Chapter 2
Making Sense of ARt: A Methodological Framework for the Study of Augmented Reality Art

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2.1 Introduction

The study of augmented reality art (henceforth ARt) is an inherently ephemeral project. Given the speed with which AR technology is evolving as a creative medium, the proliferation of AR in practice is outpacing the research methods that attend to its specificity. How do we make sense of, and derive meaning from, works of ARt? And what's at stake in the course of this intellectual project?

As digital art scholar Christiane Paul observes, "Technologies often tend to develop faster than the rhetoric evaluating them, and we constantly have to develop vocabulary for art using digital technologies as a medium—in social, economic, and aesthetic respects" (Paul 2015, p. 67). Paul continues, "The characteristics commonly assigned to the digital medium need some further clarification since they are often used in such a general way that they hardly carry any meaning" (Paul 2015, p. 67). Terms like "interactivity" or "immersion" for instance are beginning to lack analytical substance as the digitally mediated world with which we are entangled increasingly feels like water to a fish. Currently, the range of experiences that join the physical and the digital to constitute the spectrum of extended reality (XR) is evolving at a pace that strongly supports Paul's point. We are inclined to bundle these experiences under encompassing terms like "XR" and are less likely to reflect on the phenomenological distinctiveness of such constitutive experiences on their own terms. At this juncture, the phenomenon of virtual reality (VR) has arguably garnered more research along these lines.

In practice, however, the immersive experience afforded by a work of ARt is not tantamount to a virtual reality experience. Though deep affinities are undeniable, we have an opportunity to further develop the phenomenological vocabulary we use to articulate the experiential grammar that distinguishes an augmented experience

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from a fully immersive, virtual experience. Doing so opens up the potential for deeper investigations of the potentialities of augmented reality in particular, and its aesthetic, social, and political implications. If we adopt a human-centered perspective and follow the creators who leverage this technology, we see that they use AR to do far more than embellish their living rooms with furniture or enhance their faces with filters. Rather than asking ourselves what AR technology will be capable of in one, five, or ten years, I wonder what we've already overlooked about the inaugural wave of ARt with our analytical gazes turned so expectantly toward the future.

In response, this chapter provides a medium-specific methodological framework for the study of ARtworks, from a perspective I term "critical sensory ethnography," drawing on the work of Sarah Pink (Pink 2015a, 2015b; Pink et al. 2016, 2020) and D. Soyini Madison (2005). By combining the work of these two scholars—neither of whom directly engage with the technology of AR—I extend their ethnographic commitments to the study of augmented reality experiences. Throughout this chapter, I seek to problematize an apolitical conception of immersive experience. Rather, I suggest that the form of immersive experience afforded by augmented reality is a socially and politically salient form of embodied knowledge that demands ongoing, critical ethnographic study. By adopting an ethnographic approach to the study of AR, I assume that our understanding of augmented reality art would be further enriched by conceptualizing ARt as an emerging avant-garde, creative *practice* enacted by human beings as they make sense of their lived experiences through technology. Rather than bracketing the ARtist to pursue disembodied studies of ARtworks in analytical or theoretical vacuums, I argue we have much to learn from centering the perspective and expertise of ARtists *qua* practitioners of an emerging form of embodied knowledge. Our point of departure can thus be summarized by several overarching questions to guide the study of ARtistic practices:

(1) What kind of *practices* are ARtists enacting or contributing to in our contemporary moment?
(2) What sensory, somatic, semiotic, cultural, and political *categories* do ARtists rely on, reflect on, manipulate, subvert, play with, or generate through the augmented aesthetic experiences they create?
(3) What are the conceptual, formal, and experiential *conditions* that ARtists mobilize to facilitate contemporary, augmented aesthetic experiences?
(4) And finally, how do ARtists use the technology of AR to *reimagine* or *protest* their physical realities through ARt practices?

Indeed, the questions outlined above are not exhaustive. The methodological approach that follows will be most beneficial to scholars and practitioners in the fields of digital sociology, anthropology, user experience research and human–computer interaction, media studies, and performance studies. Additionally, this framework is intended to equip academic and industry researchers with a model for the ethnographic study of augmented reality art that I invite them to modify, reinterpret, and extend according to their own objectives, expertise, and ethnographic intuition.

2.2 Nouveaux Instruments

What, precisely, is at stake when we undertake a medium-specific approach to the study of augmented reality art? This question confronts us, in some variation, each time a new medium starts to make its mark on us throughout history. In response, new media scholars often argue that a salient dimension of any new medium is its ability to facilitate *new experiences* for its users and audiences (Lovejoy et al. 2011; Paul 2015). Indeed, the architecture of media studies scholarship is constituted by the work of thinkers like Walter Benjamin who argued that media play a central role in experiential transformations over time. Jaeho Kang summarizes Benjamin's commitments along these lines:

> The question of the human experience of media and how the media themselves transform experiences is fundamental to Benjamin. New media then shape the human perceptual capacities and faculties, and undergird new forms of embodied experience. Media, then, are not simply visual or oral, or literary forms, but reconfigure the entire human body, our sensory apparatus: in other words, media technological transformation, the transformation of the body, and its relation to space and time are intimately interconnected. New media produce new perceptual possibilities, new bodies and new subjectivities (Kang 2014, p. 213).

