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1. I have always been drawn to studying the engagements of music and subjectivities. The intersection of texts, psyches, and social relations is *particularly* intriguing to me when the texts in question are sequences of music neither chosen by their listeners nor actively listened to in any recognizable sense. This body of music includes, of course, **film and television music**; but it also includes **music on phones, music in stores, music in video games, music for audio books, music in parking garages**—all the music we hear more of per capita than anything else (Jones and Schumacher, quoted in Sterne 22-3).
2. By most reckonings, the omnipresence of music in our lives is a trend that will increase for some time to come. One forward-looking example might be Bill Gates's ideas for the "house of the future." To live in such a house would mean wearing unique microelectronic beacons on your body that would identify you to the house. Based on your preconfigured profile, hidden speakers would "allow music to follow you from room to room" (CNN.com). The Cisco Internet Home Briefing

Center imagines a similar musical environment: "Music also seems to have no boundaries with access to any collection, available in virtually any room of the house through streaming audio" (Cisco Internet Home Briefing Center).

3. From the perspective of the Broadband Residential Laboratory built by Georgia Tech last year, these "stereo-piping tricks of 'smart' homes ... [are] just a starting point" (Gibbs). The examples mentioned here are among the most basic and least radical in the field known as ubiquitous computing, or ubicomp. First articulated in the late 80s by Mark Weiser of Xerox PARC (Weiser; Gibbs), ubicomp has become an active field of research. Georgia Tech's Aware Home, for example, has in each wall of every room several audio and video input and output devices, as well as several outlets and jacks. The MIT Media Lab, as Sandy Pentland explains, has gone in a different direction: the Affective Computing Research Group at MIT "...has built a wearable 'DJ' that tries to select music based on a feature of the user's mood..." as indicated by skin conductivity data collected by the wearable computer (Picard 716).
4. All this research predates the momentous events of 2001, both the crash of the dot-com industry and the tragedy of September 11th. The tone in most high-tech research communities is more somber these days, less exuberant and infallible. But the shifts in the weeks since four airplanes, the Twin Towers, and a wing of the Pentagon—not to mention the thousands of travelers and workers in them—were lost may not be so somber for the future of ubicomp. The major increases in defense budgets mean a big boost for surveillance technologies research, and the widespread fear of travel has already caused a noteworthy upsurge in teleconferencing technology spending. Both of these research areas will have direct bearing on the future of ubiquitous computing, and therefore, of music and listening.

Where Did this Music Come From?

5. Functional music's history does not begin with media or computer technologies, despite my own rhetorical strategies here. Such a history might begin with the music hall—or even earlier, perhaps as far back as minstrels' galleries in medieval castles. Another path could be followed to radio, and from there to music in salons and gazebos. Yet one more narrative would lead up to music played in the workplace and move on to music sung and chanted while working. Strangely,

these possible narratives remain untold histories of omnipresent music in contemporary life and in industrialized settings.

6. Two histories *are* told—an industrial one and a critical one. The former begins with General George Owen Squier, chief of the US Army Signal Corps and creator of Wired Radio, the company now called Muzak. This history, best represented by Joseph Lanza's *Elevator Music* and Bill Gifford's *FEED* feature "They're Playing Our Songs," continues through shifts in technologies and markets to Muzak's "stimulus progression" patents, to the 1988 merger with small foreground music provider Yesco (Gifford installment 3, page 2), and the rise of competitors AEI and 3M.
7. The other documented history is a counter-history, a story of how a music came into being that could be confused with functional music, but is of course nothing like it—ambient music. That history begins with Erik Satie's experiments in the 1910s and 20s with *musique d'ameublement* (furniture music), soars through Cage's emphases on environmental sound and on process, and leads inevitably to Brian Eno, from whose mind all contemporary ambient music is thought to have sprung (Prendergast).
8. Those who construct this history often go to great pains to distinguish ambient from background music on the grounds of ambient music's available modes of listening. As musician/fan Malcolm Humes put it in a 1995 on-line essay:

Eno...tried to create music that could be actively or passively listened to. Something that could shift imperceptibly between a background texture to something triggering a sudden zoom into the music to reflect on a repetition, a subtle variation, perhaps a slight shift in color or mood.

