Chipmusic, Fakebit and the Discourse of Authenticity in the Chipscene

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Abstract

This article deals with chipmusic from an ethnographic perspective, regarding music as a socially meaningful activity whose significance extends beyond music itself. The aim of this paper is to communicate chipmusicians' narrative(s) on aesthetic concepts related to the act of chipmusic creation. More precisely, the perception of authenticity is the focal point, a matter of great significance and ambivalence in the chipscene, embodied in the subgenre of fakebit. The findings presented in this study are based on digital and physical, multi-sited ethnographic fieldwork, which took place during 2011-2013, among the 'networked peoples' of the chipscene. This article is a juxtaposition of the diverse evaluation systems found within the chipscene based on three generations populating and subdividing the scene. This complex system reflects values and beliefs shared within the chipscene.

Keywords: authenticity, chipmusic, chipscene, ethnography, fakebit

Introduction

In October 2011 while I was conducting fieldwork in the chipmusic[1] community, or chipscene as it is referred to as, I had a conversation with a chipmusic event organiser about the status of chipmusic in Europe. During our productive discussion I felt the urge to ask about a topic that I had the

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[1] Chipmusic is a kind of digital music characteristic of 8-bit sounds (see further in the article for a detailed definition). 'Bit' is a contraction of 'binary digit', and it represents the smallest unit of digital data (see further on 8-bit technology in Collins, 2008). An 8-bit home computer or an 8-bit console (a platform without a keyboard and meant to play video games) is built to process simultaneously eight bits of data. Platforms associated with chipmusic were primarily released worldwide in the 1980s. Some examples include the Atari ST, Commodore 64, Amiga, Famicom (NES), and the Nintendo Game Boy. Although 'chipmusic' is a term widely used in academic papers, one will also come across the terms 'chiptune(s)', '8-bit music', and 'micromusic' that are all used to describe the same digital music category.

impression it was almost like a taboo regarding authenticity in chipmusic: Fakebit. The response was immediately unenthusiastic, and as the organiser informed me, this was one of the main reasons he decided to quit 'the scene'[2]. As he explained, he felt that chipscene was in a process of constant decay since the popularisation of chipmusic in the early 2000s. As a result, chipmusic has become a bricolage of commercialised retro sound elements reminiscing video games. He stressed that chipmusicians who are responsible for this ideological decline aim at attracting a wider, uninformed audience. As the organiser concluded, it is impossible to conceptualise chipmusic without the actual hardware; it would be like performing folk music without any folk musical instruments.

Following his thought-provoking arguments, I approached other chipmusicians in order to understand more about what can be conceptualised as chipscene ideology[3], as well as about the debate on fakebit, and furthermore, what is considered to be authentic chipmusic. The response was certainly interesting; some of my informants did not want to discuss this at all as it was a trivial subject, others were keen on defending fakebit whereas there was also a group of people sharing the event organiser's perspective.

This article centres on chipmusic, fakebit, and the chipscene. In popular culture, chipmusic is mostly experienced as videogame music. It represents the muzak of 1980s videogames, as it was performed on gaming consoles. People who grew up in the 1980s may have recollections of the Nintendo Game Boy and its occasional bad loads followed by the need to blow on the inserted cartridge to make it work. In the last thirty years of popular music, 1980s platforms have occasionally been used for music-making. One such example is the synthpop band Welle:Erdball, whose members manipulated the Commodore 64 soundchip that brands their sound.

Chipmusic sound is characterised by square wave 'bleeps' which are often left unnoticed in television commercials, as for example, in Cathedral Chedds advertisement campaign[4] (2011).

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[2] The informant referred to the chipscene as 'the scene'.

[3] I use the term "ideology" as is understood from an ethnomusicological perspective. The term primarily refers to musical ideology. As Nettl outlines, in order to organise the study of musical culture, one needs to extrapolate their research in "fundamental values or ideology" that are shared in a culture, as they provide the research with the opportunity to sensitize to relationships between music, society, culture, concepts, and behaviour (Nettl 2005, 226). In ethnomusicology, ideology refers to a set of values and beliefs that is shared among a musical culture. See also endnote 8 on definition on the anthropology of music.

[4] New Chedds TV advert (Statues) 2011, video, Cathedral Chedds, 30 August, http://www.youtube.com/watch?v=TruHBpRIAow.

Structural elements and timbres of chipmusic are also found in pop songs, such as Black Eyed Peas's *The Time (Dirty Bit)* (2010). In mainstream popular music, chipmusic's stylistic elements are predominantly used to enrich the sound palette of a musical piece. It is a means of 'funking-it-up', making it more hip. For the informed audience, however, chipmusic has an entirely different meaning, extending beyond these practices.

Fakebit has been previously defined as "music which used the sound of 1980s chipmusic but is completely produced with regular modern samplers, synthesizers and sequencer programs" (Pasdzierny 2012, 180). In a sense, fakebit is seen as faking 8-bit music by using modern technology to emulate obsolete, 8-bit sounds, which, according to the previous definition, is a descriptive nomenclature. However, the suffix "fake-" in fakebit bears derogatory meaning, embodying the decline of chipmusic ideology and thus, authenticity, an argument endorsed by my informant and shared by a number of chipmusicians.

In this article I attempt to find the distinction between fakebit and chipmusic by scrutinising diverse discourses related to chipmusic values as nuanced in the chipscene. Is fakebit considered to be chipmusic? What is 'authenticity' in chipmusic and how is it expressed? And how does ideology in the chipscene influence values related to fakebit and chipmusic authenticity? These are some of the key questions that will be answered in this article.

Methodological Note

Previous research reveals that there are local chipscenes in a number of countries around the world (Carlsson 2008, 160; Pasdzierny 2012, 173). In my doctoral research I have experienced the chipscene as a transnational collective of people whose practices extend beyond national boundaries (Polymeropoulou 2014). This group of people primarily interact on the Internet via online communities and social media[5].

