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# The metaphors we stream by: Making sense of music stream

## by Anja Nylund Hagen

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## Abstract

In Norway music-streaming services have become mainstream in everyday music listening. This paper examines how 12 heavy streaming users make sense of their experiences with Spotify and WiMP Music (now Tidal). The analysis relies on a mixed-method qualitative study, combining music-diary self-reports, online observation of streaming accounts, Facebook and last.fm scrobble-logs, and in-depth interviews. By drawing on existing metaphors of Internet experiences we demonstrate that music-streaming services can make sense as tools, places, and ways of being. Music streaming as lifeworld mediation is discussed as a fourth framework for understanding online music experiences, particularly those arising from mobile and ubiquitous characteristics of contemporary Internet technology.

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### Introduction

Since the 2000s, music-streaming services have become popular sources for everyday music listening. Via Internet applications music-streaming services are added to personal media devices, like smartphones, tablets, and computers. These media are often deeply integrated into the users' everyday routines. Thus streamed music attach to listeners' everyday life in a more flexible fashion than ever before. Music streaming has grown along with the list of international providers, which now includes Spotify, Tidal, Apple Music, Pandora, Deezer, Rdio, and so on. These offer users access to vast music catalogues through individual account subscriptions that can be free or require a monthly fee. The music is provided via user interfaces that usually offer both automated listening recommendations and opportunities for participation and individual music management.

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Streaming is most common in those parts of the world with extensive Internet coverage and a high saturation of mobile media devices. Contemporary Norway where this study was conducted, is one such place; in the first half of 2015 revenues from various music-streaming services counted for as much as 81 percent of the total music sales, and 80 percent of the population under 30 years old stream music on a daily basis (IFPI Norge, 2015). This means music-streaming technology introduces a host of new issues around everyday music listening. The ways in which music and listeners interact with one another in diverse contexts with music-streaming services demand further investigation. This paper examines how a small group of dedicated users makes sense of their experiences with the two major services in Norway, Spotify and WiMP Music (which re-launched as Tidal in 2015).

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## Metaphor as a way of understanding

Via their personal practices, users bring specific approaches, expectations, purposes, and abilities to music-streaming services that accumulate into the roles and meanings that are re-presented within certain streaming-related frameworks. The complex stories that derive from users' interactions with, in, and through technology [1] form the basis for how users approach streaming at a very personal level. This almost alchemical transformation evokes linguist George Lakoff and philosopher Mark Johnson's insistence upon the importance of metaphors in peoples' sense-making (Lakoff and Johnson, 2003). The investigation of individual experiences through these metaphors can be a useful point of entry into the streaming users workings.

The essence of a metaphor is the understanding of one kind of thing in terms of another, a process that is typically based on cross-domain correlations in our experience, giving rise to perceived similarities [2]. Metaphors are well established in linguistic practices, but Lakoff and Johnson have claimed that metaphors also permeate the way people think and structure understanding. Just as linguistic metaphor is a natural part of human language, a conceptual metaphor is a natural part of human thought [3]. Consciously or otherwise, both the linguistic and the conceptual levels of metaphors are embedded in our everyday thinking, language, and activity. The metaphors that people use to explain their experiences can either highlight or hide various aspects of things, as they come to represent coherent structures in our understanding [4]. Some of our deepest and most abiding human concepts, such as time and causation, are grounded in correlations of understanding that exist within our experience. Translated into metaphors, these form the basis for our most fundamental understandings and are important to how we live our lives [5]. The things that surround us play a role in constraining our conceptual systems, but only to the extent that we interact with and experience them. Metaphorical understanding is hence partially culturally determined and dependent upon past individual experiences [6].

Metaphors, in the end, represent the ways in which individuals secure a handle on concepts. In this paper, metaphors are regarded as individual ways of sense-making that could be approached through interpretation. In parallel I use metaphors as an analytical filter that help to comprehend partially what cannot be understood completely — other peoples' feelings, aesthetic experiences, interpersonal communications, and self-understanding [7]. Shared, implicit frameworks of meaning allow experiences to become more widely available (explicable, even familiar) to others.

In this way, metaphors have proven helpful to scholarly research, such as investigating personal experiences with new Internet technology and media. When use of the Internet was in its infancy worldwide, Annette Markham (2003, 1998) investigated experiences of what it means to go and be online. She found that Internet users made sense of their experiences in computer-mediated contexts by use of different metaphors: "For some, the Internet is simply a useful communication medium, a tool; for others, cyberspace is a place to go to be with others. For still others, online communication is integral to being and is inseparable from the performance of self, both online and offline" [8]. Metaphors created frameworks that addressed individual experiences with the Internet. They also emphasized the inherent diversity of how technology — albeit an infinitely complex one — could be experienced. Markham (1998) first discussed three metaphors along a continuum but later concluded that human experiences are shaped intertextually and contextually, evolving fluidly over time (Markham, 2003).

Other scholars have investigated metaphors related to Internet-based media as well. David White and Alison Le Cornu (2011) embraced the metaphors of *tool* and *place* to capture distinctions between Internet-based *information gathering* and *social networking*, dividing Internet users as either *visitors* or *residents*. Sally Wyatt concluded that Internet-derived metaphors in the magazine *Wired* had not only descriptive functions but also normative connotations. The future of science and technology might even be thought of as actively created in the present through contested claims and counterclaims, using language, practices, and objects as keys to their construction [9]. The explanations that people and society use regarding applied technology significantly influence how it is thought about, responded to, and interacted with. Markham found that the *tool, place*, and *way of being metaphors* appeared in user discourses and pop-cultural depictions of communication technologies, advertising, news, scholarly works, and software discourses [10]. Metaphors mediate between structure and agency, but it is always actors who choose to repeat old metaphors or introduce new ones. Hence it is only through the continuous monitoring of the metaphors in play that we can thoroughly unpack the work that metaphors do [11].