What is important to defenders of the ambient faith is its availability to both foreground and background listening. But since the mid to late 1980s, **background music has become foreground music**. According to the industry, "background music" is what we call colloquially "elevator music," and "foreground music," which is most of contemporary programmed music, consists of works by original artists. While background music has all but disappeared, you can now hear everyone from Miriam Makeba to the Moody Blues to Madonna to Moby in one public setting or another—and quite possibly all of them at your local Starbucks.

How Do We Listen to Foreground Music?

9. If you attend to discourse about music in business environments, you may notice that the change from background to foreground music has hardly registered. By and large, most people talk about music in business environments as annoying and bad, and it is rare indeed to hear anyone talk about music in these settings as music they listen to intentionally elsewhere—even though this seems to me an obvious connection to make. The reason for the negative tenor of such observations is that they are not addressing music, but rather a mode of listening about which most of us are at best ambivalent—thanks in no small part to the disciplining of music in the Western academy.
10. Music's disciplinary practices have been soundly critiqued over the past decade or two. Scholars of music have discussed canon formations, architecture, and training; we have argued about analysis and we have talked about transcription. We have talked at length about **the expert listening held in such high regard by Adorno and so carefully cultivated by Western art music institutions such as the academy and symphony orchestras**. It is perhaps this expert manner of listening that is primary among the forces that produce and reproduce the canonical European and North American repertoire.
11. Yet, in all these discussions we have not taken our own collective insights quite seriously enough. Logically, if expert, concentrated, structural listening produces the canon, wouldn't other modes of listening produce and reproduce other repertoires? But as foreground music programming has increased, this combination, or mutual dependence, seems less and less consistent or predictable. When *anything* can be foreground music, does it still make sense to talk about a mode of listening? And if so, what is its relationship to questions of genre?
12. Is there, then, a programmed music mode of listening? Here I offer an anecdote as a beginning to an answer. Recently, I asked the students in my popular music class to write an essay on a half-hour of radio broadcasting. Ryan Kelly, a member of the New York City Ballet *corps de ballet*, began his essay by identifying himself as a non-radio listener. He described sitting down to listen to the assignment and beginning his essay, and ten minutes later finding himself at the kitchen sink washing dishes. This is, of course, only one story, but an eminently recognizable one.

13. Jay Larkin of Viacom recently described to me a proto-ubicom kind of system he had set up: he has speakers under his pillow so that he can sleep listening to music without disturbing his wife and without the intrusion of headphones. (He also listens to music constantly at work.) Larkin is profoundly articulate about this matter—he thinks of music as an “anchor,” keeping his mind from spinning off in various directions. Parents of children with attention deficit disorder are often advised to put on music while the kids are working for just such purposes.
14. From its inception, Gifford says, Muzak was about focusing attention in this sense. Workers’ minds “were prone to wandering. Muzak sopped up these nonproductive thoughts and kept workers focussed on the drudgery at hand” (installment 2, page 2). Many of my students (and my daughter’s baby-sitters) leave the radio or MTV on in different rooms, so that they are never without music. They say it fills the house, makes the emptiness less frightening. Muzak’s own literature says “Muzak fills the deadly silence.” (For related, and sometimes contradictory, perspectives on attention, public and private spaces, and music, see DeNora and Le Guin.)

A UBIQUITOUS MODE OF LISTENING?

- formless
15. Those of us living in industrialized settings have developed, from the omnipresence of music in our daily lives, a mode of listening dissociated from specific generic characteristics of the music. In this mode we listen “alongside” or simultaneous with other activities. It is one vigorous example of the non-linearity of contemporary life. This listening is a new and noteworthy phenomenon, one that has the potential to demand a radical rethinking of our various fields of musical and cultural inquiry.
 16. I want to propose that we call this mode of listening “ubiquitous listening” for two reasons. First, it is the ubiquity of listening that has taught us this mode. Precisely because music is everywhere, Ryan forgot he was doing an assignment and got up to wash the dishes. Second, it relies on a kind of “sourcelessness.” Whereas we are accustomed to thinking of most musics (and most cultural products) in terms of authorship and location, this music comes from the plants and the walls and, potentially, our clothes. It comes from everywhere and nowhere. Its projection looks to erase its production as much as possible, posing instead as a quality of the environment.