I use anthropological tools with an emphasis on ethnographic methods in order to study chipmusic and the chipscene; ethnography is a useful tool to understand similarities and dissimilarities in a

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[5] Some of the most notable online communities of chipmusic are micromusic.net, chipmusic.org, noisechannel.org, and μCollective.org. It is also important to mention 8bitcollective.org, which shut down in November 2011, but it was the largest ever documented online community with 33,936 registered members (this number is according to the last registered count in March 2011, but the founder, Jose Torres, told me that there were more than 50,000 registered members by the time 8bc was shut down). Facebook, Twitter, and Tumblr are some of the social media chipmusicians use to interact on a daily basis.

wide cultural context (Boellstorff et al. 2012). The purpose of anthropology and its sub-discipline, ethnomusicology, is the analysis of everyday behaviour, ceremonials, rituals, and economic, kinship, and other relations, engaging with the music phenomena and the elements that surround and contextualise music. Qualitative internet research methods[6] are also employed for the study of multiple meanings of chipmusic online. My task as an ethnographer was to inquire chipmusic meaning in chipscene discourse and explore its significance.

The findings of this article are derived from my doctoral research which is based on digital and physical, multi-sited ethnographic fieldwork conducted in the chipscene during the period 2011-2013. During fieldwork I realised that the chipscene consists of a number of internet-supported networks that are structured at an individual and collective level. For example, the Italian chipscene comprises one collective, national network, but an Italian chipmusician's individual network may extend beyond Italian boundaries. Thus, the Italian chipmusician can be connected with people from other networks, for example Japan, England, France, or other places, a connection which can be maintained through online communities and social media.

The structure as well as the dynamic character of networks makes chipmusic research rather challenging, and more demanding; in order to understand the social organisation of chipscene, one needs to follow as many networks as possible, whilst realising their fragility: some networks can be long lasting, others ephemeral, and in both cases, networks can be easily altered on an hourly basis[7]. To transcend such challenges I opted for multi-sited fieldwork, which is predicated on "multiple sites of observation and participation that cross-cut dichotomies such as the 'local' and the 'global', the 'life-world' and the 'system'" (Marcus 1995, 95). Hence, I attempted to scrutinise multiple layers of cultural formulations in chipmusic as they are experienced in networks consisting of multiple digital and physical locations.

In this article, ethnomusicological as well as popular music perspectives[8] (for example, Merriam 1964, 7; Stokes 1994; Frith 1988, 249) are central to understanding chipmusic and the chipscene.

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[6] For discussion of qualitative internet methods see Orgad 2008.

[7] Networks that are internet-enabled, such as online communities, are subject to constant changes, for example, addition of members, enrichment of available material, updates, and so forth. In certain cases, an entire online community can vanish, as happened with 8bitcollective.org, resulting in the loss of all information. However, backups of some 8bc.org-published material are available in the Internet Archive (http://archive.org/web/).

[8] Following Merriam's argument, "[m]usic is a product of man and has structure, but its structure cannot have an existence of its own divorced from the behaviour which produces it. In order to understand why a music structure exists

Chipmusic is studied within its social-behavioural context examining practices, processes, and mediated politics that are culturally nuanced in chipmusic. Additionally, chipmusic is understood as a socially meaningful activity whose meaning extends beyond music itself. For example, meaning can be entrenched in the relationship between chipmusicians and their musical instruments used for chipmusic-making. Furthermore, meaning is thought of as an unheard[9][9] attribute of chipmusic that is found in the discursive context of the chipscene.

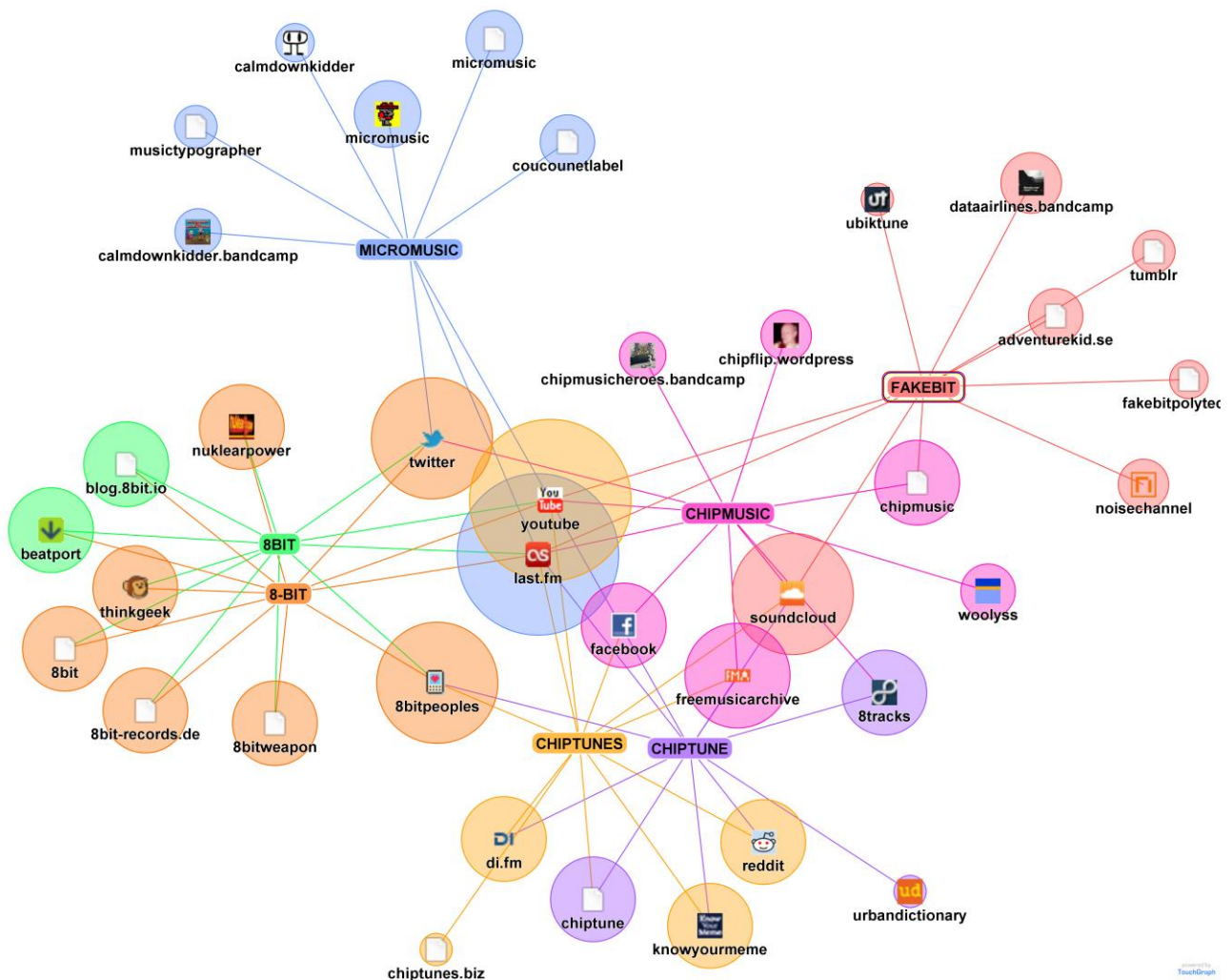## Chipmusic and Fakebit Representation Online