Given the rapidly developing nature of online media and genres, Internet experiences are in flux. Today, much of Internet technology is entirely mobile and ubiquitous in many parts of the developed world. Wireless access is standard, and Internet applications are designed to run on a variety of media devices. This affects how and when the Internet is used, interacted with, and embedded into everyday lives. Relatedly, Anahid Kassabian introduced the notion of *ubiquitous listening* to describe the act of listening as a simultaneous or secondary activity shaped to cope with the constant presence of music in modern life, using for example smartphone apps or streaming services [12]. Jonathan Sterne has likewise noted that digitized music formats are now designed for listening via headphones (while outdoors or in noisy places), background sound sources, and computers with loud fans and poor speakers — that is, “for casual listening, moments when listeners may or may not attend directly to the music” [13].

In this paper, I will investigate everyday listening experiences as they arise via the online applications of music-streaming services. To this end, I will also address contemporary Internet experiences. I therefore begin with the Internet metaphors of *tool, place*, and *way of being* by asking the following questions: (1) How well do these metaphors explain music-streaming experiences? (2) How might the limitations of these metaphors shed light on contemporary online experiences, as exemplified by music streaming?

## Methods and materials

Given the strong interpretive character of individual experience, I will apply several methodological models to my investigation, in a design that incorporates stated assumptions and strategies, actual practices, and a range of personal experiences. In the hope of avoiding the potential distortion associated with retrospective inquiries [14], I began with a diary study. Self-reported informant diaries can provide “insider accounts” of situations to which the researcher does not have direct access. Informants were asked to write diary entries on every music-listening session that involved music streaming over the course of two months (in four sampling periods of two or three days each). SMS and e-mail messages told informants when these periods were to begin and end.

The entries included seven questions revolving around the listening context (location, date, time), music context (what music, from which source, why listening now, how the music was found), and listening experience (a description of music use, parallel activities, the social or personal setting, distractions, and related emotions). The reports took the forms of handwriting in notebooks, e-mail messages, MS Word documents, screen shots from media devices, and replies in online spreadsheets. I encouraged the informants to use normal language in these reports, because everyday discourses were keys to the metaphors in use.

To complement diary descriptions, I observed informants’ streaming-service accounts and Facebook profiles during diary sampling. I also logged their listening via the music-service last.fm’s “scrobble” feature, which finds, processes, and distributes information about digital music listening.

This alternate tracking mechanism allowed me to determine that listening patterns did not change significantly during testing periods. The study was followed up with in-depth semi-structured interviews, lasting between 40 and 60 minutes. All the informants brought along their most used streaming device, which allowed them to explain their experiences in detail by directly referencing their streaming accounts. The interviews were recorded, transcribed verbatim, and coded in HyperResearch.

To enable deep looks into experiences happening on an everyday level of practice, I chose to rely on a small sample of dedicated Spotify or WiMP Music users who had opened their account at least one year earlier, and streamed music almost daily. Six informants (ages 17–18) were recruited after visits to three high schools in the Oslo area, Norway. Six more were engaged by circulating information about the study on Facebook and Twitter, requesting interested users to contact me. Twenty people (ages 21–60) replied, none of whom were known to me previously. The total group included five male and seven female streaming subscribers (encompassing students and workers in various positions). The sample was skewed to a younger sample to secure experiences from listeners who confined their music experiences exclusively to online formats, supported by informants who had earlier experiences with physical music formats. All the informants turned out to be passionate music fans that generously shared their experiences — often detailed, multiple times a day. The study data are vast and compound; the material presents users who probably invest more time than most in their streaming services.

The study procedures aligned with principles from grounded theory methodology (Strauss and Corbin, 1998). The accumulation of data aggregated through diverse sources over time produced a comprehensive impression of evolving and contextualized experiences, demonstrating “the interplay that takes place between data and researcher in both gathering and analyzing the data” [15]. In analyzing diary entries and interviews, my understanding emerged through interpretations of metaphors in use, but indeed, the informants’ interpretations counted as well [16], as their language derived directly from systems of conceptual metaphors — at once structuring and affecting how they approached technology and what they emphasized about their experiences (Lakoff and Johnson, 2003).

In coding the data, I firstly conducted an open, yet detailed microanalysis [17]. Here codes and categories were induced according to general issues in prior to the larger analysis. I further deductively applied a pattern-matching logic when comparing themes that had emerged in the open coding with pre-existing Internet metaphors (Markham, 1998). This comparison became structural to the larger analysis, as the following section will demonstrate. Still the user patterns that did not match the established metaphors were equally important. In that idiosyncratic data, experiences differing from existing frameworks inductively could reveal new ways in which contemporary Internet experiences were conceptualized. Hence, the data were not forced to fit existing metaphors yet these now functioned as codes for larger analysis. Rather the data were allowed to speak on their own. This grounded means of grouping the informant experiences along relevant properties, here accounted for as metaphors, illustrating a conceptual mode of ordering and analyzing data [18] in which I relied upon in the study.

