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Co-consuming a "fun addiction"

Buying, desiring, and using Eurorack together online

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Abstract

Once considered an obsolete technology, modular synthesizers have experienced an unanticipated renaissance since the 1990s. While the reemergence of interest in modular synthesizers is attributable to a variety of factors, the internet has played an especially important role in facilitating the growth of a distributed, virtual scene around these instruments. Though several formats exist, Eurorack's commercial and cultural growth has been the most dramatic. Once the province solely of specialists, Eurorack modules are now manufactured by large firms like Roland and Behringer and sold by mainstream music retailers like Guitar Center and Sweetwater.

For many users, a Eurorack system is a physical manifestation of their musical tastes and aspirations. The planning, purchasing, and realization of a system is thus a constitutive element of self-identification and belonging within the scene. But while Eurorack users privilege customization to an intense degree, the modality of their choice is strongly mediated by communal wisdom and the personal testimony of distant others. How do scene members negotiate these tensions? In order to explicate these dynamics, I analyze two interrelated phenomena that are characteristic of the milieu: (1) personal narratives of an individual's journey through modular synthesis and Eurorack; and (2) the instructional and promotional roles played by user-made demonstration videos of Eurorack modules. Both reveal a gap between the imagined and actual affordances of a system and its user, a discrepancy that I address by introducing the notion of "drift."

The marked heterogeneity of Eurorack and the potential of a system for future modification strongly distinguishes it from other formats, and I conclude by discussing Eurorack as an instrument that is never "finished." As such, Eurorack invites us to consider a musical instrument not just as a bounded object or assemblage, but as an ongoing process of individuation rooted in practices of co-consumption.

Introduction: Modular synthesis in the twenty-first century

The phrase "fun addiction" in the title of this paper comes from the promotional literature for the KB37, a case and keyboard controller for Eurorack-format synthesizer modules manufactured by the German synthesizer firm Waldorf:

> More and more synthesizer enthusiasts recognize the Eurorack as a huge playground for sound design. Collecting sound modules is like a "fun addiction," where the musicians can precisely customize their setup as they go along without spending a huge amount of money all at once. It's a system that can grow over time into a massively versatile and totally flexible musical instrument (Kb37 Eurorack, n.d.).

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Waldorf's description of the Eurorack phenomenon highlights a number of important themes that will emerge over the course of this article, including (1) the importance placed by Eurorack users on customization, (2) the broad variety of musical purposes toward which Eurorack systems are applied, and (3) a recurrent (financial) anxiety about addiction to the format. Central to all of these points are the distinct consumption practices of Eurorack users, which are largely shaped by an online culture distributed across message boards and social media platforms. My contention is that, for a variety of reasons to be adumbrated below, Eurorack users are deeply sensitive to their own status as consumers. As such, they provide a compelling case study with which to interrogate the sociality of online shopping, an activity that is often pursued in physical isolation. But, as we will see, Eurorack users are often shopping to satisfy desires that are produced in collaboration with others who are distributed across both space and time.

Before proceeding further, however, a few introductory remarks are necessary concerning modular synthesis, the post-digital modular revival, and the mounting ubiquity of the Eurorack format. Modular synthesizers are electronic instruments comprised of discrete modules—each of which is defined by a specific sound-generating or sound-altering function—with which the user creates a "patch" by connecting the various inputs and outputs of the modules in a bespoke fashion. The first commercially successful modular synthesizers were developed by Robert Moog in the mid-1960s and gradually eclipsed by his firm's own hardwired synthesizers in the 1970s and, later, those produced by large firms such as Roland, Korg, and Yamaha (Théberge, 1997; Pinch and Trocco, 2002). While global synthesizer production since the 1970s has centered around hardwired instruments, usually with a keyboard interface, various small manufacturers have continued to produce modular synthesizers in a variety of formats for a niche market. Though once assumed "obsolete"—at least from a market perspective—the 21st century has borne witness to an unanticipated reemergence of popular interest in modular synthesis. In true dialectical fashion, digital technologies both allowed synthesizer manufacturers to implement a number of practical features in the instruments that they produced in the 1970s and 80s (e.g. pitch regulation, polyphony, patch recall) and imbued the perceived limitations of analog circuitry with new meaning *ex post facto*. In particular, commentators regularly mention both the timbral "warmth" of analog circuitry—a tenacious rhetorical trope whose history deserves a separate treatment—and the immediacy and tactility of those older instruments' interfaces (Robair, 2012; Scott, 2016; Rossmy and Wiethoff, 2019). But whatever connotations musicians might ascribe to analog and digital synthesizers, staunch purism is far rarer than hybridity both in their practice and in the design of the tools they employ (Pinch and Reinecke, 2009; Robair, 2013; Scott, 2016).

