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Zoom Affects: Discipline, Dislocation, and Digital Surveillance During COVID-19 Remote Learning

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Abstract:

This essay explores how high school and college students experienced a proliferation of surveillance during the COVID-19 pandemic's shift to remote learning technologies. In this project, I seek to understand the different kinds of gazes that surveilled students during the pandemic and how digital technologies mediated affective experiences of surveillance. Through interviews with thirty Yale College students, this essay coheres insights into the felt and embodied textures of remote-learning via digital technology. I trace the ways that remote learning exposed vulnerable students to normative forces and the "Zoom Gaze", as well as the ways students attempted to resist these forces through subversive opacities. Understanding these relations as interwoven rather than dialectical, I theorize an affective structure of immanence, identify Zoom experiences as "sticky", and explore what it means to apprehend oneself in the world amid such fracture and heaviness. By attending to student voices and experiences, I examine how power, feelings, and technology intersect in times of crisis and suggest how we might otherwise reimagine our response.

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Acknowledgements

I completed this project on Quinnipiac land and unceded Whadjuk Noongar boodjar, and therefore acknowledge the sovereign Native, Indigenous, and First Nations communities on whose lands and waters I live. As a settler of color, naming my relationship to Land is one way to make visible the structures of settler colonialism in which I participate, and a means of accountability as I aim toward anticolonial ways of living. As a student at Yale University, an institution with racist, eugenic, and settler histories, I am complicit in its occupation of the land of Algonquian-speaking peoples as well as Abenaki, Mohegan, and Nipmuc Territories.[1] But as Theresa Stewart-Ambo and K. Wayne Yang remind us, it is not enough to simply acknowledge Indigenous territories, for acknowledgement must come with a materialization of responsibility.[2] We must organize against the University's polluting and wealth-hoarding practices, read Indigenous critiques, support calls for justice for missing and murdered Indigenous women, support efforts to repatriate Indigenous land and life, and take open accountability.

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[1] K McCleary and Leah Tamar Shrestinian, "Entangled Pasts, Collaborative Futures: Reimagining Indigenous North American Art at Yale," in Place, Nations, Generations, Beings: 200 Years of Indigenous North American Art (Yale University Art Gallery, 2019).

[2] Theresa Stewart-Ambo and K. Wayne Yang, "Beyond Land Acknowledgment in Settler Institutions," *Social Text* 39, no. 1 (2021): 21–46.

Introduction

When reading articles, books, or even emails at home, I often like to repeat phrases out loud to think through what they mean. This is not a practice I have ever thought twice about. Yet, during the first year of the COVID-19 pandemic, I witnessed a high school student's tearful TikTok go viral after she was penalized by the automated proctoring software ProctorU. ProctorU 'failed' her for reading a question out loud in the privacy of her room—something neither she, nor I, would ever expect to be categorized as a 'suspicious' behavior.[3] On Twitter, another student shared the difficulties they endured when a similar automated proctoring software, ExamSoft, failed to recognize their face.[4] The student wondered whether it might be due to racism embedded in the software, a reasonable speculation given the history of racism and other forms of discrimination often present in machine-learning systems, including in facial-recognition algorithms.[5] These stories began to cascade online as other students came forward about the ways new forms of technological surveillance had caught them off guard, creating stressful and damaging situations for their education, their grades, and their mental health.

This phenomenon constituted part of a shift to virtual learning during the COVID-19 pandemic. The rapid adoption of these digital technologies built on, and arguably accelerated, a 'technological turn' in education that had previously embraced the sparkly promises of ed-tech

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[3] Margot Harris, "A Student Says Test Proctoring AI Flagged Her as Cheating When She Read a Question out Loud," Insider, accessed September 26, 2022.

[4] Alivardi Khan [@uhreeb], "The @ExamSoft Software Can't 'Recognize' Me Due to 'Poor Lighting' Even Though I'm Sitting in a Well Lit Room. Starting to Think It Has Nothing to Do with Lighting. Pretty Sure We All Predicted Their Facial Recognition Software Wouldn't Work for People of Color. @DiplomaPriv4All," Tweet, *Twitter*, September 8, 2020.

[5] Many scholars have written about algorithmic racism and other forms of unjust algorithms. See: Safiya Umoja Noble, *Algorithms of Oppression* (NYU Press, 2018); Morgan Klaus Scheuerman et al., "How We've Taught Algorithms to See Identity," *Proceedings of the ACM on Human-Computer Interaction* 4, no. CSCW1 (May 28, 2020): 1–35.

innovation mediated through data, algorithms, and machine learning.[6] Accompanying this move toward virtual learning were new tools of assessment and examination at the university high school and college level. The question of exam proctoring—since students were learning remotely and could not be supervised in a single room—demanded new technical solutions. Schools and universities thus began a wide-scale adoption of software like ProctorU, Examity, ExamSoft, Review+, and Examplify. These software deploy 'anti-cheating' technologies: for instance, collecting biometric data such as facial recognition and fingerprints to verify students' identity, and using a combination of live proctors, machine-learning, and automated eye-tracking software to detect and flag "behaviors synonymous with cheating" caught on camera.[7]

This accelerated technological turn demands further research into the unfolding impact of digital surveillance in remote-learning educational settings, particularly in relation to the affective qualities of student experiences.[8] In a 2022 address, the Deputy Director for Science and Society at the White House, Dr. Alondra Nelson, pointed to "students erroneously accused of cheating by AI-enabled video surveillance" as an example of pressing technological discrimination.[9] As evidenced by students' experiences with ProctorU and ExamSoft, encounters with educational surveillance technologies can cause powerful emotional reactions in high-stakes situations.

The urgency of this research also stems from my own experience as a student who experienced a range of surveillance technologies that left me feeling isolated and disconnected

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[6] Kenneth J. Saltman, "Artificial Intelligence and the Technological Turn of Public Education Privatization," *London Review of Education*, July 21, 2020; Ben Williamson, "Education Technology Seizes a Pandemic Opening," *Current History* 120, no. 822 (January 1, 2021): 15–20.

[7] Justine Hofherr, "How Examity Prevents Students From Cheating During Online Exams," Built in Boston, March 27, 2018.

[8] By "affective", I am referring to the atmospheric structurings of relational forces that orient us toward others and produce certain feelings.

[9] Alondra Nelson, "Justice in Science", Keynote Address, World Science Forum, December 9, 2022. Many thanks to Elaina Foley for sharing this with me!

from my educational experience. In the summer of 2022, I took a mathematics exam remotely. Although I was not required to use automated proctoring software, I had to keep my Zoom camera on and facing my room during the online exam. As part of Yale's Summer Session policy, it was forbidden to have the "blur background" feature enabled during an exam. This meant that my bedroom was in full view of everyone in the Zoom room, as well as two outsourced proctors I had never met before. I was conscious of my every move, worried that a distracted glance to the side or a dissociative stare into the distance would set off alarms. I was deeply aware that my bedroom, beyond simply a private space, broadcast key aspects of my background (including a trans flag and a poster that read "protect trans youth"). I had no idea what my proctors thought of this or whether it might subconsciously color their judgment of my behavior. Because I could see myself reflected in the Zoom meeting, I also felt a kind of double-gaze that effected self-surveillance—what Autumm Caines has called the "Zoom gaze".[10] I was constantly adjusting my own behavior in response to seeing my reflection in the Zoom meeting; I was acutely aware that I was under surveillance—in a way, I was forced to adopt the same gaze as that of my proctors. I have felt the "Zoom gaze" in all kinds of virtual meetings during the COVID-19 pandemic, but the stakes of this exam and the associated disciplinary surveillance I was under heightened the pressure and stress of performing for my and the proctors' Zoom gaze.

The stress and discomfort I felt during my exam point to something amiss with the realities of technological surveillance in the U.S. education system. Surveillance mediated through technology has unlocked new, sometimes foreboding, possibilities. I often hear stories of fear and distress from classmates talking about their own experiences, particularly in relation to taking exams. I have also seen instances where remote proctoring software has gone awry or

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[10] Autumm Caines, "The Zoom Gaze," Real Life, December 7, 2020, https://reallifemag.com/the-zoom-gaze.

grimly fulfilled its punitive purposes. In the early stages of this project, I briefly described its premise to others in my class. Many students eagerly offered their own stories and experiences of technologically-mediated surveillance during the pandemic. This is not a niche problem. At stake is not only student wellness, comfort, and learning quality, but also the maintenance of trust between students and teachers. The feeling or knowledge of surveillance can induce feelings of fear, guilt, and wrongdoing—regardless of what has or has not been done. Layering automation or digitization onto surveillance adds yet another quality of (in)humanity, abstracting the personal relationship between surveillant and surveilled. The experience of not knowing who is watching you and how you are being judged might make a student feel small even as this technology's proponents might claim it increases both efficiency and objectivity: these are just some of the reasons it is urgent to examine how students have experienced surveillance under this technological turn.

My essay takes up this pressing issue to explore the ways that high school and college students experienced surveillance during the COVID-19 pandemic's shift to remote learning technologies. In this project, I seek to understand the different kinds of gazes that surveilled students during the pandemic, the role of technology in mediating these gazes, the affective impact of these gazes, and how technologies facilitated an increase and decrease in surveillance of high school and college students. By moving toward feelings, emotions, and consciousness as my sources for this history of pandemic education, I take up Megan Boler's argument that "within education...emotions are a site of social control" in order to examine the relationships between surveillance and affect during remote learning.[11] In this essay, I first review the literature that informed me as I began this project. In "Part I: Scopic Vulnerabilities", I draw upon student interviews to contour the ways that remote learning exposed students to powerful forms of

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[11] Megan Boler, *Feeling Power: Emotions and Education* (Routledge, 1999).

surveillance and normative forces, as well as the uneven ways these harms were distributed. I then invert my analytical gaze, tracing how students resisted or subverted these forces in "Part II: Subversive Opacity". Understanding these two relations as interwoven rather than dialectical, I take up questions about what it means to apprehend oneself in the world amid such fracture and heaviness in "Part III: The Immanence of Zoom". I end my essay in "Part IV: Methods for Pandemic Learning Otherwise" not with a definitive conclusion but rather by speculating toward an otherwise. What connects these sections is my belief that by attending to student voices and experiences, we can better understand how power, feelings, and technology intersect in times of crisis, and reimagine our relationships to technology and to each other.

In investigating these questions, I do not seek to make universal claims about a causal relationship between the shift to digital learning technologies and experiences of surveillance. Rather, by considering the experiences of thirty college students, this essay coheres insights into the complex issues and affective qualities of remote-learning and digital technologies. By focusing on free-flowing student stories, including thick description and attention to affect and phenomenology, the project seeks to render insights that might otherwise be missed in empirical or quantitative, Likert-scale research studies. Equally, though, as John Jackson Jr. reminds us, while "thick description" promises "nuance" or "hidden detail", this favorite tool of anthropologists often "denotes an attempt at—an ambition for—rich, rigorous, and even *full* social knowing."[12] In this essay, I highlight student experiences and draw thematic through-lines where possible, while understanding this project as "partial, locatable [and] critical" rather than a totalizing act of "seeing everything from nowhere".[13] Where relevant, I situate these stories in

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[12] John L. Jackson Jr, *Thin Description: Ethnography and the African Hebrew Israelites of Jerusalem* (Harvard University Press, 2013).

[13] Donna Haraway, "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," *Feminist Studies* 14, no. 3 (1988): 575–99.

conversation with broader contemporary issues of ableism, racism, and other forms of disparity in educational spaces. I do not attempt to make a determination on whether digital remote learning technologies are "good" or "bad". The aim of this project is to act as an initial intervention into a relatively sparse body of scholarship. It is my hope that this project invites continued and iterative research from others across multiple sites and perspectives.

Literature Review

A variety of disciplinary approaches have already been deployed to examine remote learning technology, with a particular focus on remote proctoring and online exams. Most studies that deal with these topics use quantitative surveys and statistical analyses to measure the impact of remote-learning technologies, including whether remotely proctoring affect students' exam results,[14] whether students prefer e-exams,[15] and whether proctoring technologies reduce cheating or "academic dishonesty".[16] However, very few of these studies engage in a robust critique of the ethics and power dynamics embedded in these technologies beyond an acknowledgement of vague privacy concerns—even where many of these studies' results indicate possible problems. Surveying thirty-one university students with a Likert-scale survey, Serhan found that respondents felt disengaged and unmotivated on Zoom compared to "face to face" learning,[17]

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[14] Elizabeth A. Hall et al., "Changes in Academic Performance after Transitioning to Remote Proctoring: A Before-After Evaluation," *Pharmacy* 10, no. 4 (August 2022): 92; Vasiliki Andreou et al., "Remote versus On-Site Proctored Exam: Comparing Student Results in a Cross-Sectional Study," *BMC Medical Education* 21, no. 1 (December 20, 2021): 624.

[15] Lina Elsalem et al., "Remote E-Exams during Covid-19 Pandemic: A Cross-Sectional Study of Students' Preferences and Academic Dishonesty in Faculties of Medical Sciences," *Annals of Medicine and Surgery* 62 (February 1, 2021): 326–33.

[16] Michael N. Karim, Samuel E. Kaminsky, and Tara S. Behrend, "Cheating, Reactions, and Performance in Remotely Proctored Testing: An Exploratory Experimental Study," *Journal of Business and Psychology* 29, no. 4 (December 1, 2014): 555–72; Sandra Gudiño Paredes, Felipe de Jesús Jasso Peña, and Juana María de La Fuente Alcazar, "Remote Proctored Exams: Integrity Assurance in Online Education?," *Distance Education* 42, no. 2 (April 3, 2021): 200–218.

[17] Derar Serhan, "Transitioning from Face-to-Face to Remote Learning: Students' Attitudes and Perceptions of Using Zoom during COVID-19 Pandemic," *International Journal of Technology in Education and Science* 4, no. 4 (2020): 335–42.

while an online survey of 102 students conducted by Balash et al. found that "a majority of students found online exam proctoring to be privacy invasive." In psychology research, critical analyses have suggested that remote learning may engender feelings of boredom or mood changes,[18] as well as isolation, anxiety, and difficulty concentrating.[19] These studies attend to students' feelings and emotions, but because they are either quantitative or sociological in nature, they do not include the kinds of in-depth ethnographic descriptions that might help readers understand why students report feeling this way, nor do they argue that this problem is necessarily caused by the technologies themselves. In what may be the only study that mobilizes quantitative methods to rigorously critique surveillance and remote-learning technologies themselves, Burgess et al. use computer science tools to empirically evaluate "exam integrity, exam procedural fairness, and exam-taker security and privacy" in automated proctoring softwares Examplify, ILG Exam360, Exam4, and Electronic Blue Book.[20] Their modeling suggested that racial minorities are "flagged at higher rates" based on the facial recognition APIs used by these software, and that software consent mechanisms create an illusion of choice for students because their privacy policies are obfuscatory and contradict themselves in multiple places, thereby impeding students' ability to consent.

Other scholars have critiqued remote-learning technologies, but through a broad-based analysis oriented around datafication and "big tech"—for instance, examining the political economy of remote learning technologies during the pandemic. These analyses have focused on privacy ethics and the dangers of data collection. Discussing trends in the pandemic in broad

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[18] Andi Wahyu Irawan, Dwisona Dwisona, and Mardi Lestari, "Psychological Impacts of Students on Online Learning During the Pandemic COVID-19," *KONSELI : Jurnal Bimbingan Dan Konseling (E-Journal)* 7, no. 1 (May 31, 2020): 53–60.

[19] Erik Peper et al., "Avoid Zoom Fatigue, Be Present and Learn," *NeuroRegulation* 8, no. 1 (March 29, 2021): 47–47.

