Mobile Musics, Mobile Technologies: Engaging the Cell Phone in a West African Context

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Abstract: Scholarship on cell phones and related devices has contributed useful insights into mobile media practices, but several assumptions do not hold when considered within alternative contexts such as rural West Africa. Given the highly engaged social environment of Burkina Faso, this paper questions the relevance of theories that over-emphasize individualized and isolating listening experiences. I examine how villagers not only adopt communal listening practices, but also allow for social interaction during personal listening. It also explores how the particularities of cell phones as mobile media devices highlight new technologies that are creatively or pragmatically developed and adapted within particular contexts.

Résumé : L'enseignement pratiqué au moyen de téléphones cellulaires et d'appareils du même type a permis d'avoir des aperçus utiles des pratiques relatives aux appareils mobiles, mais certaines hypothèses ne tiennent pas si l'on considère des contextes alternatifs tels que l'Afrique de l'Ouest rurale. Examinant l'environnement social fortement engagé du Burkina Faso, cet article interroge la pertinence des théories qui prônent des expériences d'écoute individualisées, celles-ci provoquant l'isolement. J'examine la façon dont les villageois, non seulement adoptent des pratiques d'écoute en groupe, mais se livrent également à des interactions sociales durant l'écoute personnelle. J'explore également comment les particularités des téléphones portables, en tant qu'appareils médiatiques mobiles, permettent aux nouvelles technologies de se développer ou de s'adapter de manière créative ou pragmatique en fonction des différents contextes.

In May 2012, I travelled to Burkina Faso for a short research trip.[1] One of the first things that I did upon arrival was to arrange for a cell phone to keep in touch with my contacts and make arrangements about travel, meetings, and other questions. Cell phones are prevalent in the country, increasing almost exponentially, and widely outstripping the number of land lines that I was forced to rely upon years before. Even villages without electricity may have cell phone towers nearby, and individuals charge their phones at the home of wealthier neighbours or entrepreneurs with access to a solar panel and a car battery. Yet cell phones in Burkina Faso are not

simply a means of communication; as studies in Africa and more globally have shown, they are multi-purpose and multi-functional technologies that can be incorporated into negotiations of identity, community, and space. These nearly omnipresent devices manifest a variety of tools: camera, audio and video recorder, radio, MP3 player, even a mini flashlight. In addition, internal memory and mini SD join forces with Bluetooth technologies to allow for easy file transfer, turning cell phones into a portable archive of personalized multimedia. In rural Burkina Faso, as illustrated by the following extract from my fieldnotes, a key aspect of cell phones is their use as mobile media players, technology with which Burkinabé engage on their own terms, enabled and constrained by local contexts.[2]

> One afternoon after work we sit around listening to music from Yaya's cell phone on the bench beside us. It's Siamou *balafon* (xylophone), he explains, playing some "air" balafon while the young boys dance and their father, Biema, taps out the rhythm from the drum and iron *karignon*. Some young men gather around to join us in the listening, reminding me of old images of families gathered around the radio. While the music plays, Yaya, Biema and the others explain the lyrics. The music shifts to a Jula song. I still hear the balafon, but now they say it plays Jula words, matching with sense of the song. This music usually offers advice, incorporating proverbs and giving suggestions on ways to live and interact with others. (excerpt from fieldnotes, May/June 2012)

One of the primary modes of thinking about mobile media devices such as Walkmans, MP3 players, and now cell phones, has been to consider them as individualizing devices that offer privatized listening while users go about their daily activities (Bull 2006; Ito, Okabe, and Anderson 2009; Williams 2007; Bergh, DeNora, and Bergh 2014). These studies emphasize the use of headphones or earbuds within public places and tend to be overwhelmingly focused on urban and/or European and American locales. In this paper, I argue that while the aforementioned scholarship has contributed useful insights into mobile media practices, several assumptions do not hold when considered within alternative contexts such as rural West Africa. Given the highly engaged social environment of Burkina Faso, I question the relevance of theories that overemphasize individualized and isolating listening experiences. I examine how villagers in Samogohiri not only adopt communal listening practices, but also allow for social interaction during personal listening.

In addition, I explore how the particularities of cell phones as mobile

media devices highlight new technologies that are developed and adapted within particular contexts. For example, the cell phone's embedded speakers provide different social affordances than MP3 players or other devices requiring headphones. Other particularities include features such as audio or video recording capabilities and methods of accessing and sharing music. Although these are beginning to be explored in current literature, it is important to recognize, as Steingo helpfully points out, that "technology does not advance in a linear or teleological fashion" (2015: 103). In both the South African township that Steingo describes and rural southwestern Burkina Faso, the availability of one technology does not guarantee the presence of supporting technology, nor does it mean that the technology always functions as it was originally intended. These are creole technologies (Edgerton 2007: 101),[3] adopted and adapted within possibilities and constraints of the local context.

Cell Phone Research

Over the last 15 years, there has been a growing interest in the study of cell phones and related technologies in response to their increasingly global adoption. This has led scholars from the humanities and social sciences to discuss and theorize cell phone use from various perspectives, and within different contexts, including Africa.[4] While the early years of cell phone research focused on technology development, access, and impact in the area of interpersonal communication (Castells et al. 2007; Kavoori and Arceneaux 2006), scholars in the past decade have also begun to address the social implications of cell phone technology and usage.[5]