Figure 1. Online representation of chipmusic, fakebit, and related terms.

as it does, we must also understand how and why the behaviour that produces it is as it is, and how and why the concepts that underlie that behaviour are ordered in such a way as to produce the particularly desired form of organised sound" (Merriam 1964, 7).

[9] I consider that meaning is unheard in the same way that anthropologists suggest that meaning is often found in unseen, unspoken, and unheard patterns. For such studies see for example, Grant 2004 and Khoo et al. 2013.

The above Google TouchGraph visualization represents web clusters of activity based on keywords '8(-)bit', 'chiptune(s)', 'chipmusic', 'micromusic', and 'fakebit' (figure 1). As Hine explains, Google TouchGraph provides a visualisation of the "related" facility in Google (Hine 2007, 626). The "related" sites on the Graph are those that share keywords and are also inter-connected by third party sites (hence the emergence of YouTube et al. as primary hubs of activity). This visualization is not entirely representative, as firstly, it gathers information only from the Google search engine, and secondly, suggests that most chipscene activity is focused on YouTube, Twitter, and Last.fm. All in all, the figure offers us a relative but insightful perspective on how is fakebit connected to chipmusic and other terms online, as well as which sources Internet users find when searching for the term 'fakebit'.

Websites connected to fakebit activity are YouTube, Last.fm, and SoundCloud. According to Google Statistics, users viewed MisfitChris's *Fake Bit Much* video (July 2012), which was released by DataAirlines netlabel – also the see edge on the visualisation. There are fakebit groups attracting visitors on Last.fm (music tagged as fakebit, including artists Big Giant Circles, Lifeformed, Ato Kaihaku, Diode Milliampere, Fubuki, and others) and SoundCloud (a group of 145 members and 516 recordings, which include "[s]ongs that sound like or pay hommage (sic) to 8 bit music, but have not been created with original 8-bit hardware"). Tumblr also collects a number of posts that are tagged as fakebit.

Fakebit activity is also located on online communities such as chipmusic.org and noisechannel.org, where there are posts and threads on this sub-genre. Additionally, Ubiktune netlabel and its release *Fakebit 2010* (2012) composed by Maxo, as well as Fakebit Polytechnic, a fakebit band, attract a number of fakebit enthusiasts. Finally, Internet users are directed to chipmusician Adventure Kid's website where he has included a definition of fakebit as well as a statement about his music: "I don't really care what I am but yeah I'm probably fakebit. I like pretending."

Defining Discourses of Ideology and Authenticity in Chipscene

The definition of chipmusic and fakebit is a challenging task due to the diversity of people involved in the chipscene. The chipscene is nuanced by several competing and contradictory discourses as explained in the introduction. These discourses primarily embody chipmusic ideology i.e. what is chipmusic and how it should be composed. One generally undeniable characteristic of chipmusic is that it is culturally influenced; this can be achieved, for example, by employing diverse cultural

characteristics in musical pieces, as demonstrated in Omodaka's *Plum song* (2009) in which the lyrics of a traditional Japanese song are used (*Ume Wa Saitaka*, 梅は咲いたか) combined with reggaeton rhythmic patterns.

Similarly, chipmusic is influenced by other cultural contexts, not necessarily related to national elements as in the example outlined above. Chipmusicians are connected to cultures in the geographical sense, but at the same time, they are linked to other cultural forms such as punk, videogaming, or the demoscene, sharing ideology, customs and social behaviour shaped by the specific culture. As a result, chipmusicians embed some elements of these diverse ideologies in their music. Understanding how chipmusic ideology is nuanced, and thus, what consists authentic chipmusic, can also reveal significant findings about defining fakebit and understanding its meaning.

