Research Article

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Listening to the Virtual Greenhouse: Musics, Sounding, and Online Plantcare

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Abstract: Plantcare is having a moment. Recent years have seen an outpouring of audiovisual content across several social media platforms, wherein humans film and photograph themselves taking care of houseplants. These self-proclaimed "plant moms" build community through their shared passion for caring for houseplants and showing this form of tree-hugging to a wider community. In this contribution, I theorize this plant-filled digital terrain as a virtual greenhouse, a space where humans can perform with and show off their collections of houseplants. This virtual greenhouse points to how plantcare becomes a space to play with expectations of humanness apart from human—animal boundaries. Furthermore, contrary to notions of plants as being silent or inaudible lifeforms, this virtual greenhouse is rich with music and sound. Following an exploration of the overarching features of plantcare content and other kinds of digital human—nonhuman representations, I describe how creators in the virtual greenhouse use ASMR-like techniques, acousmatic narration, and reinterpretations of popular music to make their intimate relationships with nonhuman life audible. This contribution demonstrates how these human—plant assemblages engage with a "back-to-nature" environmentalism and present opportunities to reframe human—nonhuman relationships through creative practice.

Keywords: houseplants, ASMR, sound studies, social media, environmentalism

1 Introduction: To Sing or Not to Sing?

The jury is still out on whether plants like music. Experiments continue to yield mixed results regarding the benefits of singing to plants or having plants listen to music (usually of the western classical variety), with most research suggesting that the presence of extra carbon dioxide is more beneficial than the affective sonic encounters themselves (Appel & Cocroft, 2023; Patel et al., 2022). But on the other hand, Indigenous wisdom teaches that plant life does respond to human voices, especially when those voices produce audible expressions of gratitude (Beyer, 2009; Kimmerer, 2013). Kevin, who goes by @theplantpapi online, offers his own expression of gratitude by intentionally poking fun at these conflicting expectations about plant responses to music and sound. As seen in Figure 1, Kevin shows himself browsing an imagined headline "Singing To Your Plants Helps Them Grow," before going on to sing-scream RnB singer Fantasia's 2006 song "When I See U" to his houseplants (@theplantpapi, 2022). Fantasia's song conveys the weak-in-the-knees feeling of seeing a romantic crush, and Kevin transforms this sentiment into an expression of other-than-human care: "Something now is taking over me..../I'm not gonna run, no/Just gonna stand here and see," he sings. The "something" taking over Kevin is the plants compelling him to engage in this display of affection. This singing may not be necessary or efficacious - his plants may not grow more or faster as a result, a reality he acknowledges in the Reel's caption. But, by relaying the message to them that he's not going anywhere, Kevin still feels drawn to a practice of resisting the assumption that plants cannot listen to us or participate in human sonic worlds.

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Figure 1: @theplantpapi singing to a potted Monstera deliciosa, with other plants potted in sneakers seen in the background.

Kevin and many other humans who call themselves plant moms (or plant parents) engage in similar displays of connection with plants in virtual spaces known as PlantTok, Plantstagram, and PlantTube. Such online communities are animated by audiovisual content that overtly thematizes the performance of caring for domesticated plants in indoor and outdoor settings. These displays of plant ownership frame human—plant relationships as ideal modes of multispecies collaboration, where very little physical harm seems to take place and where homes and gardens become lush, well-oxygenated sanctuaries. Even when humans reference the psychological benefits of daily plantcare regimens and the material benefits of having plants (Yang et al., 2024), plant moms typically stage their plants as diminutive recipients of human care. These plant caretakers use a robust vocabulary of gestures and ways of speaking: rubbing leaves between fingertips, holding up pots for the camera, and anthropomorphizing plants with alliterative names and gendered pronouns. The physical closeness involved in this song-and-dance displays the intimacy between human and plant actors, even as plants don't move, speak, or make many sounds of their own.

Recent musicological work continues to investigate the role of sound in fostering multispecies connections like those in the online plantcare world. Scholarship at the intersection of critical animal studies and musicology has demonstrated how the ability to produce sound privileges certain "singing" animals like birds and whales over others that seem less obviously musical (Mundy, 2018). Animals have also been informative partners in exploring the psychological and cultural origins of musicality (Honing, 2018; Rothenberg, 2002), and listening to changes in animal sounding provides another way of assessing climate change alongside measures such as carbon dioxide levels (Haskell, 2023). But because plants lack the oral and aural apparatuses shared by most vertebrate animals, plants are regarded as animals' quieter counterparts. This assumption of silence explains their occlusion from fields like music and sound studies that focus on readily audible sound, even as this research terrain is increasingly occupied by bioacousticians who investigate plant responses to sonic stimuli in their search for resources (Gagliano, 2018). Other similar studies have revealed that plants produce ultrasonic sounds as a byproduct of standard life processes (Khait et al., 2023; Mishra et al., 2016).