In a similar vein, Marshall McLuhan argued that artists possessed a privileged perspective in societies undergoing such perceptual transformations. He suggests, "The effects of technology do not occur at the level of opinions or concepts, but alter sense ratios or patterns of perception steadily and without any resistance. The serious artist is the only person able to encounter technology with impunity, just because he [*sic*] is an expert aware of the changes in sense perception" (McLuhan 1964, p. 31). Thus, the perspective of the new media artist/creator is a promising starting point as we seek to comprehend ARt practices and their relationship to what McLuhan refers to as "sense ratios," or perceptual patterns, as they transform through time.

Contemporary scholars continue to build on McLuhan's concept of "sense ratios" to pursue investigations of technologically mediated embodied experience. The work of Ingrid Richardson (2005, 2010, 2011, 2020) provides a phenomenological, medium-specific account of our embodied interactions with new media, specifically mobile technologies. Drawing on Merleau-Ponty's (2002, p. 145) classic argument that habituating oneself to the objects in our midst "expresses the power we have of dilating our being in the world … of altering our existence through incorporating new instruments [*nouveaux instruments*]," Richardson considers the embodied practices that habituate us toward contemporary, mobile media devices. Richardson explores how such technologies demand a new range of collective bodily skills, spatial perceptions, postures and habits, arguing that a medium-specific approach centralizes the distinctive spatial, temporal, and socio-cultural effects of a particular medium that determine "particular conditions of possibility for the way meaning is made" (Richardson 2010, 2020). Richardson proposes a medium-specific approach to the study of Merleau-Ponty's *nouveaux instruments* that phenomenologically probes the conditions of collectively shared forms of knowledge as they are performed into being in situ. Importantly, Richardson's program moves beyond McLuhan's sense

ratios to include the role of culture, history, and the situatedness of knowledge with the more relational concept of "technosomatic involvements" (Richardson 2010). Drawing on the applied, post-phenomenological approach of philosopher Don Ihde (1990) Richardson calls for additional ethnographic studies of embodied knowledge practices that illustrate the technosomatic arrangements that new media demand across cultures and contexts.

Richardson's notion of technosomatic involvements exemplifies the hermeneutic phenomenological principle that the "macro," is constituted by "micro" practices and invites us to interrogate the theoretical distinction that artificially separates these two deeply interrelated domains of lived, embodied experience. What is at stake, therefore, as we undertake the study of *nouveaux instruments* is the technologically mediated transformation of "common sense" itself—knowledge that is at once deeply personal, tacit, and individually embodied, as well as socially and culturally salient. Following such transformations ethnographically enables us to more fully comprehend how knowledge and meaning are produced by and through ever evolving, technosomatic means.

2.3 Making Sense of the Senses

Ethnographic studies of embodied knowledge practices can be traced back to the origins of the anthropological and sociological disciplines, with the role of the senses occupying varying levels of significance. In the past three decades, the related "material," "sensory," and "performative" turns have sparked intellectual debates concerning divergent approaches to the study of human experience and knowledge production—with semiotic, linguistic, largely representational studies occupying one extreme, and material, sensory, extralinguistic approaches at the other.

The latter position has been defended by select scholars affiliated with the interdisciplinary field of "sensory studies," which takes the human "sensorium" as its primary object of study. Derived from the Latin *sensus*, (the faculty of perceiving), the concept of the sensorium emerged in the seventeenth century to describe the totality, or seat, of sensory perception. The interdisciplinary field of sensory studies is broadly concerned with the study of the sensorium as the dynamic interplay and organization of our perceptual processes mediated by our social, physical, and cultural environments (Howes 1991; Jutte 2005). Anthropologist David Howes and cultural historian Constance Classen explain, "[S]ense perception is not simply some precultural, psychophysical 'information-gathering' process. Our ways of sensing and making sense lie at, and indeed give form and life to, the heart of culture" (Howes and Classen 2013, p. 13). Though not a homogeneous subfield, this approach tends to advance the human sensorium as an analytical concept warranting further anthropological study—much like kinship, economic, or religious systems—to facilitate cross-cultural comparison.

While sensory studies scholarship contributed important challenges and nuance to the intellectual debates of the early twenty-first century, it is increasingly common

for today's ethnographic scholarship to demonstrate that—in practice—a *rapprochement* between the sensory and the semiotic can produce fruitful accounts of lived, embodied experience. In this way, the initial wave of sensory studies scholarship has since been reinterpreted by contemporary ethnographers. For our purposes, the "sensory ethnographic" approach outlined by anthropologist Sarah Pink provides us with the methodological foundation needed to attend to both the material and semiotic domains of augmented reality artistic practices. Pink invites the ethnographer to consider forfeiting the mind/body dualism that fragments prior studies of human experience to pursue a more holistic approach to ethnography. Such an approach is a direct response to calls of scholars like Mitchell (2005) who assert that Western ocularcentrism and the reification of "the visual," have left us with a limited understanding of our interrelated sensory and semiotic ratios. Pink's work reminds us that the distinction between the cognitive and sensory categories available to our research participants are equally important sources of knowledge whose separateness is defended more stringently within academic debates than in our participants' lived experiences.

2.4 Sensory Ethnography

Extending the initial wave of sensory studies scholarship, anthropologist Sarah Pink's "sensory ethnography" relocates the analytical position of the senses in ethnographic analysis, departing from prior, specialized anthropological accounts (Pink 2015a, 2015b). Pink explains, "In my own work, [the senses have] become part of an approach, rather than being the central strand of a study. This I believe is a shift that needs to happen, so that attention to the senses becomes part of ethnographic practice, rather than the object of ethnographic study" (Pink 2015b, p. 13). Pink's sensory ethnography, therefore, is a less of a specialized program, but more of a methodological posture that assumes the sensorial (she prefers the term "*multi*sensorial") dimension of human experience is salient to ethnographic inquiry generally. Rather than abstracting the sensorium as an object of study, the multisensorial dimension of lived experience permeates the ethnographer's outlook entirely.