A key focus of these newer studies has been to examine how cell phone technologies are appropriated and adapted to respond to the needs and interests of people in local contexts—creole technologies in the Edgerton sense. For example, Etzo and Collender's briefing on the mobile phone "revolution" in Africa foregrounds the ingenuity of users, and describes how cell phones are enmeshed within informal communication and economic networks as they argue that "Africa is truly a crucible for mobile phone innovation and entrepreneurship" (2010: 659). In a rare study based in Burkina Faso, Hahn and Kibora (2008) use the concepts of domestication and cultural appropriation to examine the ways that cell phones are adapted and socially embedded within an oral tradition. While they recognize that cell phones are equated with modernity and have become symbols of globalization, they argue that phones should also be understood as part of local material culture: as fashion objects, a means of expressing social competence, and intertwined in social

and economic relationships. For example, they describe how the practice of "flashing" or "beeping"—calling a person and then hanging up, thus contacting the person without spending any units or money—is intimately connected to social expectations, codes, and meanings (Hahn and Kibora 2008: 96; see also Donner 2007). These types of appropriations are not unique to Africa, but they are frequently located in developing countries where, as Steenson and Donner point out, "mobile use is substantially and symbolically distinct from use in the prosperous global North" (2009: 233).

French scholarship has likewise been exploring cell phone technologies from various angles. One current research focus brings together the cell phone with mobile art, emphasizing creative engagement with cell phone technology. Emerging from a conference with the same name,[6] *Téléphone mobile et création* (Allard, Creton, and Odin 2014) illustrates the diverse creative practices of cell phone users in connection with photography, literacy, activism and social media, music, and cinema. As the authors examine contexts that range from Europe to Central Asia and the African continent, they explore both social interaction and the creative application of cell phone technologies. This French perspective highlights the types of creative practices that I address in my study, as I focus on how Burkinabé engage with cell phones as primarily mobile media devices, rather than as simply communication technologies.

Theories of Mobile Media

Michael Bull has been particularly influential in his writing on the use of personal stereos (Walkmans) and later MP3 players or iPods, in urban environments (Bull 2005, 2006, 2007, 2014; also Beer 2007; Williams 2007). These studies highlight the use of these devices by listeners in developing personal soundscapes and controlling one's aural environment. Such aestheticizing or cocooning allows listeners to create the sense of being removed from unwanted social contexts, while visible devices and accessories signal their deliberate withdrawal to others around them. At the same time, listening to music may also provide a sense of (virtual) community, given how iPods or MP3 players can induce feelings of social interaction with musicians (Williams 2007: 5) or other fans.

While continuing to rely on Bull's work, researchers have begun to critically respond to his theories, adding nuance or raising questions about their broad applicability. For example, sociologist David Beer takes issue with the emphasis on withdrawal and disengagement integral to Bull's work and suggests an alternative in which users remain "integrated yet distracted" (2007:

848) from their urban environment, through a sense of "tuning out." In this way, he argues, users of mobile devices are not isolated and detached listeners, but part of a web of interactions between the physical/aural environment and their listening practices. This critique and reframing adds depth to theories of mobile media use, but still emphasizes private or individualized listening practices within an urban environment.

Tyler Bickford, in his 2007/2008 research on mobile music listening practices among children sharing earbuds, likewise contests the notion that users draw upon mobile media to simply withdraw into their own aural bubble. However, he also contends that neither do children demonstrate a "tuning out," at least not between each other. Their strategy of listening with only one earbud allows them to interact at a social level, through verbal discourse and their physical negotiation of the constraints caused by the earbuds and wires linking two children together. These practices, Bickford argues, "question the universality of a narrative of fragmentation and privatization" (Bickford 2014: 338). Although the children exhibited some of the logic of exclusion and isolation described by mobile music theories—a sense of privatized sound—music listening is nonetheless located within a friend relationship, an "intersubjective, but exclusive experience" (339).

These studies offer valuable extensions of Bull's early theories on mobile media, but they continue to stress research within urban and/or European and American contexts. They also share many assumptions about technological accessibility, and general social dynamics that do not always hold true in a context such as rural Burkina Faso, where people must work within the limits and possibilities of available technology while also negotiating cultural demands for sociability. Recent studies on mobile media practices have begun to recognize and explore the diversity of practices among different segments of society (Prior 2014; Bickford 2014: 351). For example, Bergh, DeNora, and Bergh claim that although "most research on mobile music has focused on isolation and cocooning," their study

> … shows clearly that mobile music technologies are not isolating in themselves and that the current research wisdom may say more about the age (and also geographical, ethnic and class background) of those who are researched than about mobile musicking itself. (2014: 329)

In this way scholars highlight the multiplicity of mobile listening practices in contrast with a single, orthodox understanding. But as the quotation above suggests, the demographic most often explored is that of different age

cohorts rather than the particulars of other geographical or socio-cultural dynamics.

What is most relevant from these studies is their growing attention to the social aspects of mobile listening. For example, although Prior does focus on the (admittedly varied and unpredictable) use of iPods among undergraduate students in Scotland, one of his main considerations is "how [mobile media] devices favour or not the disembedding of individuals from their urban and social environments" (2014: 27). Here, he recognizes the potential for sociability among listeners. Bergh et al. likewise attend to social dimensions when they argue that the social use of mobile media is a primary difference between young people and those over 30 (Bergh, DeNora, and Bergh 2014: 327). They not only address how music can become part of conversation and augment social interactions, but also highlight the way that new technologies allow for new affordances to be developed and discovered, pointing to the sharing of earbuds in the past, and now a social, shared listening via speakers, whether built-in (cell phone) or via third party speakers at a party or in a park (320, 326).