Despite this, plant moms displaying their plantcare online clearly believe in plants' ability to engage with human musical and sonic worlds. Even though the prospect of listening *to* plants often proves elusive for human ears, we are still finding ways to reimagine possibilities for musical and sonic expression across

species. Here, I inquire about the role of music and sound in articulating relationships in what I call the virtual greenhouse. I derive this term from media theorist Berland's (2019) virtual menagerie, which attunes to the role of animals and their corresponding imagery in "building material connectivities and collective imaginaries and difference" (p. 29) in global communication networks. In theorizing the virtual greenhouse, I demonstrate how plants mediate socio-cultural values about nonhumans and about caring for the larger environment. As I see and hear it, online plantcare culture confirms species divides between plants and humans because of the unique power imbalances that result from treating houseplants as aesthetic objects circulating in human media networks. Yet virtual greenhouse content also critiques those speciesisms by drawing parallels between human rituals and plant life processes in ways that divert attention away from human-animal dichotomies.

I also explore how sonic expression emerges as an ideal medium for generating and communicating these forms of interspecies solidarity. There are numerous accounts of the figuration of music in environmental activist causes across many geographical settings (e.g., Fatinanto Geo de Siqueria, 2021; Impey, 2018; Pedelty, 2016). I extend these approaches by demonstrating that the intangible qualities of music and sound facilitate invisible yet embodied affective connections among plant moms, their plants, and their audiences. These connections are crucial elements of creatively expressing solidarity with other-than-human life. This journey through the greenhouse begins with an overview of how to understand nonhumanness as a spectrum of identification, especially as related to identity performance in digital practice. These methodologies from music studies, media studies, and critical animal studies elucidate how to understand plants as unsuspecting partners in human self-expression. I then provide several close listenings of long- and short-form videos that attune to various combinations of hushed soundscapes and popular music genres. Each form of musical engagement plays with tensions between quietude and loudness, which sonically manifests how humans negotiate their own identities through and with plant lives. These musical and sonic decisions reveal how plants' seeming silence invites humans to want to grant agency to plants through sonic practice. In the absence of easily audible sound, then, humans cannot help but draw plants into our sonic worlds.

2 Playing with Life Online

Most human actors in the virtual greenhouse use the internet to perform a certain kind of environmental awareness: namely, an environmentalism that prioritizes experimenting with alternative ways of relating to nonhuman life in response to ongoing climate crisis. By bringing elements of the outdoors into the home, the virtual greenhouse underscores the extent to which digital culture mingles with offline body and identity politics in what media theorist Nakamura (2008) has called "a theater of performed identity" (p. 31), in which "there is no human identity performed online that is not articulated by a racialized body" (Brock, 2020, p. 96). The humans and plants of the virtual greenhouse are entangled in ways that expose the porosity of human and nonhuman identities. These amorphous boundaries are evinced by histories of relying on animals amidst the post-Enlightenment project of defining humanness. Human comparisons with animals often reflect changing human social configurations and power networks as animals and their imagery circulate across empires, colonial apparatuses, and other societal structures (Ritvo, 1987; Wolloch, 2019). This dynamic that originated with the physical proximities of humans and animals has been inherited into present-day virtual menageries, where representations of animals mediate cultural values about animals as objects of display and stand in for the mediating potential of digital technologies to spread such ideas (Berland, 2019). Communications scholar Maddox (2023) has also argued that animals are essential to the pleasures of internet culture, and Lupton (2023) considers how digital media and technologies impact human conceptions of animality. Animals situated in musical contexts online also invite humans to generate expansive notions of musical expression by actively engaging with nonhuman movements and sounds (Galloway, 2022). If racialization is an inescapable component of digital life, these approaches underscore the necessity for accounting for the making of species, as well.

Dealing with multispecies entanglements becomes sticky, though, when we account for efforts to highlight slippages between discursive and biopolitical formations of race and species, where racialized discourse about humans takes on nonhuman dimensions. Jackson (2021) follows a rich lineage of Black feminist considerations of race (e.g., McKittrick, 2015; Weheliye, 2014) to demonstrate how "race and species discourses are homologous and symbiotic" (p. 151), working against animal studies approaches that often unintentionally instantiate human—animal boundaries. She is not alone in tracing the fungibility of racial and species identities under the status of nonhumanness. Yusoff's *A Billion Black Anthropocenes* (2018) calls attention to the premise that "the division of materiality (and its subjects) as inhuman and human...operationalizes race" (pp. xii, 4), and results in the environmental racisms that force marginalized communities of color to bear the brunt of climate change's effects. I offer the forthcoming examples of human—plant relationships as contributions to this ongoing conversation about formations of difference, which especially comes to light in the case of @plantkween, a person who embraces plants as extensions of their own intersectional identities. In other multispecies assemblages described below, the bringing-together of houseplants and humans gesture toward the possibility of finding convergences beyond biological or bodily determinisms that otherwise separate human and plant species.