A sensory ethnographic perspective, then, supplements traditional ethnography with a more expansive definition of what is typically regarded to constitute legitimate ethnographic "data." Pink suggests that the ethnographic interview and participant observation—the primary ethnographic methods—be reconceptualized as *multisensory* events. Rather than supplant traditional ethnography, Pink deepens extant approaches by insisting that we overlook important sources of ethnographic knowledge if cursory analytical attention is paid to "sense-data," whether they be quotidian or highly significant to our participants. The sensory ethnographer conducts close, qualitative studies of human experience that attend to multisensorial, atmospheric, and embodied forms of meaning-making via interviews and observation, but analysis does not simply culminate in the reconstruction of a culture's sensorium. Importantly, Pink also embraces the semiotic and cultural codes that human beings draw upon

to imbue experience with meaning. In this way, Pink invites ethnographers to take full advantage of all sources of knowledge and meaning available to us, and to our research participants, to pursue novel, creative accounts of the way that the spoken and tacit dimensions of experience contribute to meaning-making. The resultant sensory ethnographic findings carefully articulate how these dimensions work in tandem as participants make sense of their lived experiences and practices.

In her related work on ethnographic studies of the digital, Pink observes that sensory approaches are gaining in currency in part due to the ways in which the digital is increasingly entangled in everyday experience (Pink et al. 2016). I suggest that Pink's holistic, multisensorial analytical posture, coupled with her refusal to center the sensorium as our primary object of study yields new analytical possibilities in our postdigital moment. With Pink, I am not invested in merely abstracting and reconstructing the human sensorium as our chief analytical objective, nor do I seek to merely confirm that the increasingly digital human sensorium has undergone transformations through time. Following the analyses of early scholars like Benjamin, McLuhan, and Merleau-Ponty, and contemporary thinkers like Don Ihde (1990), Mark Hansen (2006), Ingrid Richardson (2020), and Richard Grusin (2015), I assume it is no longer contentious—or novel—to argue that the contemporary human experience is co-constituted by and through digital media. My reading of Pink, therefore, embraces her invitation to pursue more ambitious questions about the experiential conditions of meaning-making, including her argument that a sensory ethnographic approach might illuminate new sensory categories, and shed new light on emerging forms of embodied knowledge and practice. Pink's invitation reminds us that ethnographers need not wait for emerging knowledge practices to become hegemonic or dominant before we study them. Given the rapid evolution of AR technology, Pink's approach is well positioned to follow the emergence of ARt as a bourgeoning, creative practice.

By conceptualizing augmented reality art practices in this way, we pursue a framework for the study of augmented reality that is at once medium-specific—and yet—is not necessarily media-*centric*. We do not assume that the technology of AR serves the same function, or takes priority, in the lives and practices of all ARtists and creators. With Pink, we adopt human-centered principles from the fields of user experience research and human–computer interaction (HCI) to explore technology through the first-hand experiences of human beings (Norman 2007, 2013). Along these lines, the ethnographer is discouraged from making a priori assumptions that the technology in question is essentially good or bad for its users, or that the technology "feels" particularly salient or interesting to the research participant. Instead, we proceed inductively and carefully through ethnographic interviews and participant observation into the lifeworlds of our research participants to uncover the kinds of experiences and possibilities a given technology affords them. This includes the range of unanticipated benefits, consequences, and functions of the technology under investigation.

To summarize thus far, the ethnographic perspective I seek to advance for the study of ARt proceeds from the methodological foundation provided by Pink's sensory ethnographic approach, but does not amount to it. Pink's commitments to a more

robust ethnographic outlook that takes seriously the semiotic and sensory data generated throughout the course of multisensory ethnographic interviews and participant observation are excellent starting points. Further, Pink's human-centered approach to digital ethnography can be read as an important invitation to researchers to be reflexive about their personal attachments or biases related to the technologies they investigate. In order to more fully attend to the range of empirical practices that ARtists enact through AR, however, we must supplement Pink's perspective with an ethnographic approach that specifically addresses questions of power and inequality in phenomenological terms.

2.5 A Critical Supplement to Sensory Ethnography

Though augmented reality art is colloquially associated with the spectacle of Pokémon Go, or the Snap and Instagram filters that punctuate our social feeds, a notable, though vastly underexplored, impulse runs throughout what we might term the "first wave" of augmented reality art. Since the early work of the inaugural augmented reality art collective Manifest.AR, artists and creators have used AR to generate ARt that explores themes of power, cultural identity, gender, race, climate change, and critical history. Years before Pokémon Go launched AR into the mainstream, the collective pioneered the use of ARt as a form of activism—protesting cultural elitism by infiltrating the MoMa, and raising climate change awareness by illustrating glacial recession, among other interventions.[1] Though their work is peripheral to the mainstream, commodified forms of augmented reality experiences that are currently on the rise, these avant-garde practices are central to the genealogy of augmented reality technology. The first wave of socially and politically engaged ARtworks they have produced arguably constitutes an important dimension of the ARtistic canon.