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While several modular synthesizer formats exist, Eurorack has assumed the largest market share. The format, based on the DIN-41494 specification, was adopted for synthesizer development in the mid-1990s by Dieter Doepfer for use with his systems and standardizes certain details concerning the construction of compatible modules, including their physical dimensions, power supply, and the arrangement of their power connections. Eurorack's mounting metonymic relationship to modular synthesis might be attributable to the sheer number of manufacturers developing modules according to these specifications. There is a much greater diversity of Eurorack manufacturers and modules than for any other format. At the time of writing, the Eurorack module database maintained by the popular Modular Grid website (modulargrid.net) includes entries for 343 manufactures and 7,512 modules. Crucially, this ability to mix and match modules by different manufacturers affords Eurorack users a strong sense of personal taste and vision that is expressed through the consumption of these diverse modules. While modular synthesizers, as opposed to hardwired synthesizers, have always offered customization (e.g. deciding how many oscillators, filters, etc. are included), the individual modules are produced by a single manufacturer or a small group of manufacturers. As such, proprietary modular synthesizer formats tend to be expressive of a singular design philosophy. Eurorack, by contrast, privileges diversity in module design. Indeed, given the crowded field of Eurorack module manufacture, idiosyncrasy can be a promotional virtue.

The Eurorack scene

As an enduringly niche phenomenon, the reemergence of modular synthesis has taken place without a strong physical infrastructure or localization. Although there is a growing range of brick-and-mortar stores that carry modular synthesizers and host related events, the vast majority of the social activities around Eurorack have taken place in a globally distributed network of online spaces, including social media platforms, dedicated message boards, and streaming video services. Can a modular synthesizer format be constitutive of a scene? As a tentative answer, I would offer a qualified "yes." As Richard A. Petersen and Andy Bennett write, a "scenes perspective focuses on situations where performers, support facilities, and fans come together to collectively create music for their own enjoyment" (Petersen and Bennett, 2004, 3). "Virtual" scenes have been the subject of burgeoning interest as the internet and online culture have increasingly permeated daily life. But if Eurorack users conceptualize themselves as belonging to a virtual scene, it is nonetheless important to bear in mind that the majority of them would likely balk at the idea that they are "Eurorack musicians" or that they make "Eurorack music." Put another way, the Eurorack scene is comprised of performers and manufacturers

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who are drawn together by their shared interest in a distinct instrument technology, but who might also participate in other music scenes according to their specific location and musical taste. Indeed, while the music rendered with Eurorack systems is an important facet of the Eurorack scene, the modules themselves are just as important. As such, I would replace the "performers" in Petersen and Bennett's formulation with the broader term "artists" and note that the artists in the Eurorack scene produce both music and music-making tools.