Queer theorist Chen (2012) considers racialized fungibility through queerness and the linguistic notion of animacy. For them, animacy refers to making hierarchical categorizations that cohere around how different lifeforms express their sentience or liveliness. Liveliness, too, has emerged as a fertile theoretical terrain for understanding how certain lifeforms come to be valued over others. According to Collard (2020) and other political ecological studies of the commodification of nonhuman life (Moore, 2015; Shukin, 2009), animals often become "lively commodities" that straddle the subject—object binary, where liveliness refers to how nonhumans have the propensity to display their status as alive to human senses. This display of aliveness is largely confirmed visually through vibrant coloration, movement, and potential companionability to humans demonstrated through eye contact or ability to learn tricks. Margulies (2023) similarly traces the affective desire wrapped up in the hunt for exotic succulents, where human actors delight in the discovery, collection, and trade of rare and previously unidentified species. The musics and sounds that I analyze in the following sections reveal how humans use acoustic parameters to amplify some of the visualizable markers of plants' liveliness, and this attention to sound in plantcare enriches our understanding of plant-human entanglements.

The synergies among this body of work on plasticity, animacy, and liveliness lay bare a collective investment in articulating the contested status of the Human through its co-constitution with other-than-human ways of living and knowing. My considerations of how human actors enact their humanness through performances with plants further these research investments, and my musicological intervention demonstrates how sound underscores digital culture's theorizations of humanness from a more vernacular, ground-up perspective. By asking about the role of music and sound in the virtual greenhouse, I am interested in how sonic practice manages to both confirm and undermine the visible differences and similarities between humans and plants. I contend that the virtual greenhouse's space of performed identity exposes the internet's status as always multiracial and multispecies, where questions about human identity revolve around essential questions about showing others that we are alive and well and that we live amongst other living beings. The question thus becomes: if digital practice often revolves around performing our racialized or species-ed identities, what does this performativity sound like?

3 Quiet Places: Acousmatic Voices and ASMR

The quintessential form of content within the virtual greenhouse is the plant tour, sometimes referred to as the plant room tour. Searching for these on YouTube yields thousands of videos with titles and thumbnails where human protagonists are centered against their own backdrops of bright green foliage, often with a potted plant in hand. These videos are usually long-form vlog-style¹ content where the human provides a guided tour of the plants in their home or in a single room for viewers. Video titles typically reference the number of individual

¹ The portmanteau of vlog corresponds to "video + blog."

plants to be shown in the video, and the more popular plant tours tend to be videos that feature 100 plants or more, with an upper limit hovering around 300. Tours usually range from ten minutes to over an hour for those that feature large collections or an especially chatty human. With the increasing popularity of house-plant care among millennial and Gen-Z content creators (Athnasious, 2022), some people publish plant tours as one-off videos amidst their other content, whereas other content creators have built entire platforms revolving around plantcare.

Summer Rayne Oakes is one of the latter, having established herself as a node in a global network of houseplant lovers through her elaborate plant tours. On her now eponymous YouTube channel, Summer's Plant One on Me series highlights botanical gardens and plant-filled homes around the world, during which guests allow her, her camera crew, and virtual audiences into their homes and gardens. Plant One on Me used to be the name of her YouTube channel, which provided detailed how-to videos of plants in her home and gave general updates about her collection. Summer began touring other people's spaces sometime in 2019. As with most plant tours, Summer aims to strike a balance between sharing memories about, say, plant acquisitions and the expert practices of naming species with a conversation about the wider plant market. In most cases, this means that guests express their sense of individuality as they display their collection. In Summer's visit to the home of Priestess Yendys Neferatum (Summer Rayne Oakes, 2021), we hear the priestess talk about how she works with plants as an apothecary, spiritual healer, and online presence through her account @houseplantdiary. Throughout this tour, as in many others on Summer's channel, Summer and the Priestess point their fingers and whimsically gesture toward dozens of plants. Their physical motions guide the camera crew and the tour's organization, where Summer often points to a plant she recognizes or finds interesting before the angle shifts in real-time or cuts to artful b-roll footage. These movements, however, also guide the discursive direction of the tour as their bodily movements initiate an outpouring of stories about plant ages glimpsed through their relative sizes and lengths; how each plant seems to fare in Summer's home versus that of her guest; and how the Priestess uses plants to connect to her maternal ancestral lineage (Figure 2).

As was briefly mentioned, plant tours can also be short portions within other vlog contexts. In her apartment makeover video from 2019 (bestdressed, 2019), Ashley dedicates just over seven minutes to explaining the role of plants and propagations in decorating her space. She frames her "obsession" with plants as a coping mechanism for the challenges of socializing as an undergraduate student in the sprawling

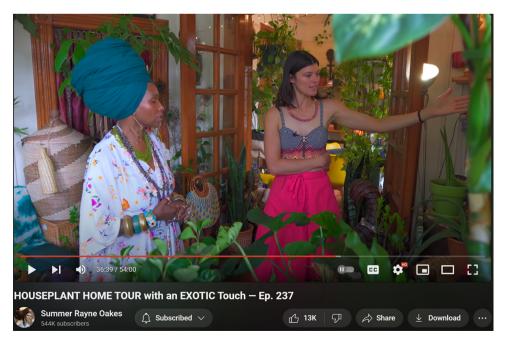


Figure 2: Summer Rayne Oakes (right) gestures towards an aloe plant while Priestess Yendys Neferatum (left) discusses.