Although scholars such as Bergh, DeNora, and Bergh have called attention to the possibilities inherent in cell phones with their new social affordances, most of the scholarship continues to rely upon iPods or MP3 players as the basic format of mobile media devices. This remains the case even for most of the examples highlighted by Bergh, DeNora, and Bergh. Consequently, researchers have not yet addressed the potential for change in people's listening practices arising from the distinct technological capabilities of the media-enabled cell phone as opposed to the iPod/MP3 player.[7] Based on my experience as a public transit user, and informal observations from daily life in Canada and the US, I would suggest that North Americans continue to use cell phones' media capabilities in ways consistent with the iPod and MP3 player, at least in public venues. This was not the case in Burkina Faso, where earbuds or headphones are a rarity, and it is not uncommon for music from someone's phone to add to a shared aural landscape. Indeed, I see the development of the music-capable cell phone with internal speakers as hearkening back to small transistor radios and portable cassette players—they not only allow for mobile music listening practices, but also the possibility of group listening.[8] At the same time, cell phones are more portable than earlier devices, and they offer control of music collections and the ability to design an aural soundscape without the need to carry around multiple cassettes.

Tracing Music Technologies in Africa

The development of recording technology, from gramophone through radio, records, cassettes, and now digital music, has had a significant impact on musical life in Africa as elsewhere in the world (Manuel 1988: 4). Yet even as the cost and rarity of new technologies often signifies their owners' elevated social status,[9] Africans have found creative solutions that enable them to manipulate their aural soundscape and reorient musical experience through recorded sound.[10] If individuals cannot afford their own devices, they are still able to listen at a neighbour's home (Moorman 2008: 245 n.89), in public places such as a restaurant or bar (Manuel 1988: 4), or even via the sound system of public transit. These ways of sharing others' devices and the music on them suggest an emphasis on social listening practices reflecting the communal aspect often highlighted in many African music-cultures (Nketia 1966; Chernoff 1979; Agordoh 2005; Reed and Stone 2014).

The most recent shift regarding music formats and technology has been in the growth of digital music consumption. Within the urban, predominantly European and American contexts where much scholarship is based, home computers are often synced to mobile devices (MP3 players, iPods, and now cell phones) to enable users to access and download music files from the internet, rip music from CDs, and otherwise retrieve or manage the storing and sharing of their collections (Nettamo, Nirhamo, and Häkkilä 2006: 87, 93). Digital music technology is also prevalent in African contexts, but its consumption occurs most often through music-enabled cell phones rather than through exclusive media devices such as iPods or MP3 players.[11] Kreutzer highlights this in his study on cell phone use among low-income youth in Cape Town, South Africa when he suggests cell phones could be considered the "new boom box," and describes the frequency with which his study participants use phones for music listening (Kreutzer 2009: 69).

Engaging with the Cell Phone in Burkina Faso

> Yaya always has his cell phone with him. The screen is broken, and he can no longer use it to make calls, but he has no need of visual cues to access his music. He likes the Côte d'Ivoire-style reggae, from Alpha Blondy to contemporary Ivoirian reggae "Gospel." If I hear Malian zikiri or other popular music, it's

likely the young migrant workers, relaxing after a hard day in the fields, with a cell phone on the bench beside them. (excerpt from fieldnotes, May/June 2012)

As one of the few studies that address the multimedia capabilities of cell phones from within an African context, Kreutzer's research provides a helpful backdrop against which to discuss the use of cell phones in Burkina Faso. However, his work continues the overarching focus on urban contexts, with youth as the primary demographic. His context is somewhat different from the rural setting I address in Burkina Faso, where cell phone users include a mix of both adults and youth within the community. The urban focus also adds additional elements, since music playback is just one usage among many for Kreutzer's participants. Although they often listened to music via the cell phone,[12] the devices were also used as their primary means of accessing the internet, social media, and downloading digital media (photos, videos, music, and games). This media was then "used side by side with locally produced digital media" as they shared media files via Bluetooth or Infrared (2009: 53).

My consultants likewise engaged with cell phones for music listening. It was common to see a group of people chatting with each other while their favourite songs emanated from a cell phone on a bench beside them, or to hear strains of music coming from someone's shirt pocket as they walked or biked along the path. But most of the multiple uses Kreutzer mentions were not present in Burkina Faso, since internet access is unavailable in rural settings; even in cities, Wi-Fi is rare.[13] A few individuals had cell phones with Wi-Fi capabilities, but the lack of internet availability meant their use as mobile multi-functional devices was more locally focused, drawing on the features of the phone itself: flashlight, camera, audio/video recorder, and player. At times, the use of these additional features seemed to exceed the phone's primary function as communication technology, since, for example, people could access music or take a picture even when the phone had run out of credits for calling and texting.[14] I recognize that this emphasis on the phone itself and its capabilities is not unique to users in Burkina Faso, since iPhones and smart phones have become a primary means of facilitating media consumption for their users more generally. But the point is that in Burkina Faso, cell phones are not just one of several options for consuming music, videos, and other media; they are often the only source of such media.[15]

Communal or Social Listening

Listening to music via cell phones, as I illustrate in the quote from my fieldnotes at the beginning of this article, is often a communal or social activity in Samogohiri. Kreutzer may reference something similar when he notes the high prevalence of cell phone sharing among his respondents (2009: 69). Although it is unclear whether this sharing refers to youth listening together or simply one individual borrowing another's phone, his comment does suggest the possibility that, as in Burkina Faso, collective listening to a single phone is a norm. I did at times notice individuals listening to music via cell phone while alone, but the use of earbuds or headphones was extremely rare. When I asked about earbuds, several people indicated that they found them uncomfortable, and were concerned that they might injure their ears. One person simply said that he wasn't interested in them. Instead, Burkinabé users most often listen to their music through the speaker embedded in the phone itself. This means that while they can still create an aural soundscape and possibly seek to distance themselves from unwanted elements of their environment, theirs was not a privatizing or fragmenting process. With music as only part of their aural experience, and one that was audibly present for anyone within range, the logics of exclusion and isolation—whether cocooning, tuning out, or simply offering an exclusive sound experience—simply do not apply.