Other studies have noted (Pasdzierny 2012; Nova 2014) that the chipscene is divided to generations according to chipmusicians' ideology. The remainder of my article follows this premise. Like any heuristic, the chipscene generations are abstractions and others may divide them differently[10]. Nonetheless, in the present context, the fundamental difference of these generations is the way chipmusic meaning is constructed and understood. The categorisation according to generation reflects the plurality of discourses as well as a set of values and beliefs related to what constitutes acceptable ways of making chipmusic. In anthropology it has been traditionally argued that one generation lasts for thirty years (Lisón-Tolosana 1966). In the chipscene, the generations have intricate relation with computer technology and its evolution, hence it can be assumed the generational timespan is limited roughly to one decade. Every generation stands as a knowledge-belief database for newcomers in the chipscene. For this reason, generation values are transferred to new people entering the chipscene. In the following sections, I explain how the chipscene is divided in three generations and how chipmusicians develop a different understanding of chipmusic and fakebit authenticity in them.

Demoscene, Chipmusic Ideology, and Fakebit Criticism in the First Chipscene Generation

The first generation is considered to be rather purist (Pasdzierny 2012, 179) as it is directly linked to the demoscene (Tomczak 2011; Carlsson 2008, 162; Pasdzierny 2012; Nova 2014). Demoscene is a computer subculture that emerged in the 1980s. The aim of demosceners was to push the

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[10] For instance, Nova (2014) describes five generations dating since the beginning of video game music. However, it seems plausible that only the last three generations are directly related to the chipscene.

technological limitations of 1980s computer platforms and demonstrate their coding skills by creating short audio-visual, non-interactive presentations called 'demos' (Reunanen and Silvast 2009; Tasajärvi 2004). As Menotti Gonring argues, "[e]ven today, such works [demos] are appraised not only by their plastic beauty, but also by their algorithmic elegance – which can be evaluated by their size in bytes. Upon creating a demo, the filmmaker does not only aim for the equilibrium of compositing and montage, but also for the efficacy of the subjacent code." (Menotti Gonring 2009, 111.) Thus, evaluation of demos depended on aesthetic criteria tied to the technological aspects both of the demo and the platform.

Carlsson suggests that demosceners consigned to the concept of originality when it came to building a demo without borrowing another demoscener's work:

> Generally it was 'better' to do everything yourself, from scratch. Even if some people used parts of other demoscene works, they ran the risk of being called lame instead of elite. The romantic notion of the isolated author-genius was thus highly present in the demoscene. […] The practice of absolute measurements of quality dates back to cracking, as does the related distinction between the elite and the lamers. If you were elite you knew how to behave, how to talk (elite = eL17E), and how to produce (from scratch). (Carlsson 2009, 19.)

In principle, the concept of the elite genius as outlined above was a powerful attribute that a demoscener could possess.

According to the previous accounts, authenticity in demoscene was defined by technological and ownership criteria i.e. coding skills on limited platforms and original code. As previously stated, the first chipmusicians were demosceners who decided to focus on the musical aspect of their work. It is only natural then that such beliefs were passed on to first generation ideology in relation to chipmusic-making: the use of limited technology is fundamental, and one should aim at being an elite, using original elements. This originality could be translated in numerous ways: firstly, by avoiding musical plagiarism (an activity which is still denounced in chipmusic[11]); secondly, by using original platforms.

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[11] For the issue of intellectual property theft, see for example the list in http://chipflip.wordpress.com/plagiarism.

The principal problem of authenticity[12] is that it is a dynamic concept and its definition differs according to the specific cultural context it is found (Auslander 1998, Cogan and Cogan 2008, 70). Cogan and Cogan (2008) further this statement:

> Musical authenticity may seem neutral, but the questions of who gets to define it and who gets to apply that definition are ideological ones that depend on the social position, and gender, of the person doing the defining (Cogan and Cogan 2008, 70).

As Stokes has also observed, authenticity is not an embedded property of music, musicians and their relations to an audience, rather, it offers a way of distinguishing one's music (Stokes 1994, 6-7, perspective also shared by Frith 1988, 71 and Auslander 1998). As Frith (1988) underlines, authenticity is a social context wrapped around music properties, which is the result of prior musical or extra-musical knowledge and beliefs.

While in the field, I was interested to understand criteria as well as the music evaluation process when accepting and releasing a chipmusic album on a netlabel run by people who share first generation concepts on authenticity. The netlabel representative told me he releases anything that he finds pleasant (interview, 2011). In that particular context I was told that they release anything that is "good" chipmusic, and as they explained, as "good" qualifies anything that is composed on the original computers and not on sound chip emulators. Selection process based on personal criteria however, did not please chipmusicians. On the occasion of micromusic.net, some chipmusicians were dissatisfied that their compositions had to undergo approval prior to being published – a process which was nuanced by the owner's aesthetic criteria. As a result, chipsceners searched for alternative online places where they could upload their music without any aesthetic filtering. And they found this in 8bitcollective.org (8bc) where anyone could have their music online in minutes. It is likely that the popularity of 8bc was attributed to this feature.

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[12] Cultural issues of authenticity and inauthenticity are often discussed in anthropology (Theodossopoulos 2013; Fillitz and Saris 2013; Lindholm 2008). In musicological discourse, authenticity is predominantly an engaging topic in the fields of popular music and ethnomusicology, as well as their intersection (for some examples see Stevens 2008; Nettl 2005; Cogan and Cogan 2006; Stokes 1994; Auslander 1998; Frith 1988; Barker and Taylor, 2007; Looseley 2003). More specifically, in anthropology, Demian and Wastell suggest that creativity and authenticity are not so far apart, with creativity being "an inherent process of authentication against the threat of mass production" (Demian and Wastell 2007, 121). This property of authenticity is also found in the ethnographic study of music, particularly in the work of Cogan and Cogan (2006, 70) who see commodification and consumerism as negative elements attached to authenticity. From a different perspective, Stevens (2008) finds that Karaoke consumers in Japan evaluate musicians and music genres on how 'authentic' they are; the more authentic a musician or genre is, the better their quality.