As AR continues to make its way into mainstream channels of e-commerce, education, entertainment, and gaming, we would be remiss to overlook the cadre of ARtists who consistently produce work beyond these traditional domains. Today's rising cohort of ARtists use AR to protest police brutality, assert their cultural identities, and illuminate marginalized histories. This ongoing work invites questions regarding how ARtists use AR to imagine more socially and politically just realities at the phenomenological level. In McLuhan's terms, we might ask—what is it about the *medium* of AR that is conducive to the social, political, and global *messages* ARtists seek to advance? To further adapt our methodological framework to account for such questions, we now consider the work of anthropologist D. Soyini Madison (2005).[2]

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[1] I wish to thank the members of the Manifest.AR collective who have generously shared their work and perspectives with me. See co-founder Mark Skwarek's (2014) chapter, "Augmented Reality Activism" for a comprehensive introduction to the collective's work and objectives.

[2] I wish to thank Professor Kemi Adeyemi for introducing me to Madison's seminal work.

By joining Pink's multisensorial analytical posture with Madison's (2005) *Critical Ethnography: Method, Ethics and Performance*, we pursue an ethnographic approach that more comprehensively engages the relationship between phenomenology and politics. Madison's work is constituted by two critical themes that I consider germane to the study of ARt practices: (1) the politics of researcher positionality and (2) phenomenology's relationship to the political. In contrast to Pink, Madison's approach advances a more expressly critical account of the ethnographic researcher and of human subjectivity more broadly. Madison routinely opts to refer to the ethnographer's *positionality*, rather than their subjectivity, to underscore the relational nature of ethnographic presence.[3] Madison invites ethnographers to:

> [C]ontextualize our own positionality, thereby making it accessible, transparent, and vulnerable to judgment and evaluation. In this way, we take ethical responsibility for our own subjectivity and political perspective, resisting the trap of gratuitous self-centeredness or of presenting an interpretation as though it has no "self," as though it is not accountable for its consequences and effects. Doing fieldwork is a personal experience. Our intuition, senses, and emotions—or what Wallace Bacon (1979) collectively refers to as "felt sensing"—are powerfully woven into and inseparable from the process (Madison 2005, p. 8).

Madison's distinction between a reflexive, vulnerable acknowledgment of one's positionality on the one hand, and an indulgent, self-centeredness on the other, is salient. Madison urges the researcher to take responsibility for their presence and interpretations throughout the stages of data collection, analysis, and reporting. Where the ethnographer veers into self-gratuitous territory, somewhat paradoxically, is when they fail to acknowledge their subjectivity. This implies that the ethnographer's experience and interpretations are universal, objective, and self-evident. When the time comes to document and report one's research findings, an objective, impersonal "voice from nowhere," is to be avoided. Attending to the politics of positionality, then, is less of a discrete "moment" or "task," and more of a posture of openness to—and responsibility for—one's limitations throughout the research process.

While an exhaustive treatment of the relationship between phenomenology and politics is beyond the scope of this brief chapter, it is important to note Madison's commitment to the political dimension of phenomenology. She distinguishes her phenomenological methodology from the classical, Husserlian study of a transcendent consciousness and subjectivity that is "bracketed" from the surrounding, natural world (Husserl 1999). She opts instead for Heidegger's hermeneutic phenomenology, which accepts that our first-hand experiences are indelibly marked by society, culture, and history (Heidegger 1962, 1999). In her formulation, the critical ethnographer presupposes macro-level systemic inequalities and political injustices to be detectable at the phenomenological level of our participants' every day, subjective experiences. Madison (2005) further explains:

> [C]ritical ethnographers embrace phenomenology's orientation toward embodiment and perception, both in the telling and enactment of experience. We understand that human

[3] Madison's emphasis on positionality is preferred to Pink's distinction between the subjective and intersubjective dimensions of the sensory ethnographer's subjectivity (see Pink 2015b, pp. 58–65).

> perception, on the one hand, reveals idiosyncratic meanings, contingent truths, and felt-sensing perspectives that are born from materiality, power, and the complexity of presence, and, on the other hand, uncovers what it feels like to experience all these elements up close and personal (p. 58).

In sum, Madison's framework prepares the ethnographer for a reflexive, vulnerable process of discovery and understanding and encourages close investigations of participants' first-hand experiences as they negotiate the consequences of social and political inequality.

2.6 A Critical Sensory Ethnographic Approach to the Study of ARt

Taken together, Pink's sensory ethnography and Madison's critical ethnography provide us with ethnographic principles to be further adapted to facilitate the study of augmented reality art. In particular, Pink argues for the significance of extralinguistic ethnographic data and calls for creative ethnographic studies of the relationship between the sensory and semiotic dimensions of embodied knowledge and practice. Madison complements Pink's perspective with an incisive call to critically evaluate the socially and politically salient domains of ethnographic positionality, as well as our participants' phenomenological perspectives. Extending Pink and Madison, I apply a critical sensory ethnographic perspective to the study of socially, politically, and globally engaged ARt. Below, I outline this approach while drawing on a case study from my ethnographic work with contemporary ARtists.

Pink notes that sensory ethnographic interviews and participant observation need not be conducted in a shared, physical space between the researcher and the participant. In response to Pink's (2015b) call for additional digital sensory ethnographic scholarship, I have adapted her guidelines to my remote, digital ethnographic practice in the midst of the COVID-19 pandemic. For the study of ARt, in particular, a sufficient amount of data can be generated via remote video calling and screen-sharing technology between the researcher and participant, coupled with the researcher's ability to download and experience a participant's work of ARt on their own mobile device. If the ARt is located spatially, of course, it is preferable that the researcher experience the ARt in its intended context. If the researcher is unable to travel to the space where the ARt is geolocated, or if the location is not safe to visit, a sufficient alternative is to invite the participant to record a video of the ARt experience in practice, and to share the video with the researcher while guiding them through the intended experience, step-by-step. This show-and-tell style of digital ethnographic interviewing combines traditional ethnographic interviewing techniques with the "think aloud protocol" routinely utilized in remote and in-person user research contexts (Boren and Ramey 2000).

