Music@Microsoft.Windows: Composing Ambience

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Why does Microsoft Windows play music upon startup?

It is well known, of course, that all Windows versions except for 3.1 have a brief (four to six second) piece of music indicating that Windows is booted and ready for use. Each version has different music, although, as we will see, Windows 95's startup music, written by Brian Eno, and Windows Vista's music, written by Robert Fripp, share musical motifs. Nor is the music of Windows just an idle proposition, an afterthought: Eno and Fripp are well known musicians with strong ties to the avant garde, and they were well paid for their work. So, to repeat the question: why have startup music for Windows, music that takes significant time and expense to develop and implement?

The question deserves attention because there does not appear to be any obvious need for this music. While an auditory signal of some kind is nice or even appropriate, a beep or some other semantically functional sound would suffice, as was the case with Windows 3.1. Considering the matter in terms of purely professional utility, startup music seems unjustified—it is an aesthetic nicety, window dressing as it were, and an oddly expensive and pretentious one if the likes of avant garde musicians Fripp and Eno are involved. While the music may indicate Windows has booted, it bears no immediately discernable relation to the various uses we might actually put Windows to—working, gaming, communicating, browsing, and so forth. Indeed, we might be tempted to go so far as to agree with cognitive scientist Steven Pinker, author of many well known books on mind and language, who argues that music serves no evolutionary function. While it may offer a few benefits here and there, they are primarily ones of pleasure; thus, music

is a kind of "auditory cheesecake" (Pinker 534). From this long-view, utilitarian perspective, Windows' startup music is dinky, digital cheesecake. It is perhaps pleasant to have, a nice ornament or bit of frill, but ultimately unnecessary for the functionality of Windows. Such a view is in keeping the profound neglect accorded music for our understanding of human beings and their development in all scholarly arenas save perhaps music departments (see Mithen).

Further, as a rhetorician, I am immediately aware of the separation of form and content that structures this narrative: Windows is the transparent, functional entity allowing us to conduct our business (even if our business is pleasure), and the startup music is the flourish, the rhetorical ornament dressing up Windows' transparent instrumentality. I am reminded that this is the same narrative used to dismiss rhetoric, which is the decorative frill dressing up language to make it more pleasing, persuasive, or seductive, but in the end not important and even pernicious in its impeding of the facts transparently represented for us in communicative linguistic utility. This narrative is at least as old as Plato, who used it to trump rhetoric with philosophy, and it rouses my suspicions if it is applied to understanding why Windows has startup music. Something else is at stake. More precisely, I am going to argue that examining something as small as an operating system's startup music can open a new window on how we understand our relation to computers and computer software. Microsoft Windows and similar entities are not just operating systems or software programs we use; rather, they constitute an actual environment, and in so doing, they require an extension of our modes of comportment to include more complete reflections of the human. A functionalist view of Windows that would see its startup music as a frill does not just replicate age-old arguments against rhetoric; it implicitly carries with it a reductionist understanding of what it means to be a human being. As we shall see, this view is at odds with what the Windows designers themselves seem to be trying to do. We might go a step further and acknowledge that startup music helps create a more complete package, one with more emotional pull than functionalism admits of. This gets us on the right track, I think, but it's the kind of statement that invites deeper reflection. That is, it begs the question of how a short musical snippet in fact involves and inflects a user.

A secondary argument of this essay, then, is to puzzle out some of the deeper, richer relations we want with our technologies and how such understanding reconfigures the grounding assumptions we bring to studies of digital work. This matters for a number of possible reasons. In particular, I have in mind that an understanding of writing within a larger, encompassing environs not only moves us beyond a focus on discourse, but it confronts us with numerous permutations of rhetorical work achieved through non-verbal and ambient means. Indeed, it may be useful to reemphasize that writing is composition, broadly construed: the synthesis and assemblage of multiple content threads of varying intensities, including discourses, colors, graphics, musics, sonics, tactiles, and more, all as gathered within, conditioned by, and expressive of a material and affective environment. Thinking about something as transparently given as software startup music, then, opens us to deeper reflections on the stretched and stretching nature of rhetoric in a digital, multimedia age. More pointedly, it demonstrates concretely the limitations we set for ourselves in focusing on the semantic, the visual, and the utilitarian. The world of our involvements is much richer than this.

There are, it should be added, important pedagogical lessons here.

Windows 95: Boong-bliiiing-tink-tink-tink

Windows 3.1 did not have startup music; it simply beeped at you when it was loaded. It sounded like this:
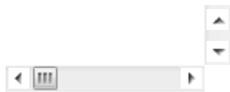
Audioclip 1: Windows 3.1 startup sound.

Not only were 3.1's sounds rudimentary and strictly functional, Microsoft had received a certain amount of backlash about the sounds, primarily because they were less than pleasant. Tasteless epithets proliferated; for instance, one infamous saying on receiving a Windows error (an all too common event) was "Windows just tinkled on me" (Kirksey 1). When Windows 95 was in development, then under the code name Chicago, one of the issues Microsoft sought to address was the aural experience of starting it up. They wanted the music to be an actual experience, albeit within certain constraints, but one that moved far afield of what 3.1 offered. The startup music had to be short. It had to be pleasant. It had to hold up to multiple hearings (consider how frequently one hears the boot-up music). They had other goals, too, and these goals were expansive enough that they ended up contacting the well-known musician and producer, Brian Eno.[1] Eno began his career in the early 1970s with the rock band Roxy Music, but rather

quickly went solo, and among his developments in the mid-'70s was something he called ambient music. Ambient music was quiet, moody, and atmospheric. It declined melody in favor of slowly unfolding harmonic textures, or soundscapes, that were designed to withdraw from direct attention and permeate one's overall environment. Ambient music often involved unusual compositional techniques that introduced technology into the generational process; thus, machines became, in a sense, co-composers.[2] All these factors must have been appealing to Microsoft.

Eno was contacted through a third party and was given instructions about what the Microsoft team wanted. At the time, Eno relates, he was in a creative slump (Selvin). Certainly, his most innovative work from the 1970s and early 1980s was behind him. Perhaps because of this, he found the challenge inspiring. It may also be that the idea that millions of Windows users would hear his composition every day was also desirable.

