.

Like most new media technologies, they're deployed for porn before anything else. Deepfakes, nonconsensual facial mappings of beings on to the faces of others, began to appear on the internet in 2017, showing the faces of famous actresses on the bodies of porn stars with a freakish level of realism. These clips that arose represented some of the first exposures we had to the growing capabilities of machine learning in the age of AI. Over time, we saw Deepfake addresses by officials on national TV in Gabon and more recently a falsified statement by Ukrainian president, Volodymyr Zelenskyy, apparently surrendering (Cahlan 2020; Allyn 2022). In reaction to this tech, many adult film stars, who had been offered deals to become essentially "gamified" characters in porn games, increasingly chose to scan themselves into 3D

models in order to monetize on the virtual porn that was being made whether they liked it or not. Rather than have their likenesses stolen, earning nothing off them, they asserted what control they could. By choosing to do so, they were able capture themselves at younger ages, allowing themselves to appear virtually in films they might no longer be cast in as they aged. This practice roots in a similar school of thought as, for example, people creating Onlyfans accounts in order to monetize their bodies before the opportunity is taken from them without their consent. Much like the Hyperpop artists Dorian Electra and GFOTY have done alongside collaborators like Nadya Tolokonnikova of Pussy Riot—the body is self-commodified before it can be expropriated from its origins.

Like the voice of Miku, the femme body is again disambiguated from its source for flexible use in the form of the Deepfake, however also like Miku, the company or individual providing the likeness asserts legal control over its distribution and commercial usage. Miku, licensed by Crypton, creates a corporate ownership over an individual, much like so many record labels do—however by separating the individual Idol from a singular physical person, it spreads out the responsibility for the character’s actions and interactions. Miku relies on fan labor—folks creating new content with her and promoting her in mutually beneficial ways, with the creators themselves gaining popularity within their own communities. Fans of K-pop groups engage in similar activity, creating video compilations, translations, and tributes, gaining notoriety and influence within their own fan communities (Yoon 2023).

Catherine Hoad discusses the concept of “the bubble” in her research on the Swedish metal band Ghost, who maintains a roster of “characters” embodied by a rotating roster of musicians. The “bubble” is essentially a practice-methodology that allows for collective space creation without a need for specific individuals, and which decenters constant performance in

favor of fan-production on the internet and away from stages (Hoad 2018). When applied to the world of virtual performers and influencers, the bubble shows us how communities of people can maintain single digital beings to create semi-autonomous worlds online. Miku's "bubble," for example, is maintained by creators who utilize her voice and likeness, creating a constant flow of content without any need for a core creator. In the examples of so many Idol groups, fans push enough content out on the daily to allow Idols to simply remain publicly visible on social media, or in performance, in order to keep their relevance. And in the cases of some groups, in which Idols are cycled through regularly, this bubble is maintained by a sense of progression and history, inscribing validity to fans who understand and catalog this history just as much as by the constant addition and collection of new performers.

In pursuit of some alternative method of ownership that mirrors some of these beneficial arrangements that blur the line between artist and audience, creators like Holly Herndon have played with "blockchain" technologies that allow for extremely complex, tiered, equity of digital assets to manage her scanned likeness, named Holly+. In short, Holly receives a portion of royalties from derivative "spawnings," as she calls them, produced with her likeness. Like Miku, the perpetually sixteen-year-old Japanese girl, Holly will always sound, and look, as she does at this current moment in time, and continually be able to release new music and appear in new media within a "decentralized" structure. By creating her own structure of ownership over a likeness that could almost certainly already be reproduced via press photos and vocal recordings of her without her consent, Herndon asserts agency in hostile digital spaces via her digital femme construction, Holly+.

In Polygon's 2015 video essay *Is Hatsune Miku a Better Pop Star than Justin Bieber?* Chris Plante plays with the idea that Miku may actually be a more "ethical" pop star than Justin

Bieber, essentially theorizing that a virtual teenager is far more ethical for the public to generate fantasy and fandom around than a “real” one (Polygon 2014). Given the sheer amount of child stars whose well-being is destroyed by fame, or the members of Idol groups who are denied personal lives due to an expectation not to date publicly in order to maintain a sense of romantic availability, or the aging artists who continually and exhaustively must reinvent themselves to sustain monetarily, the arguments in this video have long held space in my head (Dong 2023). In imagining swapping Holly+ for Miku in the context of this argument, we can consider how technologies of collectivism may lead us towards more equitable practices in online media, and how these practices can in turn push us beyond simple ideas of the individual, authentic self, at large. When placed in the contexts of this lineage of femmes in virtual spaces, it pushes me to consider not only who the femme is constructed by, but who it is constructed for, inside the digital communities in which I participate.

THE AUTHENTIC SELF

Resistance to the expropriation of our own likenesses, whether to large digital platforms or simply to individual places we don't want it used, can be achieved by creating multiple online identities, as well as by inhabiting small pieces of larger collective identities. Artists like Sophie, represented a transitional phase, operating between the individual and collective, with a communal voice, but singular ownership and curation. However, in the graduation of "the youth" moving from millennials and Gen z, the "personal brand" of Instagram profiles has begun to fall to the wayside in preference to "the collective" identity of Discord servers. Joshua Citeralla, who I will invoke here nonetheless due to Hyperpop artist Dorian Electra's collaboration with him, as well as his intimate understanding of some of the more unsavory corners of the internet, stated that "...broadly speaking, millennials are individualistic, entrepreneurial, and focused on a personal brand while Gen-Zers are collectivistic, nihilistic, and interested in identity play." Additionally, in the recent Instagram post in which this appeared, he stated his goal to reduce posts to large algorithmic systems at large—further exemplifying a trend amongst younger internet beings (Citerealla 2023).

More and more young artists opt for vague, distorted, obtuse album artwork for musical releases that purposely perform poorly in social algorithms that favor faces and bodies. They largely reject hashtags and algorithmic markers in order to maintain engagement with more tuned-in communities, instead relying on collaborative cosigns with likeminded artists and screenshots of cool Sonic the Hedgehog memes to bring the desired audiences to their work—in practice, more akin to Wendy Carlos' pages full of cat photos than "press packages" (Carlos 1996). They rely on word of mouth, or word of message more accurately, in niche social servers

akin to the forums and chatrooms of the 2000s internet “golden age” before the takeover of social media platforms and the “verification” of users.

In verifying users via phone numbers and personal information, tech giants attempted to construct an assumption of “reality” and “accountability” for internet beings that, in the end, actually provided us with nearly the opposite. Unsurprisingly, in this verification, it was made far easier for internet companies to advertise to us, filter us, and monetize our production, all while accelerating “the post truth” age they feigned an aversion to publicly. Constructed identities on the internet which are “unverified” tend to scare folks in their assertion not only of the “falsity” of the individual subjectivity, but in that of the internet’s content as a whole—as years of “verified” beings have made us accept something we simply didn’t in the 2000s: the internet is full of real stuff. The scary mental step is the one that occurs directly after that of an “unverified” internet, that of an unverified history, as a whole, and an unmoored subjectivity and perception inside that history. The complete overturning of narrative in constructed “historical events” written by the victors is now a daily occurrence in our lives, from academic articles to Twitter threads. An understanding that everything might be totally, and completely inaccurate, is simply a mental state we exist in at all times. What I, and many others who grew up with the early internet, constantly wonder, is if the wrong turn we made was “verifying” the internet at all? Maybe it was unavoidable as a delivery system, or maybe there were alternatives we simply missed in big tech’s pursuit of “authenticity” that could obscure their system avoidance of accountability?

In a world growing increasingly hostile to trans folks, and femmes in general—with laws outlawing male femininity, banning public “drag,” and an overall deployment of “gender politics” as a rallying call for austerity and social conservatism, virtual spaces of subversion have

only grown more important to folks like me. More specifically, a widespread mission to obliterate “authenticity” and stability of identity online has become one of the only methods through which we can achieve an illegibility in identity that maintains our existences. When the team behind an online character, or the identity of the solo creator, is unclear, a level of safe deniability is achieved. If I’m working on a femme character with a modulated voice and body, and I have one cis woman on the team, who’s to say it’s a trans character? There’s protection in this deniability—one which is only expanded by general confusion generated by cis women performing as femme avatars themselves.