The issue of economy in the Eurorack scene is both complex and integral to its culture. While money is required to make a scene function, how the flow of money is handled is a crucial expression of that scene's ideology, and many peripheral music cultures adopt idiosyncratic exchange practices expressly to downplay the corrosive influence of capital. However, while Eurorack is emergent as a commercial phenomenon, few practitioners express criticism toward unscrupulous designers jumping on the bandwagon solely for financial gain. Like many arts-affiliated entrepreneurs, module manufacturers often maintain another job as their primary source of income or forsake higher-paying work in order to produce modules full-time. Nonetheless, Eurorack does require a significant amount of capital to produce and purchase equipment and thus for the scene to exist at all. Perhaps for this very reason, Eurorack users are vociferous about limiting opportunities for financial exploitation. For example, there is a conscious effort to uphold a fixed 80% resale figure in the large secondary market for used modules in order to provide users an opportunity to try a module without suffering a significant loss if it does not suit them. Given the dearth of brick-and-mortar stores selling Eurorack, most users must actually purchase a module in order to experience it in person. By the same token, Eurorack users are also disdainful of those who speculate on the price of rare modules in an attempt to derive a profit from their limited availability.[1] In part, then, the ties that bind the Eurorack community together are a set of normative practices about the fair exchange of costly equipment.

One of the principal sites for discussion about Eurorack is a public message board called Muff Wiggler (muffwiggler.com).[2] Launched in 2007, Muff Wiggler hosts forums for a variety of modular synthesizer formats and other electronic instruments, but its "Eurorack Modules" forum is by far its most popular. There is also a private "Eurorack Synthesizers" Facebook group that includes about 24,000 members and a Eurorack "Subreddit" with about 2,100 subscribers. Beyond these forums and discussion groups, YouTube is the most important platform for the Eurorack scene. Given the scene's distributed nature, video streaming has played an incredibly important role in attracting new users and transmitting knowledge about how the various Eurorack modules work and, more generally, about the techniques of modular synthesis.

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Planning a system (together)

One of the most prominent genres of Eurorack discourse is the personal journey narrative, and it provides a good opportunity to begin to elucidate the contours of Eurorack consumption. These narratives might touch upon a range of issues, but almost always address four recurrent topics: (1) the individual's prior musical experience, generally; (2) the individual's prior experience with sound synthesis, specifically; (3) the circumstances that lead the individual to develop an interest in Eurorack; and (4) the individual's goal(s) for their engagement with the format. Responses to the first three points tend to run the gamut, but the fourth point nearly always addresses both customization and working outside of "traditional" musical idioms. That is, adherents of modular synthesis hold that these instruments are fundamentally different from those of other types and often feel that they are working outside of received musical ontologies, techniques, and creative strategies. Other beginners also make use of such narratives to think through their own objectives.

Eurorack culture privileges customization. This is most obviously the case with respect to module selection and case choice, but it is also apparent in a variety of other activities including cosmetic adjustment (e.g. aftermarket knobs and faceplates), custom firmware development and installation, and even do-it-yourself module construction and design. This is an element of the Eurorack format that many users find deeply satisfying. Nonetheless, the knowledge required to make educated decisions about module selection is often beyond the uninitiated. Indeed, the perceived complexity of modular synthesis is an enduring concern. Moog himself once quipped that "there are maybe 25 people in the world who have the necessary competence in both physics and music" to properly use his instruments (Henahan, 1969). This tension between the steep learning curve of modular synthesis and the high value placed on customization in Eurorack discourse finds expression in numerous forms, perhaps nowhere more acutely than in the ambivalence expressed toward prefabricated systems and semi-modular, all-in-one voice modules. Because many of the larger Eurorack manufacturers produce a wide enough array of modules to cover all of the basic modular synthesis functions, they also market pre-configured systems that feature a selection of their modules. Such systems might be organized around a variety of musical styles or compositional strategies, but their primary advantage is that they are guaranteed to "work." Purchasers need not worry that they might have forgotten an essential module, whose subsequent acquisition might become an unexpected financial burden.