[20] Ben Burgess et al., "Watching the Watchers: Bias and Vulnerability in Remote Proctoring Software" (arXiv, May 6, 2022).

terms, Williamson describes the ways "the exploitation of the pandemic as a laboratory for reimagining education" led to widespread adoption of new analytical and commercial algorithms—suggesting that algorithmic monitoring "could become a form of surveillance."[21] Williamson et al. further critique the experimentalist narrative of this shift, arguing that students (as well as teachers and parents) are co-opted as "laboratory subjects" and data for ed-tech research.[22] Caines and Silverman note that fourth-party partnerships that deal with proctoring software but not schools or students introduce hidden dangers to privacy and data protection.[23] Critiques of surveillance in remote learning have also surfaced sporadically in heterogeneous fields. Considering the ethical implications of these technologies, Neil Selwyn and Chris Gilliard suggest surveillance technologies have "underpinning values" that perpetuate pedagogies of distrust and examination.[24] Comparatively, Foster writes in legal scholarship about schools that force students to turn on their Zoom webcams, arguing that this constitutes a violation of their privacy under the Family Educational Rights and Privacy Act (FERPA).[25]

The more granular descriptions and qualitative data that describe student experiences of surveillance are found not in scholarly literature but rather in journalistic sources or first-hand accounts published on social media. In an article in the Washington Post, Harwell describes the ways students turned to digital platforms to protest or complain about remote proctoring.[26] She points to Twitter accounts like "Procteario" and "ProcterrorU", student hackers, and petitions as

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[21] Williamson, "Education Technology Seizes a Pandemic Opening."
[22] Ben Williamson, Rebecca Eynon, and John Potter, "Pandemic Politics, Pedagogies and Practices: Digital Technologies and Distance Education during the Coronavirus Emergency," *Learning, Media and Technology* 45, no. 2 (April 2, 2020): 107–14.
[23] Autumm Caines and Sarah Silverman, "Back Doors, Trap Doors, and Fourth-Party Deals," *The Journal of Interactive Technology and Pedagogy,* December 10, 2021.
[24] Chris Gilliard and Neil Selwyn, "Automated Surveillance in Education," *Postdigital Science and Education*, February 28, 2022.
[25] Caroline A. Foster, "Your Home, the New Classroom: How Public-School Zoom Use Encroaches into Family Privacy," *The Journal of High Technology Law* 22, no. 1 (January 1, 2022): 131–76.
[26] Drew Harwell, "Cheating-Detection Companies Made Millions during the Pandemic. Now Students Are Fighting Back.," *Washington Post*, November 13, 2020.

forms of student activism; further, she interviews and quotes several college students' concerns at length.[27] This article, however, focuses largely on issues of automated proctoring and remote proctoring software at universities—it does not approach issues of surveillance during pandemic-era schooling more broadly. Similarly, a New York Times article and another Washington Post article both included interviews with university students who struggled to be recognized by the facial recognition systems used by proctoring companies.[28] The Verge, a technology-focused online magazine, also published several articles reviewing how online proctoring affected students' emotions,[29] in addition to being unstable and biased against Black students.[30] Ian Linkletter, a librarian at British Columbia Institute of Technology, used Twitter to highlight and critique Proctorio's features like its "Abnormal Eye Movement" and "Abnormal Head Movement" functions, analyzing its website and YouTube channel to point out ways in which this mode of surveillance could target students in ableist ways by penalizing head movements considered non-normative.[31] This analysis, oriented in principles of disability justice, is echoed in a research brief published by nonprofit Center for Democracy and Technology.[32]

Thus far, the literature described has highlighted that remote learning exacerbated experiences of surveillance—but discussions about whether remote learning technologies *decreased* the feelings of surveillance reported by students are sparse. In a qualitative study with

[27] Harwell, "Cheating-Detection."

[28] Anushka Patil and Jonah Engel Bromwich, "How It Feels When Software Watches You Take Tests," *The New York Times*, September 29, 2020, sec. Style; Drew Harwell, "Mass School Closures in the Wake of the Coronavirus Are Driving a New Wave of Student Surveillance," *Washington Post*, April 3, 2020; Nora Caplan-Bricker, "Is Online Test-Monitoring Here to Stay?," *The New Yorker*, May 27, 2021.

[29] Monica Chin, "Exam Anxiety," The Verge, April 29, 2020.

[30] Mitchell Clark, "Students of Color Are Getting Flagged to Their Teachers Because Testing Software Can't See Them," The Verge, April 9, 2021; Monica Chin, "ExamSoft's Proctoring Software Has a Face-Detection Problem," The Verge, January 6, 2021.

[31] Ian Linkletter [@Linkletter], "8:44 PM This Video from Proctorio's YouTube Channel Shows How the Abnormal Head Movement Function Works. This Is the One That Will Identify Students with Medical Conditions That Affect Their Head Movement. They Will Get a Higher Suspicion Level for It," Tweet, *Twitter*, August 25, 2020.

[32] Lydia X. Z. Brown, "How Automated Test Proctoring Software Discriminates Against Disabled Students," *Center for Democracy and Technology* (blog), accessed December 13, 2022.

mostly white teachers, Reynolds et al. focus on the ways remote-learning exacerbated learning inequalities, but offer oblique insights into the question of decreased surveillance through their attention to teacher perspectives.[33] In their article, they note how teachers struggled to maintain class attendance online and, for instance, "found it difficult to convey expectations to…students about assignments and work."[34] Reading these kinds of comments against the grain, I intuit that remote-learning restrictions may have actually diminished the modes of discipline and surveillance that teachers regularly exercise in the classroom. However, scholarship that explicitly focuses on students' perspectives of decreased surveillance during the pandemic has not yet emerged. My project addresses these patterns by using qualitative interviews, ethnographic description, and critical analysis to highlight the visceral ways that students experienced increased *and* decreased feelings of surveillance during remote learning.

Theory/methods

Susan Leigh Star's conception of the "theory-methods package" suggests that the development of a methodology should be considered in relation to theoretical perspectives and orientations.[35] When planning this project, I chose to conduct interviews because of the opportunity it offered for students to voice their opinions, feelings and stories in a free and open way. Rather than conducting an empirical or quantitative study, open-ended interviews allow participants to determine the direction of conversation and unearth unexpected points of view that reframe or re-orient my research. I did not begin this project with a clear hypothesis, looking

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[33] Rebecca Reynolds et al., "Digital Divide, Critical-, and Crisis-Informatics Perspectives on K-12 Emergency Remote Teaching during the Pandemic," *Journal of the Association for Information Science and Technology* 73, no. 12 (2022): 1665–80.

[34] Reynolds et al., "Digital Divide".

[35] Susan Leigh Star, *Regions of the Mind: Brain Research and the Quest for Scientific Certainty* (Stanford University Press, 1989).

"toward a scientific horizon" of universal facticity and provable hypotheses.[36] Instead, I chose to adopt an iterative "grounded theory" approach as I investigated 'what was going on'.[37] Situated as student researchers, this project's research term was able to invite the kinds of informal and emotive conversations with peers that an outsider or authoritative figure might not have. This also encouraged moments of ethnographic refusal to comfortably emerge. One interviewee remarked: "Going really deep here…What are you trying to get at?" I was mindful through this project of engaging research 'subjects' as participants on their own terms.

My sources comprised one-on-one interviews with thirty Yale College students, identified through a strategic sampling method with attention to diversity of race and gender. These interviews were conducted with a broader team of researchers drawn from the introductory colloquium class in Education Studies at Yale. I received an Institutional Review Board exemption to conduct these interviews, which are anonymized in the study. The interviewees selected are all over the age of eighteen and had some kind of experience or encounter with remote-learning technologies and digital surveillance that they felt interested in sharing. Twenty-two of the interviewees are first-years or sophomores who shared their experiences of remote learning during high-school. Of these students, fifteen attended public school (including magnet schools, under-resourced schools, and specialized schools) and seven attended private or charter schools. Of the other eight interviewees, seven are juniors and seniors who experienced remote learning at Yale, and one student attended community college via Zoom before transferring to Yale. Five students described their race as Black, six as East Asian or Asian, two as South Asian, one as West Asian, ten as Latinx/e or "white" Latinx, and seven as white.

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[36] Karen Fields, "What One Cannot Remember Mistakenly," *Oral History* 17, no. 1 (1989): 44–53. I owe this source to historian and anthropologist Nana Osei Quarshie's class on historical methods beyond the archive.
[37] Barney Glaser and Anselm Strauss, *The Discovery of Grounded Theory: Strategies for Qualitative Research* (New York: Routledge, 2017).

Eighteen interviewees are women, six are men, and six are nonbinary, gender nonconforming, or otherwise genderqueer. The students interviewed were invited to describe their class background, with responses ranging from low income and working class to middle class and upper-middle class, though self-perceived class status varied widely from person to person.[38] It is important to understand that this kind of categorical work is imperfect. Although this data offers one way to understand my constellation of interlocutors, numeric data is not a definitive nor stable method of knowledge production. Each demographic question in the interview offered students the opportunity to self-describe as they saw fit. I want to be mindful of the ways that population data can (re)produce systems of conquest, eugenics, racism, transphobia, and social violence. Discrete data categories are not ontological but rather imposed.[39]

In this essay, I also draw upon three years of autoethnographic data as a queer, trans, Asian-Australian settler of color at Yale during the pandemic, as well as casual conversations that I have had with others throughout this time. Because many of these encounters are centered around Yale College students, it is important to note that the findings of this project are limited and informed by the circumstances of their production. I also did not interview teachers, professors, or school administrators. Though these are important actors in educational settings, the purpose of this project is not to grapple with the politics of school administration and the ways "big tech" and capital have shaped datafication and surveillance in education. The aim of my research was not to generate impartial and comprehensive data about remote learning—what

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[38] I was amused to note the diversity of responses in interview transcripts. Responses included "low income as fuck", "relatively privileged", "prefer not to say", "poor…middle class, lower middle class", and "upper middle, low-upper...probably at this point lower-upper."

[39] Histories of how people have been rendered into (or diagnosed into) discrete systems of classification are explored at length by scholars in the history of science and medicine, Black studies, Native studies, queer and trans studies, disability studies, and science and technology studies. See: Beans Velocci, "Binary Logic: Race, Expertise, and the Persistence of Uncertainty in American Sex Research" (Doctoral Dissertation, New Haven, CT, Yale University, 2021); C. Riley Snorton, *Black on Both Sides: A Racial History of Trans Identity* (U of Minnesota Press, 2017); Simone Browne, *Dark Matters: On the Surveillance of Blackness* (Duke University Press, 2015), 55-57; Geoffrey C. Bowker and Susan Leigh Star, *Sorting Things out: Classification and Its Consequences* (MIT Press, 2000).

Donna Haraway might call a "conquering gaze from nowhere"—but rather to encourage the exchange of feelings, experiences, and stories to create greater understanding of the topic from a multitude of "partial perspectives".[40] By assembling various interviews and encounters, and reading them for themes and sticking points, I do not intend to de-situate these stories or transform these narratives into data, but instead cohere the kinds of insights that are only possible when stories and experiences are shared with one another. I therefore take up a practice of reparative reading, as Eve Kosofsky Sedgwick might say, to locate epistemic authority in my interviewees and move beyond a hermeneutic of suspicion.[41] When gathered together in conversation, the voices and experiences of thirty students produce a vivid tapestry and history of pandemic learning that reveals how surveillance, resistance, and affect structured students' lives in troubling, inspiring, and insightful ways. It is through this constellation of narratives that I argue for a collective movement toward pandemic learning otherwise.

Part I. Scopic Vulnerabilities

Students encountered a plethora of technologies during remote learning. Among the apps, software, and websites that students shared with me were Google Classroom, Google Meet, Zoom, Discord, WebEx, Hapara, Opera, Canvas, Lockdown Browser, ProctorU, and Proctorio. Some of these technologies, like Canvas, were resource platforms that allowed for the continuation of schooling during pandemic lockdowns. Some of them, like Opera and Lockdown

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[40] Haraway, "Situated Knowledges", 581.

[41] As Eve Kosofsky Sedgwick suggests, a move beyond "paranoid reading" does not necessitate turning away from "systemic oppressions", but instead enables alternative epistemological practices that comprehend such realities through different affective registers. "To read from a reparative position," Sedgwick writes, "is to surrender the knowing, anxious paranoid determination that no horror…shall ever come to the reader *as new:* to a reparatively positioned reader, it can seem realistic and necessary to experience surprise," both good and bad. Reparative reading is "no less realistic" than paranoid reading, nor is it any less invested in addressing the "project of survival." See: Eve Kosofsky Sedgwick, *Touching Feeling: Affect, Pedagogy, Performativity* (Duke University Press, 2003).

Browser, served a surveillant or proctoring purpose. Others—like Zoom—were mobilized for these and other ends. These software, working in relation with students, instructors, proctors, personal devices like computers, and other actors, formed a complex sociotechnical system that I examine in this section.[42] What characterized these sociotechnical systems for students was an experience of "scopic vulnerability" as the disciplining gaze of the classroom penetrated their home life, a place which had for so long been held as separate to their school experience.

In this section, I borrow from Ruha Benjamin's term "scopic vulnerability" as a means to index "how the act of viewing something or someone may put the object of vision at risk."[43] I examine the ways that remote learning technologies opened up new ways for students to be harmed, exposed, or rendered vulnerable under powerful and sometimes dehumanizing gazes. Technologically mediated gazes, including both video calls on Zoom and proctoring softwares like Proctorio, expanded students' scopic vulnerability and made them available to powerful kinds of affective, disciplining and, in particular, norming forces. These technological gazes trained students to perform new strictures of embodiment under duress, all the while effecting a Zoom 'double gaze' in which they were made acutely aware of their own scopic vulnerability and compelled to adopt new regimes of self-regulation. The burden of this expanded field of vision fell unevenly on different students depending on their situation. During their interviews, students expressed how class status, aspects of their family life, or disability distorted the impact of norming forms of surveillance—the erosion of privacy was felt more acutely by particular kinds of students.

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[42] Leo Marx, "Technology: The Emergence of a Hazardous Concept," *Technology and Culture* 51, no. 3 (2010): 561–77.
[43] Benjamin, *Race After Technology,* 65.

Proctored Panopticon

When Pablo saw his professor's email, his stomach dropped. The email was addressed to Pablo's entire class and conveyed a worrying message. The midterm exam that they had just completed online had been reviewed, the professor wrote, and automated proctoring software had detected suspicious eye movements from most students in the class. As a result, the students receiving this email had been referred to the university's Executive Committee for disciplinary action. Pablo's heart raced. "Oh my god," he thought. He hadn't cheated, but there was no way he could prove it. He texted his friend from class—"What the fuck is happening? Like, I'm scared." But Pablo had not been referred to the Executive Committee. In fact, he hadn't even been flagged by automated proctoring: the email was an April Fool's Day prank. "Looking back, it was something very believable," Pablo reflected. "Our eye movements could be watched like that, there could be someone watching us, that we could all be jeopardized by this software."