In addition to the above-mentioned physical considerations, the discourse around earphone use was sometimes expressed in terms of ethical or moral considerations. For example, one reason that I was given about the disuse of earbuds or headphones was the very fact that they blocked out sound from around you—it would be difficult when walking around the village, my host's teenage son explained, because you might not hear someone greeting you, and not respond to their call:

> Blama: Well, when you walk around as well, there are people, when you pass by with earphones in your ear, they will say "Ah, it's a *voyou*" [tr. delinquent/hooligan]. A *voyou*. The people of the village will say ah, him, he's a smartass. So it's for this reason we don't like wearing earphones here. [He laughs]
> Carinna: He's a smartass? Because he wears earphones?
> Blama: Yes, because he thinks he's a big person. So, the youth, they don't like this. But if you are at home, you can use earphones. … What causes a lot of problems, when you wear earphones, [is that] when they call you, you won't hear. So you can't wander around like this, wearing earphones. Someone will call you [to

greet you], you don't hear. You will leave, leave, leave, they will insult you behind you, that you are an idiot, or you don't want people to talk to you, or you are being a smartass. [You give the impression that] you don't want someone to speak to you…. You see, you don't want to greet, you pass by.

… At your place [i.e., Canada], there are a lot of people. You can go by without greeting, because you don't know each other like that. But here, in the village, almost everyone knows each other…. If I see him, I know him there, I will greet him. But if you wear earphones, you walk behind him, you don't greet him, afterwards, he will speak to you [about it]. [He laughs] (interview with Blama, June 29, 2014)

Here Blama demonstrates a clear awareness of the implications of using earbuds and thus distancing himself from his environment and community. He is engaged with the same questions of appropriateness that Prior articulates when he writes how,

far from unreflectively surrendering to some master pattern of withdrawal, many users actively confronted an ethics of space and community. They questioned and critically reflected on their use, working through the broader social implications of mediated withdrawal, including its impact on recognizing (in its broadest sense) fellow urbanites. (2014: 30)

Blama is likewise critically aware of the context in which he is located, a relationally intense culture where ignoring the people around you may lead to negative consequences. He suggests that for this reason listeners do not engage in a total withdrawal or tuning out, since they must maintain the ability to interact appropriately with their surroundings. An excerpt from my fieldnotes illustrates Blama's point:

The sound of music and chatting drew me out of my room this morning. Adjara, my host-mother's sister-in-law had stopped by for a visit, and was chatting with the neighbour who was hanging up her laundry. When I asked about the music after greeting them, and good-naturedly enduring the teasing that followed my using the wrong language for my greetings, Adjara pulled out a cell phone from where it had been kept in the folds of her *pagne* at her waist—a convenient place to keep it when you need your

> hands free and don't have pockets. (excerpt from fieldnotes,
> January 13, 2014)

As a mobile media device, Adjara's cell phone did create a semi-personalized
soundscape that accompanied her travels through the village, but this
occurred in a manner that did not interfere with social engagement.

From what I observed in Burkina Faso, cell phone music is located in
a semi-private or blurred public/private space:[16]

> The bus to the village is small and old, but I manage to
> find a seat, squashed four or more in a row. We turn off the
> highway and begin to bump and jostle along the dirt road to
> the Samogohiri. I hear the strains of some music reminding
> me of the songs I used to play in a Middle Eastern ensemble
> back in Canada. I listen closer, and notice that it is religious
> music in Arabic—the man next to me had pulled out his cell
> phone, resting it on his knee. For the rest of the trip, amid the
> jostling and fragments of conversation, the strains of maqam
> and Arabic singing permeate the air. (excerpt from fieldnotes,
> May/June 2012)

People play music for themselves, but the sound seeps into their surroundings
as well, often hailing others to come and listen. One Sunday in the nearby
city of Orodara, I spoke with a woman after church about a variety of
topics related to Christian music. As we discussed how their predominantly
Muslim neighbours reacted to the songs, she suggested that music could
be a form of evangelization in and of itself. As an example, she mentioned
a time when she was listening to a Christian song on her cell phone, and a
Muslim neighbour asked her for a copy of the song. She shared it with him,
she explained, and now he sits and listens.

Music also enters the communal soundscape from cell phones placed
on the table in a bar, at the market, or in some other public space, and it
is not uncommon for others, even strangers, to request a copy of a song
if they appreciate it. When people visit, music often provides a backdrop,
emanating from a cell phone on the bench beside them. People's work-
time spent sorting cashew nuts or peeling sweet potatoes can be enlivened
not only by tea and conversation, but also by music from a cell phone in
someone's pocket. The following fieldnote excerpts provide one example of
music accompanying daily activities:

> It is Sunday morning, and several of us are in the yard before
> church. Biema [my host father] is reading from the Dzùùngoo
> Bible, perhaps choosing a passage for today's service. Ema is on a
> bench playing with some fabric, and Emanuel, who is in town for
> a visit, just returned on his moto from greeting various people.
> Haruna is seated in another chair, repairing one of his shoes....
> He has his cell phone playing in his pocket; currently it's some
> recordings from the youth seminar in Orodara. Earlier, when
> Blama was the one conducting repairs, it was playing a recording
> Haruna had made from the radio (also Christian music)—Turka
> singing.... The music has continued as I'm writing, and now it just
> finished playing a Jula rap (not religiously focused, but something
> about a bird flying high and looking for truths), before shifting
> to another Jula piece with a bit of a reggae beat. (excerpt from
> fieldnotes, May 25, 2014)

In this example, it is Haruna who is playing the music while fixing his shoes,
but he is not set apart by himself. Instead, the music reaches all of us, jumping
from one song to the next and demonstrating the variety and unorganized
nature of the music in his cell phone.