This claim could seem obtuse but let me explain using an example—Code Miko occasionally will go on Chatroulette or Omegle, early internet platforms which allowed users to chat with random strangers online, that have now resurged in the wave of Y2K trend popularity. In videos of this, we see that, many, if not *most* users assumed Miko to be trans—due to a long running, heavy association, between online “tricks” or “traps” of “catfishing” via the virtual femme (CodeMiko 2022). In this case, Miko’s identity as a cis woman actually reinforces a level of gendered confusion on the internet that in many ways provides a level of deniability in virtual space to trans creators. Similarly, when Rico Nasty works with Dylan Brady to achieve a vocal sound akin to Laura Les, the “trans voice” of Hyperpop is further complicated. While once could choose to see this as “appropriation,” from the lineages I’ve traced, I hope it’s become apparent why that might be an ultimately futile chase for “ownership” of what is essentially a social construct with no clear bodily ownership.²⁰

²⁰ Appropriation here also leads me to reference the white rappers of the SoundCloud era that pushed us towards sounds like 100 geecs. The era of soundcloud rap is as much defined by young black artists like Lil Yachty as it is with the rise of white rappers like Lil Peep. While the answer to “why more white rappers” seems more obvious in terms of the market uptake in rap, the more interesting question to me is why specifically was emo rap the main white rapper inroad at large scale? The critical space of overlap that has defined rap for the past few years, in my opinion, is the midwest (or midxwest in this case) of the United States, where emo & hardcore kids and hip hop kids

Viewing “Visibility” politics with apprehension, so many of the artists I see as critical operators in these spaces actively seem to work against definition and clear visibility, pulling from alternative lineages of “endlessly substitutable” identities in their public subjectivity play. I would invoke a movie like *The Matrix* here, a work of art not explicitly about transness, but rather a general feeling of being trapped in social systems, which became understood as a trans narrative by many even before its creators both publicly identified as trans women (Wachowski 1999). Virtual beings who deny clearly categorized identity formations, deny systems of standardized organization, can in many ways achieve both increased safety and independence in their ability to operate in wider spaces (Netflix: Behind the Streams 2020). In doing so, they expand spaces of experiential overlap which invites coalitions of mutual appreciation without needing to meet on the same terms, literally in the sense that seemingly politically-loaded words like “trans” do not need to appear in order to impart transness, or an understanding of its underlying affects and concepts.

However, this kind of process of illegibility to achieve accessibility can flirt with essentially de-fanging a scene’s critical edge and certainly comes with the risk of losing the

met in spaces historically defined by techno and house music (see Jon Caramanica’s NYT podcast for more on this). Midwestern music spaces, going back to the genesis of techno, have been ones of experimentation driven by technological relations (non-coincidentally, industrial spaces like Manchester lead to techno movements in the UK as well, with many later identifying genres like “Happy Hardcore” which now influence so many Hyperpop artists, as definitely working class music). In Jenn Nkiru’s *Black to Techno*, we see the creation of the Detroit techno scene to build/manifest space for young black folks to gather—shifting the machine-relationships they’d been forced to build out of economic necessity into an artistic, futuristic space to build community (Nkiru 2020). The intimacy created with machines in factories that sustained families, the oneness with synthesizers that defined their children’s musical and social worlds—black & gender nonconforming youth in Detroit saw machines as a way to transcend their physical existences through works of futurism and create belonging for one another. This legacy continues long past the 1980s, with Detroit, Chicago, and St Louis still acting as focal points of not only this techno-social expansion, but in spaces of overlap that build relationships between communities. In the mid 2010s, kids were growing up in the region seeing bands play emo, hardcore, dubstep, drum n bass, and hip hop all at once. With the alternating screamed and melodic vocal stylings of bands like Bring Me the Horizon and Slipknot pulling on rap influences, and the sounds of rap pulling towards more pop-ish emo vocal sounds and melodies of Panic at the Disco and Fall Out Boy, combined with production from dubstep and electronic acts like Skrillex (who originated as a hardcore emo singer, then produced Bring Me the Horizon)—the genres were colliding. It was at this time that, for the first time in the history of popular music charts, the majority of top charting tracks were in a minor scale, a defining quality of both emo and trap music (PBS 2019).

foundational core of a subculture. Alice Gas, an OG in the webcore-digicore-hyperpop-whatever-weirdo-internet scene, commenting on the increased adoption of heavy pitch shifting modulations in popular music in the post-gecs era, tweeted “back in my day artists pitched up their vocals because of Gender Dysphoria” (@alice_gas 2020). In Gas’ statement there’s a sense of clear communal line, or at least one of lineage, being drawn. She’s asserting that this technique was born of trans folks, and that people better not forget it. However, as I know personally, not only from my own experiences but in watching others, is that most of us who pitch shifted did not yet understand our own transness—and it was through that process that we found it.

Let us remember that Sophie, now a trans icon, was at one time self-identifying as a man collaborating with women to sing on her tracks and received plenty of criticism for “appropriating” the “female” voice (Helman 2015). OSTER Project, also known as Futanari-P, a foundational early Vocaloid producer, only came to identify as a woman after years of releases with the voice of Hatsune Miku (Vocaloid Wiki Community 2024).²¹ Back when Wendy Carlos scored *A Clockwork Orange* and changed the very concept of the digital voice, she was still publicly identifying as a man. When I first began pitch shifting and Autotuning my voice, I too publicly identified as a straight, cisgender man—we so easily forget our own journeys in the understandable pursuit of guarding our fragile boundaries in a world of capital that seeks to expropriate all our favorite creative techniques, aesthetics, and bodies.

²¹ Two things: 1. Futanari is a Japanese term commonly translated to mean possessing both male and female characteristics. 2. Futanari-P is increasingly wonderful to me given the amount of women, trans and cis alike, who see her as representing them in the largely “male dominated” Vocaloid scene. The femme is the overlap here, across timelines of varying self-identification—and I love the idea of a young cis woman getting into Vocaloid because of a transfemme creator, as this appreciation of the femme has, as I see it, fueled an increase of cis women participating in scenes like Hyperpop due to a sense of welcome and safety.

To attempt to relegate pitch shifting, or any of this lineage, to a trans-only medium, much like vocal modulation at large, would not only be inaccurately limiting, but also present an inherent contradiction—even if we can, and should, thread this critical ancestry. To map identity-forward conceptions of who is “allowed” to use a voice may be missing a chance for younger folks to come into their own and may also reduce our ability to participate in transnational movements in which these languages and conceptions may simply not be useful. I most recently collided with this reflection after experiences with students, who I read as a bunch of cis production bros making Hyperpop, who have turned out to be far more complex in their self-described gendered and sexual subjectivities. Where would I be if I had been told that it wasn’t my place to play with vocal shifting?²²

Laura Les and Dylan Brady both constantly discuss a desire to keep “Hyperpop” from feeling a small group of people, it’s the main reason they dislike the term itself, the idea that it could become “gatekeepery” (Patel 2020). Similarly, in correspondence with Umru, a central musical collaborator and event organizer in the “scene,” they described the aim of themselves and their contemporaries as being “...to push this sound into popular music rather than exist in some trendy exclusive space...” despite usage of the genre label on their music. However, members of these scenes find utility in the term, with the Spotify playlist that started the name being a core space for artists to gain listenership, garner collective critical and industry

²² Extending beyond pitch shifting and modulation, practices of vocal sampling and Vocaloid production apply here as well—I consider how the route in to music production in most of these internet scenes is via remixing, mashups, and heavy vocal sampling, with most of its foundational artists like Jane Remover (previously leroy/c0ncernn) coming into their own singing voices via playing with those of others. I personally found my way into music via longform mashups, spending years working with the voices of others in order to understand how to shape my own, and what shape I wanted it to take. Without that process of play and subjectivity separation, I doubt we’d have many of the musicians we have today, especially not one’s who now identify as gender nonconforming.

recognition, and to provide an organizing term for events that translates “the vibe” and what the spaces try to curate, very quickly.

In “A Queer Dilemma” Joshua Gamson writes that critical theory has generally lacked attention to the “...impulse to destabilize identities from within” racialized and gendered communities like the “queer” movement (Gamson 1995). They expand on their title, explaining that “at the heart of the dilemma is the simultaneity of cultural sources of oppression (which makes loosening categories a smart strategy) and institutional sources of oppression (which make tightening categories a smart strategy). Much like David Valentine breaks down the conflicting valences of social and political utilities in his history of the term “transgender” in *Imagining Transgender*, Gamson describe a duality in terminologies of “queer” which 100 geecs evoke in their discussion of “Hyperpop” as a genre (Valentine 2007). Miles Luce, invoking the art of Marcel Duchamp, states that “...Duchamp and 100 geecs are not anti-‘art’ in the sense of anti-expression or anti-creativity; the two are anti-‘Art’ in the sense of art’s governance by genre. 100 geecs intrinsically resists such governance of art without alienating mainstream appeal, maintaining artistic anarchy for the public” (Luce 2021). This concept of “anarchy” lands so heavily with me, given that prior to “Hyperpop” becoming the dominant term, I originally began writing about the genre, calling it “Chaos Trans Music,” in the self-published article I wrote which Luce cites in their piece.

Maintaining such a wide space of people, and encouraging such exploration of techniques, involves a great deal of work, despite its seemingly “hands off” approach to policing boundaries. There is a great deal of internal conversation and personal responsibility required. Constant reaffirmation of queer origins of Hyperpop, for example, by artists and event organizers is a core piece of the practice, and why all are welcome, those who perform tend to be vastly

queer, femme, and trans artists. Additionally, honoring lineage acts as a core tenet, with artists like Uffie being invited to play Subculture parties, a femme whose “proto-hyperpop” was something the music industry was not quite ready for in her younger days. With Les claiming artists like Britney Spears as being Hyperpop, the scene exists out of time, and in that sense also create a lineage that is never quite “inactive,” garnering relationships with act like Fall Out Boy and long after the heyday of their fame. There’s also a practice of almost rehabilitating spaces for artists who had been socially obliterated by the toxicity of online spaces, especially for femmes, with artists like Rebecca Black enjoying Hyperpop “comebacks” via collaborations that not only brought in Dorian Electra and Dylan Brady, but even Big Freedia, who remains one of the most prominent “trans elders” in popular music.