In retrospect, Eno's involvement is unsurprising as his experience with developing ambient music and his skill with integrating human and machinic elements in a warm, appealing manner seem obvious selling points. Nevertheless, the problems in composing the piece were significant. First, the length was extremely short: three to four seconds. Eno states that he was forced to start thinking of the piece in microseconds, and when later he returned to music of more customary length, he was confronted with the large ocean of time he now had (Selvin). Second, the music had to withstand countless replayings. This required a certain innocuousness; the music would have to be pleasing enough to reward attention, but not so demanding as to require it. This idea was itself a maxim of the ambient music Eno developed.[3] Third, and more on this below, Eno was given a list of specific moods, feelings, and attitudes that the music was supposed to invoke. In the end, Eno developed eighty-four pieces, and the one chosen became famous as The Microsoft Sound. It looks like this:
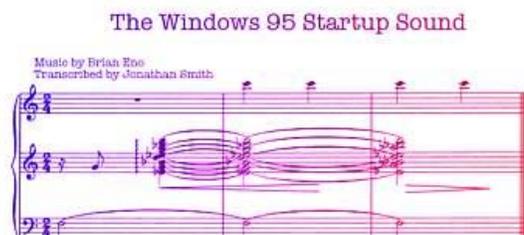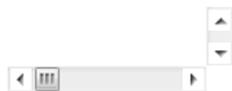

Fig. 1. Musical notation of the Windows 95 startup sound. (Kirksey 2).

It sounds like this:

Audioclip 2: Microsoft Windows 95 startup sound.

The EnoFAQ describes the sound like this: "Boong-bliiiing-tink-tink-tink" (EnoWeb np).

Pedagogical Interlude 1

There are no easy answers to questions about teaching sonics in what is still a text-focused field. Even the attention paid to image and color in visual rhetoric tends to prioritize what can be brought to the semantic dimension and made determinably meaningful, a point that renders acute the difficulties in treating with music. Perhaps the easiest way to start bringing ideas about sound to the writing classroom is to begin with that precise issue: why do we give short shrift to music and other sonic phenomena? We might begin by noting music's ties to emotional regulation and modulation, but writing and rhetoric, while certainly privileging the rational and disinterested, do not ignore the emotional. So we need to dig deeper. Do we, then, mistrust music for being simultaneously ephemeral and potent, i.e. for affecting us strongly without our being able to pinpoint how and why? Or, conversely, do we ultimately think it is less important because it cannot easily be made symbolically determinable? We can pursue these questions while also inquiring into the ways music shapes our sense of self and world.

Boot-up Once More, with Feeling

According the Eno, Microsoft wanted the music to evoke certain qualities. In an interview, Eno

relates, "The thing from the agency said, 'We want a piece of music that is inspiring, universal, blah-blah, da-da-da, optimistic, futuristic, sentimental, emotional,' this whole list of adjectives, and then at the bottom it said 'and it must be 3¼ seconds long'" (Selvin). Once we move past the comedy here, a number of intriguing questions arise. How is it that a piece of music, which lacks verbalized intellectual content, can evoke specific feelings? Is there something inherent in the music, or do we have cultural codings preparing us to be affected in specific ways? Perhaps even more puzzling, how can such a short piece of music endure beyond an immediate hearing to impact the overall Windows experience? That last question is crucial because Microsoft wanted a piece of music to evoke the basic experience of using their operating system, which meant, in essence, to situate a user's emotional frame of reference within certain parameters. This is somewhat unusual. Products that we buy do not ordinarily come complete with preselected, specifically tailored mood music. One can obviously supply one's own soundtrack, but that misses the point: Microsoft wanted a brief musical motif that conveyed the essence of the Microsoft brand or even influenced the user's experience of Windows 95. Eno's understanding of this is signified not just by his recalling the list of adjectives, but his not-so-subtle commentary on them: "blah-blah, da-da-da." Eno's interjection suggests that while he appreciated the problem as a problem (as he tells Selvin in the interview, "It's like making a tiny little jewel"), he is less than sanguine about the corporatized feel-goodism evoked by their adjectival list.

This does not mean that Eno lacks understanding of the power of music and its potentially profound ties to technology. In an essay in *Wired*, Eno returns to an issue I broached above: technological transparency. Eno states, "Although designers continue to dream of 'transparency,'—technologies that just do their job without making their presence felt—both creators and audiences actually like technologies with personality" (Eno, "Revenge" np). He further adds that "a personality is something with which you can have a relationship" (Eno, "Revenge" np). One immediately sees the relevance to Windows 95. The problem the Microsoft development team had with 3.1 was that the relationship users were having was less than ideal, if not sometimes unpleasant. The startup music for Windows 95 was one part of a whole suite of sounds and images designed to allow the emergence of a better relationship with the software. The startup music cues us to this relationship. Immediately upon booting up, The Microsoft Sound, as Eno's music came to be called, initiates the user into the kind of personalized relationship Microsoft wants. Of course, we need to be careful here; not only does music retain its ephemerality, but it cannot, particularly with this short piece, be sundered from its technological environs. Put differently, we need to examine the *ambient* dimensions opened up by Eno's music, which will mean the mutually conditioning (and not determining) confluence of sound, image, material environment, bodies, and mood.

While there is no precise emotional core to a piece of music, certainly cultural discourses emerge to shape and cue musical meanings. Further, there is controversy about whether music can elicit common universal responses. There does appear to be some evidence that at a basic, general level, diverse people's respond similarly, being able to determine happy from sad music, for instance (Fritz et al). This occurs because listeners pick up general cues such as tempo or scale to conduct the emotional mapping of the music. However, we need to be careful here: such selective screening of the many variables available in music leaves great room for other responses, as is often acknowledged (Fritz et al). However, music affects and means beyond such a simple, basic palette of emotions, since it is integrated with culturally specific narratives, musical allusions, social contexts, and so on. With the loss of a cultural frame of reference, these meanings are lost. In terms of this paper, we need to keep in mind that the affective experience of the music and the meanings that emerge from it are enriched when combined with visuals. Thus, it is no accident that the ties between sound and vision, and not just text and image, are currently garnering renewed scholarly interest. As the multimedia age expands, the importance intensifies for understanding how sound and vision combine to affect us and to carve out a richer sense of environment than attention to the visual alone can generate—or the emotional, for that matter.