As a result, the first generation of chipmusicians who are the highly-positioned agents of authenticity in chipmusic, consider fakebit to be inauthentic as it fails to comply to any of the requirements: fakebit is not composed with the aid of limited technology (although there are some chipmusicians that would argue that any technology is limited in a sense), and certainly, original computer platforms are not used. As Tomczak argues, "'authentic' hardware plays an important role within the chiptune genre" (Tomczak 2008,) As he continues, chipmusic is related to a kind of intellectual challenge, an attribute borrowed from the demoscene (ibid). Consequently, fakebit is not regarded as chipmusic for the first generation.

Embracing Fakebit: Mobility, Imitation and Emulation in the Second and Third Chipscene Generations

As reflected in relevant literature, chipmusicians of the second generation are more open to conventions and communities of popular music (Pasdzierny 2012, 179; see also Dittbrenner 2007 and Yabsley 2007). The second generation of chipmusicians think of themselves as artists, rather than coders or gamers (Pasdzierny 2012, 180). In a sense, they redefine chipmusic aesthetics, as set by first generation's cold, technological criteria (idea also endorsed in Nova 2014, 57-58). Second generation chipmusicians introduced the quick and efficient mediation of chipmusic in two ways: by the regular use of the Internet to communicate and exchange music, and by introducing mobility.

During the 2000s, chipmusic online communities thrived. After the emergence of micromusic.net in 1997, and the establishment of 8bitcollective.org in 2004, a number of online communities and netlabels appeared. During that period, *Nanoloop*, the software cartridge that turned the portable 8-bit gaming console, the Nintendo Game Boy in a musical instrument, was developed and released (1998). In the early 2000s, *Little Sound DJ* (LSDJ), followed on the same console. Mobility as mediated through the use of *Nanoloop* and *LSDJ* transformed the way chipmusic was composed. With a Game Boy and a software cartridge, one had the opportunity to compose and perform their music anywhere. As Sycamore Drive, a chipmusician based in Scotland, reminisces:

> As a student, I spent about three hours a day on public transport and I always wanted to find new ways to use that time effectively. Chiptune has always been a shortcut, I didn't need to sit and think about instruments, levels, microphone placement, etc. I could just sit down and write a song. That's exactly what I needed. (Interview at noisechannel.org, June 2012.)

Music-making on Game Boy was indeed simpler and more straight-forward in relation to trackers[13], the specialised music-making software recognized especially by demosceners and game developers during the 1980s and 1990s. During the first decade of 2000, chipmusic was popularised (Carlsson 2008), and it became more available: firstly, Game Boy consoles were affordable and obtainable online and offline, secondly, they were easier to manipulate, and thirdly, they supported mobility. Chipmusicians could perform anywhere, and it was during the 2000s that even open street chipmusic performances (see Pasdzierny 2012) became popular – in some places, for example Indonesia, UK and, US more increasingly than others, for example Malaysia where legislation regarding public performances is strict.

As a result of the popularisation of chipmusic, several people became interested in chipmusic-making. The main source for someone who wanted to learn how to compose chiptunes was (and still is) the Internet. A variety of documents and video tutorials are available online: chipmusicians upload their own software tutorials (for example Sabrepulse's *LSDJ* tutorial which is available on YouTube and on the Web in the text form), documents and discussion threads explaining how to compose chipmusic at several online communities (for example noisechannel.org, or chipmusic.org), and as recently Danimal Cannon pointed out at his talk at TedxBuffalo (2013), a number of workshops which aim at chipmusic education, are organized globally, where people can learn how to compose chipmusic. During my own private lessons kindly offered by Morusque at workshop in Paris, I learnt how to compose chipmusic on *LSDJ* using a Nintendo Game Boy. The learning process follows a specific pattern: one needs to copy[14] the tutor's steps in order to learn how to manipulate software and then use their own musical ideas.

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[13] Trackers allowed visualisation and playback of music composition in an environment functionally similar to digital audio workstations. As described in the manual of maxYMiser, an Atari-based tracker, "a song is made up from patterns, and a pattern is a sequence of notes and commands". Notes are coded in letters and octaves (e.g. C-4, C#4) and commands in hexadecimal systems, which use both numbers and letters (e.g. F05, A0F). The notes are represented in a sequencer where music melodies are organised in patterns that run vertically in the same fashion that code is written and read. In contrast, harmonic structures are realised horizontally. Trackers rely on the looping function (Driscoll and Diaz 2009) – a practice well-established in 8-bit music to save computer memory and "often a result of technological constraint" according to Collins (2008, 218). However, looping also serves to create sequences that allow melodies to play indefinitely and arguably, with 16-bit platforms and beyond, it is no longer solely motivated by technological limitations like lacking memory.

[14] The process of learning in several cultures is done by copying – or even more appropriately, by reproducing – actions that are experienced within the particular group. As Hood explains, "[i]n the early phase of training, traditional methods of imitation and role learning are far more rewarding in both time and retention than the usage of notation" (Hood 1960, 56). This is also observed by other ethnomusicologists (see for example Blacking 1967, 33; Cottrell 2007, 87) and anthropologists (Hallam and Ingold 2007, 6). Some anthropologists share the perspective that cultural development is

Copying – or rather, imitating – became an intrinsic characteristic of second generation chipmusicians. Chipsceners who were initially interested in composing chipmusic rather than programming and experimenting on software are found in this generation. Seeing creation as a process of imitation produces an interesting paradox. As Hallam and Ingold (2007, 5) observe, to create a cultural artefact means to produce something new, which did not previously exist. Every creation is bound to a previously existed ideology. If the outcome is new then it is creative according to the initial argument. The logical paradox would suggest that whatever is a copy, or an imitation, cannot be new, and as a result it is not creative. A possible interpretation of this paradox in chipmusic could be seen as follows: To a certain extent, the first chipscene generation instinctively attempt to avoid this paradox from happening by using original platforms and composing chipmusic from scratch. However, it seems that the second generation accepts this paradox (again, instinctively), embracing the concept of imitation as part of the creative process[15].