Although this stressful situation turned out to be a joke, Pablo's fears were well-founded. Eye-detection software had indeed been deployed across schools and universities during the pandemic as a way to prevent cheating during remote tests and exams. These algorithms monitored people's homes and bedrooms, reaching places where an in-person proctor couldn't be present to observe. Automated and algorithmic proctoring represented just one kind of surveillance that students were exposed to. Data monitoring, lockdown browsers, and even video calling services like Zoom were mobilized to observe students and ensure compliance. To use James Rule's words, surveillance in such cases can be understood as a system of social control that "entails a means of knowing when rules are being obeyed, when they are broken, and…who is responsible for which."[44] Remote learning technologies enacted such forms of surveillance and

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[44] James B. Rule, "Social Control and Modern Social Structure," in *The Surveillance Studies Reader* (McGraw-Hill Education, 2007), 21.

control that produced a technical assemblage similar to what Michel Foucault, drawing from Jeremy Bentham, describes as a panopticon. The metaphor of the panopticon refers to a conceptual prison structure that places a guard tower in the center of a circular building. In a panopticon, the guards can see the prisoners, but, thanks to the placement of lamps and mirrors, the prisoners cannot see the guards nor each other and never know whether or not they are actually being watched.[45] The effect is thus to "induce…a state of conscious and permanent visibility that assures the automatic functioning of power."[46] Power is dissipated from the individual and imbued into the structural. Through a constellation of remote-learning software, proctored panopticons mimetically digitized this disciplining technology. The fear of an invisible gaze inhered with students' consciousness. "To me, the College Board was this big crazy monster who had a big tower and watched over us," Adam, a white high school student, said. I was startled to see this panoptic metaphor emerge organically in his reflections. "I was paralyzed by my fear. Everything I read was like, *the College Board is able to see you.* I was scared to do anything. So scared." The threat of an unknown observer and authoritative gaze made students aware of their scopic vulnerability as they engaged in remote learning. The "pastoral power" of the invigilator governed the emotional terrain of the virtual exam room and produced a "climate of fear".[47] This menacing gaze instilled deference and discipline in students even in cases when it wasn't actually present.

One Yale student, Noah, mentioned that during high school he had experienced the remote proctoring software Proctorio as part of an external program at Stanford University. As part of this experience, his face had been scanned, along with his room. Noah sent me a web page describing the technology he had experienced. On this web page, Proctorio advertises its

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[45] Foucault, *Discipline and Punish,* 200.
[46] Foucault, 201.
[47] Boler, *Feeling Power,* 21-22.

"Premium Add-On Feature"—live proctoring with a human proctor who watches the exam in real time.[48] Proctorio calls this "a more human approach". When I first read these words, I misread "human" as "humane". These two words blur into each other visually and etymologically, signifying value systems that collapse the discrete category of the human with a regime of moral propriety. Proctorio's acknowledgement that some might desire live proctoring as a "more human" interface accepts that automated proctoring might be seen by users as "less human." To be "more human" is a good thing; it is a "premium" feature. But this logic erases the many human actors at work in the collective machinery of automated proctoring. Although algorithms present themselves as capable of making objective judgements unsullied by human bias—"masquerading as neutral"—artificial intelligence is neither artificial nor intelligent.[49] After all, it is human actors who created Proctorio's algorithms. It is, importantly, human students who are positioned at its receiving end. And, as I will discuss later, it is their human instructors who determine and quantify the parameters of acceptable or suspicious behavior that the software is then asked to detect. We should question what is being promised by a "more human approach", and how such a discursive maneuver might position live proctoring, for school administrators or educators, as an act of magnanimity. Magnanimity, however, is not all that is promised. The main selling point of live proctoring is that, as Proctorio notes, it "allows immediate intervention" during an exam. Live proctoring is therefore "premium" not only because of its human qualities but also because it brings the surveillant's power *closer* to its disciplinary subjects. In my research, I found that the "more human approach" of live proctoring was no less surveillant nor less threatening compared to its "nonhuman" counterpart. Alvaro, a

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[48] Proctorio, "Online Proctoring", accessed March 12, 2023, https://proctorio.com/products/online-proctoring.
[49] As Sarah T. Roberts, writes, "Your AI is a human." See: Langdon Winner, "Do Artifacts Have Politics?," in *Computer Ethics* (Routledge, 2017), 177–92; O'Neil, *Weapons of Math Destruction;* Sarah T. Roberts, "Your AI Is a Human," in *Your Computer Is on Fire* (MIT Press, 2021).

Latino student attending public school, described the experience of taking an exam using a similar software, ProctorU, while being monitored by a live proctor. During the exam, Alvaro's proctor responded to suspicious behavior by interrupting his work and verbally "calling him out". "Can you show me your notes?" they asked, after Alvaro had been looking downward for a while. This constant reminder was disconcerting; it functioned as an audible disruption. "They would engage with you. So that was weird," Alvaro remarked. "Sometimes, you know, you just want to look a certain direction just because you're lost in your thoughts, and it's not because you're cheating. It made me feel uncomfortable…Around three times out of ten times that I used it, they would call me out on 'cheating'".

These brief interruptions, though fleeting, should be understood as crucial technologies that uphold the disciplinary power of remote proctoring. As Michel Serres writes, the concept of "noise" can be understood as both an interruptive signal that transforms the current state of play, as well as an ongoing backdrop of "white noise" and potentiality.[50] As a disruptive event, "immediate interventions" made by live proctors sent ripples through the scene of the exam, distracting students from their efforts and making them, as Alvaro said, "uncomfortable". Since students intuitively understood that a live proctor could cause a disruption at any moment, this condition of possibility or "white noise" also resulted in pre-emptive adjustments as well. In other words, the threat of being "called out on cheating" led students to adopt anticipatory changes in their behavior. The risk of being "called out" by a proctor was akin to being threatened with punishment. Adam said: "I would have had a panic attack if I had a textbook next to me and I accidentally flashed a page or something…and [the proctor] told me to show my surroundings." When Foucault examines how institutions like prisons and schools mobilize surveillance to induce discipline or self-policing among their subjects, he describes a form of

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[50] Michel Serres, *The Parasite*, (Johns Hopkins University Press, 1982).

work that is conducted through relations of communication. Schools are "blocks of capacity-communication-power", meaning that the process of disciplining—"the acquisition of aptitudes or types of behavior"—is enacted through communications such as lessons, as well as power, such as surveillance or punishment.[51] Through the use of Zoom and other remotely proctored exams, pandemic learning merged communications and media with technologies of power. The communicative properties of digital proctoring that Alvaro experienced was also what enabled the deployment of surveillance and the threat of punishment.

Through the lurking backdrop of interruption as a form of punishment, students were trained to adopt paranoid mindsets and alter their behavior accordingly. "If I glanced off the screen, they might think that I'm looking at notes," Milo explained. By contrast, Denis worried that if they stared at the screen *too* long, their professor would suspect them of searching for answers to a test online. Mariah was so afraid that she tried not to breathe too hard. The proctor did not have to call out students individually to instill fear and a preemptive compliance to some unknown standard. Uncertainty and possibility were key mechanics through which proctors could automate the production of discipline. Roxie described her physics class as feeling "collective hesitancy" toward cheating, as no one knew whether their browser was monitored or tracked. "I couldn't see who was watching me. I just knew that I was being watched…I felt watched in a very cold way," Denis added. The specter of proctoring breached students' consciousness even when there was no one actually watching. Their fear, hesitancy and caution reflected the power of panoptic surveillance—what Foucault identified as "a gaze which each individual under its weight will end by interiorising to the point that he is his own overseer, each individual thus exercising this surveillance over, and against, himself.[52]

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[51] Michel Foucault, "The Subject and Power," *Critical Inquiry* 8, no. 4 (1982): 777–95, 787.
[52] Michel Foucault, *Power/Knowledge: Selected Interviews and Other Writings, 1972-1977* (Pantheon Books, 1980).

Worries over surveillance played out in the foreground of students' consciousness as they attempted to adopt the mindset of their watchers. This uncertainty collapsed the window of permissible behavior, narrowing the scope of agency within which students could naturally express themselves. Taking a remote exam during the pandemic, Tallulah recalled moving and stretching her body. Her computer immediately displayed a pop-up message that warned that the exam platform would lock her out if she didn't move back into frame. "You had to alter your entire way of behaving," she told me. The ways in which surveillance, threats, interruptions and automation worked together in proctored panopticons reveal how discipline was often instilled through subtle and implicit means that were nonetheless felt viscerally by their subjects.

The mechanics of proctored panopticons extended beyond individual encounters between student and proctor. Using a framework of multisurveillance, Winifred Poster argues that in the context of a digital service economy, "an individual can be watched by one group, while at the same time being the watcher of another group."[53] This framework applies equally to platforms of remote learning. On Zoom, a student could be watched by a teacher or proctor even as they watched their classmates who were also visible on the Zoom call. The relationships between power and surveillance in educational settings were transformed and mediated through the layering of digital platforms and technologies that placed teachers and classmates on the same two-dimensional LED plane. Although this situation allowed students to "look back" at teachers in a form of sousveillance, it also produced new forms of scopic vulnerability. Students had to worry about other forms of social gazes inflicted onto their selves and their visibilized home environments. "What does my life look like to the other people on the other side of the screen?" Raquel worried. "Everyone could see into my world," Emiliano recalled. At some points during

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[53] Winifred R. Poster, "Racialized Surveillance in the Digital Service Economy," in *Captivating Technology*, ed. Ruha Benjamin (Duke University Press, 2019), 133–69.

class, Ollie's classmates would comment on their Zoom background and ask them why they slept on the bottom bunk of their bunkbed. Sam, in contrast, enjoyed having a "weird little snapshot" that he could use to signal or perform aspects of his identity and personality. Students' Zoom "backgrounds" rendered their living environment a stage with symbolic significance. As Caines argues, what is visible can be read as an "intentional choice", whether it is intended or not.[54] Being constantly aware of how you were being perceived by your peers was a new dimension of surveillance that remote learning and Zoom had introduced to the classroom. In the everyday experience of pandemic schooling, it was not instructors or proctors whose gaze students most keenly felt: it was their own.

The Zoom Gaze

In 1966, Argentinian performance artist Marta Minujín staged "The Event". As part of her artwork *Simultaneidad en Simultaneidad,* Minujín enlisted about sixty subjects to be filmed and recorded in a large room filled with television screens. Several days later, the subjects were asked to return to the room wearing the same clothes. There, the proliferation of television screens subjected them to the extensive recordings, photographs, and videos that had taken place prior. "Each spectator could objectivize his gestures, movements, the intonation of their voices," Minujín wrote.[55] "He was the 'Event'." Minujín's artwork spoke to the ways that video and new media could transform the gaze such that the viewer themself was rendered a spectacle or object. Decades before the pandemic, Minujín unknowingly anticipated a similar phenomenon that would unfold at global scale from the year 2020 onward. As people living at home in isolation adopted video calls—in particular, Zoom—as the primary medium of communication, they

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[54] Caines, "The Zoom Gaze."
[55] *Signals: How Video Transformed the World,* exhibition at the Museum of Modern Art in New York, March 5 to July 8, 2023.

entered into a relationship of simultaneous viewing and observation. On Zoom, where one could see oneself at all times, students learning online were able to "objectivize" their gestures, movements, and voices in real time.

Indeed, panoptic surveillance during remote learning was more complex than dyadic relations between an authoritative proctor and a surveilled student. As Sam's remarks about his Zoom background suggest, students were highly aware of their own scopic vulnerability and the extent to which they were exposed to the gaze of others. The "Zoom gaze", as theorized by Autumm Caines, extended the function of the panopticon by enacting a double gaze or functional self-surveillance.[56] A human and nonhuman assemblage of students, video camera and Zoom mediated self-observation and disciplining as the mechanics of the Zoom gaze facilitated the constitution of students' selves in response to their own self perception. Almost every student interviewed for this project mentioned a variation of this phenomenon. The effect of the Zoom gaze was twofold. Not only did it drastically alter the emotions and consciousness that students brought to bear on their daily learning, but much like the functions of proctored panopticons, it also resulted in the adoption of new kinds of disciplined behaviors.

When I first discovered that Zoom would let me choose between a "real" and "mirrored" view of myself, I agonized over this decision. The mirrored view was what I was used to; it was the version of my face that I saw every day in the bathroom mirror. If I had to look at a live video of myself for hours each day during my Zoom classes, then this was the obvious choice. But it was not just myself that I had to consider. My classmates, if I had known them in person, would likely find such a view strange—they would be accustomed to my *unmirrored* face. Like me, students like Jennie and Zoya tried flipping the view of her camera to alternately show a mirrored and unmirrored version of herself. It was this unmirrored view that disconcerted many

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[56] Caines, "The Zoom Gaze."

students as they became simultaneously discomfited and enraptured by how they looked on Zoom. "You got to see how other people see you," Jennie remarked. The constancy of this unprecedented experience was a source of body dysmorphia for many students because it subjected them to a version of themselves that appeared discordant from how they knew themselves to be. The Zoom gaze effected a kind of disorientation that threw students off-balance and caused them to become dislodged from the comfortable worlds they inhabited.[57] This dislodging was itself a reminder of how precarious our sense of personhood can be—how well do we really know our own bodies? "I was like: Oh my god, is that my face?" Adrien remembered. "I had insane dysmorphia about whether this is my face." The performance of an unmirrored face, perceived through the Zoom gaze, destabilized her sense of reality. Raquel described these unsettling feelings in an evocative way. "Having my view unmirrored is a really disconcerting feeling because it doesn't look like the face that you recognize, like your face doesn't move like it feels like it moves, but that's the way that everyone else is seeing you," she said. "You feel this constant anxiety about what you look like." Many other students also recalled "overthinking" or feeling "extremely conscious" of their Zoom selves. Rajesh, for instance, claimed that he did not experience or notice much surveillance during remote learning. He was, however, constantly aware of the Zoom gaze. "A lot of the time I'd just spend the meeting looking at myself instead of paying attention," he said. "Like, what angle do I look good in?" The Zoom gaze reoriented students' sense of identity and reality while imposing a regime of unsettled self-awareness. As Caines notes, the Zoom gaze effected alienation and "objectification of the self".[58] The relations between a student, video camera, and screen extended the reach of

[57] Ahmed, *Queer Phenomenology.*
[58] Caines, "The Zoom Gaze."

the proctored panopticon into a disconcerting caesura between students' interior and exterior selves.

The arrival of the Zoom gaze in students' lives led them to adopt new visual and physical behaviors. These strategic performances were intended to mitigate disorientation and dysmorphia but, in many cases, produced other kinds of burdens. Several students described a constant impulse to adjust their environment, posture, body language, and facial expressions in response to the live video they could see on their screen. Roxie stacked books under her laptop in order to find a camera angle that she felt comfortable with. Raquel recalled "physically monitoring" her facial expressions, attempting to perform the proper social cues of engagement or enjoyment. "I think it was all a theater of expression," she remarked. Because the Zoom gaze was unrelenting, students had to labor to maintain these kinds of coping mechanisms. "I could feel the muscles in my face getting tired because I wanted to keep my face in a certain position that I felt comfortable presenting myself in, because I was looking at myself so fucking much," Elena said. Elena's mental comfort was at stake, precariously maintained through a sacrifice of physical comfort as this constant "theater of expression" began to take its toll. Through the constellation of interviews, I began to notice that these experiences were also often mediated by gender. During remote learning, Elena started using makeup for the first time. "I got eyeliner from Dollar Tree and was like, let me learn how to do eyeliner," she laughed. "It felt a little bit vain but I was like, girl, I know I'm not the only one doing this." Elena was correct. When I interviewed Zoya, she was wearing bright blue and red eyeliner. "It was actually when Zoom classes first came in, [that] I started wearing makeup every single day," she told me. Zoya always made sure she had a "nice top" on and lip gloss. The Zoom gaze trained students to perform new behaviors in response to their own gaze coeval with estimations of how they were being perceived by others.

However, not all such cases were as innocuous as buying Dollar Tree eyeliner. In fact, the ways that the Zoom gaze disciplined and produced students' behaviors and cognition reflected a more sinister mechanism of education that sought to eliminate unacceptable abnormalities and prioritize conformity to "the norm".