Accessing and Sharing Music

The unorganized nature of music collections such as Haruna's contrasts sharp-
ly with the collections and playlists maintained by many iPod or smart phone
users in North America and Europe, and demonstrate some of the drawbacks
for those whose primary medium of music technology is the cell phone.[17] The
actual organization of music collections is not often addressed in the literature,
but I do see some similarities with the participants in Bickford's study,[18] and
ways they "scrolled through their players' song lists to find one song after an-
other in lists full of misspelled and incomplete metadata" (2014: 340) rather
than develop organized playlists. The music collections of many with whom
I spoke in Burkina Faso were likewise jumbled, and lacking pertinent infor-
mation about the songs.[19] I remarked upon this in my fieldnotes, and spoke
about it with Blama, the young man quoted above. During our discussion I
referred to earlier cassette technologies and suggested that with cassettes, the
metadata was maintained and tied with the recording more closely than with
digital files. Blama both agreed and disagreed, pointing out that if you copied
the music from someone (i.e., dubbing and mix tapes) you might not include

information about the title or artist on the cassette. This was an important re-
minder that even if the technology permits something, such as the possibility
of including or altering metadata, such activities may not necessarily occur. In
any case, the music playing from cell phones typically jumped from song to
song in a haphazard fashion, rather than through specific playlists, and if indi-
viduals chose to play a particular song, they frequently had to scroll through
multiple songs in order to locate it.

Part of the reason for this lack of order in people's music collections
is due to the way that song collections are built. Villagers in Samogohiri
would rarely have access to an entire album of music, or the capability
of downloading/uploading music themselves. Instead, they build their
collections through interactions with others—their friends, neighbours, or
through entrepreneurial kiosks in the cities—in a creative and interrelational
approach. Christopher Kirkley notes a similar pattern among the Tuareg in
West Africa's Sahel:

> The creation of such a musical network owes a lot to social
> activities of the Tuaregs. I noticed that most of these file exchanges
> occurred while drinking tea, a slow ritual that can take almost an
> hour. . . . The cell phone is passed from hand to hand, friends browse
> the multimedia collection of each one. If a song or file interests
> them, a transfer is requested. In addition to the exchange of
> music between family members or friends, the transfer of files via
> Bluetooth has even become socially acceptable between strangers.
> As the aural landscape is saturated with music emanating from the
> speakers of cell phones, it is usual to ask whomever you meet
> in the street to copy a song broadcasting from their phone. In a
> general sense, music that is disseminated through this network is
> considered to belong to the public domain. (Kirkley 2014: 111,
> translated from French by author)

In Burkina Faso as well, the modus operandi is that if you hear a song that
you appreciate, it is perfectly acceptable to request a copy, whether you are
acquainted with the person playing it, or not.

Kirkley also notes another relevant point, which is that in a context
where computers are rare and internet connections almost non-existent,
cell phones act as the primary digital medium—a miniature hard drive that
allows not only playback, but also the exchange of music and other digital
files (2014: 107). This contrasts somewhat with the South African youth
in Kreutzer's study. Although the cell phone is their primary medium for

engaging with digital media, their ability to access the internet directly has led to a greater involvement with social media and online interactions compared with the primarily offline networks that Kirkley describes. The experience of rural Burkinabé is closer to that of the Tuaregs, since the people with whom I spoke were not able to download new music directly from the internet or via their own PCs. Instead, they were forced to visit entrepreneurs in the city to acquire new songs—likely illegally downloaded or ripped from a CD—for a small fee.

Another similarity between these three African contexts is the emphasis on music sharing between cell phones. The primary means of music sharing is through the use of Bluetooth technology. Kirkley describes how this works within the large network of music circulation among the Tuareg diaspora:

> One of the essential components of this network is file exchange via Bluetooth, a standard of wireless communication best known in the West for its ability to allow the use of wireless earphones. In the Sahel, the name is synonymous with transferring files.… Unlike the anonymity of files imported from the internet, transfer by Bluetooth is always personal, it is literally a "peer to peer" transfer. (Kirkley 2014: 111, translated from French by author)

This Bluetooth-enabled network is also present in Burkina Faso, and plays a key role in how people have been able to access and share their music.[20] My Burkinabé consultants explained how, if you hear a song that you like, one that touches you in some way, it is common to ask the person if you can have a copy. In this way songs can become popular throughout a village, or pass from one village to the next. For example, my friend Abi acquired a new song after hearing it from the cell phone of a young man who had come to Samogohiri to repair her house. He was listening to his phone as he worked, and one of the songs really touched her, so she immediately went into the house to get her own phone, and asked him to transfer the song, saying, "You need to give it to me." Even Christian songs are available in this predominantly Muslim village, often appreciated simply for their sound and lyrics rather than for their religious significance. For example, when I commented on the fact that I heard reference to "*Yesu*" ("Jesus") or "Jehova" from the cell phone of a neighbour who is at least nominally Muslim, the Christian student who shared our courtyard was unsurprised. He explained that there are many non-believers who like these songs and include them in their own collections.

This mobility of music and recordings also helps people to learn songs that they hear performed in other locations, or to spread religious teachings.