Altogether, the lineages these creators pull from and the ways in which they live their lives, deny clear concepts of clear labels, structures, or ideas of “authenticity.” This makes sense to me, as it has become clear that “authenticity” can be a trapping of neoliberalism and visibility politics, only serving to limit our abilities to create experiential overlaps across communities and further place us in the public crosshairs as clearly defined “deviants.” As I consider changing my driver’s license and birth certificate back to an “M” from an “X” in an increasingly hostile world in which resistance does not clearly necessitate visibility, I consider my lineage of femme constructions. Can I best interrogate the constructions that trap me via a label deeming me “outside” them, or from a position that forces folks to reconsider their perceptions of an existing category I can make illegible and pointless seeming? What is truly transgressive and doing *the work* of actually making life feel worth living for femmes?

“The point is not to see transgender as a special case, an extreme form, or as exemplary, but as part of the quotidian forms of self-making and self- education in which all modern subjects are imagined to engage. Like all categories, transgender is transformative because of its capacity to refine...to argue that all modern subjects are engaged in this same process of disaggregation, reintegration, refinement, and education of the self. The goal is not to identify the perpetrators of fraudulent categorization but to open up the question of how all of us are responsible for—and subject to—the limits and possibilities of self-making in a broader and stratified political-economic context. The goal is to reveal how the categories we live by—must live by—have histories, politics, and economies and produce effects that can be as debilitating for some as they can be liberating for others. The goal is to question how, why, when, and with what effects self-making is other-making” David Valentine in *Imagining Transgender* (Valentine 2007).

I remember when I told my family I’d started Estrogen, everyone was extremely supportive, but one response stuck particularly in my head. My sister told me that she hoped it was help me be my “most authentic self” (and also like Drag Race more, as she loves it and I just do not care). As you probably gathered from my previous World of Warcraft discussion, my sister’s words have always a powerful impact on me, and once again, her words stuck with me, not because they were in any way offensive, actually quite the opposite, it was exactly the “right” thing to say to a trans sibling, as far as the popular consciousness is concerned. The use of “authentic” here though, really got to me, because of all the conversations I’ve brought up throughout this piece of writing. What about hormones give my life experience any more “authenticity” than it already had?

This was a question neither me nor my sister could answer, but one that socially had become a sort of “approved” line about the power they seemed to hold for trans folks. There’s the obvious “affirmation” of having estrogen in my body being connected to a conception of traditional femininity, but also a sort of social recognition of “coming to a decision” on a gendered question to be answered in order to be properly socially sorted. There’s an inherent finality and rigidity to “authenticity” that has never sat right with me, the same way that “transitioning” hasn’t. While narratives of finding the “your truth” or being “your authentic” self tend to resolve in some nice way, most people’s lives never do, especially trans folks who find themselves in flattened discussions of one-time “transitions” and “detransitions” despite the knowledge that many of us will do both many times in our lives. Through my experiences birthing different subjectivities, digitally, mentally, chemically, however—I’ve found that what feels like the most real, vibrant existence, is for me exactly the opposite of a singular core authenticity. The manic, rapidly shifting nature of everyday identity is what brings me a feel of true agency over my existence in a world of intense scrutiny over every little detail of every aesthetic, affect, and decision I make. Flipping in and out of vocal affects and timbres, going on and off hormones, starting a day butch and ending it femme, not only allows me to move through the world, but constantly works to highlight to both myself and those around me, a sense of hyper-constructed-ness in our relations, slowly closing the gaps between us as separated beings. In this process, something that feels *real* is co-created in every interaction, not quite “authentic” but ultimately meaningful in the way I think we collectively wish the word could function.

PART II CREATIVE WORKS

Drive Link:

<https://drive.google.com/drive/u/0/folders/1GqAd49lmS6taKWbE-G8Nwrz7H3Cv6MAD>

Interactive Game Design and Performance

201A Lulu zoom set (2022)

Full DJ set of lulu and Saint Taint songs as part of the 201A course—streamed using Ableton, VseeFace motion capture, and MadMapper over Zoom. With my rig, I’m able to achieve full upper body, face, and mouth control while triggering audio-reactive visuals behind Lulu. This is a technique I developed over the course of 2020 and 2021 playing Zoom raves and various other streamed performance events.

Music

Released Projects

im ur girl (2022)_Saint Taint

An album about transition, with very direct lyrics about going on estrogen. The main focus of this work was to find ways to bridge the gap between the very heavy and industrial sounds of *Deep Fried Decline* with a sort of lyric-driven singer-songwriter softness. The result to me is a sort of pop-ified Saint Taint. One of my only no-collab independent projects, it taught me a ton about songwriting and sheer confidence. This, as well as *Garden* which would follow, were basically the opposites of the Lulu projects I had been so invested in. I was using my least modulation voice and placing it as the driving force

behind my songs. Once the estrogen started, which was around when things started to open up again as Covid subsided a bit, my interest in living as Lulu dissipated and my desire to sing about my personal life over guitars got very strong.

Unreleased Projects

Lulu10tacles (2022)_Lulu10tacles

1st Lulu album, aimed to introduce her with a hardcore aesthetic. Each song attempts to explain her personality bit by bit to the listener through a series of club tracks. While I've been playing these songs in live sets for a while, the album has still yet to release. I've stalled out trying to figure out how I wanted to animate them, which frankly has been a little absurd because I should have just put them out by now, but I just got so deep in the animation-learning weeds that it didn't happen. The intro and outro tracks, based on children's songs, finally wrapped this album up recently, and I'm aiming to release it this year.

Sex Wax (2022)_Lulu10tacles

2nd Lulu album with a more guitar-driven approach—lyrically, these songs aim to develop Lulu as a character more so than just establishing an aesthetic. Going beyond lyrics about parties, being hot, and all that good stuff, this album focuses more on Lulu's relationships, with a focus on the blood-sucking-demon aspect. These tracks talk about not getting texted back, about locking men in her basement, that kind of deal. The goal here was to return to the *Deep Fried Decline* question again, but through the lens of monstrosity. How does lulu's monstrous and violent form translate into her friendships and romantic relationships, and how has my relationship with her as a collaborator developed?

Part III

Material Consequences, Ecology, and Roid Rage

The following was written as a piece for The Lanternfly Collective's 2024 special issue. Contributors were invited to write for a speculative "retrospective" of pieces written at least fifty years in the future. While writing, I was developing a syllabus for a course on Race, Gender, and Artificial Intelligence, which pushed me towards physical manifestations of "cloud" based conceptions of computation and technology. As the third and final part of this dissertation, my inclusion of this piece aims to act as a grounding framework for these discussions of "virtual" embodiments. In other words, I'd like to take this time to focus on the physicality of all digital beings through their extremely tangible ties to limited resources on the planet. Just as the actions of our virtual bodies can have very real ramifications for our fleshy forms, the literal circuitry, power, and networks that power these forms impact the air, water, and earth around us. While I've constantly made the argument for understanding these virtual forms as equally "real" to those of the flesh, here I hope to add weight to this idea not through personal experience, sociality, or even monetary consequence (like the money made via digital sex work, or creative output, etc.) but through the literal usage of finite resources and energy requires to maintain our virtual existences. Each part of this dissertation has taken place in a distinct moment in time throughout PhD candidacy, and now as I head towards the close, it feels right to send you into the future in Part Three.

The following has been adapted for dissertation formatting from its original writing in base HTML. The original file is attached in the media annex.

Lulu10tacles + the multitudinous quasi-manifesto of retirement

This winter, I'll be turning 60—and frankly, I don't want to do any of this anymore. I love the internet, I love the digital world, I've committed my whole life to it—I've spent more than half of it as Lulu10tacles in some space between virtual and flesh—but I need to stop. In my mid 20s, I spent most of my time living out of my car, visiting national parks, and camping around—and I'd like to return to the States and do this again while these parks are, in some way, still here. It's only gotten harder to find weather and AQI windows in which to visit—and I'd like to have more time to take advantage when I can (the temp today, my god). I've been thinking about this for the past decade now, trying to lay the groundwork to exit my projects without ending Lulu10tacles and the various collaborative relationships so many people have with her. While at first, the idea of a handoff to an individual seemed obvious—I felt like it sold short the real possibilities that we've seen become possible with virtual beings. Instead, Lulu will become a collective embodiment.

This page contains some general thoughts/ramblings I'd like to log down that may be of use to the future Lulu operators—some initial ideas via which I'd recommend operating the project before they become perpetually available for edits from contributors. Rather than offering some vaguely neoliberal ledger of how voting should work, or who we should prioritize, or how to split the profits etc. I hope to bring up some overall questions for those involved to be regularly discussing. I would call the rest of this a "manifesto" following the feminist traditions I've been taught, but frankly I don't care about any kind of formal labeling because I don't need to convince anyone to publish my work, or aim for tenure or grants, or anything anymore--so this is just whatever it is, call it what you like. I can't predict how digital currencies, copyright, anonymity, or really anything, will play

out beyond this point, so I leave it to folks younger than I to adapt, but I'll leave you with some words from a tired old VRChat freak who's dealt with likeness rights and equity ledgers for the past few decades.