For our purposes, a laptop alone is not a sufficient critical sensory ethnographic interview tool. While conducting a remote ethnographic interview, it is recommended

that the researcher be connected to a wired Internet connection while utilizing at least two computer monitors, and a supplemental web camera, speakers (or headphones), and microphone equipment. This helps ensure that the participant will be able to clearly see, hear, and sense the researcher's presence, including the researcher's verbal and non-verbal cues to encourage the participant as they share. The equipment also enables the researcher to experience the one-on-one interview with one dedicated monitor, while experiencing any screen-shared, multimedia content on the second screen. The external speakers (or headphones) are especially important for the researcher to adequately hear not only the participants' voice (including their unspoken cues, hesitation, laughter, and so on), but also allow the researcher to optimally perceive the sounds that might accompany a work of ARt. A mobile device (tablet, phone) is also important to have on-hand, in the event that the ARtist shares a work of ARt that the researcher can experience directly.

During a digital ethnographic interview that includes screen-sharing, several phenomenological details are pertinent. Importantly, it is recommended that screen-sharing be delayed until the researcher and participant have established some foundational rapport in the initial one-on-one portion of the discussion. Sharing one's screen too soon introduces a transactional, distant feeling into the remote encounter. After anchoring the encounter with this initial sense of co-presence, the researcher should invite the participant to share their screen and demonstrate their ARtworks. While screen-sharing, the ethnographer ought to take the time to ensure that, at minimum, thumbnails of the participant and researchers' faces are visible for both individuals. The researcher might need to assist the participant to configure these settings, but it is imperative to maintain a sense of co-presence as content is being shared.

The initial moments of the critical sensory ethnographic interview are extremely important. In addition to obtaining the participant's consent, answering questions they have about the study, establishing one another's pronouns, and ensuring the technical equipment is functioning for both individuals, these initial moments are an opportunity for the researcher to mindfully ground the emotional and sensory dimensions of the interview with their affective presence. At this time, the ethnographer has the responsibility to take note of how their presentation and positionality relate to their participant's subjectivity, and to anticipate the consequences. This extends to tacit and overt details such as the two individuals' communication styles (i.e., hurried, calm), their countenances (i.e., shy, confident), their physical appearances (i.e., formal, casual), and the more explicit sociological differences in racial identity, gender presentation, age, class, ability, native language, and cultural background. The researcher is responsible for assessing these dynamics throughout the interview, and being mindful that their positionality might introduce an imbalance of power at any point. A straightforward way the researcher can ensure that these disparate variables come into alignment is to avoid the urge to fill silence, nervously speak and dominate the affective space throughout the interview. A helpful objective is to encourage the participant to serve as the most active interlocutor, while the researcher remains engaged, inviting, and warm without resorting to condescension. Following the interview, it is recommended that the researcher include their assessment of the above dynamics in their field notes, in order to further contextualize their findings.

Fig. 2.1 Artist Steven Christian installed his "George Floyd AR Memorial" throughout Portland during the city's 100 days of Black Lives Matter protests in 2020

2.6.1 Case Study: "George Floyd AR Memorial" by Steven Christian

We turn now to a case study from my ethnographic research with contemporary ARtists who use AR as a form of protest and activism. Below, I apply a critical sensory ethnographic approach to American artist Steven Christian's ARt practice, and his work entitled "George Floyd AR Memorial" (Fig. 2.1). While an extended account of his ARt practice is beyond the scope of this brief chapter, I conclude with an abbreviated summary of my findings.[4]

Several months before our interview, I became familiar with the content Steven posted to his YouTube channel and Twitter in response to the Black Lives Matter (BLM) protests following George Floyd's murder on May 25, 2020, by former Minneapolis police officer Derek Chauvin. Steven was based in Portland, Oregon, at the time, which was the site of over 100 days of BLM protests in the wake of Floyd's death. As a Black American navigating the swell of political activity surrounding racial injustice during this moment, Steven responded to Floyd's murder and the ongoing protests with AR as his medium of choice. In August of 2020, Steven posted videos and images of his AR installation that featured one central asset—a digital, bronze, 3D bust of George Floyd modeled by sculptor Rodman Edwards.[5]

[4] Notably, my positionality as a white ethnographer with a background in Africana studies and cultural sociology introduced conditions and limitations into the ethnographic process that required ongoing reflexivity. Accordingly, I collaborated with Steven Christian as I prepared this chapter. I wish to thank him for providing feedback prior to this chapter's publication.

[5] The model is available on Sketchfab at the following link: https://sketchfab.com/3d-models/george-floyd-memorial-bust-0c4f918e8e16463e8d5de92bc49a9f23.

Fig. 2.2 Steven Christian's "George Floyd AR Memorial" installed at a Portland park by the artist

The ARtwork consists of a fiducial marker that enables the user to trigger the bust of Floyd by pointing the camera of their mobile device toward a flat surface. Once triggered, the bust of Floyd appears where the user wishes to place it. The user can then open the ARtwork's settings to scale the bust height up to 30 feet and to rotate it by 360 degrees.