In February, during the dry season, I attended a women's seminar hosted by the Mennonite Church. Women from congregations throughout the region gathered for several days, culminating in an evening of singing and dance. The sessions each day included a time for worship (prayer and singing) and teaching, as well as breakout group study. Before I returned to the village, I spoke with several women, and one of them described the role of cell phones in learning music, interacting with others, and also bringing material back to share with one's home community:

> Mariam explained that with the music on a cell phone, you can learn it (*dege*) and then teach it (also dege) to others.… [she] mentioned the role of sharing music between cell phones, and commented that this was also something that happened at the women's seminar. In addition, she had also recorded many of the sessions—the lectures given by Pastor Abdias or Pastor Kalixte from Ouaga. She explained that this way the women who were not able to come to the seminar could still hear the teaching. She spoke of women gathering together to listen, and also mentioned listening (whether music or the lectures) while walking, or working, etc. (excerpt from fieldnotes, February 9, 2014, Orodara)

For Mariam, the seminar was an important resource at multiple levels; not only did it provide biblical teaching and training, but it also gave her the opportunity to interact with women from different communities, and for them to share with each other through their music. As the women gathered to visit during breaks, songs were passed along from one person's cell phone to another, and during the worship and teaching sessions, it was very common to see women holding up their cell phone towards the speaker or song leader. Others gave their phones to the sound technician, who set them to record from near the speakers. These were the recordings that Mariam planned to share with others in her community upon her return.

Recording Music

The recording technology that Mariam mentioned was an important source of music for Burkinabé cell phone users. Although the recording quality was poor, using only the phone's built-in voice recorder, it nonetheless opens possibilities for collecting music unavailable as commercial recordings. Some

phones also record video, but the audio recorder seems to be more important for most of the cell phone users with whom I interacted:[21]

> The balafon [xylophone] gathering started this afternoon around 3-4pm…. Once it seemed like it was actually starting, I wandered over to see what was happening. People were gathered around in a large circle, with the musicians set up at one end…. The music is loud and vibrant, and the air filled with dust from the dancers and the young men showing off on their motorcycles…. I'm not the only one recording at this event—there's a young man standing next to Dramane, holding out his cell phone to catch both his words and the ever-present sound of the balafon. I've also noticed several women recording as well, phones held out in front of them to collect video of the dancers as they go by. (excerpt from fieldnotes, Tabaski, October 15, 2013)

In this way the cell phone, much like the cassette recorder, has enabled individual initiative and ingenuity regarding recordings of music and local musical practices.

Kirkley writes of a similar situation in Mali, and suggests that the possibility of homemade recordings has been "the most direct contribution of the cell phone to Tuareg music" (2014: 113). In Burkina Faso, I frequently saw two or three individuals with cell phones near the lead musician or singer at live music events, or even in church when choirs performed a new song. Cell phones can be held with their internal mics directed towards the music during a performance, placed on a speaker for events that were electronically amplified, or even brought to the front and placed under the balafon during a church service. Weddings are another occasion prompting individuals to record, since the accompanying music is rarely heard during the rest of the year.

Several people with whom I spoke noted that there are fewer occasions for live music-making in present-day Samogohiri than in the past. In talking about the reasons for this decrease, especially with respect to the ethnically marked Dzùùn music, they pointed to elements of socio-cultural change, and how religious shifts towards more conservative Muslim practices have affected life in the village. Given the recording capability of cell phones, however, listeners can choose to record a song or selection of music that they particularly like. Once recorded, the songs and music can remind listeners of the performance event, help them learn song lyrics, or simply satisfy their desire for a particular type of music. Music can also be recorded directly from the radio, and one young man spoke of format-shifting cassette music

through playback and then recording it on his cell phone. These methods of recording mean that the sound quality is significantly diminished,[22] but since the techniques do provide a means of acquiring music that is otherwise difficult to come by, the desire for the music seems to outweigh any distortion or loss of sound quality.

Questioning Literacies

On several occasions during my fieldwork, I was confronted with the question of technological literacy, noticing that not everyone possessed the same skills needed to make full use of the cell phone and its many functionalities. Burkina Faso has one of the lowest literacy rates in the world,[23] and yet people are able to work with and around their lack of skills. In this sense, most Burkinabé operate within a primarily oral society, and perhaps it is this very perspective that shapes the way they interact with media and technology. Ludovic Kibora (2009) seems to agree, as he titled his chapter on text messaging in Burkina Faso, "Téléphonie mobile. L'appropriation du sms par une « société de l'oralité »" ("Mobile telephony: The appropriation of SMS by an 'oral society'"). Text messaging, Kibora explains, has been adopted as a practical and economic means of communication, but one that in many ways builds upon, and may continue to be enmeshed within, previous communication methods. The village teacher or nurse might take on the role of public scribe and become an intermediary in the transmission process, reading a message aloud and transferring it from writing back into the oral context (Kibora 2009: 118). I tried to organize some of my thoughts one afternoon after watching a young man staying with my host family help a neighbour transfer a song onto her cell phone:

> Literacy is important, and may perhaps be growing in importance here in Samogohiri, alongside the arrival of various technologies. But is technological literacy the same thing? … Mamina does not have French [literacy], and is not in school. Is it because of this that she brought her phone over to Haruna? At the same time, Abi, who does have French and Jula literacy skills, still does not have the technical skills necessary to use Bluetooth to get songs from other phones, and so she also must pass her phone over to others. What is the role of literacy? Can one learn the necessary technical skills without the language literacy skills? Jeneba [our neighbour] has the technological skills necessary for playing and

recording music (among other things) but it might be different for sharing music, where literacy skills might be important for determining the correct recipient. (excerpt from fieldnotes, January 29, 2014)

Cell phone technology offers possibilities for the study of music and literacy, both in the traditional sense, and also from the perspective of technological or digital literacies. As with cassette technology, cell phones allow for greater ease in learning new music, allowing repeated playback so that the listener can memorize or write down the lyrics of a song. Music playback (and to an extent, recording) is a key function of cell phones, and not only do most cell phones have a clearly designed playback "app," but many also have designated buttons on the keypad itself, or a icon on the entry screen, that do not employ language. Because of these visual cues, textual literacy is not a necessary component for basic activities such as music playback, and so one of the first things people do with a new phone is learn how to play music. At the same time, I have often seen individuals (more frequently women than men) pass their phone to someone else and ask them to transfer a piece of music using Bluetooth, or to set up audio recording for an event. Reading and writing skills could be more important in these contexts, but still do not always correlate with the technological skills. There is room for further study into the relationship between these various literacies, especially the more complex skills such as transferring music files between cell phones or the potential for labelling and organizing music within collections. From an ethnomusicological perspective, it might be significant to explore these questions from the realm of expressive practice, and music as a social activity, considering whether there may also be a relationship between various literacies or skills, and the social element of music-making. The socio-cultural perspective inherent to the study of digital literacies (see for example Lankshear and Knobel 2008) could also provide a means from which to explore these matters.