Above all else, the absolute prime concern I believe should remain at the core of discussion is a simple, yet elusive one, which stems from this conception of the fleshy and coded self being an inseparable entity we co-constitute between one another. The digital is physical. This will never cease to be the case, no matter how much industry wanted, and continues to want us to believe in magical “clouds” and “artificial” intelligence. Like real clouds are composed of water, so are our digital clouds, whose lifeblood is the water pumping through their cooling systems’ veins. Their bodies made from silicon, copper, gold, cobalt, and lithium: finite resources pulled from the ground whose value we know all too well by now. The artificial has always been corporate artifice, designed to separate us from the millions of underpaid humans who painstakingly tag every image, video, sound, and neurosensory—building every single dataset for every single algorithm and “intelligent” dataset we utilize. Our coded embodiments, just like our fleshy ones, are comprised of very real resources--they are, in practice, not virtual in the slightest.

Collectivism

Since I first began living my creative and professional life as Lulu10tacles back in 2020, I'd been constantly bothered by her ties to a singular person: me. Teaching as her in avatar form, performing alongside her synthetic vocals, losing myself in her personality in day to day life—the whole time I couldn't shake the feeling that in some way my apparent ownership of her felt off. Lulu's existence was co-constituted by my own imagination and those of others who interacted with her, leaving her agency somewhere in the ether. Part of my hangup on the

singularity of me and Lulu's relationship lied in this very emotionally driven question of agency, however another was based in practicality in the sheer amount of places Lulu needed to be at once. To exist as an internet form is to be omnipresent, always-online, and always producing. It is not a task fit for a healthy human being with any other interests in their life. Not to mention that of one who can't ever seem to decide what hormones they want in their body—I feel like I've been experiencing ego-death on and off for decades, lotta (fun, but taxing) fracturing. Yet, establishing collectivism, at least in regard to digital beings, was not at the time not a simple undertaking. While Discord collectives certainly existed, members were still separated to a degree, as there were a lot of technical complications in co-piloting a moving, thinking, virtual being.

Over time, however, the feasibility of a collectivist, multibody model, began to show itself. By the late 2020s, with increasing tech industry focus (and money) being put into artificial intelligence, we started to see more and more content being pushed out at unprecedented rates. AI-assisted creative work pushed production speeds to extremely short windows—much like how the advent of royalty-free sampling libraries like Splice increased songwriting production across the music industry earlier in the decade. These AI production increases were felt across the board, with 3D work arriving last, simply due to its technical complexity. In the early 2030s, we saw long-established VTuber labels like Hololive begin producing entire music videos with AI assistance that rivaled their content of the past decade, and large record labels began pushing AI assisted music production to keep up with commercial demand. Unlike the fearful nightmarish futures so many academics painted in the late 2020s, AI did not “replace” musicians as much as massively accelerate not only their production speed, but the expectations of content labels and marketing agencies in output quantity. However, this is not to say no one tried—let us

not forget the “full-AI” experiments of multiple K-pop labels like SM Entertainment, attempting to capitalize on interest in “metaverse” activities in Seoul in the mid 2030s. The beauty of these was in the assertion that these artists were indeed “real,” constantly dodging what that actually meant, when in reality they were mostly AI-driven in their speech, performance, and aesthetics. Trained on decades of the label’s work, the idea was not that they could be their top earners—but more so that in pumping out enough of them before retiring them at the appropriate time, they could put more human hours into their biggest names while still maintaining enough new artists and content to continually engage new audiences.

On the audience side, this was also well-received due to the interest in AI-companionship, in which trained versions of these idols could be on-demand at all times to talk with you, sing for you, or really anything (depending on their usage-rules). This system solved a decades-old issue of burnout with idols who were required to constantly stream in order to maintain a sense of emotional ever-availability for their fans. This forced them to hide their personal lives, and essentially swear off any and all relationships that could inspire jealousy amongst audiences. Users were more willing to accept the idea that they had their own personal version of an idol than expected—much like the men who married various serial number versions of Hatsune Miku earlier in the century. If a being had gotten to know you over time, it knew you in a way other versions of it did not, and so, what was the problem?

And so, a little over a decade ago now, it seems that idols, and public personas in general, have apparently stopped aging. This represented both a solution and a problem for entertainment. On one hand, much like Hatsune Miku or Taylor Swift, idols could simply continue to profit forever—even after their original teams had largely faded off. On the other, without a constant flow of new artists, it became harder than ever to maintain market holds. People have not only

become accustomed to tons of new content from the artists they know, but also to finding new ones on a daily basis.

Illegibility

However, increased production does not mean increased adoption. Even in the mid 2020s, Gen Z had begun to shy away from large algorithmic systems like Instagram and TikTok, with preferences for small forum-style discussions on Discord. This trend only continued, with younger folks burrowing further and further to avoid oversaturated markets. However, as AI-assisted tools got cheaper and cheaper, they began to use them as well. They did not use these for speed, but rather, quality—the idea that these tools could create things no human would ever attempt to, a sort of ultimate abstraction. While machine learning can be used to replicate with uniform changes, it can also be used to alter things beyond recognition. And so, over the past few decades, those who enjoy the “cable TV of the internet” as it’s been called, like algorithmic servings on social media, have split from those who like to personally curate relationships online and dig themselves. This trend has maintained over the past few decades, even as Discord fell to a slew of new services.

On top of this, while some opted in to increased surveillance over their data, tastes, and general lives for the sake of improved quality in “free” services, others went the opposite direction. Hiding online became possible via collective identities: forming multibodies with likeminded collaborators. This was markedly different from creating a series of pseudonym accounts, each owned by a single person, as it involved a singular internet body being controlled by multiple users at once. Part of the shift to this method involved a series of crackdowns on accounts which did not have a “verified” human behind them, much like the early days of Facebook and PornHub verification. The reason behind this was simple: tech companies, who

had long relied on singular user accounts as profitable data farms, capturing every interest and interaction to sell to third party marketers for advertising, were largely denied useful data from "unverified" beings. What they did not expect however, was how much less useful the data could get. When collective, multibody, beings grew in popularity, each had so much conflicting behavior data that it essentially became impossible to create sellable marketing profiles. It became fairly achievable for one person to form a company, and then share the "business" account with multiple users, whether they were employed or not. Legal formations off LLCs had always been very simple, but companies aiming to capitalize on it made it even simpler, with the state of Delaware expanding its special courts to specifically make forming and amending LLCs online their focus. I remember forming an LLC in 2016, it took about a week. Currently it takes about 2 minutes. The beauty of the LLC is in its deniability. This allowed for groups to form singular accounts to use internet services, and for deniability in identity when questions of indecency laws or copyrights arose. In the age of taxonomized datasets and algorithmic recognition, illegibility evaded surveillance like nothing else could. Like the large labels, small groups of friends ran everything from meme accounts, to personals, to fully realized avatar beings. Currently, this push combined with decades of AI-assisted tools have made fully virtual collective beings very much an achievable thing, to the point where it's commonplace.

Much like resident DJs at clubs both in-person, virtual, and mixed—pilots of virtual beings rotate either on schedules, or simply based on who's around at the time. Co-piloting occasionally occurs as well, in which the face and mouth are piloted by one operator, with its body by another. You'll encounter beings in social spaces as well as performance ones, never quite knowing which member you're interacting with, just as they may not know which member of your group they're talking to. The only way to really tell is if you have intimate knowledge of

the various members somehow, as their vocal cadences and memories can give you hints. This is harder than you'd expect, however, due to machine learning vocal tools. Even first-time pilots of a full character can be quite convincing, with automated word suggestions trained on years of a character's chatting, words, phrasings, and intonations can be predicted and suggested in real time. Auto translation based on the listener also further obfuscates this, with a level of deniability being achieved in language-to-language differences. Most of us don't even consider that words are being translated anymore given how clear real-time localization has gotten. We also don't consider who we're talking to when we move around in virtual space, as it is simply assumed that any being you interact with, much like you, could be any combination of beings and AI assistance services.

Decades ago, it was assumed that by now, we would all have no trust in the internet—and yet that's not really what's happened. Instead, we've almost begun to consider it like the earliest forms of the internet, back in the late 90s and early 2000s, in which everyone, and everything, was not assumed to be attached to a singular, real, body. Rather than unified cyborgian bodies, we all inhabit fractured, monstrous, Frankenstein-like forms—socially constructed of loose parts and split personas.

Materiality

Taiwan's annexation during the GPU struggles of the 2030s, Bolivia's meteoric rise to global influence with the last remaining lithium deposits on the planet, the storied trauma of generations of Kenyan trauma floor workers who flagged and tagged the most depraved images and videos humanity had to offer so we could feel safe. Just like the oil-wars I grew up with, young folks have all experienced the same rush for resources in yet another Cold War between BRIC and NATO—they have simply been framed as immaterial, software, and virtual. However,

as we know, there is no such thing as virtual. There is a plateau beyond simply our abilities, because nothing is infinite, nothing is above consumption, including the internet. As the planet increasingly destroys the homes of those invisible workers who built the internet, I look to unions to push even harder than they already have, and to continue to slow the industries we see leading us to a future where nothing can survive at the speeds we aim to move, including the virtual world they hold so dear. There is nowhere to run, even the trillionaire escape hatch of space has been so smothered in Starlink junk we can't launch off it—when we burn this out, we're done.

To bring us back to the ugly html page you're reading right now: how much power do you think you expended to read it? There are no images, no sounds, no videos, no neurosensories, just plaintext and links (each of which, you must decide on your own whether to click or not). As a younger person, I despised this kind of work, my own dissertation committee had to convince me that “reading was a worthwhile activity” due to my hatred of all things textual at the time. And yet, when every ounce of power, every drop of water, and every gram of computational material is increasingly placed against not only personal economic cost but an environmental one—it's forced me to reconsider the days of floppy disk file sizes. Kilobytes of data to translate what I need to, with some of the most minimal querying possible needed to access it.