## Findings

A main finding in this study was that music streaming was thoroughly integrated in the everyday lives of informants. Nevertheless, this integration was accompanied by varying attentions and approaches to both music and technology. In particular, it seemed to matter whether music streaming had entirely replaced or was merely complementing other music formats. Formats, streaming services or otherwise, originally defined listening habits and played a role in sense-making. Previous listening practices were reflected in informants’ thoughts and expectations regarding their streaming.

Data reflected individual understandings of music streaming, fluctuating between addressing experiences that originated in music reception, and technology experiences that were based in service practices. These findings confirmed that human conceptualizations of personal experiences are fluid and have fluid boundaries (Markham, 2003, 1998). The ubiquitous Internet as environment for listening underscored the fluidity of online music experiences. Music was streamed and listened to, and then contextualized and made sense of, in multiple situations. Music's fundamental expressive and affective qualities, triggering strong interpretive and subjective experiences, made online music experiences appear blurry, contextual, and based on ad hoc meaning constructions. Overall individual sense-making corresponded to personal understanding, skills, and needs. Consequently terminologies shifted in line with how experiences changed from one situation to the next, according to activities and motivations [19].

### *Music streaming as using tools*

General attitudes toward technology were reflected in the informants' sense-making of music streaming, particularly in relation to accounts within the tool metaphor. Internet experiences described with tool metaphors examine technology as extensions of our senses or bodies, allowing us to magnify or amplify certain capacities [20]. For example, Marius (age 24) was an eclectic music listener, alternating several formats as tools for playing music, including WiMP Music (daily) and Spotify (occasionally). He remained loyal to physical music formats, finding that streaming services made music consumption too passive:

> "For me, I think it's more a convenience thing, being so extremely accessible and easy to use [...] My record collection, that's what's really personal to me, while WiMP is more like a way for me to listen to the albums 'on the go,' which I don't have the ability to do with my vinyl collection" (interview, 28 May 2013).

Marius primarily streamed music he knew from elsewhere; in the course of creating playlists, he often reconfigured music from his vinyl collection or transferred existing playlists from iTunes. He was ambivalent about how his specific tastes tended to align with databases offered by various services. For example, he found that his knowledge about American emo-rock extended beyond WiMP's catalogue, though the service had surprised him as well by offering certain curiosities. Marius' specific exploitation of WiMP Music derived directly from his existing collecting practices and was best captured by the tool metaphor of the conduit: the streaming service literally and figuratively conveyed his existing collections and knowledge about music to new places "as a medium for transmission of information from one location to another" [21].

By comparison, Jon (age 60) and Kristoffer (age 21) experienced their streaming services as, respectively, *prosthesis* and *container* — the two other predominant metaphor-inspired discourses surrounding the Internet as a tool [22]. Jon used Spotify on a desktop computer at work, and his music practice derived from many years in the music business and as a record collector. He preferred streaming album tracks in their original order, was reluctant to develop playlists, and disliked mobile listening with headphones. Spotify accommodated his daily use, despite some inherent drawbacks. For example, Jon found that background information (names of composers, performers, label identification, year of publication) were inadequately reported by the service. This made him nostalgic for the days of browsing physical stacks of compact discs or records as a way of reminding himself about his listening history. With streaming, it was different: "You have to do searches, right, and it's not always easy to know what to search for" (interview, 8 May 2013). His one-time cultivation of traditional music reviews, newsletters, and magazines as sources of information had been marginalized amid the rapid and abundant flow of online music. He now had to embrace service features that supplied him with listening suggestions, such as "related artists" and news flashes. He also used the "scrobble" in Last.fm to remember what he recently had listened to. Metaphorically speaking, Spotify served as a tool whose features brought the world of music closer to Jon by extending his reach the farthest [23]. It was a music-memory *prosthesis* that enhanced his ability to retrieve, recall, and gather music he might otherwise had forgotten about when streaming. Still, Spotify paled in comparison to physical formats for him, because it could not provide the experience of information that he secured from physical formats.

In contrast, Kristoffer has gathered music in Spotify for years in vast playlists, mostly sorted by genre. These grew continually as he added new tracks. His music-streaming service was a container in which he stored music [24] through skillful aggregation. His most popular playlist had almost 20,000 followers through the online service network. In turn, Spotify, as owner of his lists, had become quite personal to him through his role as a music authority and container administrator: "It's like much of my musical taste has been gathered there. You can say I've kind of put a lot of effort into it" (interview, 2 May 2013).

The informants who articulated their music-streaming experiences with tool metaphors based their practice on pre-existing and generally extensive musical knowledge. In each of the tool frameworks, the transmission of information was highlighted as a key feature of the technology, even though these users had diverse goals for their practices. Markham's claim that tool metaphors tended to ignore the complexity of knowledge as a process [25] seemed accurate here. The user experience of the tool to a great extent depended on whether it brought opportunities or limitations to existing music knowledge.

Within the tool approach to streaming, users fitted the metaphorical typology of Internet users as *visitors*: with varying technical and intellectual capacities, they approached technology with concrete tasks, and benefited from a service's efficiency and goal-oriented functionality, yet it not always served them perfectly [26]. Kristoffer's earlier statement nevertheless revealed that his online engagement had a personal and social character. This particularly was evident in relation to others' (and his own) online appearance, for example, in how "digital identity" was projected, maintained and developed online, aligning to the typology of Internet *residents* [27].

### *Music streaming as entering places*

The social framing of online experiences anticipated the second metaphor of music-streaming services, construing it as a place. Within a place framework people interpreted technology in relation to their bodies and senses, both spatially and temporally. The service was perceived as a distinct environment, or as a series of developed architectures and boundaries with multiple entry and exit points. Access to other listeners in the place, online or by sharing accounts with someone, also allowed for music-streaming services to be interpreted socially as sociocultural milieus [28], where value was assessed in terms of senses of social presence, relationships, identity as well as knowledge [29].