Second generation of chipmusicians are most known for establishing global festivals (for example, Blip Festival, Eindbaas, Micromusic parties) and also popularising chipmusic by sampling its aesthetic characteristics in popular culture (using audio samples in popular music, pixelating pictures and so forth). In this chipscene generation, information and communication technologies are adopted as methods of production and promotion. For example, crowdsourcing is a relatively new way of raising funds to support the organisation of events as well as music and video releases in the chipscene, by means of asking for financial support online addressed to Internet users. One such example is the documentary that overviewed the chipscene in Europe entitled *Europe in 8 bits,* whose director, Javier Polo, begun a crowdsourcing campaign on Verkami[16] raising more than 5,000€.

In popular music due to its volatile character, "sooner or later redundancy sets in, […] followed by bending or even breaking the rules" (Toynbee 2012, 168). The ideology of the first generation

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shaped by biologically embedded imitation techniques. In 1976 Richard Dawkins introduced the term 'meme', modelled on 'gene', to describe small units of culture that spread from person to person by copying or imitation (Shifman 2013). As Graham explains, "[a] meme acts as a unit for carrying cultural ideas, symbols, or practices that can be transmitted from one mind to another through writing, speech, gestures, rituals, or other imitable phenomena" (Graham 2002, 192). Thus, copying the tutor aims at becoming like them in terms of achievement and knowledge.

[15] I do not assert that this is the case, nor I structure my argument upon this basis – rather, I suggest this as a possible interpretation.

[16] *Europe in 8 bits* campaign on Verkami, http://www.verkami.com/projects/1530-europe-in-8-bits.

started to fade out following chipmusic's popularity boost in the 2000s. More specifically, fakebit-making software for modern computers developed, in order to assist and encourage chipmusic enthusiasts to create chiptunes. This software primarily consists of emulators of 8-bit sounds. An emulator, to put it rather simply, is an imitator of low, 8-bit technology, on a modern computer environment (see Carlsson 2010; Nova 2014, 58). As *Chip Sounds*, an emulator advertisement suggests, "you DON'T need to deal with a small and hard to read interface", "you can CHOOSE to be limited in terms of pitch and polyphony OR NOT", and "you DON'T need to spend years hunting garage sales […] to gather a collection such as this one. We have done it for you :)" (Original emphasis). The use of mobile consoles and 8-bit emulators suggest that after the second generation, there was a turn towards the simplification of chipmusic-making. Simplification then, becomes a characteristic of chipmusic authenticity in this generation (see also Pasdzierny 2012, 181).

According to the third generation, the second generation has formed the characteristics of what they consider "original chiptune artists". The third generation represents the newest chipsceners, who seem to subscribe to hipness ideology. This group of people is often humorously called 'chipsters' and adopts several hip behavioural patterns in the chipscene. In *Dig: Sound and Music in Hip Culture* (2013), Phil Ford outlines the characteristics of hipness as expressed in North America, tracing its history as early as the 1930s. I find three characteristics of hipness similar in the context of chipsters: a) the trickster character, or 'trolling', in Internet terms, b) post-modern unconventional ideology, and c) co-optation of chipmusic and fakebit.

The first hipsters, or tricksters as they were called, performed several manifestations of irony in their attempt to mislead. In the chipscene particularly, trolling is a form of hip tricking. As Donath (1999, 45) suggests, trolling is "a game about identity deception". Originally it was a practice shared by Usenet users who wanted to deceive outsiders and newbies, or "noobs" as new members are commonly referred to as among online users. Chipsters find different ways to troll about in the chipscene: lying about their location online and setting it to the Antarctica and other unpopulated areas (example demonstrated on micromusic.net map, see Polymeropoulou 2014), mocking publicly mainstream media, or even trolling just for the sake of it.

One of the most prominent examples of chipness expression I encountered during fieldwork was the case of a fake tattoo that a chipmusician pretended he got. On April 24, 2013, Je deviens DJ en 3 jours shared a photo on his Facebook Page picturing a tattoo of the name of the largest monthly

chipmusic festival in Europe, that he was about to have done, prior to his planned performance there. In the picture and caption, he appeared to have misspelt "Eindbaas" for "Eindbass". When his mistake was pointed out, he appeared shocked and overwhelmed, and soon people started comforting him. To the online world, he was devastated.

The following day, and after hundreds of comforting comments on Facebook, JDDE3J published a YouTube video, revealing his completed "Eindbass" tattoo. The thirty-second video, featured him unwrapping his arm properly, as if he had a real tattoo done and covered with cling film, sonically framed by his music playing in the background. The revelation after a short countdown during which music became louder and gradually higher in pitch, was the scribble "IDIOTEN!" which was clearly written with black marker pen. The end of the video was an advertisement of his forthcoming Eindbaas performance. This trolling incident represents a marketing technique widely used in the digital domain, adopting do-it-yourself ideology (which is yet another attribute of the chipscene), the use of a brand (Eindbaas festival), tangled nicely with the music commodity (JDDE3J's background music), aiming to advertise his forthcoming performance.

Chipsters also find themselves supporting unconventional beliefs. Once something is established, it needs to be changed. For example, first generation purists suggest that chipmusic should only be composed on 8-bit computer platforms, which are technologically limited, and thus, require more effort and tinkering. Complexity in programming is sought. However, for the chipster generation, purist ideology is conventional and thus, not appealing. Chipsters compose chipmusic – and of course, fakebit – on a variety of platforms, including modern computers, applying different criteria, based on popular music aesthetics rather than materialist approaches. Thus, cultural co-optation is the third characteristic found among chipsters. For Ford, co-optation "is a story that keeps us on the hook, looking for fresher and more appealing kinds of rebellion" (Ford 2013, 38). Chipsters find creative ways combining avant-garde and subcultural elements in order to break through to mainstream audiences, a practice which is criticised by purists.