Visiting links are a consumption choice, based on the very understandable desire to know more, to be curious—they act as an alternative to classical citation methods nobody likes, but also as an alternative to the automatic cultural content serving we've grown more accustomed to. In my younger days, “suggested text” allowed us to use less mental recall power in language, but it was even more useful when writing in a second language. Developments in auto translation,

which have by this point pushed some into nationless languages undersold as “slang,” by this point go beyond language and into full cultural translation. This was long a process considered to require a human explaining references and experiences, but as we now know, this can be achieved via personalized recall of media and neurosensory tech: reading a word that instantly pulls a video, sound, or experience up for you to consume at the most efficient speed possible. My students speak near completely in internet cultural references, something every company wants to learn to do in order to market to them. They can certainly try, but in the end, all subcultures burrow deeper/self-destruct the moment they’re threatened—I’m not sure how close they can get.

What happens to the brain when it no longer needs to do real-time recalls of references and memories, where does it go instead? What kinds of things can I remember if all my references are not needing to be mentally stored? For example: how historic dates were no longer needed to be stored in the advent of the internet, or how the invention of the calculator changed the way mathematicians worked? It’s one of those things my students will simply understand in a way I cannot, but I do my best.

Anyway, this cultural translation process is extremely data intensive, and so here I’ll allow you make that decision for yourself, rather than having it made for you. That being said, maybe you’re reading this as a translated page, in which case, hopefully my writing’s at least working well with whatever service you’re using. And if you do use cultural translation features—honestly, I suspect they’ll make this a better experience, since I’m sure some of my links will have broken by the time some folks actually get around to reading this, especially since some of them get taken down by the day for dataset copyright violations.

Every character I write here is data, just like every character I embody online is data, so if I'd like to indulge myself on this kind of writing with the idea of it lasting as long as humanly possible online, I'll choose the smallest data format I can to spew via. Even at the most intense compression, one singular second of audio can be hundreds, if not thousands, times larger than written text that attempts to translate similar concepts (even if in less fun ways, or ways that maybe don't achieve the same kind of impact, or accessible reach). However, as there is no way for me to know the cost of data storage and internet access and ISPs and all that in the future, I'd like to err on the side of tiny. In terms of this actual page, I've done my absolute best to pay as long as I can into the future for hosting and server space. I've even set aside a fund for it that Lulu's users can tap into if they feel a need to keep this around. Some of these users run their own servers from home for purposes like this, using sharing services akin to old school BitTorrent to make sure copies are never lost. The balance between accessibility and independence is always being debated.

Maybe there's something to the text-based online RPGs of the origin internet that goes beyond some sort of nostalgia "kids don't use their imagination" anymore arguments to this practice of shaping the self via technology. Apocalypses are always presented so romantically—I myself certainly semi-jokingly fantasized about worlds in which I my 100 geecs vinyls play on a crank phonograph in the basement of my apocalyptic catboy convent. They're always presented as X happens and so we had to resort to Y technology. But in reality, maybe it's more like: X is going to happen, so we have to resort to Y technology to see what other paths we can take before it happens. I say all this simply to place on the table for consideration, not necessarily anything more than that, but consideration that Lulu itself may have to change in order to reflect and embody the intertwined realities of environment and economy. In other words, to push her

further and further into the most modern additions to the technological world is not a bad thing, but something to approach with serious consideration of the material consequences it entails. As many have said, technology is constantly presented as the hammer, with everything becoming the nail—choose your nails very carefully, be willing to consolidate resources where most needed, abandon projects deemed harmful to your most economically and socially vulnerable, and be willing to look backwards even when the march of “progress” tries to remove your rear view mirrors in favor of their own “autonomous” sensors. In order to make equitable decisions, collectives must, first and foremost, think reflexively with attention to their desires, anxieties, and positions.

Technology is in many ways just another organism, it drinks our water, eats our land, breaths our air—and our internet embodiments are no different. And like any other living organism, it is something we must learn to sustainably coexist with, symbiotically in slow evolution, and never something to dominate and push to its breaking points at all times. As I wander off into whatever's next for me, I put my trust in a community of wonderfully creative and caring beings, of mixed fleshy and coded forms, who I've had the pleasure to get to know for years. I think if they can trust each other and keep each other accountable by maintaining a constant dialogue over the real consequences of the project, just as much as its fun absurdities, Lulu will be in good hands. Whatever developments await them, I know they'll be ready to meet them, just as those before me believed in my ability to do so. Kinda corny way to wrap up but you're supposed to have nice conclusions for these kinds of things even though I'm actually a very pessimistic person. Anywho, yeah TLDR nothing is actually virtual, collectivize wisely, fragment wildly, cuz I believe in y'all. But also don't fuck it up cuz I love Lulu.

l8r sk8rs

~Lulu10tacles, Max Schaffer, + a lot of people, selves, + others in-between

PART III CREATIVE WORKS

Drive Link:

<https://drive.google.com/drive/u/0/folders/1GqAd49lmS6taKWbE-G8Nwrz7H3Cv6MAD>

Course Syllabi and Class Tech

Race, Gender, and Artificial Intelligence-Syllabus (CGS-LTCS 108) Summer Session 2 (2023)

The syllabus for my course on AI. Abstract: Artificial Intelligence, or AI, has gone from a frequent phrases thrown around in Science Fiction, to a common daily term—being easily tossed around by everyone from students to tech marketers. Yet, while access to “artificial intelligence” via tools like ChatGPT and Midjourney have become more accessible than ever, the meaning of AI itself has become more and more elusive. In this course, we’ll explore the historical roots and meanings of AI in order to better understand its current position somewhere between paradigm-shifting technology and nonsense industry buzzword. In doing so, we’ll unravel a long history of radicalized and gendered subjects intimately entwined with this technological history. What beings are deemed “intelligent?” Who is most effected by the current machine-learning driven economy? Throughout this course, we’ll explore why conversations around artificial intelligence cannot be separated from critiques of race, gender, and capital, and dive into the brave new world seemingly promised by AI.

Virtual Embodiments and Digital Beings: Exploring the Boundaries of Modern Identity w/
Lulu10tacles (MUS 15) Fall 2023

The syllabus for my MUS15 course. Abstract: Over the past few decades, humans have become increasingly exposed to digital representations of themselves. From virtual avatars

in online gaming and entertainment, to face and voice filters on social media, to the ever-present Zoom self-view—digital “reflections” have become commonplace in life. And beyond this, fully realized virtual beings have claimed space in music, fashion, and culture as new pop stars, influencers, and models. While the technologies behind these beings have been developing for quite some time—the current ease-of-use and immediacy of live feedback has forced humanity to rapidly confront highly complex questions of identity and existence. In this course, we’ll explore debates over existence and embodiment and investigate the underlying perceptions and theories that influence these conversations—with a focus on race, gender, and labor. Each week we’ll explore different examples of virtual embodiment and place them in conversation with works that explore the slippery ethics of digital bodies in the modern world—hopefully gaining insight into both ourselves and the “real” world in the process.

Interactive Game Design and Performance

Lulu dance blender test (2023)

Test of Blender integration with Lulu’s mocap setup—here in the form of a short dance video. This was captured wearing my full body and face motion capture suit, with my best attempt at K-pop dance moves. I’ve been learning to use Blender for animations to record her music videos and do album art.

Lulu mocap test (2023)

Test of Lulu’s “selfie-cam” feature in Blender—mocap takes place in her room in virtual space. I created a virtual camera that Lulu can hold in her hand to capture TikTok-esque content. Here, instead of her original lair, I tried imagining what her life would be like if

she had a more normal, human, form. What would the other half of her time be like, outside the undersea lair? Her room contains all sorts of small decorations and posters to help translate her personality, including some AI generated concert posters of fictional bands she listens to in her universe.

Lulu reel (2023)

Reel used for showcasing Lulu's audio-visual work briefly. This is my main tool for translating the lulu project to folks who are curious about it, whether that be research collaborators, conferences, or potential employers. I include it here as a generally helpful overview that combined all this work into one quick video.

Music

Released Projects

garden (2023)_Saint Taint

Singer songwriter estrogen moment—mainly for the sake of learning about not only my own vocal range, but to see where, lyrically, I would go while on estrogen. Turns out the answer was: very quiet. The second of my no collaborator albums. While I love this album, because I sort of proved to myself I was capable of writing music like this, I do look back on it as a time in which I felt estrogen sort of took my fire away. That's not to say it was a bad thing, but more just to say that it feels like a very different person wrote this album.

stinkymode/Lulucore (2023)_Saint Taint + Lulu10tacles

A speedily made, webcore/dariacore influenced sample-based work that brought me back to my origins as a mashup artist. The concept was to simply make music without any concern for classification, or copyright, or sound quality—and to focus on things that just

sound huge and un-quantized. It was designed to allow me to actually find joy in my work, which I'd lost track of, frankly. This ended up being the impetus for the final sound of *Braids*, which samples this album heavily. It was primarily made as I went off of estrogen. The energy on this album is something I hadn't felt since starting the Lulu project—it has a chaos to it that has generally resonated with the kinds of folks I intended it for.