Related to this, Kristoffer's tool metaphor of Spotify as a container overlapped with an understanding of his service as a place that he had colonized and made available to others. Interestingly, his diary descriptions demonstrated a spatial orientation through their language, which also was the case among other informants using this framework. Kristoffer "enters" the service and "goes back and forth" between the streaming application and other online sites (diary notes, March, April 2013). In fact, such spatial in-and-out orientations arise naturally within container metaphors [30]. Individuals experience the rest of the world as "outside" and then project in-and-out orientations onto surrounding objects and environments. The container, or streaming service, already implied an inside and an outside that made sense as a place.

Likewise, Sofia (age 30) spent a lot of time "inside" her streaming account, which she considered to be personal, and even intimate and private: "Spotify is not social at all, it's just my little place" (interview, 6 May 2013). Drawing upon features offered in this place, such as "radio", "related artists," artist biographies, and friends' playlists, she interacted with Spotify as a spatial and temporal construction — a socio-cultural place that accommodated meaningful interactions and activities [31]. Among other things, she discovered new music in the service that she wanted to "make her own". To not "get lost" in these processes, Sofia's architectural involvement in Spotify had correlated to her experience; careful location planning supported her with a more user-friendly navigation [32]. She had cultivated more ways to customize her place by including more visual elements. Nevertheless, she acknowledged: "It really just means I have to organize myself in a different way. Furnish my library differently. But I think that's just a matter of time" (interview, 6 May 2013).

The self's relation to others surfaced in the ways in which four informants shared their music-streaming service with family members, and addressed it as a shared place. Erik (age 18) rigidly distinguished his only WiMP Music playlist from his younger sister's in a clearly place-related fashion: "Over here the playlist is named 'Erik' with a smiley, and over there you have, like, my sister's playlist with her heart [emoticon] on it. So it's like, here are my songs, and over there she keeps hers" (interview, 16 May 2013). This boundary was as real as any other; so real, in fact, that Erik's knowledge about his sister's taste in music derived from living with her rather than interacting via WiMP Music.

On the contrary, Jenny (age 18) shared Spotify completely with her twin sister, whose taste in music resembled hers. Though she surrendered some control to do so. For example, she could not explain the appearance of star-marked tracks in her playlists, which therefore must have been her sister's contribution (interview, 29 May 2013). Likewise, Nina's (age 27) husband added albums in WiMP Music's "favorites" section that she would never have placed there. During her interview she experienced another moment of loss of control — one caused by service limitations that restricted account access to limited users simultaneously. Note the spatial perspective she applied to her shared service experience: "No! There you have the disadvantage of [sharing the account] ... Now my husband logs in and then he logs me out! He surely sits at home now, he plans to go hiking tomorrow and what music to bring. Now he has logged in with his phone, and hence I'm out" (interview, 12 June 2013).

Nonetheless, Nina enjoyd sharing this "music place" with her husband to cultivate their common music interest. Everyday listening at home involved alternating responsibility for playing tracks, making conversation about the music, and offering each other short music quizzes (diary note, 7 March 2013). In the evenings, they sometimes "hung out" in WiMP Music as well, testing, browsing, checking out, and updating the account. Nina compared it to hanging out in real record stores, like they did when they met: "Now we can sit at home and do it, which is actually really fun" (interview, 12 June 2013). This vignette demonstrated how place metaphors, such as "hanging out" in a streaming service, are often rooted in familiar, physical experiences [33]. WiMP Music allowed Nina and her husband to ornament their physical home as a social place when having guests too. "Dinner ditties," "Lamb&stuff," and "Dusk Delicious" were playlists they had assembled together for specific occasions — "though the visitors do not always care about it, we at least believe it's a good way of setting the mood" (interview, 12 June 2013). Sometimes music streaming even became the center of the attention at parties: "At some point, we agree to put on one and one song each, so everyone gets to decide some of the music. It almost makes a sport of choosing the best song, preferably songs new to the others [...] We have fun and [...] comment on almost every track selected" (diary note, 8 March 2013).

### *Music streaming as a way of being*

The ways in which Nina and her husband made a figurative home in WiMP Music and invited it into their literal home demonstrated a seamless level of integration into everyday life, evoking streaming service as a way of being — the third metaphor for making sense of the Internet. Online technology interpreted as a way of being primarily engages with "the self and how the self interacts with and makes sense of the world. Technology does not hold a position as object outside the agency of the human. Rather, the categories are collapsed, to varying degrees" [34].

For high-school student Nathalie (age 17), music streaming was very personal. Her extensive listening, day and night, was enabled by playlists that she had edited according to her musical intuition and everyday routines. Some of her playlists were temporary and were even deleted after a listening or two. "I am very picky about where my songs belong and I remove playlists as often as I make new ones" (diary note, 3 April 2013). One example was the type of playlist that provided her with relaxing music as part of her schoolwork routine: "I made the playlist Concentrate cause that's exactly what I have to do for eight hours of schoolwork today" (diary note, 8 March 2013). This list was deleted by the end of the day.

Her permanent playlists related to a host of contexts, from recurring pursuits like exercising, to familiar moods or emotions —that is, either to inspire them or to indulge in them. She had playlists sorted by theme or topics including favorite artists, TV series, or common musical features, playlists that represented people she knew and even a self-titled playlist with the "soundtrack of her life":

> "Songs I would have played if my life was a movie. I am selective and careful with songs I add to this list, so far there are only four, haha. In addition, I don't want the list to be named Nathalie, but I don't know what the film about me should be called anyway, so I'll keep it temporarily" (diary note, 8 March 2013).