In this regard, it should be recognized that generating rich experiences by orchestrating sound and vision is a tremendously ancient practice and not only *au courant* because of media advances. Recent studies have shown that the very first artwork that has survived the ages, the cave art preserved at Lascaux, France and hundreds of other countries, were oftentimes deliberately placed to be accompanied by sound. We should recall that the discovery of such art at the end of the nineteenth century prompted revision of the views of early humans. The age of the cave paintings—some were dated to 300,000 years—required us to grant even proto-humans great aesthetic capacity (Blesser and Salter 74). Pablo Picasso famously said, "Not one of us could paint like that" (qtd. in Blesser and Salter 74). Nevertheless, as great as these discoveries were, and as great as the advances in knowledge they enabled, the focus remained

on the visual aesthetics. Now, however, pioneer acoustic archeologists such as Stephen Waller suggest that cave art was placed in cave chambers chosen for their acoustic properties: "pictures of bulls, bison, and deer were more likely to be found in chambers with strong echoes, spaces whose acoustics created percussive sounds similar to the hoofbeats of a stampeding herd" (Blesser and Salter 74). Many other auditory effects have been discovered. What the caves have preserved for us are not solely cave paintings, then, but multisensory "art" (I use the scarequotes because our Western notion of aesthetics was assuredly not that of cave peoples). Further, such art was interlocked into rituals that advantaged themselves of the unique properties characterizing these spaces. For instance, a cave wall surface was, anthropologists claim, a "veil that separates the spirit world from that of ordinary mortals, and the various components— sound, location, graphics, choreography, etc.—contribute to this and other desired experiences (Blesser and Salter 75).[4]

Despite the tremendous differences in age, context, technology, and purpose between prehistoric cave art and contemporary computer operating systems, we see the common thread that sound, vision, and environment have always been of compositional concern. Prehistoric cave art combined sonics and graphics to define a place uniquely suited to a people's customs and rituals—an immersive "machine" to generate a sense of the uncanny, perhaps. Thus, sound and vision help constitute an ambient environment that induces and persuades through various forms of information flow and mood alteration. The deployment of sound as afforded within the cave environs, just as with the use of images, must be understood as a form of non-symbolic communicative technology. Similarly, Eno's composition of startup music for an operating system and the Microsoft development team's design of a battery of unique sounds to provide semantic listening cues are of a piece with the development of the Graphical User Interface (GUI) and other programming advances that mark out a computer user's visual and tactile environment. Going further, we might, with the retrospective keenness of hindsight, want to question the focus on the *graphical* and *cognitive* in creating the GUI as indicated in both its name and its design goal; perhaps Multisensory User Interaction Space (MUIS) will have been a more accurate term. The focus on the visuality and interface is one with the archaeological focus on visuals in prehistoric art—it is not until we take cognizance of other sensory registers and forms of intelligibility that a richer understanding can emerge. When we do so, we understand that sound and vision (as well as the tactile and other senses, although those lie beyond the scope of this essay) immerse us in a multisensory, spatial environment, one pulsing with strong affective and suasive forces that inflect but also extend beyond our immediate cognitive focus.

There is considerable design promise in such ideas as borne out, for example, by MIT's Tangible Media Group. One of its projects, the ambientROOM, seeks "a new approach to interfacing people with information, particularly digital information (Wisneski et al 1). Rather than relegating information to a small, overwhelmingly visual space as does the Graphical User Interface, the ambientROOM moves information "into the physical environment, manifesting itself as subtle changes in form, movement, sound, color, smell, temperature, or light" (Wisneski et al 2).[5] The ambientROOM fulfills Eno's claim that we want our technology to have personality while also extending the promise of ambient music itself: signals and cues emerge in the background, rewarding or sparking attention without demanding it. The environment becomes a weave of musical, semantic, and visual communication flows. These flows, while they impart information, cannot be described solely as information as that term is too narrow. Information's semantic specificity is not broad enough to account for, among other things, non-semantic emotional modulation.

These ideas start getting us closer to the reason Microsoft chose to grace Windows 95 with startup music. The operating system becomes one component of a larger ambient environment. Seeing that space primarily in terms of the transmission of or interaction with information is a reductive understanding of everything that transpires within that environment. Music attunes us to that environment in ways that are emotional, meaningful, and physiological. To be even more pointed: it is a necessarily element in our primordial weddedness to the world. As Blesser and Salter suggest, we must understand sound as crucial to our integration into an environment (74). It is this idea, I argue, that can help explain what otherwise seems inexplicable if not frivolous, which is the great effort and expense Microsoft has taken up to shape a user's experience of Windows. While an emotional connection is certainly a priority, I think we have to see the stakes as being even greater than that. They are, quite literally, shaping to the extent possible the computer space as it spills out into the uniqueness of a user's local environment, personalizing an impersonal computer and software suite and integrating it into a user's habitus. To explore these ideas in more detail, I turn now to the development of Windows Vista's startup music, to which Microsoft devoted considerable time and money.

Pedagogical Interlude 2

I argued in this section that music shapes our sense of environment in profound ways, including our emotional tone, but that such influence cannot include but not be reduced to information. This is an easy lesson to explore pedagogically. One could, for instance, focus on the sonic qualities of various environments—one's house, workspaces, restaurants, and so on. How does sound figure into one's sense of place? To figure this out will take focused listening, since sound affects us even without consciously attending to it. Unpleasant sound is important here, too. There is a café in the Purdue Memorial Union, purportedly for coffee, snacking, and lunching, whose spatial layout and lighting is inviting for both conversation and study. However, whether through design or inattention, the café constantly blares loud rock music from the moment it opens. I am not the only one who finds the space completely disagreeable. In sum, one way to gain insight into Microsoft's interest in sonic design through developing our own inventory of how we dwell with sound.

Windows Vista: Green and Blue

The startup sounds for the Windows 95's follow-ups—98, 2000, and XP—were developed in-house, extending or reworking the musical ideas from Windows 95; however, while developing the next version, Windows Vista, the Microsoft design team once again reached to the avant garde musical world, choosing Robert Fripp to compose the new startup music. Fripp is a well known guitarist who came to fame in the 1970s as the leader of the progressive rock band King Crimson. He has also collaborated with Brian Eno on a number of albums, and as I will explain further below, this was a key reason for his being selected for the Vista project. Jim Allchin, who writes for the Windows Vista Team Blog, reports that while the sounds of Windows XP were suitable for the time, Vista required different sounds. XP's sounds were "'Western' and literal (e.g., you could tell that the sounds were played by a piano and other western orchestral instruments," and these "sounds were not consistent with the interface design goals of Windows Vista" (Allchin np). This is a telling statement. While the use of Eno's music for Windows 95 marks a dramatic step forward in the integration of sound into media design, Allchin's remarks about Vista indicate more than the fact that Vista's design goals are different—they reveal striking advances in thinking about and integrating sonics into ambient computer space.[6] Professional design becomes ambient and ecological.