After finalizing his work, Steven ventured to landmarks throughout Portland to install his ARt. He recorded videos and screen shots of the ARtwork on his mobile phone as he installed Floyd's commemorative bust at significant sites, including the city capitol building (Fig. 2.2).

Steven then posted the content documenting his ARt experience to his social media accounts, later accompanied by a step-by-step tutorial that other creators could use to build the installation themselves in Unity (Fig. 2.3).[6]

To further increase access to his ARtwork, he added it to his mobile AR app that features several of his ARt installations (Fig. 2.4).[7]

Steven and I met for the first time in January 2021 in the middle of the COVID-19 pandemic, about two weeks after protestors stormed the US Capitol building. Due to social distancing restrictions, Steven and I conducted our ethnographic interviews remotely utilizing video calling and screen-sharing technology throughout 2021. During the initial moments of my interview with Steven, he explained to me that he identifies as a "teaching artist," a multimedia content creator, and an "experience builder." He is a self-taught animator, specializing in comics and augmented reality. Growing up in the Bay Area, Steven explained that he had always been intrigued by the culture of Silicon Valley, but quickly realized that Black creators like himself were forced to confront significant barriers to entry. In response to this lack of

[6] Steven Christian's post regarding the memorial is available here: https://stuckonaneyelnd.medium.com/i-made-an-augmented-reality-app-that-triggered-racists-a8f377dc50b0.

[7] Steven Christian's mobile app is available here: https://iltopiastudios.com/eyelndfeevrapp/.

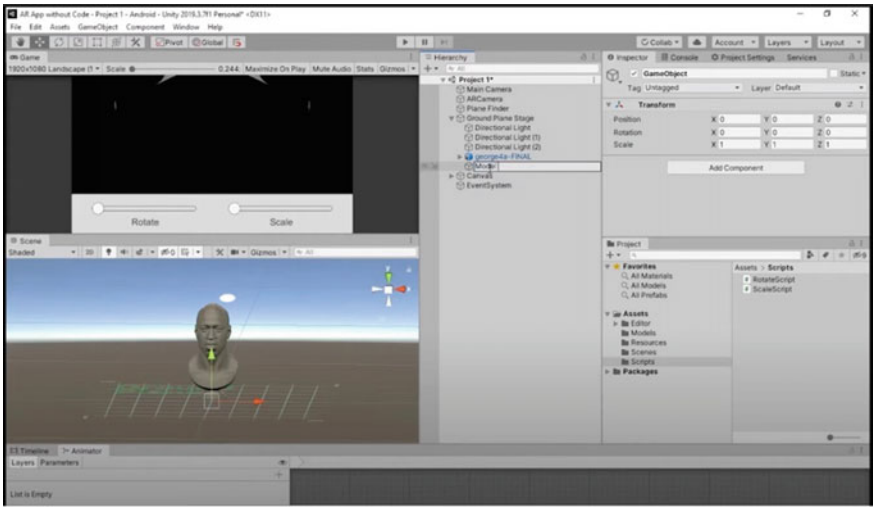

Fig. 2.3 Screen capture from a video tutorial artist Steven Christian posted to his social media channels to equip other creators to learn from his "George Floyd AR Memorial" design process (Image credit Steven Christian, used with permission)

representation in tech, Steven became a prolific ARtist, generating hundreds of videos of himself talking about and creating ARt, as well as content that gives form to what he describes as the Black experience. He elaborates, "So essentially, all the people that I looked up on YouTube, they're all white. And so I just want to embody what that inclusion looks like … I wanted to show, like *physically* show, what Blackness and AR can look like."[8]

Throughout our interview, I learned that Steven is driven by a strong commitment to the performative implications of his practice as a Black ARtist and teacher. To him, generating online content that routinely represents his physical presence, on-camera, as a Black creator through his myriad social media channels is central. As a *teaching* artist, Steven further explained that his practice is constituted by a pedagogical dimension intended to equip aspiring Black creators to explore the medium of AR, thereby lowering the barriers that once held him back. His channels are replete with courses and tutorials that are thorough enough for the AR-savvy, yet approachable enough for the novice.

Our interview consisted of a combination of one-on-one discussion with and without shared screens. Steven walked me through a variety of ARt projects—some finished, some unfinished—to further illustrate the kind of experiences he seeks to curate for the end user. I recorded our interactions to analyze later, which enabled me to become immersed in the installations as he shared them, rather than becoming

[8] Steven Christian's quotes throughout this chapter were obtained during an ethnographic interview with the artist in January 2021.