Nathalie's playlists were always work in progress, and she changed tracks and titles regularly. Her streaming practices might be understood as part of her identity work — something ephemeral, searching, and changing, in line with impulses that gripped her everyday life. Music streaming was closely integrated into Nathalie's changing everyday life, and revealed an approach to using technology as something that "just happens," which aligned, in turn, with Markham's being metaphor as something you not 'do,' but something that just 'is' [35]. Nathalie's Spotify use was an expression and a negotiation of herself, both with and through technology [36]. Her streaming links to her thinking and activities, so that life, music and technology merged into an all-encompassing act of experience linked to her notions of selfhood and identity.

An alternative example of music streaming within this metaphor was Nina's practice. Earlier, we saw how place thinking informed her social streaming with her husband. When listening alone with her smartphone, however, music streaming meant something else to her. In this case, she usually worked with only one active playlist at a time. There she aggregated her current favorites and played them on a heavy rotation daily. When she grew tired of the tracks she replaced a given playlist with a new collection. In her interview (June 2013), she had just created "Summer Sun" to replace "Spring-like Winter" as her mobile-phone current playlist. "Fight Face" and "Fucklife&dance4ever" were other playlists representing periods or events in Nina's life, such as the times when she completed and defended her M.A. thesis, respectively (e-mail, August 2013).

Nina rarely returned to a previously discarded collection in her everyday listening, yet she archived her playlists in her account. With titles serving as hooks for remembering a time or an event, these playlists supplied her with detailed flashbacks to earlier chapters in her life, resonating with Markham's observation that users, through the design, oversight, and exploitation of information across contexts, can create, organize, and enact personalized worlds [37]. Nina's relationship with her streaming service was not context sensitive like Nathalie's, but it demonstrated how playlists evoke the past, or a specific way of being, in a particularly pointed fashion.

Nathalie and Nina'ss integrated streaming interwove technology and humanity, allowing either to act as an agent within social structure [38]. These ways of being through "ways of streaming" shed light on understanding the ways in which personal media has shifted mindsets in fundamental ways. The self's relation to technology is closer than ever, with distinctions between technology, everyday life, self, and others beginning to break down [39]. In this relation and exchange, users are neither residents nor visitors, exactly, because technology has become such a part of how they look at and experience themselves.

## Experiencing the ubiquitous Internet

So far, I have demonstrated different ways in which music-streaming experiences are organized conceptually. Markham's metaphors, describing Internet experiences from decades ago, have proven relevant to contemporary online experiences, here exemplified through music streaming. The present analysis articulates the fluid and overlapping understanding of personal experiences, and demonstrates how sense-making adapts according to various contexts and purposes. Yet it is premature to generalize gender from such a small sample, it appears striking that most men experience technology as using tools, while most women relate their experiences to personalized places, ways of being, and notions of identity.

The connections I have drawn from the data up to this point, however, only partly capture today's music-streaming experiences. That is, among other things, because the metaphors used to structure the analysis barely touch upon Internet experiences via mobile media [40], which have now become commonplace. With the ubiquitous Internet, ever-present music access also follows via services that have overtaken personal mobile media devices. And as a part of this access, music achieves an increased position in everyday life. "I listen to more music, more often, because it is so easy," Sofia (age 30) claimed (interview, 6 May 2013), stating a widespread attitude. All but one informant admitted to listen to music more frequently, variously, and informally than ever before thanks to the sheer availability of music via personal media devices. The collapse addressed by the way-of-being framework between technology as a separate construct and technology as a transparent lens through which to view the world [41] has become more real than ever. According to this study, the way-of-being collapse also involved music immersion and individual conceptions of everyday life. Data included examples of music streaming that derived directly from online ubiquity to provide listening experiences that have become expected as part of everyday routines and practices, and sense-making applied to them.

For example, Kristoffer (age 21), who I described earlier using both container and place metaphors for his music streaming, wrote regarding his everyday music practice at home: "Music is mostly a background element 'living its own life.' I am a major user of the shuffle functionality and very often allow playlists with hundreds and/or thousands of songs to govern themselves in the background" (diary, 7 March 2013). In his diary he frequently reports music listening as "not planned," "spontaneous," or "an impulse because I had some time available." He often claimed to be unaware of what tracks that were playing, and his attention as sporadic and drifting. Still he anticipated music to "create a good mood" or provide "a relaxing background atmosphere" (diary notes, March and April 2013).

When on the move, Kristoffer streamed music from only one playlist, including 70 favorite tracks that he had aggregated for repetitive shuffling. The playlist was available in off-line mode on his smartphone kept in his pocket where it served as a remote control. His intuitive preference determined his listening choices, and he skipped between shuffled tracks without actually examining playlists: "It requires very little from me. [Laughs.] Simply to press until I suddenly get to the 'Oh, this is very nice!'" (interview, 2 May 2013). Though it was fragmented, he found this mode of listening comforting to his commuting routine, a tendency that was confirmed among several informants. "It [Music streaming] makes the time fly a little faster. The music plays an important role. I listen more deeply when I travel" (diary note written on the subway, 21 March 2013). When I further elaborated on this peculiar casual, but profound listening experience in the interview, Kristoffer explained it as a sort of a diversion of time that got his mind off of other things. "It's not too fun riding the subway in half an hour, and it feels good to listen for a minute, just dream away for a while" (interview, 2 May 2013). Interestingly, Kristoffer's response to the music mediated his sense of time itself, so that 30 minutes felt shorter, even as his surroundings became more interesting and his personal preoccupations less so ("it gets your mind off [of other things]").