These advances can be seen in a video made by Charles Torre of the Microsoft development team working in a music studio with Fripp. The leader of that team, Steve Ball, is himself a musician. In the studio, Fripp sits on a stool with his guitar, surrounded by a daunting array of musical and computer equipment. Ball and other members of the team coach him on what they want. The startup sound has two components. First is the underlying soundscape, an ambient bed of auditory 'color' produced through digital manipulation and looping of synthesized guitar; over that is what Ball describes as a "three, four, five note theme that is the Windows theme" (Torre np). Fripp ends up making over four hours of music for them, and from this it is Ball's rather daunting task to create the final four second theme. The theme is integrated not only into the visual look of Windows Vista, called Aero, but also the forty-five new Vista sounds that replace all the old sounds of XP—everything from receiving email, to accomplishing a task, to error messages and logging off.

What is especially striking about all this is how complex and thoroughly *designed* the music is. Over eighteen months of work will have gone into it, indicating a staggering amount of thought and labor to be packed into a brief four second snippet. This is another, if relatively new, form of professional (music) writing. Just like Eno, Fripp is given very specific descriptive terminology that the music is supposed to reflect. The Microsoft design team tells him that music has to connect to the theme of Vista's Aero visuals, which are "clear, confident, and connected" (Torre np). Vista differs from XP in striving for rounded and translucent idioms both visually and sonically, presenting an overall softer and gentler experience than previous Windows versions. Fripp notes the importance of the music being "green and blue," which, it is explained, means that the music must reflect "cooler temperatures." In a witty aside in the Torre video, someone asks "So what key is green and blue?"; Fripp's answer is "combinations of D and E" (Torre np).[7]

This discussion highlights the extent to which visual and aural are mutually integrated into one another, so that in discussions of sound, color can be used to describe ambient tone, just as in discussions of visuals, auditory mood can be used to describe visual texture. Additionally, these sounds are further designed to evoke past Windows sounds. The background soundscape was initially generated by reworking the Windows XP startup music. The four to six note melody over the top builds on Eno's Windows 95 theme, which is significant, as Ball acknowledges, because of Fripp's previous collaborations with Eno, a fact that adds still further nuance to the startup music. As if that is not enough, the soundscape contains four chords, each corresponding to a

color in the Window's flag, and the melody has two parallel sections that are "played in an intentional 'Win-dows Vis-ta' rhythm," thereby adding an element of branding as well (Allchin np) (see Fig. 2). Reporter Allison Linn describes the final Vista startup music as "a soft da-dum, da-dumm, with a lush fade-out" (np). While I cannot prove it, I suspect that the four second Vista theme is heretofore the most highly engineered snippet of sound in human history.
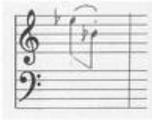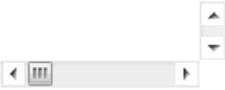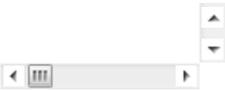

Fig. 2: Musical notation of the Vista startup music.

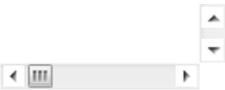Audioclip 3: Windows Vista startup music:

We can compare Vista's startup music with previous versions, 98 and XP.

Audioclip 4: Windows 98 startup music:

Audioclip 5: Windows XP startup music:

Besides complex layers of allusion to the look of Vista Aero graphics, past Windows versions, Windows iconography, and personal relations, what else is the startup music supposed to do? Just as with Eno, Microsoft is interested in using music to evoke a specific affective ground tone for their operating system as it boots up in a user's computer space. While it bears affinity with what they wanted with Windows 95, there are crucial differences. Ball describes the desired experience as "ascending, hopeful, positive, uplifting" (Torre np). It is easy to miss the import of Ball's claim. In engineering the startup music and integrating it into nearly every other aspect of Vista, Ball is attempting to compose a piece of the user's world. This is in most respects a rhetorical goal, even if it steps far outside of the discursive arena within which rhetoric tends to work. Perhaps we can call this object-oriented rhetoric.[8] It involves some destructuring and realigning of our mainstream understandings of what rhetorical activity is and how it proceeds. For one, rhetoric here is only partially discursive, with sonic, imagistic, and material aspects being of equal or greater importance. Second, rhetoric is not conceived as an agent-initiated, linear achievement, whereby a rhetor (or technological stand-in) pursues the desired, usually cognitive, goal—a change in belief, a call to action or decision, the achievement of praise or blame, and so on. Rather, rhetoric here is tied to experience, particularly the modulation of mood, i.e., our affective ground tone. This is achieved ecologically among orchestrated albeit mutually interacting elements. Rhetorical intent is present but dispersed among human and non-human elements and modulated through varying forms of semantic and affective media.

Putting rhetoric in this musical key shifts us away from rhetoric's more customary epistemological frame to an ontological frame. Rhetoric is assembled, in an architectural sense, and integrated into a mode of life—a way of being, as it were. I am going to explore this idea in three ways in the final part of the essay, looking at *fundamental mood*, *musical worlding*, and *soundmarks*. Each of these terms helps illuminate our understanding of professional "writing" beyond the limits imposed by the discursive and visual. This is not to say we should become music composers. But it is to say that bringing together music/sound, image, and discourse, with a profound attendance to the materiality of these media forms and the places they emerge within and define, is a crucial pursuit for rhetoric and professional writing today. It is less a matter of isolating various elements in order to understand their particular impact—discourse, image, meaning, mood, etc.—then in putting them together ecologically. In our work, whether that is our projects or our classrooms, we should be able to theorize, analyze, and instruct about how multimedia forms compose an interactive *place*. Such places are rhetorical, both in their creation and their inflections. Rhetorical action is enmeshed within an ambient environs, evoking a rich panoply of attachments, feelings, responses, and possible (inter)actions.