Similarly, all-in-one voice modules include everything necessary to generate sound and manipulate it in a variety of ways, but the specific elements of the signal chain are pre-determined by the manufacturer. For example, a popular all-

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in-one voice module is the Moog Mother-32 (MSRP $600), which includes a voltage-controlled oscillator, filter, and amplifier, as well as a step-sequencer. These units are often described as "semi-modular" because the signal chain is hardwired, but can be interrupted by inserting a patch cable in a matrix of patch-points on the unit. Thus, a Eurorack user can still choose modulation sources and effects units to manipulate the sound of the Mother-32, but many of the basic elements of the sound have already been decided for them. Like the larger pre-configured systems, all-in-one voice modules have the virtue of security: they will work straight out of the box and usually without the need for other modules. Furthermore, because all-in-one voice modules generally contain all of the basic modular synthesis functions, they are considered to be good choices for beginners who can use these modules to learn. Nonetheless, as is the case with most "beginner" instruments, it is the tacit implication that the diligent student will eventually surpass them and move on to better quality tools.

Because the system design process is so integral to the broader experience and culture of Eurorack, many users, even beginners, feel somewhat averse to such units. This type of thinking was clearly evidenced in a thread posted to Muff Wiggler by user smallstonefan entitled "Ready to make my first purchase!". After initially indicating their interest in one of two preconfigured systems, a number of forum users interrogated smallstonefan's intentions with their system and made recommendations based on the original poster's newness to modular synthesis. User gringostar, for example, suggested purchasing a pair of semi-modular, all-in-one voice modules (a Make Noise 0-Coast and either the Mother-32 or the Moog DFAM, a semi-modular percussion synthesizer) that would help smallstonefan "learn what the individual pieces of modular does [sic] so [they] can start building [their] system from the ground up instead of starting with a pre-built system" ([gringostar], 2019). Demonstrating awareness of system realization as a rite of passage, smallstonefan replied: "I considered a Moog Mother 32 [sic] as a semi-modular to start, but for some reason it feels like I'd be cheating myself if I do that. Maybe that's silly, but that's what it feels like" ([smallstonefan], 2019).

As this exchange makes clear, planning a system is one of the strongest expressions of an individual's desire for an instrument that is unique to themselves. Nonetheless, it is also a process that is heavily mediated by the experiences and opinions of other Eurorack users, manufacturers, and retailers. Two prominent genres of Eurorack discourse are those of the interrelated "golden question" (i.e. "what modules should I buy?") and the system critique. Because Eurorack is a relatively expensive format, users often solicit a community's opinions about which modules are "good" before making their first purchase. Nonetheless, this question runs contrariwise to what many Eurorack users identify as a constitutive element in the broader Eurorack experience. For example, as the YouTuber Benn Jordan tells it,

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"I hate answering [questions about what modules to buy], because I feel like if you take my advice, then you're robbing yourself the experience of building your own synthesizer" (Jordan, 2018).

After prospective Eurorack users have spent some time investigating a community's consensus about popular modules, they will often use the Modular Grid website to draft a sketch of a system and then post a screenshot of the system for critique. Because the suitability of any system is dependent upon both usage contexts and personal taste, the system critique is a fascinating look into the ways in which Eurorack users attempt to reconcile a beginner's stated goals, their own personal experience, and the communal wisdom and tropes shared by the scene. Indeed, this is nowhere more apparent than when communal wisdom runs against new users' personal vision for their system. For example, Robin Vincent's video series about his Eurorack journey includes a telling anecdote about Maths (MSRP $290), a ubiquitous module produced by a North Carolina-based manufacturer called Make Noise.[3] Though it can be used for a variety of synthesizer processes, Maths is principally a function generator. It can generate a slew of variously shaped control voltages with which to modify a synthesizer's parameters, including envelopes, low-frequency oscillators (LFOs), and other unique modulation schemes. Though Vincent had not initially planned to include a Maths—because of both the size and the complexity of the module—he found it difficult to get others to accept a system that did not include it:

> Maths [...] kept coming up. Everyone would talk about it [...] and it seemed to be that I could not get the conversation to move past anything other than having a Maths in there. So, I put a Maths in. I thought, "sod it." I'll just put it in there. And then, finally, everyone goes "Maths, yeah, that's great." And they can move on and talk about something else. So, you know, I feel a little bit kind of pushed into the idea of having it but, sod it, let's have it and see if I can make head or tail of it (Vincent, 2017).