metropolis of Los Angeles. Plants might be better comrades than humans, she offers somewhat sarcastically: "I mean, not that plants are humans, but they feel like they kinda have personalities... unlike people in LA." A few minutes later, she is seen adorning her windowsill with recycled glass bottles filled with propagations of golden pothos. Ashley muses on a possible future wherein she owns a home with a sunny reading nook, but in the interim, she states that she must resign herself to a windowsill that can't support her human size. "Instead, we're gonna fill it up with plants." Beyond suggesting that plants substitute for other human beings and bodies, Ashley asserts that her houseplants embody a role as placeholders for her desired future life. She thus draws our eyes and ears to her physical proximity to plant propagations in ways that translate into a non-physical imagined closeness, rendering her plants into a form of what Galloway might call "participatory intimate media" (2020). The term originally refers to the use of Taylor Swift-themed greeting cards that fans use to communicate their closeness to the objects and therefore their connection to the Swiftian fandom. Here, through her invocation of the possibility for plants to cultivate a sense of one's dream life in the present, Ashley uses her propagations to communicate her closeness to these plants and her positionality within plant mom culture (Figure 3).

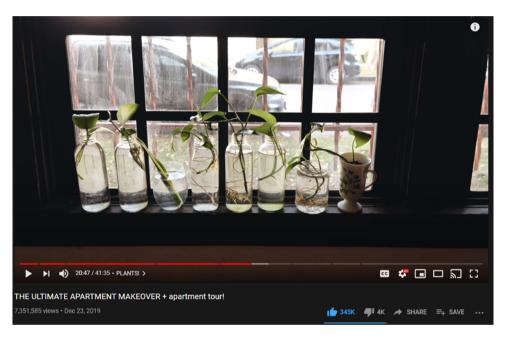


Figure 3: Eight propagations in glass jars on bestdressed's windowsill.

A key component of these plant room tours is the sound of the human voice. Often, the mode of speaking used in plant room tours is a gentle, conversational tone correlated with the virtual greenhouse's emphasis on relaxation. Most, but not all, plant room tours feature feminine voices and bodies, which corresponds to tendencies for female-identifying people to engage in conversations around nature, sustainability, and climate change (Unger, 2008) and to do the "immaterial labor" of emotional vulnerability (Arcy, 2016) that often accompanies environmental justice work. To date, though, there have been very few investigations about the sonic parameters of voice in YouTube vlogs like plant tours. However, vlogging culture has been accounted for in the context of YouTube's specific affordances as a content delivery platform and a space intentionally designed for building social connections (Burgess & Green, 2018). In terms of acoustic-related parameters, there have been several linguistic and sociological studies of how vloggers self-reflexively generate connection with viewers through emotional expression (Berryman & Kavka, 2018), or analyses that focus on the use of written language in comment sections and subtitles across a variety of online communication contexts (Sindoni, 2013).

The mode of voicing human–plant relationality that Ashley and Summer use differs from @theplantpapi's singing to his plants, most notably in that the former two plant moms direct their narration toward viewing

audiences rather than the plants. One might imagine the plants, existing in the sonic atmosphere created by the storytelling, are nevertheless eavesdropping on the audible dialogue in their surroundings. Priestess Yendys Neferatum invokes this atmospheric notion of connection by explaining her rationale for living with so many plants as "really need[ing] to oxygenate the space" (Summer Rayne Oakes, 2021). The human voice seems so prevalent because the houseplants produce very little sound of their own, and this lack of sound contrasts with such striking visual vibrancy and abundance. The sound of human voices becomes even more central when creators render their voices acousmatic by turning the camera away from their body as a sound-source and focusing exclusively on the plants. We see this technique at work in a video from full-time plant content creator Nick Pileggi, whose 2022 tour features over 300 individual plants (Nick Pileggi, 2022). As he walks systematically through his one-bedroom apartment, Nick's voice seems to come over the top of the camera and the viewer's head as he impressively names each species' Latin binomial and comments on each plant's aesthetic contribution to his home. In the absence of his face, the traces of Nick's body are reduced to hands that reach out to play with foliage (Figure 4).

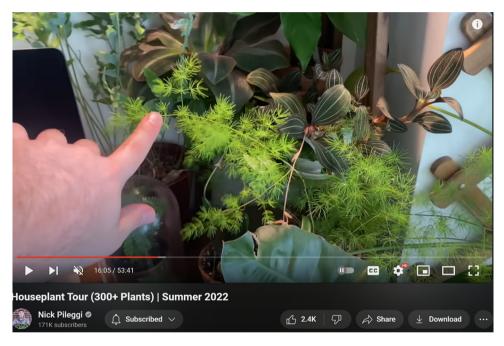


Figure 4: Nick Pileggi's "Houseplant Tour (300+ Plants) | Summer 2022," featuring his finger pointing to a plant-filled corner of his living room.