Also what Erik (age 18) paid attention to while he streamed music on the bus altered his everyday experience of commuting: "when you look out the window with music in your ears, it gives a completely different experience. [Without music] it's more like, oh yeah, there it is, a house, there it is, grass, and there are some trees. The music makes so much to how I experience things" (interview, 16 May 2013). Though Erik's listening was nominally organized, music affected his surroundings. This made music streaming meaningful to Erik, as mundane moments appeared different to him.

The *shuffle* functionality, providing tracks in a random order, was popular with many informants in this study, particularly when music accompanied everyday activities. A general explanation was that shuffling allowed attention to drift in relation to the demands of the situation and the music in question. For Anne (age 35), the shuffle made instant listening decisions when she could not make up her mind or was tired, though she admitted to becoming impatient with it at times as well: "I listen better, and I'm less impatient, when I listen to a whole album and not playlists at random" (diary, 23 April 2013). When she was fresher, she preferred full-length albums in their original order, but this listening demanded more attention. She recognized the advantages of both modes, as each had its value for various uses.

Louise (age 18) *depended* on random music choices on the move: "I just click, double-click on the playlist, because with the shuffle activated, it [the streaming service] finds out what to play on its own" (interview, 23 May 2013). She too acknowledged to becoming more impatient in her listening with streaming, and she often quickly jumped to the next track. Once in a while she gave her full attention to the music, however, especially when a song's lyrics captured her instant mood, which she found comforting.

Emma (age 17) was the only informant who exclusively used her smartphone and never a computer for music streaming. She always carried her phone with her, developing a tendency to pick songs randomly from her playlists to fill gaps in her day: "When I have time, maybe suddenly I've got four minutes not doing anything, or maybe I wash the dishes or something, then I just put something on. Hence I don't spend time finding something [to listen to]" (interview, 11 June 2013). Emma also found that brief or sporadic periods of random listening could be intense: "If I listen for shorter stretches of time, I am more focused on the music" (interview, 11 June 2013).

Overall, Anne, Kristoffer, Louise, Erik and Emma's streaming practices paved the way for intuitive and effortless music experiences to arise in whatever everyday contexts they found themselves. Their streaming devices were deeply embedded in their lives, almost practically attached to their bodies. The services offered a low threshold for individual music management, with minimal effort or attention on the users' part. The informants hence emphasized service features that provided immediacy, flow, and direction, optimizing listening on the move, in brief in-between moments, in the background, and alongside other daily activities.

### *Music streaming as lifeworld mediation*

Clearly, casual streaming appeared a characteristic mode of experiencing music via streaming services. This mode specified Kassabian's notion of ubiquitous listening in relation to music streaming: the music blended into the users' larger environments without calling conscious attention to itself as an element or an activity [42]. The streaming technology via mobile devices also affected the amount of attention that was necessary to give to the music, recalling Sterne's observation that certain music technologies allowed less attention to be paid to the music they supplied [43]. Music as casual everyday activity nevertheless appeared meaningful to users. Streaming was not closely planned in terms of content, length, location and practice; users embraced casual streaming as a convenience to play more music more frequently, effortlessly, and unconsciously, while valuable listening experiences arose. Interestingly, the same features that triggered restlessness in some users seemed to enable more profound listening for others, including abilities to skip, pause, and restart.

In this everyday mode of streaming, the individual sense-making of music listening primarily revolved around the self, and how the self interacted with and realized the world in the present. This happened in tandem with applied technology, which again evoked the human-technology collapse of the "way of being" framework [44]. Still, the *casual way of being* on/through/with music-streaming services violated the sense-making exemplified earlier by Nina and Nathalie, who saw music streaming as a *context- and identity-sensitive* way of being, expressing and negotiating self-identities, ongoing life projects and relationships, via thoughtful and controlled, rather than casual, technology use.

The latter understanding of music streaming indicated that music streaming influentially and intuitively *mediated* and *moderated* experiences while listening. Sense-making was shaped by immediate, often sudden perceptions that corresponded with attention given to music. Markham briefly addressed such perceptions as part of her "way of being" framework as well [45], but the transitory influences of online technologies on our everyday experiences seemed to have multiplied in tandem with the ubiquitous Internet. As online technology has become ever easier to use, increased human-technology integration was fostered, and as evident here, the relationships were even internalized as part of the users' operative condition of experiencing and practicing everyday life.

With this argument I invoke the notion of music streaming as a lifeworld experience. The lifeworld is a concept from traditional phenomenology, used to address *a priori* aspects of reality as acknowledged both by common sense and taken-for-grantedness [46]. The lifeworld encompasses those individual experiences that are produced via immediate interactions with our surroundings, which today involves smartphones, online technology, and music-streaming services. This analysis of casual streaming, provides examples of how online technology mediates and reproduces the lifeworld in different ways [47]. The social and contextual relationships in which streaming were performed, and the users' relationships with technology, informed individual lifeworlds.