This brings us back to considering what happens when a user sits down to boot up Microsoft Windows. The situation will include the immediate material surrounding and ongoing activities, inclusive of the whirring, blinking computer as it boots. Then there is an affective response to the startup music, a response that the user may or may not be particularly conscious of. As we have seen, Microsoft is keenly interested in this response and how it can be made meaningful. Microsoft seeks to shape the user's attunement to the Windows workspace (I use the term workspace loosely, as forms of play, entertainment, and so forth are not being precluded here). But we also confront a problem. If music has no essential meaning or emotional key beyond a few simple, schematic responses ("happy," "sad"), how does it evoke such specific and complex qualities as Microsoft asked of Eno and Fripp? When we consider how Vista's emotional core of "clean, confident, connected" is to be evoked, we see from the development video that colors (green and blue) are brought in to solidify and explain the music's ephemeral impact. These colors in turn connect to specific keys (combinations of D and E). But this does not, in fact, answer the question because there is nothing inherent in combinations of D and E to generate Microsoft's desired affective response. One could in turn point to the visuals—Vista's translucent graphics, for instance—but again, this may generate some orienting cues but still falls short of explaining the fully sculpted response sought by Microsoft. I will attempt a more complete explanation of these issues in the next sections, where I explore in greater detail how sonic phenomena evoke feeling, meaning, connection, and a sense of place.

Pedagogical Interlude 3

Music and other sonic phenomena, when they are singled out for attention, enjoyment, or investigation, are precisely that: singled out. We go to concerts, play songs, listen for things (wind, traffic, alerts, speech), develop and pursue methods of inquiry (why does music affect us, how does it work, etc.). What we tend not to do is consider music in conjunction with other things. And yet, this is precisely one of Microsoft's design goals: how are they able to attune and mutually reinforce the sonic and graphic elements of their operating system? We can get a window on Microsoft's design team by engaging in such activities ourselves. In Interlude 2, I discussed a café that makes poor music choices. What music choices would be better? Why? Going further, what exercises or problems can we pose that ask us to bring together music and other sounds with visuals and situations? What other objects, places, events, and activities merge sound and image, and how is it that they complement or mutually reinforce each other to create meaning and attachment? Going further, how would we bring together music and visuals in a multimedia project we might pursue? As we will see in the next few sections, there are still more aspects to sonics we have yet to touch on, but considering these issues now can help attune us to their ubiquity . . . and subtlety.

The Rhythm of Being: Mood

Emotion is the affective tint coloring an otherwise greyly objective world. Indeed, precisely this understanding of emotion defines the scientific worldview, in which the condition of possibility for truth is a disinterested, dispassionate, and objective outlook. Assumed in such an outlook is that emotion is a secondary feature that can be controlled for by means of proper cultivation, adherence to method, privileging of logic, and so on. I think it is clear that Microsoft's pursuit of highly designed sound and graphics for its operating system indicates a belief in a more profound role for emotion, one fully in keeping with, say, Donald Norman's arguments for emotional design. Nevertheless, while it is well known that objects inspire feelings, and equally well known that industries design objects with emotions in mind, there is less clarity on the matter than might appear. First, this is because there are at least two levels of emotion to explain (emotion and mood/background feeling, with the latter sometimes also called affect). And second, the turn to emotion risks the creation yet another new foundation for human being and interaction in much the same way modernism grounded human being in cognitive rationality or much biology grounds human evolution and development in genetics. What I will be arguing is that Microsoft Window's startup music marshals emotion as one among many interacting elements to help generate and affectively tint a user's local environment. We risk losing sight of the greater ambient situation when we single out or privilege music's evocation of emotion. Further, in emphasizing the design aspects of emotion we can fall into the trap of reducing multimedia rhetoric to a shrill instrumentality, for instance whereby "happy" music is seen as automatically uplifting for a user, and so on.

Writing in the 1920s, the philosopher Martin Heidegger advanced an alternate theory of emotions that is gaining credence today in the sciences. It is, perhaps ironically, indebted to Aristotle's treatment of emotion in the *Rhetoric.* Heidegger points out that the theoretical attitude common to science and epistemology treats the emotions as psychical phenomena, which is to

say, subjective experiences stemming from the world and tainting the possibility of impartial access. Certainly, emotions do exist in this sense, and part of what socialization entails is learning to cope, shape, and even control these emotional expressions. But there are more fundamental emotions, too, which elude such conscious apprehension and control. In *Being and Time* Heidegger argues for a form of emotion he calls mood (*Stimmung*) that is constitutive and not secondary for how human beings get along in the world. Mood in this sense might be more akin to the rhythm of life. There is no getting to things as they "really are" divorced from mood because mood is a prerequisite for experiencing the world in its intelligibility. Mood is ontological; it takes form in the pre-intelligible background necessary for us to make sense of, experience, and interact in the world. As Heidegger states, "a mood assails us. It comes neither from the 'outside' nor from the 'inside', but arises out of Being-in-the-world, as a way of such Being" (*Being* 176). Mood emerges from our involvements, acting as a kind of cradle out of which our sense of those involvements also emerges. For instance, depression as a mood is conspicuous for how it transforms the ways the world shows up for us; the listlessness common to depression is not just the experience of an already pre-existing subject but rather transformative for how a person sees him- or herself in the world. Depression generates a cut sundering that person from their ties to the world and other people, generating further separation that in turn exacerbates the depression.

Recent neurocognitivist research into emotion lends support to Heidegger's theories. Antonio Damasio, for instance, postulates three levels of emotion, with the third, "background feeling," lining up with Heidegger's sense of mood. Damasio describes it—fortuitously, I note, in musical terms—as "minimalist in tone and beat, the feeling of life itself, the sense of being" (150). Certain forms of brain damage and several neurological disorders have been discovered that demonstrate the importance of background feeling for the most basic of cognitive functions. In a nutshell, severe emotional impairment can make patients incapable of basic social functioning, reasoning, or decision making. Stanley Greenspan and Stuart Shanker, in turn, argue that various stages of emotional development are the prerequisite for learning language.[9] The implication is that at least some forms of emotion constitute the fundamental background of our lives, without which language and cognitive functions, including basic reasoning (logic, identification, association, etc.), cannot emerge (Ratcliffe 296-97).