Disciplining Normality

Stitching proctored panopticons and the Zoom gaze together, I argue that scopic vulnerabilities reflect mechanics of "norming" technology, that is, technology that renders certain modalities of living acceptable, and others unacceptable. The physical and affective performances demanded of students by relentless Zoom surveillance were designed around an axis of normality, or what Foucault has identified as "the Normal…as a principle of coercion in teaching."[59] The work of digital surveillance as a force of discipline was normalizing work, effected through a mechanics of control or "moral orthopedics".[60] Scopic vulnerability exposed students to these forces in uniquely invasive ways, and the harms of norming technologies fell unevenly on more vulnerable students. The orthopedics of "disciplining normality" meant that remote learning was made more strenuous—and even harmful—along axes of oppression such as race, class, gender and disability. By paying attention to the glitches that disrupted this norming process, I argue that students' experiences offer glimpses of larger systemic violence unfolding during the pandemic. In other words, disciplining normality occurred under broader conditions of technoprecarity—that is, the unequal and "premature exposure to death and debility that working with or being subjected to digital technologies accelerates."[61] Moments of friction between

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[59] Foucault, *Discipline and Punish,* 184.
[60] Roger Deacon, "Michel Foucault on Education: A Preliminary Theoretical Overview," *South African Journal of Education* 26, no. 2 (2006): 177–87.
[61] Precarity Lab et al., *Technoprecarious* (MIT Press, 2020).

disciplinary forces and students' ability to comply with them reveal the machinery of "disciplining normality" as racist, capitalist and ableist. As Rosa Menkman writes, a glitch "captures the machine revealing itself"; glitches offer us a "glimpse into normally obfuscated machine language."[62] The ways that glitches are distributed indexes problems of ableism, racism, class inequality and forms of algorithmic oppression built into digital surveillance and its normative productions. The smallest moments remembered in my student interviews reveal the relationships between remote learning technologies, normative discipline, and systemic inequities exacerbated during the pandemic.

On Proctorio's website, the company describes its automated proctoring technology as a system to "safeguard exam and course integrity." These words teach us something about the kind of value system or morality that proctoring software, and remote learning technologies more generally, are designed to uphold. By posturing as a "safeguard", a defensive technology, Proctorio conjures the specter of undisciplined learning. This attitude reflects the same "paranoid pedagogy", to use a phrase from Eve Sedgwick, that shapes the deployment of surveillance in schooling and the classroom more generally. Surveillance as a tool of discipline produces and constitutes individuals according to "the Normal". The norming practices of discipline and surveillance therefore produce the category of the criminal or rule-breaker; as R. Joshua Scannell writes, "Policing produces crime." This technology of punishment is evident in the language and function of Proctorio's interface. The "Proctorio Gradebook" generates a "Suspicion Score" for each test-taker using a traffic light system of red, yellow, and green—where red is most suspicious. The metrics by which a student might be sorted as "red", "yellow", or "green" depends on a variety of settings that can be adjusted by their instructor. As the Proctorio website claims, "Noted exam behaviors are dictated by the predetermined behavior settings and severity

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[62] Rosa Menkman, *The Glitch Moment(um)*, vol. 4 (Institute of Network Cultures, 2011).

thresholds chosen by the exam administrator." We should pay close attention to the language used in this explanation. The "predetermined behavior settings" decided by the exam administrator include audio levels of the student's environment, their head and eye movements, their body movements, their keyboard usage, and whether they resize their browser windows. These "settings" are articulated in terms of normality and abnormality. The Proctorio "Gradebook", for instance, includes a column tally of "Abnormalities" for each student. In an unpublished Proctorio handbook, the company explains that "the suspicion level is a quick calculation based on the aggregation of frames during the exam which were deemed suspicious and the detection of abnormal behavior." Such datafying processes are fraught, and can easily reproduce "algorithmic oppression",[63] especially in cases where the concept of "abnormality" is used.[64] As Abeba Birhane notes, the "mathematization" of social realities creates a "veneer of objectivity" that allows social discrimination to pass itself off as "value-free" and self-evident.[65] The "datafication" of students' behavior extends the logic identified by Foucault in his critique of examinations. Reducing students to data points which can be modeled, correlated, or predicted operates under the same ideology that motivates exams more generally as a means "to qualify, to classify, and to punish."[66] What matters here is not only critiquing the harms of Proctorio itself, but also questioning the purposes for which this technology is being developed in the first place.

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[63] Noble, *Algorithms of Oppression;* Cathy O'Neil, *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy* (Crown, 2016); Foad Hamidi, Morgan Klaus Scheuerman, and Stacy M. Branham, "Gender Recognition or Gender Reductionism? The Social Implications of Embedded Gender Recognition Systems," in *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*, CHI '18 (New York, NY, USA: Association for Computing Machinery, 2018), 1–13.

[64] These kinds of algorithms, which collect data about people's physical characteristics or "patterns of behavior related to [those characteristics]" in order to infer things about them, have been described as "physiognomic", pointing to algorithmic injustice's eugenic implications. See: Luke Stark and Jevan Hutson, "Physiognomic Artificial Intelligence," SSRN Scholarly Paper (Rochester, NY, September 20, 2021).

[65] Abeba Birhane, "Algorithmic Injustice: A Relational Ethics Approach," *Patterns* 2, no. 2 (February 12, 2021). See also: Akio Tamura-Ho, "The Eugenics of Statistics as a Social Ideology," Blog, *Eugenics and Its Afterlives*, November 15, 2022.

[66] Foucault, *Discipline and Punish,* 184.

Indeed, the kind of normative and suspicious thinking perpetrated by Proctorio was not exclusive to automated software, and extended to teachers and professors who expected their students on Zoom to remain silent, still, and focused. But during my interviews, students described loud home environments, fidgeting, and body movement as artifacts of difficult home environments, disabilities, or other circumstances unrelated to cheating. In this way, certain standards of behavior that were expected by remote proctoring criminalized particular modes of living compared to others. Low income and working class students faced difficulties conforming to the expected silence and empty background expected by remote proctors. Sarah, a low-income student who attended Yale during the pandemic, explained that her father receives disability payments from the government and her mother works from home. As a result, Sarah's already intimate home environment became particularly crowded as her classes transitioned to remote learning. Sounds of her parents in the bathroom or flushing the toilet could be heard on Zoom. Loudness in the classroom is also, as Savannah Shange writes, not just audiological but also ontological, in cases where 'misbehaving" Black students "must be subdued [and kept] quiet in the face of authority."[67] To police audio levels was to expose students to classist and racist rubrics of control. Alejandra, a low income student who attended a public magnet school, shared similar concerns. "There was always the chaos of the household running in the background…I didn't have like, a desk where I could just sit down and do all my work," she said. Not having their own space meant that students were forced to expose private aspects of their home life to the gaze of classmates, instructors, and proctors. Technologies that are designed to minimize this phenomenon, such as virtual backgrounds, were often not allowed in interviewees' remote exams. Even if they were permitted during class, such tools themselves punished Black users:

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[67] Savannah Shange, *Progressive Dystopia: Abolition, Antiblackness, and Schooling in San Francisco* (Duke University Press, 2019).

Zoom's "virtual background" feature often has difficulty distinguishing Black people from their backgrounds, thereby erasing their heads from the screen.[68] I want to return again to Ruha Benjamin's conception of "scopic vulnerability".[69] Colorist and antiblack injustices were enacted by a technology that forced Black people to choose between invisibility (being made unseen on Zoom) and hypervisibility (being unable to conceal the background of where they were Zooming in from). Poor students and low-income students were punished for their home environments, their learning experiences structured by forms of discipline that refused to accommodate or support inequalities exacerbated during the pandemic. The uneven distribution of scopic vulnerabilities trapped some students in a double bind: exposing them to harsher forms of disciplining surveillance even as they struggled to comply with such relentless demands. By contrast, Rachel recalled that during her senior year in high school, her school returned to conducting classes in person. Her private school benefited from large donations that helped students practice their AP exams in-person rather than online. Class and race inequalities rewarded some students even as others were punished.

Several other students described technical glitches that gestured toward larger systemic oppressions that went unnamed in their interviews but reflected the "unintended memory" of experiencing structural inequity.[70] While learning remotely, Alvaro shared a laptop with his sister. Like him, she was also attending high school via Zoom. "It was absolutely complicated. That computer will be used twenty-four seven," Alvaro said. "And it would be like, *vroooooom*—like it was going to take off!" Alvaro vigorously re-enacted the sound of his sister's laptop fan working overtime to maintain its overused circuitry. I understand this sound, *vrooooom,* as a glitch. Like the intrusive questions asked by Alvaro's live exam proctor, this

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[68] Caines.
[69] Benjamin, *Race After Technology,* 65.
[70] Fields, "What One Cannot Remember."

sound is a disruptive noise through which what has been background static up until now suddenly coheres as an announcement. The sound of the laptop overheating indexed the fact that Alvaro's family was not able to purchase an alternate laptop for him to use. Implied within this sound were co-constitutive structures of class inequality and unequal access to digital technology. During the pandemic, class inequality in the United States escalated, and the stakes of already-unequal internet access were elevated by widespread shifts toward remote work and remote schooling. Alvaro described himself as "low income as fuck" and was only able to maintain his education through a Comcast program that provided internet service to low-income students. This makeshift solution to a larger structural problem also meant that Alvaro often experienced wifi outages or problems. When he emailed his instructors to explain, he was not always believed. The fissures opened by this glitch reveals the paranoid pedagogies adopted by teachers primed to suspect their students of impropriety or cheating. The glitch was a potent index of racialized and class inequities that structured Alvaro's ability to participate in school. American capitalism, barely kept in check during a global crisis, rewarded those who had the class privilege of personal computers and reliable internet access, and punished those who did not.

Neurodivergent students, disabled students, and students with chronic illnesses were also rendered "abnormal" in ableist mechanics of disciplining normality. Although remote learning was rightfully acknowledged as an important feature of public health to suppress the spread of COVID-19, this did not absolve remote learning technologies of the ableism programmed into their systems.[71] Pablo, for instance, mentioned that having ADHD meant he was prone to

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[71] As the Precarity Lab reminds us, although digital technology has been celebrated as a means of greater accessibility, "the risk of celebrating digital technology as…a technology that allows people with disabilities…to participate in forms of adaptive labor, is that it carries with it the expectation that all people should thus be willing and able to work to survive." See: Precarity Lab et al., *Technoprecarious*.

fidgeting—what would be flagged a "suspicious" or "abnormal" behavior—during remote exams. Jennie, an East Asian Yale student, explained that her pandemic schooling was shaped by her experiences with lupus. "When I have lupus flares I can't eat," she said. "I was just like having flare after flare and then I could not eat for a while. I looked super fatigued and skinny." Jennie felt self-conscious about her appearance when worried comments from her family members were reinforced by her relentless Zoom gaze. "I was…seeing myself on the screen…it's a whole nother thing to just continue looking at yourself," she said. Jennie has also had scoliosis since the fourth grade. Although she described this experience during remote learning as "it was continuously bad", maintaining the theater of expression demanded by Zoom was more difficult for her and caused her pain and discomfort.

The symptoms of chronic conditions are felt by individuals but should also be understood through the lens of systemic inequities more broadly.[72] Indeed, the disciplining of behavior on Zoom reiterated racist and eugenic frameworks that police the performance of emotions. Several interviewees, including Adrien and Jennie, mentioned that they had difficulty adapting their facial expressions and body language to appropriately communicate on Zoom according to uncertain social standards determined by their peers and instructors. When they made exaggerated expressions to convey their emotions across the screen, classmates called them out via the chat and instructors asked them to explain what they were doing. Pablo also experienced an uncomfortable interaction when his classmate privately messaged him and asked whether he was okay, noting that he looked haggard. Constantly visible on the screen, students' facial expressions became signifiers of their interiorities and were also rendered sites of examination. Kalindi Vora and Neda Atanasoski note that Darwinian logic produces the idea of emotional

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[72] See Kalindi Vora's forthcoming research, tentatively titled *Autoimmune: Chronic Conditions and the Cost of Care in a Time of Uncertain Medicine.*

interiority, depicting the "reasonable" European man in opposition to the uncontrollably emotional other.[73] As a result, as Sara Ahmed writes, "'being emotional' comes to be seen as a characteristic of some bodies and not others."[74] It is for this reason Megan Boler argues that "within educational institutions, unacceptable/emotional behavior is defined by what it is not: namely, the prototype of the rational, curious, engaged, "balanced," well-behaved white male student," to which we might add that the student must also be neurotypical nor considered disabled.[75] Through their scopic vulnerabilities, students were evaluated against a rubric of normative performance and Darwinin frameworks of emotion. The ability to perform normativity was rewarded. Abnormal exteriorities, by contrast, were judged symptoms of abnormal interiorities. To be viewed on Zoom was to expose oneself to a matrix of discipline and punishment. Efforts to discipline students' interior subjectivities were therefore entangled with the surveillance and policing of their outward behaviors, which themselves were performed as "theater" in response to the pressures of the Zoom gaze. Disciplining normality was a matter of both production and exclusion.

Moments of friction complicated this disciplinary process. Once again, glitches unveiled the obfuscated machinery of production and exclusion, and exposed ableist features of American education. Emiliano took his AP exams in the last year of high school. During the exams, he had to write down his answers and upload photos of his responses onto the online portal. The clock was running down to the final minute as Emiliano began uploading his photos. That was when the unthinkable happened: his internet glitched; an image refused to upload. Emiliano's pulse raced. The exam would be used to judge his fitness as a student—"to qualify, to classify, and to

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[73] Neda Atanasoski and Kalindi Vora, *Surrogate Humanity: Race, Robots, and the Politics of Technological Futures* (Duke University Press, 2019).
[74] Sara Ahmed, *The Cultural Politics of Emotion* (Edinburgh University Press, 2004).
[75] Boler, *Feeling Power,* 139.

punish"—but whether he succeeded or failed was now beyond his control.[76] "My hands were literally shaking," Emiliano said. "I was like, *oh my gosh,* I have five seconds left and this picture is not uploading!" I choose to highlight this frightening moment because the technical glitch that Emiliano experienced during remote learning demonstrates how time is more broadly operationalized as a technology of disciplining normality in the classroom. Time limits, which are widespread features of the classroom's "moral orthopedics", impose a standard of performance that judges students by their ability to move quickly—what Elizabeth Freeman calls "chrononormativity".[77] This measurement of competence is an ableist one, and, as revealed by the glitch, completely arbitrary. As Moya Bailey notes, capitalist, Western and patriarchal temporalities of productivity and efficiency have led us to "make disability where there was none because of…our insistence on moving faster".[78] Manipulating time as a mechanic of power is not exclusive to remote learning, nor to schooling in general. But Emiliano's experience of digital learning demonstrated an underlying structure of education in which any student could be rendered "disabled" or "abnormal". When Emiliano's story is read alongside Alvaro's experience of unstable wifi and Jennie's experiences of scoliosis, it becomes evident that scopic vulnerabilities functioned as part of a broader system of disciplining normality, through which students could be made disabled and punished accordingly.

The glitches that students experienced show us that presupposed or seemingly uncertain pedagogies may not have been as innocent or unknowable as they presented themselves. As Beans Velocci notes, the ways that the pandemic was discursively rendered into "uncertain times" obscured the fact that the "pandemic [was] affecting exactly who one would anticipate it

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[76] Foucault, *Discipline and Punish,* 184.

[77] Elizabeth Freeman, *Time Binds: Queer Temporalities, Queer Histories* (Duke University Press, 2010).

[78] Moya Bailey, "The Ethics of Pace," *South Atlantic Quarterly* 120, no. 2 (2021): 285–99.

affecting."[79] Though the mechanics of pandemic education tended toward obfuscation, paying closer attention to disruptive moments reveals a system of education designed to discipline and punish according to racist, classist and ableist standards of normality.

Invisibilizing Exclusions

Surveillant gazes and automated self-surveillance produced new scopic vulnerabilities that facilitated the disciplining of normality. But I want to also highlight the ways that discipline functioned through processes of exclusion. Anxieties around the Zoom gaze, and constant dataveillance, meant students felt less confident speaking up about injustices and wrongs. This was often the case for marginalized students—including Black students, who, to use Brit Rusert's words, are "trapped between regimes of invisibility and spectacular hypervisibility."[80] Sociotechnical systems of remote learning enforced racist modes of white normality by invisibilizing marginalized students through the threat of hypervisibility.