17. For these reasons, the term “ubiquitous listening” best describes this phenomenon. As has been widely remarked, the development of **recording technologies in the twentieth century disarticulated performance space and listening space**. You can listen to opera in your bathtub and arena rock while riding the bus. And it is precisely this disarticulation that has made ubiquitous listening possible. Like ubiquitous computing, ubiquitous listening blends into the environment, taking place without calling conscious attention to itself as an activity in itself. It is, rather, ubiquitous and conditional, following us from room to room, building to building, and activity to activity.
18. However, the idea of ubiquitous listening as perhaps the dominant mode of listening in contemporary life raises another problem: does this mode of listening produce and accede to a set of genre norms?

A UBIQUITOUS GENRE?

19. According to the *Dictionary of Theories*, “genre” as a concept was first articulated by Aristotle and is a literary term for the classification of texts: “Members of a genre have common characteristics of style and organization and are found in similar cultural settings” (Bothamley 228). By those common characteristics, then, members of a genre can be recognized. Across the media, genre has, of course, become a central organizing principle of both production and consumption; as John Hartley puts it: “genres are agents of ideological closure—they limit the meaning potential of a given text, and they limit the commercial risk of the producer corporations” (128). In this sense, genres might be understood to discipline reception.
20. The most widely cited definition of genre in popular music studies, Franco Fabbri’s 1982 essay “A Theory of Musical Genres,” sees genre as a complex of style or musical features, performance space, and performance and fan/listener behavior—less a discipline than a field of activity. Robert Walser’s discussion in *Running with the Devil* expands in this direction, combining Jameson’s text-based discussion with Bakhtin’s “horizon of expectations”:

Genres are never *sui generis*; they are developed, sustained, and re-formed by people, who bring a variety of histories and interests to their encounters with generic texts. (27)

Popular music genres are understood to include both shared musical features and audience expectations and practices. In Stockfelt's terms, style, listening, and situation are all part of genre-making processes.

21. In all these discussions of genre, musical features are conceived expansively, reaching beyond pitch, melody, harmony and rhythm to include timbre, vocal inflections, and recording techniques. Taken together, a ubiquitous mode of listening and a careful, socially grounded understanding of genre might make the case for a genre called "ubiquitous music." It shares certain features of performance space—simultaneity with other activities and a sense of sourcelessness. While including an extraordinarily wide range of musical features, it is generally shaped by mono playback, absence of very high and very low frequencies, absence of vocals, and particular attention to volume as a condition of the other simultaneous activities.
22. The problem is, of course, that ubiquitous music does not depend on texts belonging only to its own genre, but rather welcomes all texts in a pluralist leveling of difference and specificity (which might explain its partiality for adopting world music forms). Perhaps it is a new kind of genre, what we might, tongue firmly in cheek, call a postmodern pastiche para-genre. But more likely, I think, it signals the death knell of genre as a primary organizing axis for popular music activities.

A Ubiquitous Subjectivity?

23. Unabashedly polemical, this argument is the necessary precursor to rethinking our approaches both to the study of music and to the idea of subjectivity. As more and more kinds of music are played in more and more settings alongside more and more activities, it becomes crucial to develop ways of approaching this phenomenon. As Gifford puts it,

Muzak anticipated the way we live our lives today, accompanied by a constant soundtrack of radio, television, video and film...Muzak's real significance is that it paved the way for a new ambient culture, a culture that Sensurrounds us with digitized music and pixelated images, endlessly looping screen savers and point-of-purchase interactive displays, occupying all areas of our multitasking minds. (installment 6, page 3)

But many analysts insist on continuing to see the music industry in very traditional terms. According to the phenomenal foresight of

experts in an October 7th, 2000 *Economist* special supplement on E-entertainment, for example:

If the music industry manages to sort out the piracy problem, the Internet will become a hugely important source of revenue. The record companies sold their music all over again when the CD came out, and they can now sell it all over again over the Internet, again. What is more, they can sell it in more flexible packages to make it more attractive to different kinds of consumers. ("A Survey" 32)

What the writers of the *Economist* clearly understand is that, the RIAA's best efforts notwithstanding, digital music delivery over the Internet is inevitable and all the industry's watermarking and security efforts are doomed to failure. What they don't understand, and apparently don't even think about, are the vast social changes attendant on these new technologies. The same music will be sold yet a third time, in more flexible packages, precisely because it makes it easier to use the music as an environmental technology, conditioning and conditioned by a new kind of subjectivity.