These ideas about emotion have been taken up in groundbreaking works such as Donald Norman's *Emotional Design*. In his introduction, Norman isolates various forms of emotional attachment and response to objects: visceral design appeals to our response to appearances, behavioral design the pleasure and effectiveness of use, and reflective design the narratives and meanings surrounding the object, which he also connects to our brain functioning (the visceral is the prewired, automatic response; behavioral the everyday responses pertaining to activities; and reflective the contemplative, narrative responses) (5, 21). Norman further notes that these aspects of emotional design "interweave both emotions and cognition" and he cites Damasio in support of the idea, discussed above, that emotion is fundamental to everyday thought and practice (6, 12). Developing a positive emotional response to an object, Norman says, enables us not only to feel better about that object but work better with it: "more creative, more able to overlook and cope with minor problems with the device" (26). Recalling the criticisms that were leveled at Windows 3.1, we immediately see the connection. If music can help influence not only our subjective, transient feelings but also our more fundamental moods, then in general the operating system will tend to appear as in some fashion better, easier to use, more generative of quality work and interaction.

The Microsoft Vista slogan of "clear, confident, and connected" takes on greater sense and import at this point. We see that it is not only an attempt to evoke a particular emotional response but to modulate or even shape our basic emotional groundtone, and to do so in a way that inflects the user's relationship to Microsoft Windows, as it exists in a particular environment populated by other objects, sounds, visuals, tactiles, and possibly other people (which includes forms of digital connection). Where we can augment Norman's work is precisely in this extension of background feeling to the entire ambient array of things, sensations, and peoples. That is, we cannot be satisfied with the idea that music simply evokes an emotional response. This would establish music as a form of emotional rhetoric, whereby when we play the proper melodies, beats, and rhythms, we can achieve the desired emotional reaction. In actuality, as with every other form of rhetoric, things are not so simple. Not only does rhetoric resist such narrow, instrumental implementation, but music generates cognitive and physiological as well as emotional responses, and these are in turn interwoven. In the next section, I will consider two ways, musical worlding and soundmarks, where we can see these processes at work.

Pedagogical Interlude 4

A key idea in this section is that music evokes not just our everyday emotions—which we can learn to control and modulate, typically—but can impact our more basic sense of everyday being, our fundamental mood. To understand this, it may be helpful to investigate our own emotional involvements with music and sound. Through discussion and writing, explore how you find yourself in regards to particular musics. What touches you deeply? What does not? How does the modulation of emotion and mood in turn affect how you socialize with others, experience your environment, work, or play? Fine tuning still further, we can ask more generally about emotion: can you sense the difference between a fundamental mood and everyday emotion? What situations have you found yourself in that evoke this difference for you? We might note that when Damasio discusses mood/emotion as the rhythm of life, he accomplishes two things: he merges emotion with music, and he emphasizes the physicality of both. That is to say, both emotion and music are invariably played out across the body in various forms of gesture, expression, and movement. This gives us another facet of experience to investigate the entanglement of emotion and sound. Can we use this idea to gain insight on why the various Windows' startup sounds, and particularly Vista, seem so cerebral?

Aural Architecture: Musical Worlding and Soundmarks

Music involves the modulation of emotion and mood, but it cannot be relegated solely to being an affective art. Music also evokes and alludes to various forms of meaning. Music scholar John Covach proposes that we can explain music's meaning-making through the notion of *musical worlding*, a concept he explores in numerous essays. I will focus on one, in which Covach analyzes the differences between mid-1970s mainstream rock, represented by Foreigner, and new wave, represented by The Cars. Mainstream rock artists (Foreigner, Styx, Boston, Journey, etc.) streamlined and professionalized the advances of post-*Sgt. Pepper* rock music, and were often seen as studio-polished, profit-driven, and professionally elitist, so much so that they were given the soulless nickname of "corporate rock" (174, 180). New wave artists (The Cars, Blondie, The Police, Elvis Costello, etc.—not to mention punk bands such as The Ramones) sought to return to basics and simplicity, sounding out the '50s and pre-Pepper '60s to help forge paths counter to mainstream, corporate rock (174). Covach demonstrates through a sophisticated analysis of song craft and structure, instrumentation, technique, production, and style that there is nevertheless great commonality between Foreigner and The Cars. The assumed differences between corporate rock and new wave break down on closer inspection. This happens, at least in part, because listeners tend to think of a musical piece as a "separate, even self-standing musical object"; instead, Covach argues, they are "much more like centre (sic) points in a web of relationships that lead off in myriad directions to many other pieces" (179). As an analytic, then, musical worlding strives "to tease out the connections to other works in any given work, situating it in the richest possible network of relationships in hopes of coming to terms with how a piece creates meaning" (180).

While Covach focuses on the analytic possibilities of musical worlding, it is clear that the concept is already utilized by the musicians themselves. Covach's discussion of new wave indicates, for instance, just how much the artists involved worked to draw on older musical sources and situate their music apposite that of corporate rock. We see this same process at work with Fripp and the Microsoft development team. First, worlding manifests itself discursively, in the allusions, metaphors, and connections they make regarding the music's semantic dimensions and its historical context; the many allusions to Eno and his original piece work in this way. Second, it appears affectively, as for instance in the attempt to evoke the mantra of "clear, confident, and connected"; while this expression is too complex to be conveyed directly through music alone, something akin to it can be evoked when bundled with and conditioned by related meaning forms, such as images, visual effects, narratives, other sounds, and so on. Third, it shows up materially in the instruments, tonal palates, and sonic manipulations that go into the music, and, just as materially, in the composting of previous music sources and layering them into the new composition.

This last point needs expanding. In fact, while Covach's analysis lingers over elements of song craft and structure and how they are positioned in regards a rich web of musical relations, in the background lurk strongly materialist matters: people, studio technologies, instruments, vocal techniques, and so on. Without digging more deeply into these material phenomena that Covach primarily mentions in passing, we lose the full import of his concluding claim that "these tracks [by Foreigner and The Cars] mean differently because of the ways in which they 'world'" (194). Indeed, this material element, and the way it resonates in aesthetic production, is central in accounting for why today's audiences, thirty years after the music was recorded, hear more similarities than differences than '70s audiences did between bands like The Cars and Foreigner.[10] We are farther from the world of symbolic contexts they invoked in their song writing, and what remains nearer are the material and technological elements, such as the

musical instruments, tonal qualities, studio equipment, production values, and shared song structures. And, as I explained above, this material strata of musical worlding is integral to the composition of the Windows Vista startup music, from the instruments used (guitar, synthesizer) to the sample of Windows 95 startup music reworked into a background soundscape.