Vincent's experience again points to the peculiar nature of the tension between personal choice and communal wisdom. In the final analysis, of course, Vincent is the sole arbiter of the suitability of his system to his own personal needs. Nonetheless, given the steep learning curve of modular synthesis, Vincent's experience speaks to the difficulty that many new Eurorack users find trusting their own judgments.

Learning and longing with demonstration videos

Whatever new users' initial selection might be, it is likely that their setup will continue to change after they begin to use it. As Muff Wiggler user ayuros has succinctly put it: "Once you go modular, all your plans of 'this is what I want to do with it' goes for a toss, imo" ([ayruos], 2019). This is in part why Eurorack users often

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suggest that beginners should purchase a case that is larger than the dimensions of their first batch of modules. What one wants from a system is much more readily apparent in its actual use, and it is likely that new synthesists will want to add modules that they had not anticipated during the more abstract planning phase of their Eurorack journey. It is largely for this reason that communal regulation of the second-hand module market is so crucial to the health of the scene. Even long after a synthesist has been working with a system, their desires will continue to shift and thus so too will the system. Indeed, this is why the metaphor of the "journey" is so ubiquitous within Eurorack discourse.

In light of such journey metaphors, I would offer up the notion of *drift* as a constitutive element of the Eurorack phenomenon as it is mediated between online discourse and offline practice. Drift is both the distance between the intended and the actual, and an acknowledgement that intention itself is protean. Furthermore, drift is a byproduct of the fundamentally relational aspect of affordances, a term that has been invoked by numerous scholars of music and technology to address both the enabling and constraining properties of these devices (Butler, 2014; Zagorski-Thomas, 2014; Strachan, 2017). The ecological psychologist James J. Gibson initially introduced the term in order to explain how animals (including humans) navigate their environments by encountering recurring combinations of "surface" and "geometry," which dictate how they can be used. For Gibson, affordances are properties of objects: "the object offers what it does because it is what it is" (Gibson, 1977, 78). An important corrective to this conception was advanced by Brian Bloomfield, Yvonne Latham, and Theo Vurdubakis, who stressed the contextual mutability of affordances: "Rather than talk of *an* individual encountering *an* object [...] we need to talk instead of *how* and, importantly, *when* specific action possibilities emerge out of the ever-changing relations between people, between objects, and between people and objects" (Bloomfield et al., 2010, 420). While Eurorack users are deeply sensitive to the ways in which one module might radically reconfigure what is possible with another, there is often less attention paid to the importance of the individual in these instrumental assemblages.

This issue concerning the relationality of affordances is put into great relief by one of Eurorack's most significant pedagogical tools: the demonstration video. Given the geographically distributed nature of the Eurorack scene, video streaming services such as Vimeo and YouTube allow users to learn from others in a way that is distanced, but experientially immediate. Although the physical locale of most demonstration videos is not immediately apparent—the camera is often trained directly on the synthesizer itself—the implication is that the viewer is entering into the demonstrator's own studio space, an intimate environment that is detached from the outside world. Indeed, the intimacy of the demonstration video is further augmented by the solitary presence of the demonstrators themselves (or, at

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least, their hands and voices). Because most video streaming is experienced alone, the cumulative effect is a kind of co-presence effected between strangers, however asynchronous and spatially discontinuous it might be. But while demonstration videos are meant to educate, they often obscure as much as they reveal. Whereas one synthesist might be capable of eking incredible sounds from a given module or patch, there is no guarantee that another musician would be capable of rendering the same if given the same set of tools. This point is perhaps more obvious in the context of mechanical instruments, which stay mute until acted upon, but can be easily obscured in the context of modular synthesis, where the interactions between modules can animate an instrument such that it seems to play itself.