[Singles + Remixes]

*2am (Saint Taint Remix)*_Lukas Ehlers + Guy LaBorde (2023)

Remix of some of my former students and current collaborators' track, 2am. Guy is featured on the forthcoming album *Braids* and I'm working with Lukas on some projects as well. It makes me very happy that I get to continue to work with some of my former students.

Unreleased Projects

2hot2tired (2023)_Saint Taint

The concept behind this work is to be as straight-to-the-point as possible in terms of songwriting—with a focus on pure vibes and clipped out drums. It utilizes some webcore aesthetics, but drives it more into a hip hop and club space—with a focus on features. Mavi Veloso is on this, Djor returns again, as well as Oh Nothing (from Flesh Produce) and Donormaal will be on here as well. The aesthetic is basically clipping, but that oversimplifies it a tad. I wanted sounds that would sound equally massive at a club as they would on iPhone speakers, so all the sounds were developed to punch extremely hard in the mix, with intention to strategically distort elements without becoming a lo-fi or crushed album.

braids (2023)_Saint Taint

The next project to be released—this album was actually started in 2020, but only just finished this year. Features play a critical role on each track, and pushed the project further than I could have imagined. The defining feature of this project to me is it's essentially mashup-like development period using the tracks from Lulucore WIPS. By slamming these projects together, it aims to pull from webcore/dariacore aesthetics while finding a way to highlight the most delicate sounds right alongside the most blown out and intense ones.

Whenever I thought the album was crazy, I made it crazier.

catgirl (2023)_Saint Taint

This album is being written at the same time as 2hot2tired—this being the more compositionally lush and cleaner sounding work, with a lot of influence from Japanese anime soundtracks focused on cinematic sounds. There's a sort of classic emotionality in these big dramatic styles of music that I find really powerful, and the goal for this album was to slam those together with extremely not cinematic lyrics and themes—thus me mainly just singing about wearing cat ears and cat tail anal plugs and things. The relationship between catgirls and trans girl is a very deep one online, one that merits an entire other dissertation, and its what I'm aiming at on this album.

[Singles + Remixes]

untitled lonelygirl15 collaborative EP (2023)_Saint Taint + lonelygirl15

Collaborative release with Lonelygirl15 (formerly of Nauticult). General angry trans girl music. Lonelygirl is one of my favorite people to work with because she appreciates humor as much as I do, and writes truly insane lyrics. These songs are mostly commentaries looking inwards on the trans and queer community, rather than facing outwards towards oppressive forces, which is the more standard topicality. Instead, we work to critique the

spaces we're in, which is what songs like "Queen" are about. If you don't pay attention to the lyrics, it's a fun club song, but if you pay attention its basically an indictment of the hook itself. The same goes for a lot of the other tracks, discussing a loss of apparent power in the mainstream shift of so much queer culture. This is not to put ourselves above it, but simply to push back against what I see as yet another uncomfortable neoliberal moment in music and aesthetics.

untitled OHFENFEN collaborative EP (2023)_OHFENFEN + Saint Taint

Collaborative release with OHFENFEN (releasing on NüPL4Y 2024). Best described as "trans manic episode in the club bathroom." We signed to them recently, so this release is forthcoming. Fen and I generally just try to make the craziest music we can possibly come up with—there isn't a core theme to this aside from two trans girl collaborating. I'm extremely excited about this one, as it's taken years to find a collaborator quite as amazing as Fen.

What Just Happened: An Epilogue

I'm sitting in my apartment on a Friday afternoon editing this dissertation for final submission. I've got the day off from work at the coffee shop, and I finished my five hours of dystopian AI quality assurance rating I now do as a side gig. It is now May of 2024, more than four years after my initial writing on 100 geecs that brought me to do all this research, and I think like many people, after spending this long on a project, I am ready to be done. It's odd though, because it's not as if I'm no longer interested in the topic. Earlier today I put together a new lecture for my class on Y2K aesthetics and watched a whole hour-long review of 10,000 geecs—it's just that I'm tired of this format and this institution. In class, which I now teach fully on Twitch, my students learn from alternative formats, and they write no long essays that they will lose in some far-flung Google drive folder in a few years. What I've come to understand is that nothing quite kills one's creativity like a PhD program—and that's even when you have an incredible team of advisors around you, which I really did. But the work I've done is worth finishing, and so here I am.

Before I simply sum up what happened here, I'll provide a few more life updates, since you've gotten them throughout this document. First off—it is impossible not to acknowledge the current situation while I prepare to defend. Just a few weeks ago, UCSD called in hundreds of riot police to abuse and arrest my classmates, students, and professors—and we are now set to begin what will be my second labor strike at UCSD. As I submit this, I'm working to support my students in their own strikes and actions protesting the ongoing genocide of Palestinians and the university's use of militarized police against its own students and faculty. It is both an unbelievable way to end my time here, and also the most believable way to end it, given my experience in a UC institution. It has been a clear reminder, once again, how small this project is

in the grand scheme of what my real *work* is in academia—which has far more to do with the daily support I give than any bit of research I publish.

In other news, I'm off of estrogen, which I'm really enjoying, as wild as getting all my testosterone back was, and I'm actually quite enjoying playing with more masc aesthetics. Much like how changing my voice via Autotune and effects made me (and many of my collaborators) appreciate our unaffected voices more, this happened via my pharmacological morphing of my physical form. A world of gigantic baggy sweaters and pants are now at my disposal. My paperwork is in to do a language program in Japan starting this summer, which I'm very excited about both for my own quality of life as well as my future creative work and research, as there's so many people I'm excited to work in-person with now. Overall, my life's pretty good aside from dealing with UCSD.

Pulling myself back on track—I just want to thank you if you made it this far through such a long document. This format is tough to read, at least for me, but I did my best to keep it interesting. I suspect the future of this will be to stay in a folder forever, as I'd much prefer to put this information out there in my Lulu class format where it's a bit more digestible and fun, but we'll see. Ideally, I'll take what's here and mold it into a more publicly enjoyable format, whether that's through more interactive work, or other accessible publication. I'm currently working on an interview series with Lil Data of PC Music, the voice of MC Boing, in pursuit of this—we'll see where it goes.

What I'd like to do at the end here is just tie together a few threads before I let you go, so let's get to that. If there's only a few things to take away from this work, it would be an understanding of not only the highly personal reasons our digital forms and explorations are deserving of care, attention, and critique, but also the vast webs of social systems they can allow

us to better understand. In a world where our ways of thinking are irreversibly entangled in the logics of the internet, and our ecological futures are intimately tied to our relationship with online technologies, there should be no doubt of the importance of checking in on ourselves in the virtual mirror time and again. Our histories of visual and sonic embodiment in digital space need to be constantly in a state of debate, always ready to be re-oriented to reflect not simply accurate, but futuristic ancestry. By this I mean that who we choose to call our elders also reflect who we want our descendants to become. To argue for the “originator” of the modern hyperpop vocal, for example, is not simply an exercise in historical accuracy, but more so in historical curation. To enact a history as fact can be in itself an act of futurism, and this document, just like my courses, aims to be a work of transfuturism—an artistic shaping of historical narrative designed to empower. Big words for a shitposter, but I stand by them.

The thing is, I’m almost thirty now, and most of the culture I write about is stuff that twelve-year-olds listen to while they play Fortnite. I love that, and I hope that’s always the kind of stuff I’m interested in—as Anthony Fantano said recently in a video about his own struggle with this: it’s sad that any person would think getting older means stopping having fun. And while I agree with Fantano’s own feelings that his age doesn’t limit him because he remains in constant discourse with young people, I do tend to feel that it’s harder for me to really speak with the same level of intensity and passion now that the core of my work doesn’t feel that core to me anymore. In other words, in 2019, when 100 geecs was brand new and my “egg” was beginning to crack, I felt like an on-the-ground expert on what I was writing about. Nobody else was talking about it in “official” channels, and I was experiencing things firsthand as a young person. I encourage my students to put their ideas out there whether via TikToks or YouTube videos or their own personal blogs, and I try to only teach them with material written or produced by other

undergrads to land this point. I do this because, as I tell them, they are the foremost experts on their own culture—I am not. And again, like Fantano, this will not stop me from engaging, and like Professor Skye, it will not excuse me from having to push myself to appreciate new art, but it does mean that I am slowly shifting away from that position of being in-the-know.

This may sound bizarre as a 29-year-old, a relative baby in the grand scheme of things, but in an industry dominated by artists under the age of 20, popular music is a cultural apparatus not meant to be centered around older folks. And so, in four years or so from starting to finishing this document, I’ve essentially experienced being in the final years of a youth scene—which is part of what has made this process so difficult for me. But I spent half that time on the internet, and the other half trying to finish a PhD while paying rent in San Diego—which by the way just cracked the number one spot on multiple “least affordable cities in America” lists (Menezes and Schmiedeberg 2023). And while I did learn a lot from working with my advisors, other grad students, and most of all my own undergraduate students, I haven’t had that much time to actually be out there making music and experiencing things. So that’s what I’ll be doing after this, just making art and living my life—I’ll let the next generation of Gen Z theorists take it from here.