In sum, we can augment Covach's notion of musical worlding with greater emphasis on the materiality of the equipment and environs that become part of the music. The equipment that generates the sounds and the space within which it unfolds are part of what we designate by the term "music"—they aren't simply antecedents required for its production, i.e., merely the means for its production or the background before which it appears. But there is more. The commonalities established through equipment—similar studio production values, shared networks of people, related guitar or synthesizer tones, and so on—help generate *soundmarks*. Like landmarks, soundmarks have particular histories, values, and status that distinguish them, and also like landmarks, soundmarks can be a powerful agent for defining and organizing communities (Blesser and Salter 29). Blesser and Salter list as examples "church bells, foghorns, railroad signals, factory whistles" and the like (29). Town clocks and bells are important to many locales up to this day, as they shape both local space and time. We might consider how memorable such sounds can be when deployed in literature: Orwell's "oranges and lemons say the bells of St. Clemens" in 1984 or Virginia Woolf's ringing bells in *Mrs. Dalloway*, where they sound out a town's sad elegy for a shellshocked World War I veteran who can find community no longer. I would add, however, that Blesser and Salter privilege the external environs and older technologies; as I will suggest below, we need not be so limited and can extend the idea to include the sonics accompanying various forms of contemporary life, including online social networking, digital technologies, and new forms of spatiality.

R. Murray Schafer suggests that soundmarks can be distinguished from other sounds, such as keynotes and signals, even if such distinctions are far from firm. *Keynotes* constitute the aural background against which our lives play out: the murmur of air conditioning and heat, the low thrum of electric light, the rushing ebb and flow of traffic, the clicks and thuds of doors and shoes, the beeps and taps of equipment in use, and on and on. We hear even if we do not attend to these sounds: "even though keynote sounds may not always be heard consciously, the fact that they are ubiquitously there suggests the possibility of a deep and pervasive influence on our behavior and moods" (Schafer 9). Keynotes are the ambient sounds composing our world; perhaps, like Heidegger's hammer, they are more present to us when they go missing or awry. Keynotes are the backdrop against which show up *signals*, the meaningful sounds we listen for, attend to, and ourselves make: warnings, alerts, codes, informatics (Schafer 10). Like soundmarks, signals are more conspicuously rhetorical than keynotes, although, again, this distinction is loose. For instance, Schafer, a bit of a pioneer writing in the 1970s about these issues, is perturbed by the tone-deafness of urban planners and architects, complaining of noise pollution, aural ugliness, and a generalized inability to design with an ear for sound in line with an eye for visuals. Thus, he critiques the constant white noise drones of electric life as anti-intellectual narcotics (we might recall that white noise conduces sleep in infants), the numbing aural perfume of engineered musics such as Muzak, and so forth (79, 96).

I think it is important to keep Schafer's sensibility in mind, as foreign as it might be. Sonic design need not be ugly, disorienting, alienating . . . in short, relegated to an afterthought if considered at all in rhetorical pursuits. This returns me to my focus, for I would argue that Microsoft Windows' startup sounds are attempts to take insights such as those of Schafer's and Blesser and Salter's seriously. Thus, given their ubiquity, branding ties to Microsoft, sophisticated development, and integration into the visual and tactile aspects of computer space, computer startup musics are soundmarks. This certainly grants them a value and status beyond signaling, but I think it is clear that in moving beyond Windows 3.1's bootup beeps, this is precisely what Microsoft intended. Blesser and Salter point out that "physical boundaries are only one means of delineating a space, and they are not always the most useful for describing social interactions" (22). We can say the same thing about visuality. Thus, despite a generalized inattention to it, audio has a special and profound role to play in shaping a space and our interactions within it. Blesser and Salter illustrate this idea with the experience of stepping into an anechoic chamber for the first time, within which nearly all sound is absorbed. People report intense feelings of nausea, discomfort, pressure, and disorientation; indeed, what they experience is a profound sense of spacelessness (18). The lesson is simple: no less so than bats for flying, we consciously and unconsciously depend on sound to orient, situate, and wed ourselves to the places we inhabit.

It is illuminating to press this idea a bit further. Consider the music Eno composed for Windows 95; we should keep in mind that it was chosen amongst the eighty-three *other* pieces he wrote. The considerable competition grants a certain status to the one chosen, leading us to ask what its qualities were that so called to the Microsoft development team. As mentioned earlier, while it

is perilous to make music "speak," we can still essay an analysis of what the music achieves. If those who write and compose professionally seek to understand and deploy aural elements, a sensitivity to the ways music *means* even if it never *discourses* needs to be fostered. One entryway into Eno's short piece is its structure as considered in light of Schafer's complaints about the dulling sounds of contemporary life. For instance, Schafer laments the transformation in our soundscapes from an ambience of discrete sounds to a continuous contour of speed and hum (79). Eno's Microsoft Sound precisely reverses this: it builds to a thrumming "boong," achieved through synthesized sounds directly related to the electronic buzzes, beeps, and whooshes marking our everyday lives, only to shift back into discrete, softly tinkling piano notes —a movement from oceanic electronic susurration to individualized analog warmth. The Microsoft Sound carves out a unique and user-friendly space against a corporate, mass-manufactured backdrop, epitomized, perhaps, by the continual murmur of everyday digital life— including, pointedly, the very computer running Windows (the computer's fan whir and monitor hum would then be keynotes).

Another aspect of The Microsoft Sound's role as a soundmark can be glimpsed through a popular spoof produced by a video team called Prangstgrüp.[11] Widely available on the Web, the video is set in a typical college library, with a dozen or more students studying quietly with books and computers. A student boots up his laptop, but the volume is too high, and the sound is extended way beyond the original six seconds to about twenty. Total disruption: everyone stares and all works stops. The sound dominates the space. The prank functions as the *dissoi* to Microsoft's taken for granted *logoi*, demonstrating the extant to which we consciously and unconsciously rely on soundmarks such as Microsoft's startup music to quietly, surreptitiously shape the space we cohabit with our computer, operating system, and software applications. As a soundmark, the bootup music marks out material space, helping to forge a synergy among all the elements, with the added proviso that this experience is profoundly tied to *mood*. The genius of the Prangstgrüp video is to demonstrate our unconscious reliance on this mood by disrupting it. So, we see that musical worlding, soundmarks, and mood are ultimately interrelated. That is, it is in putting them together that we see how something as brief and seemingly inconsequential as startup music opens us onto the ambient dimensions inherent in the user-computer environment.