The primary difference between second and third generation is that the latter combine acoustic instruments, hardware (either obsolete or modern) and computer software (Nova 2014, 59) without being concerned about technological limitations and purist criteria. This suggests another turn in chipmusic, towards more liberal characteristics.

Following the discussion with the chipmusic event organiser I mentioned in the beginning of this article, I asked one of my key informants (anonymised here as Informant 1) about his perspective on fakebit.

> Informant 1: [responding at a previous question] I'm not really familiar with the sound synthesis formats on Amiga (so called real chiptunes) – I'm mostly a fakebit, remember?
>
> Me: Where do your samples come from?
>
> Informant 1: I've used a lot of drum samples that originate from Commodore 64. So they are sampled versions of chip-generated sounds. I think it's just a big grey area.
>
> Me: Tell me about the so-called "fakebit".
>
> Informant 1: Is there any relevant musical difference between chipmusic and fakebit? If music is taken structurally, there is no difference. It's absurd to think of a music genre in terms of technical restrictions. "This is fake because it wasn't produced with the same superfluous restrictions that I choose every time I compose" and it's relatively easy to fake the restrictions. But then, why bother. […] In the beginning, technical restrictions were the norm, because of the machinery the music was produced with. There was no way to choose anything outside the restrictions (if you wanted to make music with computers that is). Nobody called it chipmusic though. (Synchronous chat discussion online, 2013.)

Summing up my informant's key points, the issue arises from the definition of chipmusic. As previously explained, according to first generation chipmusicians, using others' samples, even if they are composed on 8-bit computers and consoles, is not chipmusic. From this perspective, every sample needs to be made from scratch, by the composers themselves. However, second and third generation accounts on what constitutes a chipmusician suggest that the use of 8-bit platforms is sufficient – without clarifying any information about samples' origin. One of my informants characteristically told me he did not see himself as a true chipmusician, because he started off with fakebit. He also claimed he was in process of learning how to use trackers on Atari.

During fieldwork, Roger Cruz, who runs Chip-Con International stressed that most people that become interested in fakebit come from video game communities such as OCRemix (interview, 2013).

> Me: Is OCRemix retro-oriented?
>
> Roger: Yeah, but it's just old soundtracks made into more modern music. That's not what chiptune is about, but we are getting a ton of people from that community, thanks to Chiptunes=Win and DJ Cutman, who came from there. As long as there's some chiptune involved, it's considered chiptune – doesn't matter if it's fake or not, the audience doesn't care either, but there's a preference for pure chip a lot more than mixed stuff. (E-mail interview, 2013.)

I asked Roger if he could distinguish the sounds of fakebit and other chipmusic. His response was that fakebit has a more "over-produced" sound, so if a chiptune sounds more polished, then it is most probably fakebit (asynchronous e-mail discussion, 2013). This is due to the use of high-end technology in contrast to low-level, 8-bit consoles. Roger suggested that such concrete examples of fakebit are found in Indonesian chiptunes, as the infrastructure of the local scene had the funds to invest on music production.

In terms of distinguishing fakebit from 8-bit generated chipmusic, one of my key informants (anonymised as informant 2) focused on the imperfections of a particular emulation of the soundchip[17] found in the Commodore 64: "As far as I'm concerned, the SID [C64 soundchip] is not properly emulated still. It doesn't sound the same. And that's even when the emu-nerds have spent sooooo much effort in trying to do it. I don't know why they can't do it perfect" (Informant 2, asynchronous e-mail discussion, 2012).

Following his suggestion, I contacted the High Voltage SID Collection (HVSC) team, who are specialists in relation to the SID soundchip and its emulations, to inquire further. Their representative commented on the digital and analog aspects that comprise the SID soundchip (in other words, he described it as a mixed mode chip with digital and analog logic parts). He argued that:

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[17] A soundchip is an electronic device found in computer platforms which handles sound properties.

I believe that the digital side emulation is currently extremely close to correct, though there may be hitherto undiscovered interactions which nobody is aware of, and which may therefore be incorrectly modelled as well. […]The emulation of the analog side is arguably imperfect. What we have is something that sounds alright for the vast majority of the music, and we can reproduce a wide range of chip types by adjusting some of the electrical parameters of the simulation. (HVSC representative, e-mail communication, December 2013.)

Additionally, it seems possible to distinguish chiptunes composed on Nintendo Game Boy, using *Nanoloop* software cartridge, as I was told by a chipmusic event organiser, because the built-in tempo in *Nanoloop* slightly differs than tempo signature on any digital audio workstation (interview, 2012). Overall, it appears that if one were to analyse sound specifications of fakebit and chipmusic, they would find differences – although I may suggest, that such differences may not be easily distinguished by ear.

Looking deeper into the roots of the need for authenticity, I turned to informant 2, where I received an unexpected opinion.

Me: What about chipmusic originality?

Informant 2: Originality […] I think that chipmusic always (since the 80s) had this urge to be taken seriously by others. A …minority complex, towards whatever field you want to be accepted in. I suppose for the chipscene this was either pop or dance music and the art world. Originality was also quite important in the demoscene, but also in pop culture in general. Make something new and fresh! For chipmusic I guess this became as big also as an anti-thesis to the whole nostalgia discussion. "OK so perhaps I use old stuff but I make something new, God dammit!"

Me: Why is the use of 8-bit technology so important?