This understanding of music streaming highlights the service-potential to nurture moment-sensitive listening experiences of a *transformative character*. This makes music-streaming services *lifeworld resources*, able to confirm, challenge, mold, establish and endorse listeners' notions of identity, sociality, corporality, environments, time, and self. Being ever present, music often is more sensed than actually heard, and it becomes meaningful in ways that emphasize music's effective potential over its potential for semiotic decoding [48]. Correspondingly, the informants in this study described music streaming fostering sensations that were profound, intense, superficial, restless, banal, overwhelming, and sporadic. Also, music-invoked *feelings* flourished — good moods, consolation, amusement or diversion, relaxation, distraction, annoyance, motivation, and engagement. Without music, all of the informants experienced impatience, discomfort, “pain in the soul,” frustration, stress, and emptiness. Music streaming as a lifeworld experience, in other words, involved the listeners’ assumptions of what counted as real, normal, expected, and preferred in their everyday life. The immediate sensations and feelings generated by music highlighted the understanding of the streaming experience as a mediation rather than an “object” in and of itself: “Music acts and moves, in relation to other mediations; it transforms those who take possession of it and do something else with it” [49]. As a lifeworld resource music streaming was a mediator attached to everyday life, rather than an intermediary: “it shapes the performance of social acts instead of merely facilitating them” [50].

In sum, mediated everyday moments provided by sensational responses to music seemed to underpin the casual streaming experience. Streaming acted as a catalyst for moment-sensitive everyday experiences via its affordances of speed, immediacy, and ease of use, as it elicited sensations flexibly, frequently, and relatively effortlessly, without compromising other tasks or activities. In the context of online ubiquity Paul Virilio’s characterization of the Internet according to “its speed of dissemination ... speed is information itself” [51], then, also accounts for technology’s *speed of transformation*, as it manufactures new orientations to the user’s perception of time, surroundings, and personal state of being. The understanding of music streaming as *mediation* also gives weight to Larissa Hjorth and colleagues’ claim that the concept of *presence* remains remarkably persistent even in the era of smartphones [52]. Presence then involves the psychological state of being physically present yet absorbed by a technologically mediated world, with insignificant awareness of how this perception takes shape. In the context of casual streaming, presence appears to characterize those experiences when music suddenly captures the listener’s attention and time, if only for a moment, and then fades away.

Importantly casual streaming also triggers superficial or trivial music experiences. Though these too can be perceived as everyday *mediation*, in the sense that the music makes the listener feel like his or her time is being better spent. Informants noted that boredom was avoided, new atmospheres were created, and tedious tasks became less so. This happened when music filled in short gaps or idle moments in the streaming users’ schedule or supplied a secondary or background option. Within the deliberate use of casual streaming as mediation, music exerted control over the listener’s immediate everyday environment, by actively blocking out other surrounding sounds or supplying a desirable distraction.

Lakoff and Johnson claimed that a metaphor works when it enabled the understanding of some aspect of a concept [53]. *Casual streaming* appeared to be a standard mode of music streaming that fostered lifeworld mediations. It was a *significant aspect* of how people made sense of their music-streaming experiences. When the informants described these experiences, however, the explanations were not figurative, in the sense of using tools, entering places, or acting according to certain ways of being, but rather literal, denoting their *present sensations*. Put differently, the understanding of music streaming as a mediation was not *mainly* metaphorical at all, but made sense of at a pre-conceptual level of understanding. The properties of mediation as metaphor therefore must be elaborated in relation to a kind of *experiential gestalt* that refers to natural kinds of experiences. These experiences are products of our bodies — perceptual and motor apparatus, mental capacities, emotional makeup — or products of interactions with the physical environment [54].

Lakoff and Johnson claim that because so many concepts that are important to us are either abstract or not clearly delineated in our experience, we still grasp them by means of other concepts that we can understand in clearer terms [55]. Music streaming as individual lifeworld experience was neither a clearly discrete nor a bounded understanding, but it appeared real, important, and was experientially basic to users. Therefore, such experiences also provided “the right kind of structure to allow us to get a handle on those natural kinds of experiences that are less concrete or less clearly delineated in their own terms” [56]. With the metaphorical traction of seeing abstract experiences as activities or substances, for example, we “can refer to them, categorize them, group them, and quantify them and, by this means, reason about them” [57]. Music streaming described as *mediation* was such a traction. Mediation viewed as *activity* can be described with regard to how the experience unfolds through spatial, temporal, or corporal orientations in the listeners’ lifeworld. Mediation regarded as a substance, related to the concrete changes that were caused by music and experienced as transformation. Mediation comes to represent a fourth metaphor for understanding music streaming as moment-sensitive and experientially basic sensations that occur casually in our everyday life.

## Conclusion

Using her notion of ubiquitous listening, Kassabian argued that we know ourselves in and through our musical engagements: the music we hear, the quantity of it, and the ways in which we listen to it all demand closer attention as everyday life engagements [58]. In this paper I have examined music listening as everyday life engagements by analyzing how listeners encountered and experienced music through music-streaming services. I found that as we come to know ourselves in this way, we also come to know technology that we apply in listening, as well as some of the ways in which it can make sense.

In this process, metaphors emerged as useful structures to apply as conceptual codes in the analytical process of understanding individual music-streaming experiences. Because metaphors are fundamentally grounded in conceptual frameworks, they addressed processes of sense-making (Lakoff and Johnson, 2003). This was useful, as music-streaming experiences appeared complex in multiple ways, as I tried to understand, account for, and interpret them as individually lived and, as such, transient. Likewise, processes of sense-making accompanying individual confrontations with new technology seemed to benefit from being approached via metaphor. Through metaphors, experiences of an abstract or alien character were sifted through individual networks of attachments, awakening and connecting to our memories of past experiences, and in this way serving as potential guides to future experiences [59].