Zoya was one of the only Black girls at her high school. Attending a majority white high school via Zoom during the pandemic, she felt disconnected from her classes and classmates. Although she "saw the difference between people's politics" and her own, Zoya told me that throughout most of her schooling experience her teachers had never treated her differently or showed signs of racist bias. That changed during the pandemic, when one of her teachers made a racist comment. "This was the first time where, like, I had to call out a teacher," Zoya explained. But doing so on Zoom was much harder than it would have been in-person. Rather than staying after class to speak privately to her teacher, or attending their office hours, Zoya was faced with the choice of interrupting her entire Zoom class or sending her teacher a written email. "I don't

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[79] Beans Velocci, "These Uncertain Times," *Avidly*, 2020.
[80] Britt Rusert, *Fugitive Science: Empiricism and Freedom in Early African American Culture*, vol. 10 (NYU Press, 2017) in Benjamin, *Race After Technology*, 77.

know if I want to have this through email," Zoya recounted. Both she and her mother were worried that a written complaint could be used against her. "I was not going to email a teacher saying 'What you said made me bawl my eyes out'," Zoya said. She also chose not to interrupt the class. Rather than expose herself to her classmates and teacher, Zoya turned off her camera and cried.

If students were caught in a double bind negotiating the demands of surveillance and the conditions of inequity under which they attempted to meet these demands, Zoya's story demonstrates how this dynamic was exacerbated by anti-Blackness. Unlike the invasive gaze of Proctorio's software, power was effected through the act of making Zoya invisible rather than subjecting her to scrutiny. Because of her worries over hypervisibility, Zoya chose not to interrupt her teacher and decided against sending a written email. In a situation of anti-Black racism, systems of surveillance did not render her in focus but instead made her disappear. This is one way that we might think of surveillance as not just "racialized" but also actively "racializing", in instances where "enactments of surveillance reify boundaries, borders, and bodies along racial lines."[81] A system of surveillance that detects Blackness equally fails to recognize a Black person's subjectivity.[82] At work here was not simply a process of disciplining normality but rather an anti-Black "pedagogy of respectability" theorized by Savannah Shange,[83] in which "invasive forms of discipline idealized as the self-fashioning of the moral and rational subject" worked to silence Black people into deference in the afterlives of enslavement.[84] Due to the racializing strictures of remote learning, Zoya's position was different to that of her classmates and teachers. Not only was she excluded from the discursive and pedagogical terrain

[81] Browne, *Dark Matters,*16.
[82] Frantz Fanon, *Black Skin, White Masks* (Grove Press, 2008).
[83] Shange, *Progressive Dystopia,* 101.
[84] Saidiya Hartman, *Scenes of Subjection: Terror, Slavery, and Self-Making in Nineteenth-Century America*, 1st ed. (Oxford University Press, 1997), cited in Shange, *Progressive Dystopia,* 102.

of the class, this exclusion was also made invisible. Her teacher did not even notice the violence of his words. The harm done to her was automatically whitewashed from the classroom before it could even be named or identified as racist; Zoya was forced into deference.

I choose to conclude this section with Zoya's story because the experience of surveillance in American schools is inextricably valenced by racism, white supremacy, and antiblackness.[85] Similar stories were discussed by other students. Jennifer mentioned that after her teacher made uncomfortable and racist comments, many students in the class turned their camera off as an act of protest or expression of discomfort. In a situation where scopic vulnerabilities encouraged compliance and discouraged "abnormal" behavior, making oneself invisible was an imperfect solution to a problem of limited agency and power. As with Zoya's experience, students were automatically disciplined into silence, allowing teachers to uphold harmful and discriminatory power structures. "In the end, [our teacher] thinks that we're just bored, when we're all really uncomfortable," Jennifer lamented. The complex sociotechnical systems of remote learning automated violent disciplinary processes in ways that were sometimes unknown to teachers themselves. In doing so, however, marginalized students—including Black students, students of color, poor students, and disabled students—were pushed to the margins and punished with increasingly narrow scopes of agency. The dispossession that arose from scopic vulnerability, however, also gave rise to new methods of subversion and resistance. Within the confines of their limited structural agency, students took advantage of the shift to remote learning. They developed "weapons of the weak" and pushed back against the forces that rendered them vulnerable to surveillance and discipline.[86]

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[85] In a research study brief published by the Yale University Child Study Center, initial findings from an observational study found that "when expecting challenging behaviors, teachers gazed longer at Black children, especially Black boys." See: Walter S Gilliam et al., "Do Early Educators' Implicit Biases Regarding Sex and Race Relate to Behavior Expectations and Recommendations of Preschool Expulsions and Suspensions?" (Yale University Child Study Center, 2016).

[86] James C. Scott, *Weapons of the Weak: Everyday Forms of Peasant Resistance* (Yale University Press, 2008).

Part II. Subversive Opacity

Though the troubling harms of remote learning effected new forms of discipline and normative productions, students also found ways to exercise their agency and power to resist the powerful "Zoom gaze". Under remote learning, power dynamics shifted in new and unpredictable ways, sometimes in favor of the student. Students found comfort in subversive opacities that were facilitated by the same mechanics that surveilled and disciplined them. They challenged, confronted, and responded to surveillance through practices of what Steve Mann calls antisurveillance, counterveillance, and sousveillance.[87] In this section, I therefore provincialize experiences of scopic vulnerability in a wider landscape of pandemic learning relations by focusing on the ways students engaged in practices of resistance, refusal, and subversion.

Camera Off

I remember the moments in the pandemic where I felt myself tire of the Zoom gaze and its trappings. There were times when staring at my face would threaten to overwhelm my consciousness with feelings of dysphoria. There were times where I wanted to stretch my aching neck, but didn't want to appear impolite. At other times, I felt gnawing pains at the base of my stomach—I was hungry, I needed to eat, but I didn't want to look disengaged or be seen as a messy eater by other people in my class. As I continued further into the pandemic, I began to do with more frequency what many of my peers were also doing: turning off my camera.

The relief that accompanied turning my camera off was visceral and almost instantaneous. When I turned my camera off, I felt my shoulders physically relax; I felt tension

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[87] Steve Mann, "Veilance and Reciprocal Transparency: Surveillance versus Sousveillance, AR Glass, Lifeglogging, and Wearable Computing," in *2013 IEEE International Symposium on Technology and Society (ISTAS): Social Implications of Wearable Computing and Augmediated Reality in Everyday Life* (IEEE, 2013), 1–12, cited in Browne, *Dark Matters,* 21.

leave my body. To become invisible in this way was to claim a moment of rest—a reprieve from performing the "theater of expression". In other words, to make oneself opaque to surveillance is to resist scopic vulnerability.[88] This phenomenology of refusal coheres the constancy of fear, anxiety, and pressure to perform that characterized Zoom learning, as well as the ways that students exercised their limited options to reclaim agency and comfort. During pandemic learning, turning one's camera off emerged as a crucial act of refusal and antisurveillance that granted respite from the relentless pressures of Zoom panopticons, self-surveillance, and disciplining normality.

Although teachers and professors enforced a "cameras on" policy to varying degrees of strictness, students often chose to turn their cameras off regardless. Ollie told me that even when their teachers encouraged them to turn their camera on, they declined. "My teachers would be like, 'It makes me feel better when I feel like I'm talking to a class'. And you're like, 'That's great. I'm still not turning my camera on!'" They laughed ruefully. "I'm not going to do it, but I feel bad for you." Opacity, then, was not an unconscious choice but rather a wilful one. To turn one's camera off—against explicit or implicit classroom rules—was a form of disobedience. In Ollie's case, their disobedience was "a matter of not being affected in the right way."[89] They understood their teacher's request, but chose to prioritize their feelings nonetheless. Through its wilful disobedience, the assertion of opacity was thus also subversive; it resisted the disciplinary authority of teachers and professors as institutional enforcers. "It was like a podcast you didn't

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[88] In this essay, I use the term "opacity" in its literal sense—to be impenetrable, to resist the gaze. Important to acknowledge, however, is that this word has also gained its own genealogy of meaning through the works of Édouard Glissant, who theorizes the right to opacity in a context of colonialism, imperialism, and cultural contact. For Glissant, forms of opacity render cultural practices, languages, or ontologies as partially or fully unknowable to the conquering European settler gaze. Opacity resists the easy imposition of one hegemonic epistemology onto other ways of living. It is important that I acknowledge the way this word has been taken up in studies of critical Black geographies, since Glissant's work on opacity has also often been cited in ways that misuse his scholarship or remove quotes from their original context. See: Édouard Glissant, *Poetics of Relation* (University of Michigan Press, 1997).

[89] Ahmed, *What's the Use?,* 207.

want to listen to," joked Zoya. Without the pressure to perform, the voice of the instructor almost became a form of background noise—like a podcast, it could be ignored or tuned out. Indeed, by treating Zoom classes as a "podcast they didn't want to listen to", students adapted technologies of remote learning and surveillance to serve their own needs.

"I usually keep my camera covered with a piece of paper," Indi said. "And I don't think they had the power to turn on my microphone through the platform that we used [for class]." Indi's assemblage of resistant technologies—including a scrap of paper to physically obscure her laptop's camera—demonstrated her ability to manipulate features of surveillance technology in service of opacity. By keeping her microphone off and her camera covered, Indi created a strong boundary by drawing upon her knowledge of the limits of her school's agency; that is, she determined what they could or couldn't do and responded accordingly. This analysis required Indi to perform an act of sousveillance—"an active inversion of the power relations that surveillance entails."[90] Indi reasoned that her school's limited resources meant they were unable to monitor large classes closely or even deploy high-tech surveillance software. To borrow a term from Sara Ahmed, Indi's strategy of intuited sousveillance and physical counterveillance was a form of queer use—using something improperly or "for a purpose that is 'very different' from that which was 'originally intended'."[91] Indi adapted, modified, and exploited the mechanics of remote learning to resist classroom surveillance. The queer use of remote learning technologies was a crucial way through which students resisted the disciplinary forces of surveillance.

For students, having their camera turned off meant less pressure to perform for the Zoom gaze. "I guess there was like, less pressure to perform as a human," Ollie told me. Implications about what it meant for Ollie to correctly "perform as a human" gesture again toward forces of

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[90] Browne, *Dark Matters,* 19.
[91] Ahmed*, What's the Use?,* 199.

disciplining normality that were reiterated through remote learning technology. Having your camera turned off reduced the force of discipline that conditioned students into inhabiting certain subjectivities. This decreased pressure also meant that students did not have to perform the emotional labor of disguising their feelings. Raquel remarked that when things in her life were difficult and emotionally challenging, she kept her camera off. "It's a lot easier than it is to walk to your class [in person] and sit there and not be crying," she added. Being able to remove oneself from the forces of the classroom meant that students were free from the daily social pressures that had previously shaped much of their day. Cam, a Black student that attended public school, said that she had always felt unsafe at school. "It doesn't even have to be physical [harassment]," she said. "It's always going to harm me." Cam experienced "a lot" of racism at her school. Being able to use Zoom to make herself opaque to her teacher and the rest of her class was a reprieve from this daily onslaught. Instead, she turned her camera off and allowed herself the small joys of freedom and uninterrupted privacy. "I felt so safe," she said. In the middle of class, she would make tea and drink it, daydream, and feed her fish. She would occasionally check her Zoom, but for the most part, embraced the safety of being at home. "I was happy. I was living my life. I would wake up and I wouldn't even need to change," Cam said.

Cam's story reflected other commentary circulating in the news: remote learning enabled Black students to set strong boundaries and escape, for the most part, on-campus racism.[92] By obscuring themselves from the gaze of others, students produced protective opacities that resisted racist violence and harms in the classroom. We should, however, remember this story in parallel with Zoya's experience with a racist teacher. The technologies that enabled a wilful uptake of opacity for Cam also led to experiences of disempowerment and silencing for Zoya.

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[92] Laura Newberry and Howard Blume, "Black Parents See Less Bullying, Racism with Online Learning," *Los Angeles Times*, June 8, 2021; Elizabeth Miller, "For Some Black Students, Remote Learning Has Offered A Chance To Thrive," *NPR*, March 1, 2021, sec. NPR Ed.

Zoom technologies could be co-opted for subversive purposes, but schooling remained structured by anti-Black racism. Subversive and resistant opacity did not entail a mode of liberation but rather survival. "Camera off" opacity arose from governing structures of crisis rather than transformative liberation. Throughout the interviews conducted for this project, many students talked about turning their camera off in order to sleep, rest, or do basic chores. "Being able to like, during class, do whatever you want—like I did laundry—it was kind of nice," Ollie said. Zoya mentioned sleeping during Zoom classes, and Indi mentioned attending Zoom class in bed while half asleep. "Oh my god, my camera's not working!" Adrien said, reenacting what she would say to many of her teachers. "And then [I'd] just go to sleep." The need for sleep and rest during pandemic learning, as I discuss in later sections, structured "camera off" in the broader phenomenology of the COVID-19 pandemic. Subversive opacity arose from the specific circumstances, technical assemblages, and environments of remote learning.[93]

Cheating

The most egregious subversion of classroom discipline was the crime that proctored panopticons were designed to prevent: cheating. Whether that meant working with other students on assessments, secretly consulting notes, or searching for answers online—many of my interviewees described cheating as the primary use for subversive opacity. Methods of cheating during tests and exams were as common as they were diverse. "It was a free-for-all!" Jennie remarked. One of the interviewers for this project, Anette Diaz, told me that her interviewee,

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[93] Of course, some students also subverted their instructors' gaze for recreational ends. Adrien continued on to explain that even with her camera off, she made use of her laptop camera's limited field of view. Subversive opacity was not just about turning one's camera off but also, in the event that students' cameras had to be on, making use of its limitations. "I used to put my phone underneath my computer and play Genshin Impact for the whole school day, like six hours," Adrien told me. Making use of their teachers' restricted vision, students resisted the discipline of the classroom by acting under the radar. These "weapons of the weak" allowed students to subvert control while also evading punishment.

Elena, was "surprisingly open about cheating." Careful not to influence her respondent's answer, and worried that it might seem like an accusation, Anette avoided using the word "cheat" when asking about subversive opacities. "Did you ever use this technology we've been talking about to your advantage?" Anette asked. "So like–"

"Did I ever cheat? Yes, of course!" Elena interrupted eagerly. We can see in this interaction that Elena immediately understood Anette's euphemistic phrase to mean cheating. Cheating was understood as a "queer use" of remote learning technology; it was an assertion of wilful disobedience and a redeployment of disciplinary technology to the student's ends. "It was easy. It was convenient. We're all going through like a fucking pandemic. There's more important things happening, you know?" Elena continued. In her response, Elena indexed several significant features of cheating as a form of subversive behavior during remote learning. First, she identified that cheating was both "easy" and "convenient" compared to in-person learning due to limitations in surveillance. Students opted to cheat because the technology afforded them the opportunity to do so, and because it helped them—it gave them a personal "advantage". And second, students justified and reasoned their way through cheating. They developed and voiced an alternate moral framework that reframed cheating away from being an improper violation of "academic integrity". Because of its widespread ease and convenience, cheating became a matter of survival—something that had to be done in order to stand a chance against others who would surely use these opportunities to their own advantage. And, as Elena pointed out, the moral stakes of cheating were cheapened by the global crisis that enveloped students' lives during remote learning. Was cheating really a violation of "integrity" in such a time of sickness, death, and inequity?