At the time of writing, the most viewed Eurorack video on YouTube is a demonstration of the Intellijel Metropolis (MSRP $580), a sequencer module. The video was produced by mylarmelodies, who has released a number of videos that detail the history and functionality of various Eurorack modules on his YouTube channel. In his demonstration of the Metropolis, mylarmelodies contextualizes the module by discussing his own boredom with traditional sequencer designs; his interest in a unique, multi-step sequencer designed for the Roland 100m modular synthesizer system by someone known by their username ryktnk; and an interview that he conducted with ryktnk about the genesis of the sequencer design. Thus, by the time he introduces the Metropolis itself (a Eurorack implementation of ryktnk's design), the viewer has experienced a very personal story about the module that stresses its uniqueness.

After an explanation of the sequencer's multi-step functionality, the second half of the video is comprised principally of footage of mylarmelodies performing with the module. His verbal commentary here is minimal ("it's a funky little bastard," "ace," and "ooh!"), and the focus switches to the music that he is able to create with the Metropolis. Nonetheless, it is important to bear in mind that sequencers are not capable of producing sound on their own. Rather, sequencers produce control voltage and gate signals that are used to control the sounds produced by other modules. Thus, while the camera is focused on the Metropolis itself in mylarmelodies' video (see figure 1), much of the action is out of frame. Although mylarmelodies' description for the video includes a list of the modules used, it does not include any information about their settings or the manner in which they were patched together. Indeed, while the Metropolis operates relationally within a network of other modules—not to mention the user's sensibility and talent—the nature of these relationships is obscured. This obscuring function is bolstered by mylarmelodies' minimal verbal interjections, which serve no explanatory function and further augment the aesthetic impact of the music. Like the studio artistry described by Louise Meintjes in her ethnography of Johannesburg's Downtown Studios, mylarmelodies' videographic style preserves the "complex interiors" of both instrument and artist.

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Figure 1 - A screen capture from mylarmelodies' demonstration video for the Intellijel Metropolis

Shifting Meintjes' language only slightly, we might then say that the "lure" of the module, "like that of the fetish, lies in the coupling of the promise of the revelation of its secrets with the knowledge of their infinite unknowability" (Meintjes, 2003, 98).

Going further, I would suggest that the fetish character of Eurorack modules is a crucial element of their commercial appeal. Demonstration videos reveal *some* of the possibilities latent in a module without exhausting them. Put another way, they enhance the mystery of a given module while also validating its utility. Purchasers can be certain that such a vetted module will be a "good" purchase without being overly prescriptive. There will be something for them to discover for themselves in working with it, and—should they encounter difficulty learning the module—they can feel secure knowing that other musicians have been able to generate compelling results with it. Indeed, the commercial function of these demonstration videos is clear. Several people posted comments to mylarmelodies' video indicating that it had encouraged them to purchase the module ([mylarmelodies], 2014). Many Muff Wiggler users have also cited the aforementioned video as the reason why they decided to purchase the Metropolis. As user geremyf writes under the heading "Module Justification" in a system critique thread that they posted in 2015, "I'm completely sold on the Metropolis from the Mylarmelodies video" ([geremyf], 2015). Or, as user ParsecWaves writes in their journey narrative post (entitled "That's it, I'm in!"), "Then, last year I stumbled upon this video [includes a hyperlink to the mylarmelodies Metropolis video], probably responsible for half the sales of Metropolises (hats off mylarmelodies)" ([ParsecWaves], 2015).

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Despite the prevalence of financial anxiety and addiction as themes in Eurorack discourse, users do not regularly raise concerns about feeling manipulated by advertising. Indeed, there is little overt advertising within the realm of Eurorack at all. In part, of course, this is because manufacturers work on small margins, and pedagogy and advertising are thoroughly elided in content like these demonstration videos. Crucially, however, the commercial function of demonstration videos is apparent to Eurorack users. Users routinely share demonstration videos that have both inspired them and helped to shape their purchases, perhaps nowhere more obviously than a Muff Wiggler thread from 2014 tellingly titled "Link to the video that convinced you to buy a module" ([xclark], 2014). Perhaps unsurprisingly, many users provided links to mylarmelodies' work in that thread, celebrating his videos for being "so good" ([JakeE], 2014) and "big up to mylarmelodies for the enthusiasm!" ([koshi], 2014). Although several prominent authors of Eurorack demonstration videos have opened Patreon accounts and/or monetized their YouTube channels, the free exchange of this information (or at least the voluntary nature of its recompense and the invisibility of ad-derived revenue) heightens the perception that it is being produced for the "right" (i.e. non-commercial) reasons. To borrow a phrase from Kiri Miller in her work on amateur-to-amateur pedagogy, these videos "[generate] a sense of mutual obligation, emotional investment, and social connection among participants" (Miller 2012, 219). This thread, and others like it, celebrate the work of the modular synthesists who take the time to create these demonstration videos for the community. Their work gives substance to the scene.