24. This third selling is a performance of the ubicomp world in the making. Its attendant subjectivity is not individual, not defined by Oedipus or agency or any discrete unity. The listener of this third selling is no mere subject, but rather a part of an always moving ever-present web. S/he is not a listener of a genre first and foremost, but rather a listener *tout court*. Ubiquitous music is cable that networks all of us together, not in some dystopian energy-producing array à la *The Matrix*, but in a lumpy deployment of dense nodes of knowledge/power figured by, for example, the SETI@home project. SETI@home uses home computers when they are otherwise idle as a resource for ramping up computer processing power for the Search for Extra Terrestrial Intelligence project. In this extreme model of distributed computing, each home computer is a little lump or node in an enormous array of computing activity. Likewise, we are each nodes in an enormous array of listening.
25. There are numerous attempts to describe what I'm getting at here, from many different directions—from Xerox PARC, to Donna Haraway, to Gilles Deleuze and Felix Guattari. In *Autoaffections: Unconscious Thought in the Age of Teletechnology*, Patricia Clough proposes "a new ontological perspective and an unconscious other than the one organized by an oedipal narrative" (20). Throughout, *Autoaffections* works in two genres—academic prose and prose poetry. Not only the

chapters, but also the genre shifts themselves are performances of the book's work.

26. Autoaffection opens with a prose poem, "Television: A Sacred Machine," which is a work of remarkable power, both more beautiful and clear than what we usually call theory. Clough says:

My machine has more parts; it has more action,
Like the action of fingertips attached to ivory keys,
Playing in between the beats of a metronome's patterning. (22)

The node we usually call "self" is attached through keys that make hammers hit wires that make sound that attaches to another node, sound disciplined by the metronome machine to attach the nodes in particular ways.

Still, I was destined by that piano,
Destined to find myself in attachment to machines. (25)

This attachment is, as I have suggested, the stuff of contemporary science fiction. Cyborgs, matrices, webs, nets—all these dystopias threaten us with the dissolution of the boundaries of our very selves. But they fail to see what Clough hears: that dissolution is already well under way.

27. What I am proposing is a theory of subjectivity based on ubiquitous music called ubiquitous subjectivity. Like ubiquitous music, parts phase in and out of participation in ubiquitous subjectivity, but it never leaves us—and we never leave it. If that sounds ominous, it isn't meant to. It's simply a habit of mind from an earlier notion about our discreteness, and it's time to notice that ubiquitous music and ubiquitous listening have been forging a different subjectivity for quite some time now. Like *Star Trek's* Borg, we are uncomfortable being unhooked from the background sound of ubiquitous subjectivity, so we turn radios on in empty rooms and put speakers under our pillows. We hang up when a telephone connection is not kept open by sound. We prefer to be connected, need to listen to our connections, can't breathe without them. We already live a network we insist on thinking of as a dystopian future.
28. This networked-through-music subjectivity could seem similar to ideas about music and collectivity. As Eisler and Adorno argue in *Composing for the Films*, many anthropologists and writers about music suggest

that music operates differently from the oculo-centric individual of contemporary Western culture. They say that music listening:

... preserves comparably more traits of long bygone, preindividualistic collectivities This direct relationship to a collectivity, intrinsic in the phenomenon itself, is probably connected with sensations of spatial depth, inclusiveness, and absorption of individuality, which are common to all music. (21)

Other writers do not attribute this collective quality to music *per se*, but do—quite rightly—note that music is a part of many social formations and practices in different historical and cultural settings.

29. I am not suggesting that ubiquitous music has reintroduced such a collective identity through music to modern or postmodern societies. Far from it. What I am arguing, rather, is that **ubiquitous music has become a form of phatic communication for late capitalism**—its purpose is to keep the lines of communication open for that lumpy deployment of dense nodes of knowledge/power we call selves. We are Borg because isolated consciousness—silence—is unpleasurable in the extreme.
30. As we enter the second century of the disarticulation of performance and listening, new relations are developing that demand new models and approaches. It is easy to see that the industry is changing. It is perhaps harder to hear the changes in music, in listening and in subjectivity that all of this portends. Yet musics, technologies, science fiction, social relations and subjectivities have been fermenting these changes throughout the twentieth century. At least in the metropolis, listening to music is ubiquitous, and it forms the network backbone of a new, ubiquitous subjectivity.

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