By default, human voices dominate the human–plant soundscape because plants do not have the morphologies allowing them to use sound communicatively like humans do. Even as visuals depict physical connection and affective intimacy, the sound world tells what has become a familiar story about the colonialist legacies of possessing nonhuman others. Virtual greenhouse culture underscores human obsessions with "cute" things that humans invest with dialectical feelings of ownership and loving care (Ngai, 2012). These houseplants become objects of display, as exemplified by the aesthetic value that plant moms attribute to plant leaves, colors, and decorative pots. Some plant moms take their orientation toward cuteness further when they refer to plants as "this little guy" or with a sing-songy alliterative name.² As a result, houseplants become charismatic species recruited in the environmentalist underpinnings of the virtual greenhouse. The notion of charismatic species usually refers to animals whose ways of being readily mapped onto human ontologies,

² This kind of anthropomorphism is more typical of content creators whose accounts are not exclusively dedicated to plantcare. The following is an example: Maddie Lymburner (2019).

epistemologies, and aesthetic values, and such animals become central figures in environmental protection movements (Haraway, 2008; Pyne, 2022; van Dooren, 2022). As charismatic species, though, plants become collaborators for learning to cultivate beyond-human relationships. But their silence contributes to why we might even understand plants as charismatic species in the first place: they cannot speak back to us and thus don't actively counter the values that we place upon them.

This silence, though, is not all-consuming: creators frequently leave traces of the diegetic soundscape in their plant tours to make their intimacy with more-than-human life more audible. Such sounds include the crackle of foliage, splashing water, sprinkling soil, and the background noise of other activities involved in caring for plants. The inclusion of these sounds provides viewers and listeners with a sense of being more present with the beings on-screen, and these videos feel more real and lively as a result. These sounds also communicate a sense of liveliness, where the sonic byproducts of caring for plants are elevated in the final video's sound design to confirm that these houseplants are living beings impacted by human activity. This acoustic parameter of plantcare centers the embodied experience of sound for both humans and houseplants, and these relatively quiet sounds put forth an example of how to carefully and thus ethically engage with plants specifically, and nonhuman environments more generally.

Audrie Storme provides a useful example of this phenomenon. In her video, "I left my plants alone for two weeks," the sound effects give the impression of being there with her (Audrie Storme, 2020). At the beginning of the video, she announces her intention to care for plants that she neglected during a vacation. These activities primarily focus on watering her houseplants and pruning dried or dying foliage, and she includes clips of wilted members of her collection and those that have fared better. She also depicts the visual movements of snipping leaves and spraying water, and in editing the video, she leaves in the sounds of these actions. Doing so means that touches are not just seen but heard and internalized by the viewer through the embodied act of listening. Because these sounds require a careful ear to be recognized, they foster an increased sense of intimacy among Audrie, her plants, her viewers, and potentially even the viewers' plants, as well. Snipping, mixing, and pouring sounds in these human—plant interactions are onomatopoeia for plantcare itself, and these hushed soundscapes unveil the possibilities for making close connections between humans and plants audible (Figure 5).

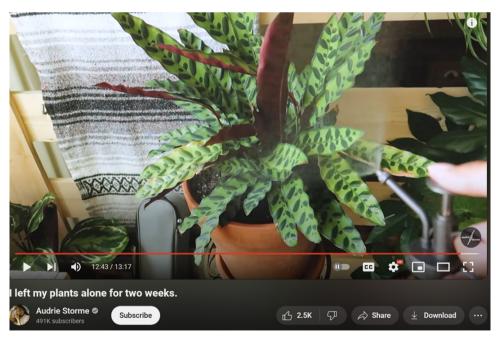


Figure 5: Audrie Storme spritzes a Calathea lancifolia (rattlesnake plant).

These diegetic soundscapes of plantcare engage with the aesthetics of ASMR (autonomous sensory meridian response). ASMR gained popularity because of role-play scenarios and storytelling videos, but today might include hushed makeup tutorials or videos that highlight the sounds of stirring, squishing, and otherwise manipulating everyday objects. ASMR-tists use close-mic techniques that can elicit a tingling sensation in the back of the heads of those who experience the response. Even for those who do not feel the tingles, ASMR videos and sounds can be appealing because the hushed soundscape induces relaxation, stress relief, mindfulness, and other mental health benefits (Fredborg et al., 2018; Richard, 2018). The ASMR zeitgeist of the 2010s corresponds with the term's migration from being an acronymic description of a bodily sensation to a reference to discursive space that gestures "toward a whole genre of audiovisual content meant to trigger the response, as well as the sense of intimacy, warmth, and relaxation associated with its consumption" (Accornero, 2022, p. 339). With this shift came a broadening of where ASMR could be found online, moving away from the dedicated videos of wood soup (Wood Soup Girl ASMR, 2024) or mock medical examinations (ASMR Glow, 2020) and into other internet spaces like short-form cleaning and organizing videos (Jiculi, 2024) or, indeed, plantcare content.