Pedagogical Interlude 5

This section introduces a number of critical/analytical terms—musical worlding, soundmarks, keynotes—that allow for extended investigation into how music and other sounds shape our sense of place in the world. I attempt such a sonic placing of Eno's Windows 95 startup sound. Listen to it again and reread that paragraph.

Audioclip 6: Microsoft Windows 95 startup sound redux:
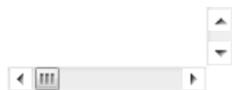
How would you describe it? In what ways does it impact mood and mean for you? What other sonic phenomena placing us in our everyday lives could you single out for analysis? If you were to approach these issues from a design rather than analytical perspective, what sorts of sounds would you rework, change, remove, add? What places in particular, or what objects with sonic capability, would you consider for such a design project? In asking such questions, we not only further our understanding about the motivations and decisions of the Microsoft design team, but we extend our ability to marshal sonic design in a sophisticated, rhetorical manner. While I claimed earlier in this essay that we need not become composers, the flipside to that is the wide availability of music software that allows for the creation of many different forms of music, without the need to play an instrument. The barriers to bringing sonics to writing have never been lower. Given this, I will close my pedagogical interludes with a call to use such platforms for sonic design, both to explore the ideas I have presented here and to bring them more completely and sophisticatedly into rhetoric's purview.

The Composition of Ambience

Earlier I mentioned the move from epistemological to ontological frames of reference, and the move to ontology is useful in shifting the locus of analysis from that of a user who is subject to the rhetorical and design intents. I have argued that musical worlding and soundmarks necessitate ontological understanding since they are not simply phenomena a pre-existing, subjective entity experiences; rather, they are woven into the fabric of the world and are themselves complex agencies furthering ways of life. They are not just accompanying phenomena but necessary to

account or who we are and the ways of our flourishing. They are integral to the way the world shows up and what our sense of it will be like. Thus, Microsoft Windows' startup music attempts perhaps not so much to shape as to inflect and sustain a small part of our world, including some aspect of the background intelligibility from which our attunement to the world arises. This transcends, even as it includes, the basic emotional "I like/I don't like" that Norman associates with the base of emotional design. The rhetorical design and integration of sound and vision ushers the user into a more complete experience—sensory, affective, cognitive, and material. It opens the user to a complex world of mutually interacting elements, not so much to control the user's experience as to attune it to the affective and semantic ground from which more conscious and willed activity stem.

We might do more with this insight into ambience of design than single out various strands to focus on, such as the functional (how usable is it), the cognitive (what does it mean for us), the affective (how does it make us feel) on the way to making a cumulative list of things we might concern ourselves with as teachers, professional writers, and rhetoricians. I have argued that we better see them as complexly generative of an overarching ambient environment. Such a perspective reflects a fuller, less instrumental view of human beings and their interactions, particularly multimedia rhetorics. It deprivileges directly conscious experience and boosts the importance of indirect, unconscious, or ambient phenomena. Put differently, such rhetorical design organizes an experience, less to persuade in any direct sense, but to attune and inflect our sense of bodily inhabitancy and the cradle of intelligibility within which we comport ourselves. It is worth recalling Eno's irony-laden dismissal of the corporate sloganeering Microsoft delivered to him as part of the project. If Microsoft perhaps intended more direct forms of marketing and the shaping of the user's experience, including using avant garde musicians in the service of branding Microsoft products, it is important that Eno's music resists such narrowing. For Eno, ambient music is inherently political, evoking new senses of place and how human beings inhabit it; this includes, more pointedly, a reduced role for human agency reflective of a more distributed, ecological approach to will, action, and consequence. The lengthy video session with Robert Fripp and the Microsoft team suggests that such aesthetics and their politics, however indirect, are nevertheless in play. So, while the startup music is itself only one small element amid these far larger concerns, and possibly of only quite small relevance, it nevertheless opens us onto a deeper reflection concerning our relation to technology, space, and sonics, and we lose much if we ignore the insights it grants.

Notes

[1] For more on Eno and his applicability to new media and rhetorical study, see Rickert; Rickert and Salvo.

[2] For more on Eno's compositional techniques, see Tamm; for more on ambient music, see Prendergast.

[3] See the liner notes to Eno's album *Music for Airports*.

[4] It might also be mentioned, if only in passing, that some anthropologists now believe that language co-evolved with music, with music getting the nod as having emerged first in early humans (Mithen).

[5] I have previously written about the ambientROOM; see Rickert.

[6] The question of sound and its integration into the user's computing experience occasionally pops up in online discussions, including in the perennial Mac versus PC debates. For instance, the blogger Estoreal writes that "one of the areas in which Windows has been kicking Macintosh ass is the use of sound in the user interface. Microsoft sound feedback has been a lot more immersive and aesthetically pleasing (though somewhat antiseptic) than the piddling few system beeps and alerts of Mac OS X" (np). Estoreal, a dedicated Mac user, is pained by the fact that Microsoft and not Macintosh nabbed Eno and Fripp.

[7] It should perhaps be noted that the release of the video to an online forum itself functions ambiently to build hype, anticipation, and intrigue among the cognoscenti.

[8] I adopt this phrase from Graham Harman, who explores an object-oriented philosophy derived from Heideggerian materialism.

[9] They describe this process in two different ways: as something that evolved over time, and as

something that is enculturated in the young. Thus, they claim, "what takes a human baby two years to learn took our human ancestors millions of years" (2).

[10] The two songs Covach analyzes are Foreigner's "Feels Like the First Time" and The Cars's "My Best Friend's Girl"; both are available for listening on Youtube. Foreigner: http://www.youtube.com/watch?v=Q0Y5jygo1Qo [149] The Cars: http://www.youtube.com/watch?v=RUqstS2c_oc [150]

[11] The video can be seen here: http://www.prangstgrup.com/index_1000.html [151].

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