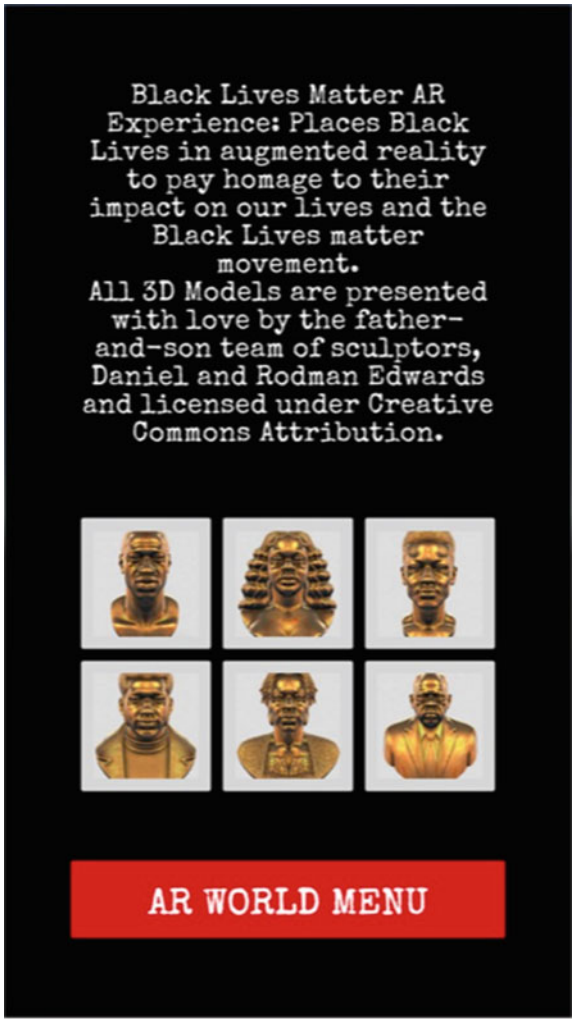

Fig. 2.4 Homepage of the mobile AR app Steven Christian designed to support the Black Lives Matter movement

distracted with notetaking. Following our interview, I also downloaded his app, and experienced several of his ARtworks on my own.

As I probed to learn more about Steven's "George Floyd AR Memorial," he recounted his decision to support the Black Lives Matter movement and pay homage to Floyd through the medium of AR. For health and safety reasons in the midst of the pandemic, Steven did not physically participate in Portland's 100 days of BLM protests. As I listened to Steven explain his decision not to participate in the protests in-person, I sensed that he regarded AR to be more than simply a digital alternative to protesting "in real life" (IRL). In reference to the overarching questions that guide the critical sensory ethnographic study of ARt initially posed in this chapter's introduction, I employed the framework to pursue a deeper understanding of Steven's

ARtistic practice by considering the sensory, somatic, semiotic, cultural, and political categories at play in his ARt. We explore these dimensions of his practice below.

Steven recalled that as our physical lives were quarantined for the better part of 2020, he sensed a collective shift taking place—a dramatic experiential pivot toward the digital realm. Quarantined and socially distanced from others in the initial months of 2020, society's (already considerable) dependence on the Internet rapidly accelerated out of necessity. And then, after a few months of acclimating to this increasingly digitized mode of everyday life, the murder of George Floyd was captured on video and broadly circulated throughout this shared, online context. Steven recounted how it felt to experience the visceral, digitally mediated depiction of Floyd's murder with the rest of the world, online. He explains, "[That] wasn't disconnected from the internet. It was very much a part of the internet … it was an experience that we *all* had watching a video, [and then] seeing people riot or … protest … those things were part of an experience. So, I wanted to use AR to really build on that experience."

From his perspective, then, the embodied knowledge he acquired in the context of the pandemic was constituted by a pervasive feeling of physical solitude combined with a profound, almost paradoxical sense of co-presence with an online, global collective. With the same digitally mediated experiential grammar, so to speak, Steven created his ARt memorial for Floyd as the subsequent enactment and extension of this embodied sensory knowledge. As we further consider the conditions of his ARt installation and its subsequent circulation, the sensory, somatic, semiotic, cultural, and political dimensions of his practice come into view.

At the phenomenological level, Steven's decision to install his memorial to George Floyd during the calm, daylight hours of Portland's 100 days of protests is salient. Steven explained that he initially designed the ARt installation to experience it for himself, to walk through an augmented version of Portland's built environment on his own terms—peacefully, safely, before the sun set and the streets filled with tear gas and rubber bullets. As a personal, phenomenological encounter, his ARt enabled him to move through a reimagined reality where he was free to pay homage to Floyd and demonstrate his support for the Black Lives Matter movement by occupying physical space safely and confidently (Fig. 2.5).

The next moment of his practice consisted of occupying virtual space in the same unapologetic manner, as he shared his augmented reinterpretation of Portland throughout his social media channels. In this way, recording the augmented encounter on his phone and posting it online enabled him to express and defend what he characterizes as an ineffable dimension of the Black experience. From a semiotic perspective, Steven understood this process to be subversive not only because his ARt depicted George Floyd's likeness (a familiar signifier of the BLM movement), but because the installation is documented from Steven's first-hand perspective as he reimagined Black reality on his terms. He considered the public circulation of his personal, phenomenological encounter to be an important moment in his creative practice. He was also aware that sharing his first-hand experience of an augmented Portland would elicit criticism. He elaborates, "[L]ike a lot of things within the Black experience, it's very hard to like find data to prove it. And so one of the things I did with the George Floyd [memorial] was, I, you know, made the experience, put the