ASMR videos are typically valued less for "what they might mean or say but for what they *do* to certain bodies" (Gallagher, 2016, p. 11), and therefore privilege bodily experience in the moment of affective encounter. While the notion of bodies is often delimited to the human bodies consuming ASMR content, in this instance, living plant bodies participate in the exchange of ASMR-like effects. Benji, who goes by @benjiplant, features the materiality of his interactions with houseplants through these kinds of plant sounds. Benji gained an online following from the success of "day of plant care" vlogs that he sometimes calls "plant diaries." These videos feature Benji going around his home pruning, watering, and repotting his abundant collection of houseplants. His "Relaxing Plant Tour 2023 | my entire houseplant collection" overviews every plant in his home as he moves from room to room, introducing viewers to his plants and telling stories about how he acquired certain plants and their unique care routines (benjiplant, 2023). Not only do viewers see the watering and repotting; they listen to the *crash* of water from the faucet, the spritzing of water in a greenhouse, and the *clink* of clay pots and gravel during the repotting process. Notably, Benji leaves room for the sounds of plantcare to speak for themselves when his voice is silent (Figure 6).



Figure 6: Benji touching the leaves of his wall-mounted plants in his video, "Relaxing Plant Tour 2023 | my entire houseplant collection."

Benji's rather small movements do not indicate that he goes out of his way to produce these sounds more loudly, but his editing decisions demonstrate an interest in having these sounds become more present especially when he is not speaking. He takes great care to include these kinds of moments throughout much of his

content, and they have contributed to his success in the online plantcare and interior design corners of the internet. These ASMR-like moments could not happen without plant bodies that are already visually centered in the plant—human—virtual assemblage. The quiet sound effects work on the human bodies consuming the content by producing the calming effects prevalent across the virtual greenhouse. But they are also doing material work to living plant bodies and thus differ from the technique of manipulating nonliving, nonhuman objects in most other ASMR content. It is difficult to know whether the *sounds* of watering or snipping meaningfully affect the plant more than the actions themselves. But this does not eliminate the need to wrestle with how these sounds animate audience and content creators' understandings of how best to engage with plants.

Virtual greenhouse practitioners use sounds like these to play with ASMR's aesthetic orientation toward relaxation by conveying a more specifically tailored message about the relaxing effects of plantcare. The ASMR sounds are not *just* the sounds of plantcare because they carry an additional message about how humans can show other humans and plants how best to value verdant lifeforms. If the sounds of touches, rustles, and snips are audible traces of plant materiality, these are included in plant tours to minimize human presence, even though these sounds quite obviously result from human hands and labor. Despite this paradox, the attempt to efface the human self is important to acknowledge, as it is essential to many modes of participating in online plantcare culture. These ASMR-like effects are but one of many ways that plant caretakers strive to elevate plant life and presence, despite the visual and audible specters of humanness around houseplants.

4 Turning the Volume Up

If plant-human sounds mediate the intimacy among human flesh and plant foliage, then the addition of non-diegetic music that accompanies the actions in the video establishes this intimacy within a more performative realm. Audrie Storme's video, for example, uses lo-fi beats as background music for her plantcare montage. The genre of lo-fi foregrounds the materiality of recordings as a nostalgic embrace of previous generations of recording technologies. Most music classified as lo-fi today rarely relies on analog recordings, and uses digital production techniques to apply crackles, hisses, and a hazy quality over looping collections of beats, melody, and jazz-inspired harmonies (Winston & Saywood, 2019). Like ASMR, lo-fi music appears in contexts designed for channeling relaxation or focus, as in the case of the well-known channel called Lofi Girl, which livestreams an anime-inspired cartoon girl and her cat that accompany listeners as they work or study. Audrie and other plant moms use lo-fi similarly in their videos to emphasize the chillness of plantcare. Importantly, lo-fi emphasizes attunements to the surface sounds of wear and tear on objects of recorded music in the same way that the ASMR techniques in plant tours elevate mundane sounds on plant surfaces that result from caring for plants.

There are, however, decidedly "non-chill" modes of using non-diegetic sound in plant mom content. This is best exemplified through the following extended case study of Black, queer, deaf plant mom Christopher Griffin (they/she/he), whose online persona is @plantkween. Scrolling through the @plantkween Instagram account provides an experience of photo montages brimming with bright colors and uplifting smiles, usually in Griffin's Brooklyn apartment. @plantkween is among the most visible Black figures in the virtual greenhouse, and Griffin uses this visibility to elucidate narratives of the Black American experience through plantcare. They align their unique intersection of identities with parallels they see in their plants' lives by deploying a rich vocabulary that draws together their experiences and those of their plants. In written captions and voiceovers, Griffin uses queer vernacular to talk about their plants: plants have "bawdies" rather than bodies, and they have gender identities like "kweens" or "gurls." These expressions of Griffin's self-described identity as a "kween," combined with their ways of referring to plants, demonstrate the "politics of polyvalence" (Chen, 2012, p. 58, italics in original) among queer cultures, where notions of queerness take on simultaneous meanings and grammatical uses. The physical proximity between Griffin and their plants accompanies the discursive modes of conveying human and plant identities to create a polyvalent performance practice rich with movement and sound.