Conclusion: A never-ending instrument

Like many peripheral cultures, the modular revival has benefited tremendously from the possibility of virtual scene formation that digital connectivity provides. While brick-and-mortar support structures are important, the Eurorack scene is a highly distributed community whose interactions primarily unfold across dedicated message boards, social media, and streaming video services. Consumption is a central facet of the Eurorack scene and is a primary means by which its members recognize and collaborate with each other. Furthermore, as it is in other cultural domains, consumption is understood within the Eurorack scene as a powerful way of expressing oneself. Customization is intensely privileged and the process of designing and realizing a system—the journey—is perhaps the most singularly constitutive element of the Eurorack scene and one's identity within it. Nonetheless, while the individual user is the ultimate arbiter of module selection, the modality of their choices is heavily mediated. Because the idioms of modular synthesis tend to fall outside the norms of music pedagogy writ large, these instruments appear unfamiliar and complex to many. As such, prospective synthesists routinely seek advice

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from those with more experience. Thus, self-expression is strongly determined by external forces, especially at the earliest stages of one's engagement with the format.

While customization is a general feature of modular synthesis, the heterogeneity of Eurorack module design and manufacture feeds back into the scene's ethos of consumption in significant ways. Indeed, the sheer variety of available modules offers near-infinite variability in system design (and thus also in individuation) and supports the widespread notion that a system is never truly "finished." Furthermore, Eurorack's primarily pedagogical tool, the demonstration video, is module-specific. While the lessons such videos contain can be abstracted and applied to other modules to varying degrees, they also work to foster desire for the objects they describe. Because much of the learning and longing that takes place within the Eurorack scene unfolds online, I have introduced the notion of "drift" as a conceptual tool to acknowledge the relational quality of affordances, to capture the way that musical intention shifts between imagination and practice, and to honor the scene's paradigmatic journey metaphor.

Thus, Eurorack's discursive platforms are full of fellow travelers. Each is pursuing their own goals, however much they may change over time, in the presence of others doing the same. And, in the process of discussing those goals, the people who participate in this scene work collaboratively to produce each other's technological desires. Occasionally, this is experienced in a very direct manner, such as when a new user like Vincent solicits a critique of their planned Eurorack system. Other times, however, desire is fostered in a highly distributed manner, where once-dormant forum posts and YouTube videos are enrolled in new processes of sound production, education, and commerce. Face to face with the archive, each user may confront many lifetimes' worth of appetites. Indeed, as BoBeats quips at the beginning of the eighth episode of his "Eurorack with Bo" series, entitled "MY EURORACK IS FINISHED": "Who am I kidding? It's of course not done. It will never end" ([BoBeats], 2018).

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Notes

1 A good example of this is the Swedish manufacturer Cwejman, which has a positive reputation, but produces modules at a pace that cannot keep up with the demand for them. While their US distributor Big City Music lists a module like the MMF-2 Multimode Filter for $995, at the time of writing the only one available in the popular online, second-hand music store Reverb.com is listed for $2,200.

2 Like the recording forum Gear Slutz, the tacit misogyny of the Muff Wiggler appellation has been subject to criticism. Founder Mike McGrath's concomitant acknowledgement of the name's problematic nature and his decision not to change it is a characteristic feature of the oft-assumed homosociality of discourse about music equipment.

3 According to Modular Grid, Maths is the most popular Eurorack module. This calculation is based upon the number of systems in their database that include the module.

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