Conclusions

In Africa, or rural Burkina Faso at least, music technologies are mobile devices that offer shared musical experiences and the opportunity for creative engagement with music. Played back through cell phone speakers, the music enters into a social world, mediating communal spaces, and even public spaces since, as Frith points out, music crosses borders and carries across fences and walls to define places (1996: 125). But this raises questions about whose music defines these

public spaces. If mobile music is communal, rather than individualizing, what does it mean for a middle-aged gentleman to begin playing Arabic chant from his cell phone while taking the bus from Orodara out to Samogohiri? Is he, in a sense, claiming it as "Muslim" space? What does it mean when the soundscape is inundated with music, not only from the definitively "public" sounds broadcast in buses or bars, but also the more personal choices of music in people's cell phones?

Most of the current research on cell phones and other mobile music devices explores their use in urban environments located primarily in Europe or North America. These studies continue to emphasize the use of such devices in creating individual soundscapes, and often as a means of distancing from or aestheticizing one's environment. Such perspectives seem to run counter to the experience in Samogohiri, where Burkinabé have found ways of using cell phone technology that are more communal in nature. Aspects of these more social practices can be traced through many of the different technologies, demonstrating innovative use of music media, or perhaps simply the pragmatics of economic realities in Africa. Nonetheless, the prevalence of these alternate ways of using cell phones as mobile music devices calls for research to move beyond the portable music theorists' "logics of exclusion and isolation" (Bickford 2014: 339) to consider mobile music in diverse cross-cultural contexts.

Cell phones also offer the potential for more than just music playback. By sharing songs, recording live music, or reformatting songs accessed by other means, cell phone users in Samogohiri built their music collections. They made choices about what music was important enough for them to keep for the future. I made a few preliminary inquiries about how people chose what music to record, but the answers were very similar, a nearly ubiquitous "Because it pleased me," or "It is a song that I like." A related question about the kind of music people enjoy was more fruitful, leading to responses that emphasize the advice or counsel found in many favourite songs. These very preliminary responses suggest the need for a more in-depth study in order to explore the choices people make about recording music, building their collections, and how they engage with this music in their day-to-day listening practices.

The cell phone is a complex mobile media device, and its many functionalities also suggest the potential for research into the relationship between various literacies and technological skills such as transferring music files between cell phones. Related research could consider how, or even if, individuals label and organize music within their own collections. Given all of these questions, it is helpful to remember an important focus of the ethnomusicological perspective, which is to explore these questions from the reality of expressive practice, considering music as a social activity. ❧

Notes

1. This article is based on a paper presented at the Canadian Society for Traditional Music's annual conference in 2013, with additional material drawn from a second trip to Burkina Faso in 2013/2014. During this period I spent an additional 10 months in the country to conduct doctoral research on music within the Église Évangelique Mennonite (Evangelical Mennonite Church), supported by a Social Sciences and Humanities Research Council Doctoral Fellowship.

2. All but the cheapest, most basic cell phones have various extra capabilities, including music playback, recording, sometimes video playback and recording, or basic camera capabilities.

3. David Edgerton's notion of creole technologies (2007) refers to the manner in which individuals and communities make use of existing technologies that are defined and structured by local conditions. As "creole" rather than "transferred" technologies, they are not constrained by the original use of a particular technology in its primary time or space.

4. The spectacular growth of the African market was a surprise to the cell phone industry, perhaps explaining the delay in scholarly attention to cell phone usage and its implications in the continent (Etzo and Collender 2010: 661). This shortcoming has now been addressed, and Africa-centred studies from both the humanities and social sciences not only consider cell phone development and diffusion (Castells et al. 2007: 22–23; de Souza e Silva 2007: 295-297; Etzo and Collender 2010) and their use as appropriate information technologies (Harvey and Sturges 2010) but also socio-cultural aspects related to African experiences and contexts.

5. For example Gerard Goggin (2006) joins the earlier focus on cell phone history, accessibility and use with discussions of mobile media and the implications of future technological developments. Other studies theorize the implications of the cell phone as mobile media alongside discussion of community, relationships, identity negotiation and branding; discuss the politics of cell phones; or consider how cell phones and other mobile media are used to negotiate social interactions and space (Arceneaux and Kavoori 2012; Wang 2005; Ito, Okabe, and Anderson 2009). Grounded in African contexts, de Bruijn, Nyamnjoh, and Brinkman's (2009) compilation addresses issues from access and communication to comparisons between urban and rural uses of text messaging, issues of identity and social or economic status, questions of relationships, healing practices, and the role of the cell phone in (re)shaping anthropological research.

6. The Colloque International Téléphone Mobile et Création (International Symposium: Mobile Phone and Creation) has held several conferences, including the 2014 "Arts et Mobiles" (The Arts and Mobile Phones), and in 2015 "Sons et mobiles." The anthology *Téléphone mobile et création* (Allard, Creton, and Odin 2014) is based on proceedings from their 2012 conference.