Beyoncé's *RENAISSANCE* album arrived on the musical scene in the summer of 2022, and even Griffin's houseplants could not escape the album's expansive celebration of Black, queer joy. In an Instagram Reel released on August 29, 2022 (Griffin, 2022), Griffin is seen strutting through the aisles of a garden center with "PURE/HONEY" accompanying this catwalk. The video begins with "all my pretty [gworls] to the floor," with Griffin entering the frame centered in the aisle of the nursery. A clipboard is thrown into their hands from off-camera, and Griffin begins inspecting some of the plants along the aisle as if verifying that the plants look as "yummy, yummy" as Beyoncé says they do. Griffin begins to move forward while stepping in time to the throbbing beat, shimmying their shoulders in sync with the affirmation of "it should cost a billion to look this good." In this context, Griffin presents an ambiguity about who is looking good, such that Beyoncé's unacknowledged subject could refer to Griffin in their plant-filled attire or the plants in the nursery (Figure 7).



Figure 7: @plantkween inspecting an aisle of plants in a nursery while wearing a jungle-inspired pantsuit and white pumps.

A few months later (Griffin, 2023a), Griffin shows themselves in a misty corner of their apartment celebrating having successfully purchased high-demand tickets to Beyoncé's RENAISSANCE tour (Figure 8). This time, the soundtrack is "COZY," the main hook of which is "comfortable in my skin/cozy with who I am." Griffin appears physically comfortable in this environment, donning a golden yellow robe and hair wrapped in a fluffy golden towel. Griffin vogues for the camera with a wine glass in hand, and the camera movements mimic a paparazzi-style photo shoot. Within the context of this post, when Beyoncé sings "comfortable in my skin," the houseplants are obviously contributing to the celebratory feeling Griffin highlights through this musical choice. The plants thus take on additional significance as an extension of Griffin's own skin. The idea of "skin" becomes more than a protective barrier or signifier of racial identity, but a force that connects many beings and bodies/bawdies. It becomes a palpable reminder of the "interconnections, interchanges, and transits between human bodies and nonhuman natures [...]" (Alaimo, 2010, p. 2).



Figure 8: @plantkween sits luxuriously against a plant-filled backdrop in a relaxed pose, wearing a bathrobe, head towel, and black heels.

Griffin's adept use of music surely demonstrates their fluent usage of social media audio trends. But across their platform, they strategically use traditionally Black musical genres like hip-hop and RnB to connect their environmental work to a long trajectory in which Black musical life consistently enmeshes with Black political expression and social justice movements (e.g., Kelley, 2022; Neal, 1999; Rabaka, 2022; Ramsey, 2022). In so doing, Griffin encourages us to hear plantcare as a lively and loud practice by using music with upbeat rhythms and bright, brassy timbres that seem to correspond to the visual richness of their plants. For Griffin, music and sound create opportunities to perform the joys of Blackness, queerness, and disability with plants. Through this intersection of race and species, Griffin nuances and enriches mainstream understandings of race not just through spoken or written discourse, but through embodied performance and the "actual encounters [that] make beings" (Haraway, 2008, p. 67). Telling it is that Griffin addressed followers who mistakenly assigned them an "extraverted theater kid" personality, saying that they have never "stepped on the stage in that way" while still identifying performativity in their online presence. They associate this performativity with their own deafness and that of relatives: "I grew up in a family where we literally wore our emotions on our sleeves, our arms, our hands, our fingers...," they write (Griffin, 2021). @plantkween themselves describes how the externalized expressions used to communicate with human loved ones reorientated easily toward their community of houseplants (Figure 9).

Griffin's engagement with plants offers up an afro-fabulation. Performance studies scholar Tavia Nyong'o describes this mode of predominantly Black expression as revelatory of how "it is the very exception of blackness and queerness from the humanist standard that produces the possibility of imagining humanity



Figure 9: Post from @plantkween discussing their outwardly expressive personality.

otherwise" (2019, p. 25). Nyong'o resists a neat definition of the practice to intentionally enact how afrofabulations resist while also emphasizing the societal pressure of identifying with one's ascribed queered and racialized identities.³ Whereas Nyong'o relies on visual artists to theorize afro-fabulation, Griffin uses familiar examples of Black sonic practice to queer human-plant relationships into a performative play space that interrogates notions of race and gender together. Griffin allows plants to live in spaces rich with music and sound, rather than subscribing them to the status of objects of quiet observation. Griffin also counters hegemonic expectations of the appearances and sounds of a femme body, and this reframe of human identity further invites reconsiderations of who or what plants are. If "queer becomes a matter of how things appear, how they gather, how they perform, to create the edges of spaces and worlds," as Ahmed (2006, pp. 167-168) reminds us, then Griffin's world allows for a constant process of what they have described as "reimagining...recreating/re-shaping spaces...and challenging the white, heterosexist and gendered status quo that this world tries to box our bodies into" (Griffin, 2023b). Their plant-filled plays with musical expression ask social media users to navigate the world with unfamiliar bodily and sensory apparatuses, as Griffin moves conceptions of race away from white-Black binaries toward something greener and rich with unique variegations.