Miles Luce, who did gec-theory better than me, OliSUNvia, who is the only reason I understand meta-irony, my incredible TA and Twitch mod, Alissa Liu, who’s the only person I’d even dream of handing Lulu’s course off to, my students who keeps sharing cracked software on our Discord, and all the teenagers going crazy in the Underscores pit—I teach, write, and speak what I learn from them. So, if any of them ever read this dissertation, I hope it, at the very least, makes them feel noticed and appreciated because, when folks like Miles cite me, or email me to ask me about a blog post from 2019, it gives me the energy to keep doing what I do, it tells me

what I'm doing actually matters to the kinds of people I want it to matter to. When a student emails me to take the class because they are a "chronically online trans girl" and see themselves reflected in the work, it means that I'm doing something beyond just writing a PDF to show to my mom before I throw it in the bin.

When I make music, I do it collaboratively, and all my favorite research was done the same way. Just last week, I began a conversation series with Jack Armitage, aka Lil Data and MC Boing, one of the original PC Music collective members, and was reminded what it meant to do my written research like I do my art—something that takes place when I'm just out in the world having conversations. I'm excited to move forward and take my research skills back into the public sphere, doing what I originally came here to do, but lost sight of in the way that grad school, and especially music school (as Jack said to me as well), tends to do.

As Jack and I commiserated over sneezing and throwing our necks out as aging young people do, we both considered the difficulty of having one foot in academia and the other in music culture—two different worlds that have no business being so separated. As we age, we find that relationship even more complex to navigate as we grow and change as people in both worlds. Joe Coscarelli, in conversation with John Caramanica, once stated that "music is for young people...I'm aging out... old people can consume music, but its to make them feel young" before Caramanica walked out and said "fuck that." Similarly, Professor Skye said that if "old" people and liked 1000 geecs, their first album, but not 10000 geecs, their second album, they don't actually like the music of young folks, you just like that the first album shocked you and made you feel young again. I can't get this out of my head. What does it mean to truly appreciate a music that you inherently cannot fully relate to outside of the lens of nostalgia, to some degree? It's not a problem, as everyone gets to enjoy music in their own way, but if almost every music

“scholar” and “critic” is older than me, with the exception of some journalists, what exactly am I even doing writing about 100 geecs in 2024?

I don’t think I have an answer, but I know that when I was younger, I needed scholars to help me out by validating these topics in larger cultural spaces so that I could pursue them and thrive—so that’s what I’ll aim to do here, and going forward, in my research practice. Back when I first started this work, and still to this day, the most potent culture of young people is still relegated to the label of “internet culture.” It is talked down on as lacking seriousness in a way that only empowers it, and due to this perceived lack of seriousness that allows for its subcultural and subversive power, it has remained the dominant form of aesthetic and cultural development for as long as I can remember. I sincerely wish I could attribute this quote, because I think about it almost every day, but I have no idea where I heard it. Maybe it was Laura Les, or John Caramanica, or Michael Waugh, or a 12-year-old on TikTok—it doesn’t matter, because any of them could have said it. But it goes something like this: “I don’t know why we call it ‘internet culture’ when it’s just culture.” Internet culture is culture itself now—it is not some separate entity, it is the entity. The internet is, undoubtedly, for young people, and I’ll leave it up to them to take it from here.

Works Cited

- Alcindor, Latashá. 2021. "The Many Multitudes of Niall Ashley." *Zora*. October 5, 2021.
<https://zine.zora.co/the-many-multitudes-of-niall-ashley>.
- @alice_gas. 2020. *Tweet 9/21/20 1:38pm*. Twitter.
https://twitter.com/alice_gas/status/1308143575784448004?s=21.
- Allison, Anne. 2006. *Millennial Monsters: Japanese Toys and the Global Imagination*. Place of publication not identified: University of California Press.
- Allyn, Bobby. 2022. "Deepfake Video of Zelenskyy Could Be 'tip of the Iceberg' in Info War, Experts Warn." *NPR*, March 16, 2022, sec. Technology.
<https://www.npr.org/2022/03/16/1087062648/deepfake-video-zelenskyy-experts-war-manipulation-ukraine-russia>.
- Anno, Hideaki, dir. 2019. *Neon Genesis Evangelion*. Netflix.
- arca1000000. 2021. *Post: 11/18/2021*. Instagram.
https://www.instagram.com/tv/CWbC84qADz-/?utm_medium=copy_link.
- Arte TRACKS, dir. 2018. *SOPHIE: The Producer Taking Pop to the Future (English Version / Interview)* | Arte TRACKS. <https://www.youtube.com/watch?v=2ifh0tDrwBA>.
- Arte TRACKS, dir. 2020. *How PC Music Defined a New Kind of Pop (Interview A. G. Cook, SOPHIE, Charli XCX)* | Arte TRACKS.
<https://www.youtube.com/watch?v=INSugJy1BBw>.
- Bellis, Mary. 2019. "Who Invented Auto-Tune?" ThoughtCo. October 24, 2019.
<https://www.thoughtco.com/who-invented-auto-tune-1991230>.
- Boellstorff, Tom. 2015. *Coming of Age in Second Life*. Princeton University Press.
<https://press.princeton.edu/books/paperback/9780691168340/coming-of-age-in-second->

life.

Britt, King. 2020. "Detroit Techno - Blacktronica." Lecture, UCSD-Zoom, October 28.

bugshitbistro. 2022. *I Don't Read Theory I'm Hot*. Instagram.

Cahlan, Sarah. 2020. "How Misinformation Helped Spark an Attempted Coup in Gabon."

Washington Post, February 13, 2020.

<https://www.washingtonpost.com/politics/2020/02/13/how-sick-president-suspect-video-helped-sparked-an-attempted-coup-gabon/>.

Cárdenas, Micha. n.d. "Trans of Color Poetics: Stitching Bodies, Concepts, and Algorithms."

S&F Online. Accessed December 6, 2021. <https://sfonline.barnard.edu/traversing-technologies/micha-cardenas-trans-of-color-poetics-stitching-bodies-concepts-and-algorithms/>.

Chess, Shira, dir. 2021. *Exceeding the Gendered Boundaries of Play*. Zoom Lecture. Killscreen.

<https://killscreen.com/product/talk-exceeding-the-gendered-boundaries-of-play/>.

CODEMIKO best clips, dir. 2021. *Code Miko Explains How "Codemiko" Works... Then Things*

Get Fun. <https://www.youtube.com/watch?v=GaZByAiBdz4>.

Cohen, Jeffrey Jerome. 1996. *Monster Theory: Reading Culture*. NED-New edition. University

of Minnesota Press. <https://www.jstor.org/stable/10.5749/j.ctttsq4d>.

Crenshaw, Kimberle. 1991. "Mapping the Margins: Intersectionality, Identity Politics, and

Violence against Women of Color." *Stanford Law Review* 43 (6): 1241–99.

<https://doi.org/10.2307/1229039>.

cruel_____moons. 2021. *Post 11/18/21*. Instagram.

https://www.instagram.com/p/CWcXRnnMmr0/?utm_medium=copy_link.

Cuboniks, Laboria. n.d. "Xenofeminism: A Politics for Alienation | Laboria Cuboniks."

- Accessed December 5, 2021. <https://laboriacuboniks.net/manifesto/xenofeminism-a-politics-for-alienation/>.
- Curtis, Pavel. 1998. "MUDDing: Social Phenomena in Text-Based Virtual Realities." *Intertek* 3 (February).
- https://www.researchgate.net/publication/2763495_MUDDing_Social_Phenomena_in_Text-Based_Virtual_Realities.
- Double Fine. 2021. "Psychonauts 2." PC.
- Eddy Entropy. 2021. *Post 2/28/21*. Instagram.
- <https://www.instagram.com/p/CL1tnS6nxpz/?igshid=gn1vzv37nlv7>.
- Eidsheim, Nina Sun. 2019. *The Race of Sound: Listening, Timbre, and Vocality in African American Music*. Refiguring American Music. Duke University Press.
- <https://www.dukeupress.edu/the-race-of-sound>.
- Gamson, Joshua. 1995. "Must Identity Movements Self-Destruct? A Queer Dilemma." *Social Problems (Berkeley, Calif.)* 42 (3): 390–407.
- <https://doi.org/10.1525/sp.1995.42.3.03x0104z>.
- Geffen, Sasha. 2020. "Madame Butterfly: Sasha Geffen on Arca's KiCk i." *Artforum*. June 25, 2020. <https://www.artforum.com/music/sasha-geffen-on-arca%E2%80%99s-kicki-83408>.
- Griffiths, James. 2018. "Can K-Pop Stars Have Personal Lives? Their Labels Aren't so Sure." CNN. September 22, 2018. <https://www.cnn.com/2018/09/21/entertainment/kpop-dating-hyuna-edawn-music-celebrity-intl/index.html>.
- Haraway, Donna. 1991. "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century." *Simians, Cyborgs and Women: The Reinvention of Nature*, March, 149–81.