Elena's claim that cheating was "easy" and "convenient" reflected the ways students creatively evaded the gaze of proctored panopticons. In one of Omar's high school classrooms, his teacher required students to join a video call on their phone while they completed exams on their laptop using Lockdown Browser. "I was really lucky because I was working for a startup and they gave me another laptop [for work]," Omar told me. "So I was able to use my other laptop side by side." By manipulating his teacher's frame of view, Omar found ways to adapt this assemblage of proctoring technologies and access illicit materials to help him complete the exam. Omar's use of an additional resource, in this instance, demonstrates the ways that cheating was often a question of resourcefulness rather than rule-breaking. Framing cheating as "being resourceful" invokes positive connotations typically associated with well-behaved and hardworking students who might 'go the extra mile' or demonstrate problem-solving capabilities. To be resourceful, under the classroom's rubric of individual improvement, is to be a good student. By explaining their cheating as a form of resourcefulness, many students argued that cheating was an efficient and legitimate way to meet the demands of their education. "There were definitely times that I used extra resources," Raquel said, referring to a textbook that she secretly consulted during an exam. Cheating, in this instance, was an extension of classroom learning rather than a subversion—it was about using "extra" or additional resources. Adam articulated this reframing as well. "It's not even cheating," he said, "It's 'Use your resources or suffer.'" In a way, Adam was shifting the locus of responsibility away from himself and toward the classroom and education system more generally. He characterized the disciplinary forces of the classroom as "use your resources or suffer", arguing that punishment was the alternative to cheating—in other words, cheating was implicitly encouraged. Adam's discursive maneuver positioned systems of disciplining normality as responsible for students' uptake of cheating.

In another instance, Omar described gaining an essay prompt ahead of time from his classmate, who had already sat the exam. To be resourceful was a collaborative act that required students to work together in the face of adversity. "I think it was really easy to like, use your peers as a way to gain information," Omar said. Subversive opacity and counterveillance were produced and maintained through collusion and other forms of furtive under-the-radar communication. Jennifer explained the story of a girl in her Korean class who she became friends with. One day, while they were on Zoom, Jennifer's friend sent her a private message in the chat. "She was like, Jennifer, can you see the reflection of the screen on my glasses?" Jennifer's friend was browsing on another tab and wanted to make sure this wasn't visible to their instructor. Jennifer replied that the reflection showed up "a little bit." "Just decrease the brightness [of your screen]," she advised. Not only did students act in their own interests, they also helped others enact opacity and counterveillance measures. In these examples, we might see the ways that "cheating" was a form of subversive counterveillance that drew upon the skills and principles that classrooms often encourage—resourcefulness, innovation, and collaboration—to navigate the difficulties of online learning and counter the effects of discipline and surveillance.

"I like to think that I'm somebody who has good morals…I didn't cheat my whole way through high school, you know?" Elena said. For many students, cheating was not inherently moral or good. Several interviewees mentioned feeling guilty even as they engaged in collusion or consulted secret notes off-camera. Cheating was an unfortunate reality—an emergency measure. "If you didn't use the internet [to cheat], you're sacrificing your grade, and that was tough…that's a hard position to be put in as a fifteen or sixteen year old kid," Adam said. Students were aware of their limited power in these situations. As Elena said, we were "all going through a fucking pandemic". Faced with sick or unemployed family members, social and

material instability, and other sources of stress, students developed disobedient or subversive strategies in order to meet the demands that school placed upon them. "Okay, online school was rough. And let's acknowledge it, everyone cheated on *something* at least at one point during online school," Roxie reasoned. Not only was cheating acceptable because of the unique conditions of the pandemic, but also because it was widespread. Cheating was no longer an "abnormal behavior" under strictures of classroom discipline, but rather a normal one. These wilful acts demonstrate the ways that students' "weapons of the weak" were not trivial acts of rebellion but rather came to be imbued with symbolic meaning and significance. Subversive opacity operated as both an exterior strategy and an interior or conscious one. By refusing to recognize or inhabit "academic integrity" as an ontological regime, students refused to be "affected in the right way".[94] To cheat was therefore to queer the use of examination as a disciplining mechanism; such queer use destabilized the use of examination as a tool to differentiate, judge, and measure students against one another.[95] To cheat was to wilfully assert the importance of one's stakes.

I do not mean to idealize or valorize these strategies or behaviors. In some instances, subversive opacity transformed into "perverse opacity"—a term coined by Lorna Rhodes that articulates how "resistance may not be liberatory" but rather "invites further control."[96] Stringent, ableist and racist software like Proctorio and ProctorU sold themselves as solutions to the cheating, collusion and resistant practices that students engaged in during remote learning. As several interviewees acknowledged, teachers also faced conflicting demands from students, administrators, and policymakers. Cheating was one more difficulty in a long series of disruptive

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[94] Ahmed, *What's the Use?,* 207.
[95] Foucault, *Discipline and Punish,* 184.
[96] Lorna A. Rhodes, "Panoptical Intimacies," *Public Culture* 10, no. 2 (1998): 285–311; David Lyon, "The Search for Surveillance Theories," in *Theorizing Surveillance*, ed. David Lyon (Routledge, 2011), 17–34.

complications, and was valenced by social inequities as well. And although students redeployed digital technologies with subversive tactics—rendering their lives opaque to proctors and teachers in defiance of the virtual classroom's disciplining gaze—not all students bought into my theory of resistance and subversive opacity. In fact, as I discuss in the next section, the ways that students actually *felt* about their tactics painted a more complicated picture.

Part III. The Immanence of Zoom

It was a Saturday night and Sarah was sitting across from her close friend, Alejandra. Alejandra is a working class Latina student who attended a public magnet school. She was in the middle of telling Sarah about her experiences of Zoom learning. Whenever she didn't want to attend class, Alejandra explained, she would email her teachers claiming that her Wi-Fi wasn't working. This was sometimes the truth—but not always. "Because Zoom fatigue is real!" Sarah exclaimed. Alejandra laughed. "Yeah!" Sarah glanced at the list of interview questions I had given her. There was one about subversion: had the interviewee resisted or subverted digital surveillance in any way? "Did you feel like that was a form of resistance?" Sarah asked. Alejandra pushed back. "I don't really think it was too much of a *resistance*," she said. "Not even a teenage rebellion. Just…simple fatigue."

Alejandra's refusal to describe her behaviors as subversive or resistant indexed the harsher realities of the pandemic that conditioned students' choices as they navigated remote learning. Although many students may have resisted or refused surveillant gazes in different ways, this opting out was imperfect. The swirl of surveillance and "subversive opacity" coalesced in a tumultuous new affective structure. Students' choices were not made in isolation but rather valenced by embodied experiences of pain, fatigue, and disorientation. Zoom affects

clung to students' rooms, environments, and sense of self even when they were not in class. This phenomenon, which emerged in many interviews in different ways, is what I have come to understand as the "immanence of Zoom". To be immanent is to inhere within the world; the feeling of being on Zoom is an immanent one when it feels like there is no escape. The immanence of Zoom structured affective experiences during pandemic learning and lingered in and around bodies, seeping into the walls of claustrophobic bedrooms and dwelling in frayed nerves and muscles. "No matter how virtual the subject may become, there is always a body attached," Stone writes.[97] To take this further, we should remember that bodies are impressed upon by the textures of their environments.[98] The feeling of being on Zoom became a feeling of being *in* Zoom, even after online exams were completed and laptops were closed. The immanence of Zoom was a social and environmental structure that made and unmade students and their disciplined interiorities.

In this section, I examine the ways that coeval dynamics of scopic vulnerability and subversive opacity were nested within a broader assemblage of feelings that shaped students' orientations to the world. In doing so, I argue that surveillance and resistance under remote learning functioned not in dialectical opposition but rather as part of a broader web of affective forces that made the experience of surveillance and remote learning immanent and atmospheric rather than directional or descriptive of encounters between individuals. Here, I understand "the physical and emotional body of an 'individual'" as "a site of repetitive environmental and social mappings", situating students as inextricably entangled with their environments.[99] The title of

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[97] Allucquère Rosanne Stone, "Will the Real Body Please Stand Up," in *Cyberspace: First Steps*, ed. Michael Benedikt (MIT Press, 1991), 81–118. I found this source through the scholarship of anthropologist Lisa Messeri, whose research on virtual reality takes up these questions of virtuality and embodiment in critical ways. See: Lisa Messeri, *In the Land of the Unreal: Virtual Reality, Los Angeles, and Fantasies of Technology Otherwise,* (Duke University Press, 2024).
[98] Ahmed, *Queer Phenomenology*.
[99] Kelly Dobson, "Machine Therapy" (Thesis, Massachusetts Institute of Technology, 2007).

this section is inspired by Sara Ahmed's writing on "the immanence of complaint". As Ahmed writes, "Immanence implies what we are in, immanence as presence or even the present, but it can also imply what remains, immanence as what carries on from the past, what has not been transcended or what we are not over."[100] The immanence of Zoom coheres collective feelings of isolation, exhaustion and embodied pain that students recalled in their interviews, but it also indexes Zoom's "sticky" qualities: the experience of being on Zoom was felt even when students were *not* on Zoom. Zoom affects constantly shaped the worlds of remote-learning students. In doing so, these forces pushed at the strictures of disciplinary structure, unspooling and unraveling the means of correct training that schooling had tried to apply onto its subjects.

Zoom Fatigue

One of the ways that Zoom followed students beyond the screen was through their bodies. "My head would just hurt or my ears would hurt from listening to speaker audio," Raquel said. Jennie, who described how her scoliosis deteriorated during the pandemic, also noted that her eyesight was harmed. "I think my eyesight got worse—like dry eyes," she remarked. Mariah described purchasing a blue-light filter to make her screens less painful to look at. Even now, she said, her computer screen is adjusted to show warm tones. "I can't look at a normal computer screen with a blue light because now that hurts my eyes," she said. The impressions formed upon contact between remote learning technology and its users could be painful and accumulate into injury. But the pain and embodiment of being on Zoom did not just arise from frictional experiences with user-unfriendly technology.

During interviews for this project, students described the heaviness of Zoom as taking the form of embodied physical and emotional fatigue—what has come to be known colloquially as

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[100] Sara Ahmed, *Complaint!* (Duke University Press, 2021), 102.

"Zoom fatigue". The proctored panopticon did not just render students vulnerable to surveillant gazes or norming forces, but also shaped their bodies through the coercion of normative mental and physical behaviors. "In my back and my shoulders, I would feel this weight a lot," recalled Alejandra. She placed her hands on her shoulders to demonstrate. "Because I was always hunching forward to my screen trying to appear engaged." The constancy of performing for the Zoom gaze was exhausting. Raquel said: "You're looking at your classmates, you're looking at your teacher, you're concerned about not looking like you're distant—the cumulation feels like this huge heap of things that are always happening, always sitting on you or around you in a fog." Many students described this cumulative fog that lingered around Zoom as heavy. It weighed them down. "It's just like, heavy, it just feels heavy," Elena said, shuddering as she remembered. This heaviness came to further engulf students as they interacted with others online. As students' voices and words circulated across Zoom, their speech accumulated heavy affects through relational encounters. Individual feelings of fatigue gathered into atmospheres of fatigue. Pablo recalled: "In first year, everyone's check-in [would be] like, 'Yeah, I'm just tired'....And that was just very, I don't know—I felt tired myself. Hearing the way other people were tired made me feel even more tired." If we take up Sara Ahmed's approach to affect as "what sticks, or what sustains or preserves the connection between ideas, values, and objects," then we might see that experiences of pandemic learning circulated discursively and conceptually between students and became objects of exhaustion.[101] Students' bodies, taking "the shape of the contact" they had with such objects of exhaustion, became weighed down.[102] Being constantly reminded of tiredness was tiring itself.

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[101] Sara Ahmed, *The Promise of Happiness* (Duke University Press, 2010), 230.
[102] Ahmed, *Cultural Politics of Emotion,* 5.

In his interview, Alvaro said he had felt overwhelmed both mentally and physically during experiences of remote learning and online proctoring. "I remember fininishing exams and automatically closing the computer," he said. Then, in front of his interviewer, Alvaro sighed dramatically, slammed his laptop closed, and pushed it away. The performance of this past experience suggested the ways that Zoom fatigue continued to linger in Alvaro's embodied memory. The stress, anxiety, and fatigue of remote learning became a ritual archived in the consciousness and bodymind of its subjects. Zoom fatigue accumulated as a result of interactions between the Zoom gaze, the theater of expression, and the physical experience of performance: the stressors of Zoom fatigue pulsed at the interstices between one's interiority and corporeal embodiment. "It was straining for my body because I had to be aware of the positions my body was making," Alvaro continued. "Your body feels uncomfortable in [your] bones, where I could feel a lot of pain." Alvaro labored to coordinate his vision, proprioception, and consciousness as he gazed at the computer screen and labored to maintain constant conscious control over his body, his muscles, and his bones. Students' physical sense of self was slippery and unstable; the Zoom gaze facilitated a fraught out-of-body dissociation and self-objectification even as students felt viscerally aware of their body and its movements. "Anxiety produces very physical responses in me," Milo said. "So I would feel tense. Every time I moved or looked somewhere, it would be very calculated." This physical labor took a psychological toll because it required students to constantly perform for others, resulting in what Tung-Hui Hu describes as "the exhaustion of having only a partial claim on selfhood: of needing to "be yourself" for other people, or alternately of having to suppress it"—the subjectivity of "human surrogates".[103] Rather than attempt to separate the physical and the psychological, it might thus be more accurate to

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[103] Tung-Hui Hu, *Digital Lethargy: Dispatches from an Age of Disconnection* (MIT Press, 2022), xvii; Atanasoski and Vora, *Surrogate Humanity*.

think of Zoom fatigue and embodied experiences through the framework of the "bodymind", understanding that "mental and physical processes not only affect each other but also give rise to each other…because they tend to act as one, even though they are conventionally understood as two."[104] The heaviness of Zoom fatigue arose from the imbricated processes of the bodymind, as students intra-acted with themselves, with their screens, and with each other.

But even as I attempted to describe these feelings produced within and between students' bodyminds, I found myself struggling to truly express what I felt was going on. The phenomenologies of Zoom learning were so capacious and inchoate as to be unruly; they resisted capture and critique. Understanding this problem as an inherent feature of pandemic ontology, I argue that the difficulty of articulating Zoom affects is a lesson in itself. The frustrations I encountered while attempting to analyze Alvaro's feelings reflected the capacious terrain of pandemic life as a form of cultural, social, and conceptual impasse.

The Stickiness of Zoom

Approaching this impasse requires us to destabilize the boundaries or distinctions of a bodymind. Here, I draw upon the work of Karen Barad, who argues that the matter that constitutes bodyminds and the worlds they inhabit is really "a stabilizing and destabilizing process of iterative intra-activity" where "the primary ontological units are not 'things' but phenomena."[105] If matter itself represents a "congealing of agency", and agency is "an enactment" and not an attribute, then observational distinctions and intra-actions constitute "specific material (re)configurings of the world." Examining student experiences as the product of a web of agency beyond the human-as-given reframes phenomena like subversive opacity,

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[104] The bodymind is a concept theorized by Margaret Price Margaret Price, "The Bodymind Problem and the Possibilities of Pain," *Hypatia* 30, no. 1 (2015): 268–84.

[105] Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Duke University Press, 2006), 210; 141.

such that they are not just behavioral choices but rather the emergent result of intra-active forces. In this way, the immanence of Zoom can be understood as an intra-active ontology—something that we are within, even as we are co-constituted by it and participate in its configurations.