Overall, music-streaming services appeared multifaceted and provided multiple understandings that were pertinent to experiences of users. Multiple metaphors appeared naturally to explain music-streaming experiences. Established Internet metaphors provided useful perspectives in the beginning but only partly covered the spectrum of contemporary streaming experiences. Certain listening experiences deriving directly from the ubiquity of the Internet and mobile media devices fell outside existing frameworks. By matching current user experiences to existing metaphors, however imperfectly, new means of understanding arose, even as the ongoing relevance of these existing metaphors was reasserted.

More precisely, experiences with music-streaming services made sense as using *tools*, entering *places*, as *ways of being*, and as lifeworld *mediations*. These four understandings addressed different aspects of individual streaming experiences and capitalized upon certain service capacities that emphasized individual approaches to music listening and technology use. Music-streaming experiences, like other Internet experiences, evoked both abstract and concrete frameworks of understanding, and were accounted for as processes and products, medium and outcome [60]. Listeners also encountered technology as visitors and residents (White and Le Cornu, 2011), yet music streaming often transcended these typologies.

The study hence confirmed that multiple metaphors can apply to a single concept [61], and certainly it demonstrated the complexity of individual online experiences that has been noted in previous research. This level of complexity was heightened when mobile and ubiquitous Internet characteristics were included, in turn incorporating notions of immediacy, serendipity, restlessness, fluidity, and fragmentation. Additionally, listening occurred casually, informally, and even randomly in a host of mobile contexts. The experiences were highly sensational and encompassed notions of mediated presence and distraction, as well as perceptional responses to time, surroundings, the body, and self. In all, these hallmarks of contemporary Internet experiences underscored that sense-making of everyday life in light of online technology was compound and ephemeral, as was the process of understanding sense-making.

Given Norway's strong inclination toward music streaming, an overarching aim of this study was to provide interesting perspectives on a general understanding of contemporary *music consumption*, in addition to describing current online experiences. To this, music listening and its apposite experiences increasingly elicited the online and digital realms. Nevertheless, experiential responses to music and technology continued to be make sense, according to inherently human variables. The metaphorical understanding of music streaming in this study therefore ranged from products or content to consume to tools to use, activities to do, lifestyles to perform, places to enter, control to be exerted, changes to undertake, and simply the unfolding experience of everyday life. Music streaming as tools, as places, as ways of being, and as mediation of lived experience, therefore, in different ways, was at once real and present for users, because these were the metaphors we streamed by.

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Anja Nylund Hagen obtained a Ph.D. in media and communication studies in 2015, as part of the research project “Clouds & Concerts” at the University of Oslo, Norway. She currently teaches in music and media studies, and researches user experiences with music-streaming services among heavy users in Norway.
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### Notes

1. Markham, 1998, p. 85.

2. Lakoff and Johnson, 2003, pp. 5, 245.

3. Lakoff and Johnson, 2003, pp. 3, 247.

4. Markham, 2003, p. 3.

5. Lakoff and Johnson, 2003, p. 62.

6. Lakoff and Johnson, 2003, p. 154.

7. Lakoff and Johnson, 2003, pp. 193, 231.

8. Markham, 1998, p. 20.

9. Wyatt, 2004, p. 257.

10. Markham, 2003, p. 1.

11. Wyatt, 2004, p. 258.

12. Kassabian, 2013, p. 18.

13. Sterne, 2006, p. 835.

14. Hektner, *et al.*, 2007, p. 7.

15. Strauss and Corbin, 1998, p. 58.

16. *Ibid.*

17. *Ibid.*

18. Strauss and Corbin, 1998, p. 65.

19. Markham, 1998, p. 87.

20. Markham, 2003, p. 5.

21. *Ibid.*

22. *Ibid.*

23. Markham, 2003, pp. 4–5.

24. Markham, 2003, p. 5.

25. Markham, 2003, pp. 5–6.

26. White and Le Cornu, 2011, pp. 5–6.

27. *Ibid.*

28. Markham, 2003, pp. 6–7.

29. White and Le Cornu, 2011, pp. 4, 6.

30. Lakoff and Johnson, 2003, p. 29.

31. Markham, 2003, pp. 6–7.

32. White and Le Cornu, 2011, p. 5.

33. Johnston, 2009, p. 4.

34. Markham, 2003, p. 10.

35. Markham, 2003, p. 5.

36. Markham, 2003, p. 10.

37. *Ibid.*

38. *Ibid.*

39. Markham, 2003, p. 9.

40. Markham, 2003, p. 10.

41. *Ibid.*

42. Kassabian, 2013, pp. 9–10.

43. Sterne, 2006, p. 835.

44. Markham, 2003, pp. 9–10.

45. Markham, 2003, p. 10.

46. Rasmussen, 2014, p. 46.

47. Rasmussen, 2014, p. 45.

48. Kassabian, 2013, p. 18.

49. Hennion, 2001, p. 3.

50. Dijck, 2013, p. 29.

51. Virilio, 1995, in Johnston, 2009, p. 5.

52. Hjorth, *et al.*, 2012, p. 43.

53. Lakoff and Johnson, 2003, p. 97.

54. Lakoff and Johnson, 2003, p. 117.

55. Lakoff and Johnson, 2003, p. 115.

56. Lakoff and Johnson, 2003, p. 118.

57. Lakoff and Johnson, 2003, p. 25.

58. Kassabian, 2013, pp. 18–19.

59. Lakoff and Johnson, 2003, p. 140.

60. Markham, 2003, p. 11.

61. Lakoff and Johnson, 2003, p. 108.

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