- Hayles, N. Katherine. 1999. *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*. Chicago, IL: University of Chicago Press.
<https://press.uchicago.edu/ucp/books/book/chicago/H/bo3769963.html>.
- Helman, Peter. 2015. “Grimes Thinks SOPHIE’s Name Is ‘Fucked Up.’” November 2, 2015.
<https://www.stereogum.com/1841646/grimes-thinks-sophie-is-fucked-up/news/>.
- Herndon, Holly. 2021. “Holly+   □ — Mirror.” July 13, 2021.
<https://holly.mirror.xyz/54ds2IiOnvthjGFkokFCoaI4EabytH9xjAYy1irHy94>.
- Hoad, Catherine. 2018. “‘He Can Be Whatever You Want Him to Be’: Identity and Intimacy in the Masked Performance of Ghost.” *Popular Music* 37 (2): 175–92.
<https://doi.org/10.1017/S0261143018000028>.
- Holly Herndon, dir. 2020. *Interdependence 3: Holly Herndon and Mat Dryhurst Speak with Trevor McFedries (Brud / Lil Miquela)*. https://www.youtube.com/watch?v=cl-ONH_ws4M&ab_channel=HollyHerndon.
- Herndon, Holly. 2021. “Tweet 11/4/21.” Tweet. @hollyherndon (blog). November 4, 2021.
<https://twitter.com/hollyherndon/status/1456380565784088581>.
- Houser, Kristin. 2022. “Bruce Willis Sells His Likeness for a Deepfake Ad.” *Freethink* (blog). October 2, 2022. <https://www.freethink.com/technology/deepfake-bruce-willis>.
- Howard, Yetta. 2017. “The Queerness of Industrial Music.” *Social Text* 35 (4): 33–51.
<https://doi.org/10.1215/01642472-4223381>.
- Hu, Cherie. 2020. “Meet the Architects of Music’s New Avatar Economy - Water & Music.” May 12, 2020. <https://www.waterandmusic.com/meet-the-architects-of-musics-new-avatar-economy/>.
- Jonze, Tim. 2014. “Perfume Genius Interview – ‘Sometimes I Wanna Rip Everything Apart.’”

- The Guardian. September 19, 2014.
<http://www.theguardian.com/music/2014/sep/19/perfume-genius-interview-sometimes-i-wanna-rip-everything-apart>.
- Kember, Sarah, and Joanna Zylinska. 2012. *Life after New Media: Mediation as a Vital Process*. Cambridge, MA, USA: MIT Press.
- Kheshti, R. 2019. *Wendy Carlos's Switched-On Bach*. 33 1/3. Bloomsbury Academic.
<https://books.google.com/books?id=YyjRtAEACAAJ>.
- Koch-Rein, Anson. 2014. "Monster." *Transgender Studies Quarterly*, Posposttranssexual, 1 (1–2): 134–35.
- Kolbeins, Graham, Vivienne Sato, Gengoroh Tagame, and Atsushi Matsuda, dirs. 2021. *Queer Japan*. Videorecording (Blu-Ray). Los Angeles, CA: Altered Innocence.
- Kon, Satoshi, Satoki Toyoda, and Yasutaka Tsutsui, dirs. 2006. *Paprika*. New York, NY: Sony Pictures Classics.
- lilperc666. 2021. *Post 10/21/21*. Instagram.
https://www.instagram.com/p/CVT9gDcs3R4/?utm_medium=copy_link.
- Luce, Miles. 2021. "The "Gec-Effect": How 100 Gecs Renders Genre and Gender Absurd." *Zenith! Undergraduate Research Journal for the Humanities* 5 (1).
<https://doi.org/10.17161/zenith.v5i1.15564>.
- Mangione, Ryan. 2021. "November: McKenzie Wark." *November: McKenzie Wark*. 2021.
<https://novembermag.com/content/mckenzie-wark>.
- Mitra, Barbara, and Paul Golz. 2015. "Virtually a Girl: Gender Identification in Second Life." *Behaviour & Information Technology*, November. <https://eprints.worc.ac.uk/4045/>.
- Morrison, Matthew D. 2019. "Race, Blacksound, and the (Re)Making of Musicological

- Discourse.” *Journal of the American Musicological Society* 72 (3): 781–823.
<https://doi.org/10.1525/jams.2019.72.3.781>.
- Nkiru, Jenn, dir. 2020. *Black to Techno*. <https://vimeo.com/389428918>.
- Pacha Queer. 2019. “[MONSTRA CABARET] - ‘Among Democracies and Other Misconceptions’-.” 2019. <https://hemisphericinstitute.org/en/encuentro-2019-trasnocheo/item/2839-trasnocheo-012.html>.
- Patel, Puja. 2020. “100 Geecs and the Mystery of Hyperpop.” Pitchfork. October 9, 2020.
<https://pitchfork.com/features/podcast/100-geecs-and-the-mystery-of-hyperpop/>.
- Peterson, Dale. 1983. *Genesis II, Creation and Recreation with Computers*. Reston Publishing Company.
- Polygon, dir. 2014. *Is Hatsune Miku a Better Pop Star than Justin Bieber? | Today I Learned*.
https://www.youtube.com/watch?v=8Kb_WBChA5U&ab_channel=Polygon.
- Roth, Robert. 2019. “The Uninhibited Queerness of Saint Taint.” *Queerspace Magazine* (blog). July 2019. <https://queerspacemagazine.com/the-uninhibited-queerness-of-saint-taint/>.
- Russell, Legacy. 2020. *Glitch Feminism : A Manifesto*. London: Verso.
- sapphicslurmemes. 2021. *Post 11/4/21*. Instagram.
https://www.instagram.com/p/CV4ICDpDjGn/?utm_medium=copy_link.
- Sashimi / Hololive & VTuber Clips, dir. 2021. *Calli’s Job BEFORE She Became a VTUBER 【Mori Calliope / HololiveEN】*. https://www.youtube.com/watch?v=rMZ-rf1aBF4&ab_channel=Sashimi%2FHololive%26VTuberClips.
- Schaffer, Max. 2019. “xxxFreePornxxx.” Harvard Digital History (Hist 1993). 2019.
<https://hist1993-19.omeka.fas.harvard.edu/exhibits/show/freeporn>.
- Schaffer, Max. 2019. “Modulation & the Chaos-Trans Voice.” Max Schaffer. December 9, 2019.

- <https://maxmadethat.com/publishing/transvocalmodulation>.
- Schroeder, R. 1997. "Networked Worlds: Social Aspects of Multi-User Virtual Reality Technology." *Sociological Research Online* 2 (4): 89–99.
<https://doi.org/10.5153/sro.291>.
- Shaver, Helen, dir. 2020. "Meet Me in Daegu." *Lovecraft Country*. HBO.
- Snorton, C. Riley. 2017. *Black on Both Sides*. University of Minnesota Press.
<https://doi.org/10.5749/j.ctt1pwt7dz>.
- Sound Field, dir. 2020. *Noise and Experimental Music Is For Everyone (Feat. Dreamcrusher)*. PBS. <https://www.youtube.com/watch?v=khsmqy76PnY>.
- spotifyads, dir. 2021. *Select, Start, Play: How to Reach the Gaming Community on Spotify*.
<https://www.youtube.com/watch?v=Tn4WpXs7u88>.
- Sterling, Bruce. 2010. "The Second Life Real-Estate Bubble Is Holding Just Fine, Thanks." *Wired*, March 8, 2010. <https://www.wired.com/2010/03/the-second-life-real-estate-bubble-is-holding-just-fine-thanks/>.
- Stryker, Susan. 1994. "My Words to Victor Frankenstein Above the Village of Chamounix: Performing Transgender Rage." *GLQ: A Journal of Lesbian and Gay Studies* 1 (3): 237–54.
<https://doi.org/10.1215/10642684-1-3-237>.
- Valentine, David. 2007. *Imagining Transgender*. Duke University Press.
<https://doi.org/10.2307/j.ctv125jv36>.
- VintageCG, dir. 2011. *VODER (1939) - Early Speech Synthesizer*.
<https://www.youtube.com/watch?v=0rAyrmm7vv0>.
- "Vtuber Ash_on_Lol Exposes 4chan Stalker's Creepy Plans to 'Find Her.'" 2021. Dexerto. April 16, 2021. https://www.dexerto.com/entertainment/vtuber-ash_on_lol-exposes-4chan-

stalkers-creepy-plans-to-find-her-1555486/.

Wark, McKenzie. 2007. *Gamer Theory*. Cambridge, MA: Harvard University Press.

Watanabe, Shinichirō, Masahiko Minami, Kazuhiko. Ikeguchi, and Hajime. Yodate, dirs. 1999.

Cowboy Bebop. カウボーイ ビバップ. Cypress, Calif: AnimeVillage.com.

Waugh, Michael. 2017. “‘My Laptop Is an Extension of My Memory and Self’: Post-Internet Identity, Virtual Intimacy and Digital Queering in Online Popular Music.” *Popular Music* 36 (2): 233–51. <https://doi.org/10.1017/S0261143017000083>.

Waugh, Michael. 2020. “‘Every Time I Dress Myself, It Go Motherfuckin’ Viral’: Post-Verbal Flows and Memetic Hype in Young Thug’s Mumble Rap.” *Popular Music* 39 (2): 208–32. <https://doi.org/10.1017/S026114302000015X>.

Yamada, Keisuke. 2017. “Thoughts on Convergence and Divergence in Vocaloid Culture (and Beyond).” *Ethnomusicology Review*. February 27, 2017. <https://ethnomusicologyreview.ucla.edu/content/thoughts-convergence-and-divergence-vocaloid-culture-and-beyond>.

Yin, Yiyi. 2018. “Vocaloid in China: Cosmopolitan Music, Cultural Expression, and Multilayer Identity.” *Global Media and China* 3 (1): 51–66. <https://doi.org/10.1177/2059436418778600>.

Yoon, Kyong. 2023. “Translational Audiences in the Age of Transnational K-Pop.” *International Journal of Communication* 17 (January): 112–29.