Such a framework orients us toward an understanding of being-on-Zoom as sticky, wherein the feeling of being on Zoom refers not simply to the psychological interior of students during the hours they participated in Zoom class but rather to something more expansive. The stickiness of Zoom produced a constant atmosphere of stress, instability, and vulnerability. During pandemic learning, the constancy of video calls and the blurring of digital spaces through multi-tasking and opting-out created anxieties over what was real or unreal. Zoya told me: "There'd be times where my laptop would be open and I'd like, panic—I'd always check, *am I on a Zoom right now?* And then I'd look at the time and be like no, it's 5pm girl, what are you doing?" Even when she was not actively in a Zoom class, Zoya felt anxious or guilty about texting on her phone or talking to her friends. "I had a perpetual cycle in my head, like *YOU ARE IN A ZOOM CALL RIGHT NOW, YOU ARE IN CLASS RIGHT NOW!*" she said. "And of course that was not happening. So it kind of messed with my brain a little bit." Her comments reminded me of my own habit of checking whether I have unknowingly left a Zoom call open on my computer. At times, I found myself so distrustful of my own perception that I turned off my laptop's Wi-Fi and covered it with paper and other items, as Indi did, to reclaim a sense of refusal. These unintended or intrusive thoughts reflect the ways that time and habit intra-acted with consciousness and perception. "Even in my bed going to sleep, I would feel like I was being watched," Milo said. "It was very disconcerting because everything was happening in the same room. It was kind of hard to escape the feeling of being on Zoom with a camera on." Students' efforts to "opt out" from surveillance were troubled by feelings of disorientation as the

experience of being on Zoom resisted temporal and spatial containment. The experience of being in a Zoom class was entangled with being "in the same room." "Home and school were like the same thing, right?" Omar said. His words suggested that the spatial locations or "place" of home and school had merged or become indistinct. But he also gestured toward the fusion of two distinct experiences, being at home and being at school, smudged by the third spatial experience of "being on Zoom". The collapse of these locations and experiences blurred the ontological boundaries between once-distinct "things", which were no longer as evident as they once had been.

The effects of this collapse were mentioned by many of my interviewees. "It felt exhausting, always staying in the place where you worked, even if you're not *doing* that work," Ollie told me. Even when schoolwork was not "taking place" in a student's room, the place had already been produced as a site of work; schoolwork had "taken" the place.[106] At the same time, because classes and homework were completed on screen, the Zoom call functioned as a transcendent space that intra-acted with the bedroom and co-constituted students' hybrid living environment as one that was at once virtual *and* corporeal. "My world was my computer, you know, my world was very much my computer," Cam said, repeating the words for emphasis. The collision of different modes of living and being in the same spatial arrangement was made even more immanent with the intra-action of time; being constantly inside this physical space was its own form of "taking place" as the boundaries between a student's life and their room became unclear. Denis, for instance, described spending up to ten hours in their room each day. "So, I'm at home," Pablo explained. "But also, home is where I do my work. And so it was like, there was always something on my mind related to work…having to think about things that I had to do in

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[106] The language of "taking place" as an ontologically-laden phrase has been explored in detail by anthropologist Marisol de la Cadena. See: Marisol de la Cadena, *Earth Beings: Ecologies of Practice across Andean Worlds* (Duke University Press, 2015).

one space really exhausted me." Zoom fatigue was not just a matter of the bodymind but rather a reconfiguration enacted by forces operating on various unstable spatial and temporal planes.

As a result, many students discussed how being on Zoom intra-acted with aspects of their lives that occurred outside the time and place of online classes. "I would close my laptop and try to go on with my day," Alvaro said. Nonetheless, the aftermath of remote learning affected his daily life—even his "ability to engage with [his] family." Alvaro stopped exercising and stopped going to buy groceries with his mother. Exhausted, overwhelmed, and even dispossessed, he simply did not feel like he could do it.

Impasse

"The days blended together…There wasn't really a good idea of what time of day it was," Ollie told me. The incoherence of time during the pandemic emerged in students' stories as a Indeed, the stickiness of Zoom was part of a broader unspooling that occurred as a result of Zoom learning and its affective impasse. Here, I draw upon the term "impasse" as used by Lauren Berlant to index the "historical present" as a "thick moment" of "endless ongoingness".[107] The impasse is "a space of time lived without a narrative genre"—in other words, the pandemic as an unthinkable period.[108] Berlant notes that impasse can function as a holding pattern, a "living paralysis" that arises as a coping strategy to precarious restructuring.[109] For students, the experience of pandemic learning amid temporal and spatial blurring was structured by impassivity. "Since we didn't know where the end was, when things [would be] returning, I had nothing to prepare for," Mariah said. "It was just like, empty space ahead." Mariah's locative

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[107] Lauren Berlant, *Cruel Optimism* (Duke University Press, 2011), 200; 204.
[108] Berlant, 199. I draw on the concept of the "unthinkable" from Trouillot's discussion of the Haitian Revolution as an unthinkable history. See also: Michel-Rolph Trouillot, "From Planters' Journals to Academia: The Haitian Revolution as Unthinkable History," *The Journal of Caribbean History* 25, no. 1 (1991): 81. I encountered this source through Nana Osei Quarshie's class on historical methods beyond the archive.
[109] Berlant, 212.

mapping of what was "ahead" of her reflected the ways that the pandemic dislocated students not only from their bodyminds and their environments but also from time. Once driven by the prospect of graduation, academic success, or college, many students were now "without an imaginable future."[110] Even as many schools continued to demand compliance with disciplinary expectations of dutiful attendance and academic integrity, the experiences of students learning remotely were instead characterized by an unspooling of time. The impasse of the pandemic disrupted the rhythm of schooling's chrononormative discipline.

An impasse is a blockage—a delay. As a result, Berlant argues, this delay might lead us to develop new ways "of being-with in the world" in addition to "rejection, refusal, detachment."[111] As I read the stories students had shared for this project, I found that many students responded to the impasse with tired indifference. "I feel like one thing about Zoom is it just made you feel very numb," Alejandra said. Being numb was not just about one's emotions, but also one's adherence to governing norms about how to live. In the early stages of the pandemic, Zoya explained that her school made classes entirely asynchronous. This sudden disruption created an impasse in Zoya's life. "I stayed up much later. I stayed up much later so I would wake up much later…there was no structure to my day at all, so I would just do whatever," she said. Her comments reflected the ways that 'typical' rhythms of living were iteratively abandoned as the pandemic reconfigured her way of being. In Zoya's use of the word "whatever", I understand her indifference to also be an assessment of her own life and the things she did in-between sleep. To "do whatever" is to act without intent or care for the thing that is being done and the reasons for doing so. Zoya evacuated any kind of meaning from her actions during this structureless space of time, she thought of her life as automatic. At one point, she told

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[110] Berlant, 212.
[111] Berlant, 199.

me, she pulled an "all-nighter"—not doing homework, but simply doing tasks that she considered to be trivial, such as scrolling on her phone. It was the first time she had ever stayed up until the next morning—"and it was for no reason!"

Abby, a Black student who attended public school during the pandemic, explained that her experience of remote learning was also a time of difficult mental health. As she spoke, her words came out rushed. Her interviewer suggested that this may have been a form of opacity, that "perhaps she did not want to linger too deeply." Nonetheless, Abby's discussion of her life during remote learning are critical and insightful. They move us closer to an understanding of the pandemic's impasse and how some students responded.

> I definitely went through a depressive state, like, had no reason to get up before 2pm. Once I got up at 2pm, why did I have to get out of bed? Because I had nothing to do. Everything I needed to do was on my laptop, which I just dragged from my desk to my bed. And like, opened that up, did whatever I wanted to, entertained myself, and then probably went to bed at like 3am. And then I would get up for food. I would be like, Oh my god, let me go on a run before it gets dark. Went on a run, came back. And basically showered, watched another movie, read a book or something, fell back asleep at 3am. Like, that was my routine. And it was horrible, literally terrible.

What stands out about Abby's story is the mechanical sequence in which she rendered her daily life. Through her "depressive state", Abby's life unfolded at a register of automatic unfeeling. In her response, we can see the ways that spatial and temporal markers became blurred as Abby "dragged" her laptop between her desk and bed, or responded reluctantly to signifiers of time. Like other students, she was fatigued by an unspooling spatio-temporal environment in which she was a reluctant but inextricable participant. However, Abby's words also present us with an interesting tension. They express the numbness and indifferent "whatever" that Alejandra and Zoya felt. But coeval with this indifference, Abby also expressed disgust or horror: this life of indifference was "horrible, literally terrible".

Here, I want to return to the heightened feelings of fear, anxiety, and stress that characterized many students' reflections about surveillance, online exams, and the Zoom gaze. Students were terrified of proctors and punishment, and disoriented by feelings of dysphoria and dysmorphia. I have not forgotten about these experiences. Rather, I want to argue that living in an impasse meant such extreme anxiety and "horrible, literally terrible" features of pandemic life were juxtaposed against the inability to escape from what Alejandra characterized as "simple fatigue". The "ongoingness" of the pandemic subjected students to an intra-active ontology constituted at once by relentless technical surveillance, subversion and resistance, and flatness and mundane boredom. Each of these ways of being were facilitated by Zoom and digital technology, which themselves denatured the disciplined structures and boundaries of pre-pandemic life. As students reacted to this immanent and inescapable atmosphere, they adopted an affect similar to what Sianne Ngai has theorized as "stuplimity".[112]

As a "temporal and emotional register" involving an "extended duration of consecutive fatigues", stuplimity is a feeling "engendered by the syncretism of shock and boredom…engendered by an encounter with difference prior to its conceptualization."[113] Stuplimity is a fitting way to conceptualize the affect of impassive living because, unlike the outward-looking tendencies of the sublime, the stuplime is instantiated through a confrontation of finitude and the bounded machinery of which one is an inextricable part. Stuplimity does not try to achieve anything or transcend its circumstances in order to lead us somewhere new. Rather, Ngai writes, it is a "form of tedium" and boredom that "resides in relentless attention to the abject and the small, the bits and scraps." In their reflections on pandemic learning, students such as Alejandra, Abby and Zoya performed stuplimity as an affective mode of survival. By living

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[112] Sianne Ngai, "Stuplimity: Shock and Boredom in Twentieth-Century Aesthetics," *Postmodern Culture* 10, no. 2 (2000).
[113] Ngai, "Stuplimity."

their lives as a sequence of tediums and "whatevers", these students felt their way through and around impasse rather than attempting to imagine or engineer themselves out of it. "Stuplimity offers no fantasy of transcendence," Ngai reminds us.[114] The impasse was immanent and we each inhered within its suffocating and destabilizing atmosphere.

Undisciplining

By attending to the immanence of Zoom amid unspooling structures of time, place, and mattering, it becomes clear that relations of discipline and subversion did not simply comprise discrete and agentic actors reacting to each other in sequence. Rather, the subversive behaviors of cheating or turning one's camera off arose from reconfigurations compelled by degraded structures and atmospheric shifts. What seemed to be small, isolated actions of individual students was actually a reflection of broader fissures in the disciplinary process of education more broadly. This process of undisciplining did not simply come about because students chose to be disobedient and cheat as a form of rebellion for its own sake. Rather, as Alejandra pointed out, the discipline of the classroom fractured in the pandemic due to "simple fatigue". The affective structures of pandemic learning functioned rhizomatically across time and place to create fissures in the disciplinary process of education, denaturing the bonds of reward and punishment that educational systems had attempted to stitch together in order to produce students who performed and inhabited normality.

Once again, these broader patterns of behavior and discipline were facilitated at the micro-level by remote learning technologies. "It kind of made me...it made me very loose and not like…as disciplined with my schoolwork," Zoya explained. Unstitching, unspooling, fatigued—as pre-pandemic strictures changed or fell away, the bonds between discipline and its

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[114] Ngai, "Stuplimity."

subject were loosened. Indi said: "I didn't try as hard. I think I kind of fell off academically, a bit." Students expressed that their lack of discipline or effort resulted in part from the experience of remote learning. "Whenever I was doing online learning, I felt like I did not have any motivation whatsoever to actually learn," Elena said. "And like, in person, I was like a very engaged learner. I was that one girl in class that would always raise her hand." Here, again, is evidence that the conditions of remote learning had created a different terrain or map for the effective instilment of discipline.

Examining these stories as a collective, I argue that each glitch, intra-action and fissure I have contoured in this essay constituted "small deviations" that, assembled in relation, produced a slow degradation in educational discipline. Forces interacted across scale and fractured the force of surveillance and control even in the face of invasive and uncomfortable new technologies. The immanence of Zoom and the dissolution of distinct spatial and temporal boundaries contributed to a stickiness and fatigue that nonetheless gave rise to acts of refusal or subversion, even if those subversive behaviors were not made with intention but rather produced as necessary responses to other reconfigurations. Cheating or turning one's camera off were less subversive than they might have first appeared because they were not necessarily acts of premeditated rebellion. Instead, subversive opacity was produced through acts of indifference—a numbness, stuplimity, fatigue, or automatic refusal of the epistemic frameworks that school authorities attempted to impose. These refusals became moments of impasse that translated the global and social scale of pandemic impasse into a space of epistemic thickness and opacity between the instructor and the student.

As Sara Ahmed writes: "small deviations, a loosening of a requirement, the creation of an exit point, opening a door to allow something to escape, can lead to more and more coming

out."[115] The slow decomposition of discipline that unfolded during several years of pandemic learning continued onward. A door had been opened. The undisciplining of students happened not in a snap moment of epiphany but rather as a loosening, a gradual escape. Several students described that after returning to in-person learning, they felt "weird" or "unsettled". They were accustomed to stuplimity, they had built habits like scrolling on their phone, "doing whatever", or even knitting that they now brought back with them into the in-person (we might say meatspace) classroom. "I was very used to not paying attention," Ollie said to me. Zoya agreed. "Before Zoom, I would be at the very front. I was ready to learn," she said. "When we came back, I was more likely to sneak my phone under the desk." Zoya was surprised to find herself choosing to sit at the back of the classroom and look at her phone while her teachers were speaking. The afterlives of what began in the pandemic continued even once students left their homes and returned to school. It did not matter that the spatial and temporal strictures had been restored: disciplining was already decomposing.

2021 marked Omar's senior year of high school. A year into the pandemic, he had completely abandoned his investment in his school's ideas of academic integrity and success. "I didn't give a fuck about school," he told me. For Omar, a low income student attending public school in Texas, this disinvestment from educational discipline had particularly fraught stakes. Reactionary campaigns against so-called "critical race theory" were in full-swing. Governor Greg Abbott was poised to sign a bill regulating what K-12 teachers were able to talk about when it came to race and American history.[116] "With remote learning, because everyone was always on social media regardless—if, like, the classroom can't talk about it, you're going to deal

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[115] Ahmed, *What's the Use?,* 215.

[116] For a further exploration of the impact of this bill on teachers, see: Edie Abraham-Macht, "The Critical Race Theory Debates Through History and Through Teachers' Eyes" (Unpublished undergraduate thesis, New Haven, CT, Yale University, 2022).

with it one way or another," Omar said. Indeed, in the aftermath of George Floyd's murder at the hands of police in 2020, a variety of anti-racist resources and infographics proliferated online as part of a broader movement for #BlackLivesMatter. Digital technologies had facilitated the erosion of the classroom as a bounded spatial and conceptual place, and in some ways, this had also enabled students to take up alternative forms of resistant or radical education parallel to their Zoom classes. Students like Omar became undisciplined in more radical and (truly) subversive ways. He began spending time organizing to make positive changes in his school district. "Even though I didn't really care about learning [on Zoom], I did care about making the school district better," Omar told me. "Instead of learning my multivariable calculus, I'd be spending hours talking to the school board. It's not that I didn't *care* about learning, it's that I didn't care about some *types* of learning." Ironically, although remote learning had rendered the classroom walls unprecedentedly porous—opening the possibility for more unruly ways of learning—it was this same porosity that led Omar to abandon his classroom education altogether as he took advantage of his teachers' decreased ability to surveil and police him. "I was able to like really, not give a fuck about content in class and really just focus on life, because I got really more involved in my activism, involved with the school board and things like that." Without remote learning, Omar said, he "wouldn't have had that flexibility" to do so. The process of undisciplining looked different for every student. For some, undisciplining simply manifested in rituals of refusal such as turning off one's camera. But for students like Omar, undisciplining enabled the development of a kind of counterdiscipline. Omar actively sought to change and transform the structures and systems that had attempted to instill in him particular notions of discipline and correct training. At its most potent, undisciplining exposed the potential for a remaking of education and social structures in America.