7. Given the time lag between technological developments, user activity, and research, most studies continue to use iPods or designated mobile music players as

their primary point of departure. Even studies that do address cell phones do not usually mention the embedded speakers as a unique characteristic, while those few that do address the cell phone's potential for social-yet-mobile musical practices frequently include the examples in passing, such as one of Bergh, DeNora, and Bergh's respondents who talks about listening to music from a cell phone while relaxing with friends in the park (2014: 326).

8. Music making in African contexts is nearly always a social activity, and these relationships between media and expressive practice are present not only in cell phone use and the audio technology that has been discussed thus far, but also via other media, such as TVs, and more recently portable DVD players, which are often enjoyed by groups of watchers, especially in rural locations.

9. Marissa Moorman highlights this point in relation to early radios, and later gramophones or record players, technologies that frequently symbolized an elite status as well as a desire for modernity, upward mobility, and urbanity within the Angolan context (2008: 145, 161). In contrast, the adoption of cassette technology does not seem to have been accompanied with a similar status signification; rather, its low cost, broad availability, and ease of use led to the democratization of music recording and distribution (Perullo 2011: 302–305). CD players and specialized digital audio players (iPods or MP3 players) may have signified a similarly elevated status as that associated with earlier technologies, but this has not yet been addressed in the literature. However, while visiting Ghana and Burkina Faso in 2007, and again during my trip to Burkina Faso in 2012, I did not see any CD players while out in the village. I was told that they were too expensive.

10. One early example of such a creative solution is the itinerant entrepreneurs in Egypt, who, "carrying spring-driven phonographs from village to village, would play requests for a small fee"(Manuel 1988: 4).

11. One exception is the recent development of designated radio/MP3 players or sound systems that take either SD cards or thumb drives via a USB port. These simple devices may not convey any information about the songs, but do provide basic playback functions, and allow one to move from song to song within a collection of music. Although they offer better sound quality, their close relationship to cell phones as the primary source of music media can be seen in the way that they are often sold with USB or SD card adaptors for the micro SD cards used in cell phones.

12. Within Kreutzer's study, 56% of users listen to music on their phone every day, while 28% of those without a music-enabled phone listen via someone else's handset (2009: 69).

13. Instead of monthly plans, most cell phone users in Burkina Faso rely on phone credits, purchased in small or large increments, as their financial situation allows. Data plans are rare, and although I saw some advertisements for 3G service in large cities, I was not aware of anyone who actually used the service, as it was not available in small cities like Orodara, let alone rural areas. Instead, even smart phone users were dependent on those few locations in the city with Wi-Fi.

14. Telban and Vávrová's (2014) paper on mobile phones among an isolated community in Papua New Guinea offers an interesting example of cell phone use where the phone's extra features (flashlight, radio, camera, etc.) are actually the primary functions, since the lack of a cell phone network means that the phones' telecommunication capabilities only work when individuals leave their home communities.

15. There were a few occasions during my research when I noticed people listening to music via cassettes, radio, and in rare cases VCD/DCD/CD players, but cell phones were by far the most prevalent.

16. The cell phone is not the first technology to blur the lines between public and private space. Schloss and Boyer's (2014) chapter on urban listeners and the boom box in the 1980s likewise explores the mobility of music technology and how it enabled listeners to move between spaces, and broadcast their musical choices to those around them. What is interesting, however, is how Schloss and Boyer differentiate the boom box from the equally mobile Walkman or MP3 player, pointing to the way speakers are an integral aspect of boom box design and create the potential for new kinds of socialization through collective listening experience. Indeed, they suggest that for many of the people with whom they spoke, the boom box "had the greatest impact on their lives when it fostered community through the possibility of shared listening experiences" (405).

17. For most listeners in Burkina Faso, the memory cards in their cell phone are the primary location for storing music files. Unlike many of their compatriots in Canada or the United States, they do not have access to a computer and media management systems like iTunes with which to organize their music collections.

18. I do not want to draw a simple comparison between my Burkinabé consultants and the American children of Bickford's study. The demographics are quite different. However it is relevant to consider the role of access (or rather lack of access) to additional technologies and what role this may play in how or whether music collections are organized. It is a shame that neither Kreutzer nor Kirkley address this issue, given that they also conduct research in areas where the cell phone is often people's primary digital medium.

19. I recall my own confusion when searching through a cell phone for recordings I had uploaded. I could not find an overall sense of order. They were not listed alphabetically, nor did they seem to be ordered by date. While recordings from one album were usually together, even this was not guaranteed.

20. Burkinabé cell phone users often develop creative methods of utilizing technology to suit their own needs. Even before the broad incorporation of Bluetooth technology into cell phones, they found alternative ways of sharing files between phones such as swapping out memory cards.

21. This may have been due to the technological capabilities of most phones in the village, and raises the question of whether an increase in the quality of video and audio recordings would lead to more interest in video recording. People were already sharing small files of commercial music videos or "*clips*," although this was

to a lesser extent than the sharing of audio recordings. I was also asked for copies of several songs I had recorded using a digital camcorder, which I shared after converting the videos to a smaller file format (technology I had available to me through my laptop).

22. Again, without wanting to draw a direct parallel between Burkinbé cell phone users and the children of Bickford's study who recorded sound from music videos on TV, or set the microphone of one MP3 player next to the earbuds of another (2014: 349), it is nonetheless interesting to note a similar creative focus in terms of recording and reformatting techniques. In both cases, acoustic quality and fidelity were less important than the possibility of accessing and sharing songs.

23. According to the World Factbook, Burkina Faso has a literacy rate of only 36%, referring to the number of adults (aged 15 and over) who can read and write (CIA 2015).

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