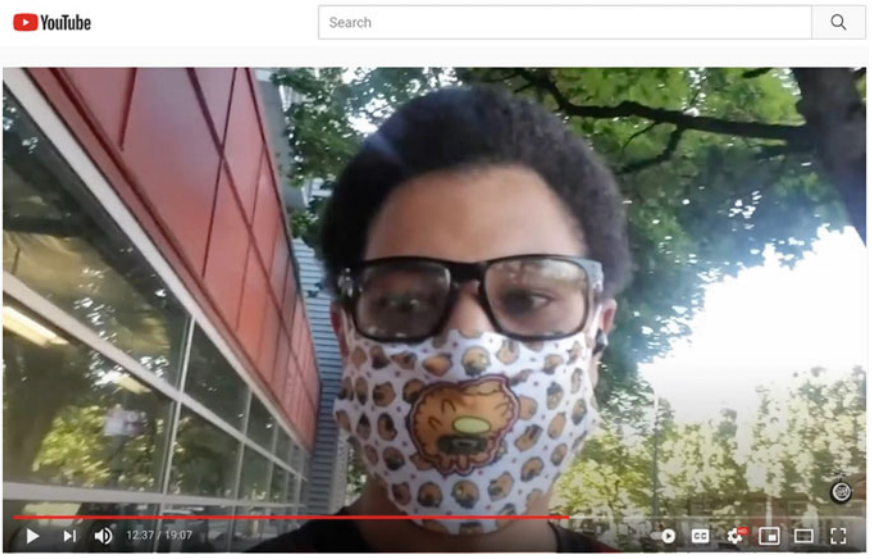

Fig. 2.5 Screen capture of Steven Christian's YouTube channel featuring his first-hand experience installing his "George Floyd AR Memorial" throughout Portland in 2020. Christian wears a mask during the COVID-19 pandemic

installation together, and then I went out … took the pictures, and did the video and posted it online." While the work was met with positive online reception, he also experienced racist criticism—"[T]hen, you'll get the racists that will come through and like … they'll try to belittle your efforts and what you're trying to do, how you're trying to express yourself and so on."

I then sought further clarification about his ARt's relationship to the political, as he articulated his understanding of the relationship between Blackness and activism. If we recall Madison's (2005) emphasis on the relationship between phenomenology and the political, Steven's comments about his practice below shed light on the political ontology of Black subjectivity:

> I think part of the Black experience is understanding that … the lines are blurred when it comes to sort of just like self-preservation and activism. Cuz it's like … are Black people being activists when they're just trying to have the opportunity to vote? Or when we're trying to have the opportunity to live in a place that other people have the opportunity to? Is that just being an activist, or is that just being a citizen? You know? I think the lines are blurred when it comes to that. So for me, as a Black creator in AR, I am just trying to create things that improve on the experiences that Black people have … I guess I am [an activist] by default, but I am just sort of a Black creator.

This assessment of the political implications of his ARtwork offers empirical nuance to the literature related to digital activism (Schradie 2019) and political art (Bishop 2012). Steven's understanding of the inherently political nature of racialized subjectivity poses an interesting challenge to analytical distinctions that separate IRL/digital political participation and political/apolitical art. The manner with which

Steven's ARt collapses such distinctions via technological experimentation invokes a strong, Afrofuturist sensibility that undergirds his practice.

When I asked Steven if he felt that his creative practice could be similarly achieved with the medium of virtual reality (VR), he explained that his creative and political motivations were more aligned with the medium of AR:

> Yeah, so I've never really been drawn to VR. For me, AR has been a very enlightening medium to operate in because it builds on the experiences that we all appreciate … I'm not attracted to VR because it moves you away from the world, as opposed to enhancing it. So, for me, I'm more interested in increasing accessibility, of, and improving on experiences that we sort of are forced to use and operate with already … So, the opportunity to make real, lasting, impactful improvements on [extant] experiences is one of the most attractive things for me [about AR].

As Steven surveyed the landscape of Portland in the summer of 2020 where physical infrastructure and memorials were regularly being deconstructed by ongoing protest activity, the staying power of ARt also became increasingly appealing to him:

> So, the thing that I really appreciate about AR and … activism … is that it's nondestructive, and it's asynchronous … or it's decentralized in many ways. So the beauty of it, much like the Black Lives Matter movement where there's no real hub, you can't destroy it. The beauty of AR is that, like all the people that didn't like the photos of the 30-foot bust of George Floyd … in front of the capitol or in front of all these like landmark places … If this was an actual [physical] installation, you have to get a permit. People would protest and people would, you know … destroy it … like they're doing to all the landmarks already. [With AR], you can't come up with a law that will redline me … You can't come up with a fine to say 'Oh, you didn't have a permit for this.' You can't come up with any of these frivolous things that have led to the oppression of Black expression and Blackness … And so that was the most liberating thing about it is that I didn't have to put myself at the mercy of others … I was playing by a different set of rules.

As a teaching ARtist, the concluding moment in Steven's practice is the pedagogical dimension that informs his work. If we recall Steven's prior comments regarding his performative inclination to inspire Black creators by embodying "what Blackness and AR can look like," I suggest that this case study also demonstrates how Steven's practice evokes a sense of what Blackness and AR can *feel like*. By providing a design tutorial to accompany his "George Floyd AR Memorial," Steven mobilizes the semiotic and sensory knowledge that constitutes his ARtistic practice to equip Black creators to build immersive experiences that look and feel germane to them. This dimension of his ARt practice has critical potential in a white-dominated creative space where the technology and defining conditions of immersive meaning- and sense-making practices are constructed and maintained largely without the epistemological contributions of creators of color. Thus, Steven's ARtistic practice invites us to critically abstract from ostensibly apolitical accounts of "the immersive"—immersive for whom? On whose terms? Embodying whose humanity, knowledge, or affective presence?

2.7 Conclusion

The inaugural wave of ARt illustrates the medium's ability to combine the sensory and semiotic conditions of meaning-making to produce compelling, augmented experiential glimpses of more socially and politically just realities. Thus, this chapter addresses a methodological gap in the digital ethnographer's toolkit by providing a medium-specific approach to the study of ARt, termed "critical sensory ethnography." The application of this framework to the case study of artist Steven Christian's "George Floyd AR Memorial" demonstrates that embodied, immersive experience is a socially and politically salient phenomenon. It is recommended that industry and academic ethnographers continue to investigate how diverse populations creatively leverage the social and political potential of AR beyond its mainstream uses.

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