Part IV. Methods for Pandemic Learning Otherwise

On February 7, 2021, Yale College returned permanently to in-person teaching after a stint on Zoom during a spike of Omicron-variant infections.[117] After spending a year and a half on Zoom, my time with COVID-19 remote learning was over. On April 10, 2023, as I neared the end of this capstone project, President Joe Biden signed a bill ending the COVID-19 national emergency. The pandemic, for most people, is now officially finished—and so is Zoom learning. But this convenient ending does not sit quite right with me. As many disabled activists have rightly argued, COVID-19 continues to endanger immunocompromised people, particularly with the lifting of other public health precautions adopted during the pandemic's peaks. The reason *why* remote learning took place to begin with was to reduce the spread of a deadly virus, and ostensibly to protect those most vulnerable to its harms. We should not, however, have to accept the pandemic as a "state of exception" in which 'anything goes'. As I have outlined, experiences of remote learning were often far from ideal, and shaped by racist, capitalist, and ableist structures. These same structures were exacerbated by government policies that prioritized corporate profit over people's lives, health, and education.

I decided early on that this essay would not end with a conclusion in the typical sense. How could it, when this unfinished pandemic continues onward? Just as the COVID-19 pandemic's affective structures and legacies of (un)disciplining linger, immanent and in the air, so too does the lurking presence of Zoom and remote learning. On February 28, 2023, an overnight snowstorm led many professors at Yale, including my friends' and my own, to shift their classes to Zoom. This phenomenon is so common that countless students at Yale have

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[117] Salovey, Peter, and Scott Strobel. "Update on Plans for the Spring Semester." Office of the President, December 22, 2021. https://president.yale.edu/president/statements/update-plans-spring-semester.

commented to me that COVID-19 remote learning has made their teachers less likely to cancel class and more likely to hold sessions remotely.

I did not set out to find definitive and universal knowledge about remote learning, technology, surveillance, and power. As McKenzie Wark writes, "Knowing is never quite going to come together…Nothing guarantees that its parts are parts of a whole."[118] Yet it felt insufficient to call this project wrapped and done, having presented the mottled experiences of thirty students and myself. I did not want to do an injustice to the urgency with which many of these narratives were spoken. The impossibility of complete knowledge should not preclude us from imagining with and beyond the stories that we share with one other. Many students I interviewed expressed a burning desire to reimagine remote learning—or even schooling and education as a whole. It is for this reason that I end this essay with speculative notes on how we might continue to think about histories of remote learning and speculate toward pandemic learning otherwise. By returning to questions of methodology and exploration, I want to signal the iterative incompleteness of my project. I do not have a manifesto for a utopian ideal of remote learning. Rather, I believe that students' stories offer us counsel on the ways we think through the present and the future. I therefore conclude with key words on knowing, sensing and feeling that I believe cohere important lessons and invite further consideration.

Memory. In many ways, attending to memory helps me articulate the limits and unstable peripheries of this essay. It was not until late in this project that I realized I was really conducting a form of oral history, with all of this complicated methodology's disciplinary trappings. Many of this project's interviewees expressed frustrations or meditations on the quirks of memory, specifically in relation to how it felt to participate in remote schooling. "This conversation cannot accurately reflect the experiences of being online and being on Zoom for that year and a

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[118] Wark, *Sensoria.*

half," Raquel said, during her interview. "There are things that I can [now] point to very clearly and say, 'that was dysfunctional' or 'that didn't work in some way'—that at the time, we just lived with. So I think it can't fully capture what that experience was like in its full range of good to bad." Pandemic learning took shape not only around a historical and temporal impasse but also a psychological one. The unstable and inchoate qualities of the pandemic that disoriented our sense of time, place, and self also rendered this period of remote learning as "unthinkable" history, unthinkable in that its vastness and immanence made it difficult to capture or conceive of under previous epistemological frames of reference.[119] The unthinkable pandemic has been labeled in popular media as a "mass trauma", and Ollie joked that they would never be able to fully resolve this trauma with their therapist. "Sometimes talking about it, I feel like I'm almost making assumptions on what happened. Just because I don't know if I blocked it out of my memory...I don't know if it was like the trauma of the pandemic, like I don't- I don't know," Roxie said in her interview. Elena's interviewer also noted that she "had trouble remembering specific incidents" but that "her lack of memory did not seem to upset Elena…it seemed as though this was something she had unconsciously chosen not to remember to begin with." The ways that students have distanced themselves from the experiences of pandemic learning—whether intentionally or unintentionally—reiterate what Lauren Berlant calls "underperformed emotion" or "flat affect", in which people might struggle to express or truly come to possess their own feelings and consciousness.[120] Attending to the terrain of memory as our entrypoint into understanding the felt history of the pandemic is important because the production of memory—truthful or otherwise—might indicate something about where we are hoping to go from here. As Roxie indicated, the stories in this essay may largely be based on

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[119] Trouillot, "From Planters' Journals."
[120] Lauren Berlant, "Structures of Unfeeling: Mysterious Skin," *International Journal of Politics, Culture, and Society* 28, no. 3 (September 1, 2015): 191–213.

assumptions about our own past. Nonetheless, our unconscious capacity for creativity reflects traces of "unintended memory".[121] The Janus-face of memory's misremembering and fabrication should be useful to us as we imagine an otherwise of future pandemic learning. The impasse, after all, evades capture but we move through it nonetheless; it is a "cul-de-sac" in which we move "paradoxically in the same space."[122] Must we contain where we've been and where we are in order to sense where we want to go?

Habit. Implicit in many of these interviews was the suggestion of routine, habit, ritual. Although the immanence of Zoom blurred the boundaries between school and domesticity, bringing feelings of surveillance and the Zoom gaze into our homes and even our beds, this blurring also allowed students to carry their own homely rituals and habits into the schooling space. Whether that was Cam feeding her fish and making tea, or Ollie doing laundry, the impasse and undisciplining that unfolded during the pandemic allowed students to transform the hours of the school day into spaces of ritual, building what Ann Cvetkovich calls "utopias of ordinary habit."[123] Indeed, "the utopia of ordinary habit is forged out of the loss of connection— to the body, to a meaningful sense of work, to relations with others—that characterizes depression," Cvetkovich writes. In a time of dispossession, in which Zoom affects were immanent, and distinct structures and subjectivities dissolved, daily practices were grounding acts oriented toward the "here and now". In a reference that returns us to our Foucauldian discussions in the beginning of this essay, Cvetkovich argues that the utopia of ordinary habit is "reminiscent of Foucault's interest in traditions of asceticism and "practices of the self" that …[reconceive] the rational sovereign subject as a sensory being who crafts a self through process and through porous boundaries between self and other, and between the human and the

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[121] Fields, "What One Cannot Remember."
[122] Berlant, *Cruel Optimism,* 199.
[123] Ann Cvetkovich, *Depression: A Public Feeling* (Duke University Press, 2012).

nonhuman (including animals and things)."[124] In a different speculative approach, Tung-Hui Hu theorizes "timepass" as a form of digital lethargy in which "doing whatever" (to use Zoya's words) can act as a way "to temporarily forget the continual pressure for a user to connect and network with others."[125] Perhaps the tedium of stuplimity that students described holds within it the potential for an otherwise ontology during times of unfathomable crisis. Attending further to the abject and small offers a small form of needed resistance through which we might make meaning or connection. Educators during the pandemic lamented the loss of "connection" that occurred as a result of online learning. Rather than increased scopic capabilities or 'camera on' policies, perhaps the practice of habit and ritual offer paths toward relation.

Glitches. As I discussed in "Part I: Scopic Vulnerabilities", glitches reveal a "glimpse into normally obfuscated machine language"—they hint at something more systemic going on.[126] Recalling Emiliano's wifi troubles and the difficulties he had in meeting the time limit of his online exam, we should think about glitches as opportunities to think more ambitiously about what could be different about schooling and education. As Joanna Radin asks us: "What if we didn't allow the accident to be attributed to a random error? What if we insisted upon taking responsibility for the ways that machines disrupted our expectations, or even the ways the machines did exactly what humans built and then trained them to do?"[127] Taking responsibility for the systems that led to deep and violent pandemic inequities, including in the virtual classroom, must be an essential pillar of pandemic learning otherwise. As Legacy Russell argues, embracing the ontology of "glitched bodies" can be a powerful rejection of "the conflation of legibility and humanity."[128] In Emiliano's case, for instance, we might turn to disability studies

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[124] Cvetkovich, *Depression,* 191.
[125] Hu, *Digital Lethargy,* 46.
[126] Menkman, *The Glitch Moment(um)*.
[127] Joanna Radin, "Where Nothing Can Possibly Go 'Worng,'" *The New Inquiry*, December 12, 2016.
[128] Legacy Russell, *Glitch Feminism: A Manifesto* (Verso, 2020).

theorists of crip time, who ask: "What if temporal rhythms and their attached notions of normalcy, productivity, and community were forever cripped, detached from chrononormative capitalist structures and predicated instead on the myriad realities of bodyminds along a spectrum of abilities?"[129] What if, rather than trying to 'patch' the system, we let glitches grind the machine to a halt? Russell calls us to "innovate, encode, engineer the error into the machine, as a remix rendering the machine unrecognizable to itself, prompting its failure as a radical act." Perhaps a new iteration of pandemic learning would require us to corrupt and break down our existing socio-technical systems entirely.

Justice. If the question is "What do glitches gesture toward?" then justice answers. Justice is the pillar around which I critiqued the ableist, classist and racist valences of disciplining normality and scopic vulnerabilities. Justice is also the pillar around which students like Omar began to organize and fight as remote learning more easily permitted radical forms of undisciplining. As Legacy Russell points out, in dismantling the machine we must take up a commitment to racial justice and algorithmic justice. To resist the racializing gaze of surveillance, and to fight for racial justice, Simone Browne suggests that we must center fugitive Black epistemologies and dark sousveillance as a means of speaking and staring back.[130] Algorithmic racism will not be solved by diversifying biased datasets; instead, technologists must reckon with the ways that computational sciences have "thoughtlessly inherited deeply rooted unjust, racist, and white supremacist histories and practices."[131] In resisting the inequities of normative discipline and pandemic learning, we should also turn to Aimi Hamraie and Kelly Fritsch's "Crip Technoscience Manifesto", which poses technoscience as a potential tool of

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[129] Ellen Samuels and Elizabeth Freeman, "Introduction: Crip Temporalities," *South Atlantic Quarterly* 120, no. 2 (2021): 245–54.
[130] Browne, *Dark Matters.*
[131] Birhane, "Algorithmic Injustice."

disability justice. In contrast to paternalistic "disability technoscience", crip technoscience "agitates against compulsory ablebodiedness" and instead draws from "community-generated accessibility and Universal Design practices."[132] One example of potential future uptake that emerged in my interviews was the push for hybridized Yale classes even after the "return" to in-person learning. Tallulah, who attended community college, said to me: "At community college, there's already so many people from so many walks of life trying to get an education...In that sense, I feel like my committee college was a lot more flexible [than Yale]...The classes I took were asynchronous because that was done out of consideration that some people in these classes have families to support." What Tallulah is naming is the principle that crip technoscience can itself act as a form of world remaking that positively reshapes structural conditions even for those who consider themselves to be able-bodied. Indeed, students like Ollie and Emiliano mentioned that they found lecture recordings to be helpful as they sometimes had trouble focusing in class. Tallulah mentioned that students had campaigned and pushed for Yale to "be more accessible" and support the hybridization of more classes for those who might not be able to physically attend, but university administrators claimed they lacked the resources to do so. With a $41 billion endowment, Tallulah noted that "if the school really wanted to, they could." The question of justice in pandemic learning therefore demands a theory of change. In this sense, I am drawn to Johanna Hedva's "Disability Access Rider", an assertion of "access intimacy" in which they stipulate a range of accessibility requirements for any event organizers inviting them to speak at their events—inviting them to "become a working part of building the kind of world that needs to be built."[133] What might it mean for students, teachers and professors alike to adopt their own forms of disability access riders to demand better from their schools,

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[132] Aimi Hamraie and Kelly Fritsch, "Crip Technoscience Manifesto," *Catalyst: Feminism, Theory, Technoscience* 5, no. 1 (2019): 1–33.
[133] Johanna Hedva, "Disability Access Rider," in *Curating Access* (Routledge, n.d.), 289–92.

universities and institutions? This is where I venture that recent unionization efforts of graduate teachers, faculty, and student workers around America pose a step in the right direction in building "cross-movement solidarity", "interdependence", and "collective liberation" as principles of disability justice.[134] This, too, is not an easy solution, for accessibility measures and disability justice are too easily discarded when it comes to contract negotiations. As we advocate together for a different kind of pandemic learning, we must learn from these mistakes.

Care. During her interview, Jennie reflected on the experience of pandemic learning as a disabled student. "I think people are getting a little tired about having to give accommodations to people who are sick," she said. "I mean, not that anyone was mean and would straight up say anything about it. It was just like…oh, I am still sick. Not because of Covid, but because I have an autoimmune disease. It's chronic, it won't go away. It was really nice to have people understanding when everyone, like the entire world, was getting sick. But now it feels like [we are] heading back towards the pre-pandemic state where it was difficult to get accommodations based on my sickness." Jennie observed that although early pandemic "crip time" could once have become a universal condition, today corporations, universities, schools and governments are racing back to a pre-pandemic state of "normality".[135] The truth is, pandemic learning justice does not happen without relations and labors of care. As Leah Lakshmi Piepzna-Samarasinha notes, "without the life support we were giving each other, we wouldn't be able to stay alive to do activism, or life, at all."[136] Pandemic learning otherwise might therefore look like pedagogies of care that are centered around the maintenance of life and the flourishing of students and teachers alike amid fracture and crisis. Pedagogies of care must be attentive, rather than

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[134] Patricia Berne et al., "Ten Principles of Disability Justice," *WSQ: Women's Studies Quarterly* 46, no. 1 (2018): 227–30.
[135] Samuels and Freeman, "Introduction: Crip Temporalities."
[136] Leah Lakshmi Piepzna-Samarasinha, *Care Work: Dreaming Disability Justice* (Arsenal Pulp Press, 2018), 25.

assumptive, but also wilful. It may not be the case that "someone else somewhere is the 'expert'".[137] Even in cases of restricted agency, the students in this essay have shown us that we can hold onto care through small acts of resistance amid impasse. As Johanna Hedva reminds us, revolution might look "something more like the world standing still because all the bodies in it are exhausted—because care has to be prioritized before it's too late."[138] And, as the undisciplining of students during the pandemic began to suggest, "small deviations", "bits and scraps", utopias of ordinary habit and "what is within reach" can act as doors for a greater collective to follow.[139]

Zoom affects teach us things about the worlds we might want to create. These are visions guided by the contours of memory and ritual, galvanized by the radical potentialities contained within glitches and a fight to center racial, class, and disability justice as we care for one another and ourselves. These are the values I hope to remember as we sense and feel our way through the impasse and work toward pandemic learning otherwise.

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[137] Piepzna-Samarasinha, *Care Work,* 25.
[138] Johanna Hedva, *Get Well Soon,* 2020; see also: Johanna Hedva, "Sick Woman Theory," *Mask Magazine* 24 (2016).
[139] Ahmed, *What's the Use?,* 215; Ngai, "Stuplimity"; Cvetkovich, *Depression*; Johanna Hedva, "Why It's Taking So Long," *Topical Cream* 1 (2022).

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