5 Conclusions, or On Listening Differently

Other kinds of plant sounds are present in the virtual greenhouse, as well. The TikTok account known as @modernbiology, run by biologist and experimental musician Tarun Nayar, has gone viral from posting videos of plants and mushrooms making music. Sensors clipped onto a plant part measure the electromagnetic frequencies moving between plant cells, and a MIDI synthesizer translates these signals into musical pitches.

³ Afro-fabulation connects to the practice of critical fabulation, which has become an essential methodology in Black studies through the strategic fictionalizing of gaps in the archival record of Black life. For an exemplar of critical fabulation in practice, refer to the study by Hartman (2019).

The resulting soundscapes are usually bright pulses of sound that bounce around a relatively narrow group of pitches, producing short segments of melody and meditative washes of sound. The device known as PlantWave simplifies this compositional technology into a handheld product for everyday users. Rather than having a full synthesizer set-up, PlantWave comes paired with a smartphone app where users can change the MIDI sound effects to different ensembles like "infinite possibilities" or "emerald journey," among other evocatively titled groups of instrumentation.

These media project onto plants the presence of latent musical expression that humans can hear under optimal conditions, as if plants have always already been making music. Nayar and PlantWave's creators both suggest that attuning to plant music of this nature fosters a new awareness of plants as living organisms. This attunement to the liveliness of plants is true of offline botanical performance endeavors like Cage's *Child of Tree* (1975) or recent collaborative work undertaken by Brussels-based dramaturg and curator Vranken (2019). In the promotional video for Nayar's album *Field Notes*, the composer describes his process of working with plants as necessitating a collaborative, "unguided, totally creative approach" that generated fresh musical possibilities, since plants do not subscribe to equally-tempered pitch systems or even rhythms (Modern Biology, 2023). PlantWave frames their device as a way to access "beings that live in another dimension" through a language of what they call "ambient noise," where music stands in for a plant's status as living (Haigney, 2020). These examples offer the perspective that listening to plants helps humans understand the nonhuman world, not unlike how @theplantpapi, @plantkween, @benjiplants, and others use music and sound to bring humans and plants into closer community.

The memory of my earliest encounters with the virtual greenhouse continues to align with current experiences of the inviting and loving ethos that plant moms tout in their content. Compared to the largely white, masculinist legacies of mainstream environmental protection movements, online plantcare tends to feature work done by queer folks, people of color, or communities with other marginalized identities as they lead conversations around valuing nonhuman natures. Being immersed in the green thumbnails, learning about rare and exotic species, and witnessing loving attachments to plants proved to be immense sources of pleasure. These displays of caring for plants also carried a collective message about being mindful of oneself and with one's surroundings. In the context of pandemic-era lockdowns, when plant mom content surged, the urge to cultivate mindfulness in the home resonated with larger socio-political messages about community care through social distancing and masking. Virtual greenhouses were and still are intersectional environmentalisms at work, where these multispecies performances account for myriad entanglements of race, gender, class, and species as part of the effort to envision futurities of more-than-human living (Thomas, 2022).

As much as one might be able to appreciate the relaxing effects of vaporwave-like plant soundtracks and ASMR sounds, or enjoy watching playful human—plant dances, these encounters also produce questions related to plants' agency. What if plants do not want to be listened to? How much do fingers or electronic sensors impact the plants' fragile frames? How does turning plants into musical instruments through mediated electrochemical data participate in extractive listening (Robinson, 2020), that resource-ification of cultural production made by marginalized communities into objects for consumption? Nayar and PlantWave obscure human labor through technological apparatuses and their insistence that plants are making music all on their own. Even as most people speaking about their plants in plant tours draw out the "multi" of their multispecies partnerships, this attempt to center houseplants requires diminishing the overwhelming role of human intervention at almost every part of the process of houseplant care, from plants' cultivation, their global circulation, and their entrance into human homes. I often ask myself how, if at all, this anthropocentrism differs from others that have contributed to the logics of the Anthropocene, where beings become hierarchized and commodified as objects for human consumption.

Ultimately, however, I hope to have demonstrated how the virtual greenhouse deliberately experiments with finding audible, and not just visual, ways of communing with nonhuman life, which itself unravels some of those anthropogenic logics that favor the eye over the ear. These musical and sonic encounters in the virtual greenhouse reveal the prevalence of a collective search for anti-anthropomorphic and anti-anthropocentric modes of engaging with more-than-human life. Listening might appear to have fewer negative material or physical impacts on plant life. But paying attention to how humans nudge plants into realms of audibility, despite plants' resistance to being easily heard by humans, exhibits how music, sound, and listening are not

devoid of ethical implications that result from applying our musical values onto nonhuman life. Nevertheless, these sonic interventions encourage us to reconsider how we relate to the lives that shape our experience of the everyday. Plants provide a useful opportunity for humans to listen differently than how we have listened to one another and other animals. These assemblages of humans, plants, sounds, and technologies are embodied experiences of community and care, and they attest to the complexities of interrogating human identities through the materials and techniques available to us at the present. By theorizing the role of music and sound in enhancing connections between human and nonhuman, I have sought to begin making sense of how virtual greenhouse culture prompts us to engage with nonhuman life anew.

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