Informant 2: With 8-bit technology there are unquestionable qualities as well, which modern machines do not have. Control is one thing. The user has a sense of control, because the technology is simple and direct. It is easier to immerse into the tech. There are less options, so you actually grasp all the options, and you can also control them. There are not all these "layers of secrecy" (Kittler) that obscure the interaction

between the bare metal, and the user. A user can control up 100% of the options that we know of. In a modern computer perhaps you can only control 10%, because it's impossible to grasp all the features, or it's illegal/very difficult, to get passed all the bullshit :-)

In informant 2's account, using 8-bit technology transcends the problem of opaque technologies (for more on the subject, see Turkle 1995) as it gives the user full control, a need shared by most avant-garde composers who wished to push the barriers of limitations further (for example, The Futurists', Edgar Varèse, Stockhausen, IRCAM-based composers). More importantly, however, informant 2 touches upon a sensitive but somehow truthful topic: that perhaps, first generation chipmusicians are being defensive about their music as a result of a minority complex, or the urge to be taken seriously[18].

Conclusions

In this article chipmusic and fakebit authenticity were examined through the perspective of the three generations found in the chipscene. Ideologies, values, and social-behaviours of all three generations were outlined. The complex system of evaluation, which differs accordingly by chipmusicians' generational ideology, sets the limitations of what kind of chipmusic is considered to be authentic or not. As concluded, the first generation of chipmusicians does not recognise fakebit as a kind of chipmusic. With the most purist criteria, chipmusic authenticity is mediated in 8-bit platforms; from this standpoint, 8-bit technology and the challenges indicated by its technological limitations consist the raw, authentic sound of chipmusic. In contrast, chipmusic composed on modern computers with the use of emulators does not match the above aesthetic criteria, and hence is considered to be unoriginal or in derogatory terms, fakebit.

The second and third generations were found to be more open to seeing fakebit as a subgenre in chipmusic. In this particular context, authenticity is seen through the perspective of an artist, rather than a programmer: what matters is musical forms, melodies, music aesthetics, and non-technological criteria. The third generation of chipmusicians extrapolates the chipmusic horizon to more genres, styles, and techniques.

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[18] Pasdzierny also argues that second generation chipmusicians attempt establish Game Boy as a musical instrument rather than a handheld toy (Pasdzierny 2012, 182).

However, composing fakebit is often understood as shameful activity – belief which has been imposed by first generation purist criteria. The feeling of shame lingers in discussions on fakebit (like the example of my informant who confessed he is not a real chipmusician, but is trying to make up for it by learning how to use trackers). However, composing chipmusic using original platforms is considered by first generation chipmusicians – and others who subscribe to this belief – as an elite, appraised, and honourable activity, to juxtapose the example of shame with honour, as it is commonly found in the anthropological tradition.

Although the idea of technology shaping aesthetics is not new (Katz 2004; Collins 2008; Théberge 1997), the example of chipmusic and fakebit provides interesting insight into creative new ways of thinking about authenticity in digital music. To a certain extent, technology and chipmusic hardware are fetishized reminding us of Nettl's observation: "The concept of the 'authentic' for a long time dominated collecting activities became mixed with 'old' and 'exotic' and synonymous with 'good'" (Nettl 2005, 372).

While browsing chipmusic.org I read an interesting perspective on chipmusic and fakebit. This argument was a response to a thread entitled "GOOD INNOVATIVE FA—"MODERN-DAW-BASED" CHIPMUSIC" (note the avoidance of writing "Fakebit" in the title by the original poster): "Secondly, the limitation with chipmusic doesn't lie with the software and hardware limitations per-se. The most striking limitation of chiptune, and the one that gives it its identity in my view, is timbre. When you write chiptune, "fake" and "pure" alike, you restrict yourself to basic waveforms – usually square, triangle, noise, maybe others […]. That is the main limitation in my eyes." (Chipmusic.org member, November 2013.)

Judging from an overview of discussions on online chipmusic communities, it seems that the debate on fakebit and chipmusic authenticity slowly becomes a phenomenon belonging in the past. Chipmusic in the second decade of 2000s is defined by 8-bit timbre, regardless of the medium, and fakebit comprises a subgenre of chipmusic that is composed using modern computers and other digital equipment. Perhaps, as one of my informants suggested (e-mail interview 2014), the fakebit debate ended with MisfitChris's song *Fake bit much* (2010):

> Activating fakebit mode
> Loading phony square synthesis
> Loading stereotypical hipster house bass line

Loading terrible SID Chip Sound font

Fakebit initiated

All systems go

Fake bit mode

What are you doing to me?

CPR

Fakebit could potentially be a way of reviving or, refreshing chipmusic. As Microman and Buskerdroid suggest in their [Europe in 8 bits interview from 2012](#): "the person sets their own limits" and "you always discover new things and it never ends; that is beautiful".

References

Auslander, Philip. 1998. "Seeing is believing: Live performance and the discourse of authenticity in rock culture." *Literature and Psychology* 44:1-26.

Barker, Hugh, and Yuval Taylor. 2007. *Faking It: The Quest for Authenticity in Popular Music*. London: Faber.

Blacking, John. 1967. *Venda Children's Songs: A Study in Ethnomusicological Analysis*. Chicago: University of Chicago Press.

Boellstorff, Tom, Bonnie Nardi, Celia Pearce, and T. L. Taylor. 2012. *Ethnography and Virtual Worlds: A Handbook of Method*. Princeton: Princeton University Press.

Carlsson, Anders. 2008. "Chip Music: Low-tech Data Music Sharing." In *From Pac-Man to Pop Music: Interactive Audio in Games and New Media*, edited by Karen Collins, 153-62. Aldershot: Ashgate.

Carlsson, Anders. 2009. "The Forgotten Pioneers of Creative Hacking and Social Networking – Introducing the Demoscene." In *Re:live: Media Art Histories 2009 Conference Proceedings*, edited by Sean Cubitt, and Paul Thomas, 16-20. University of Melbourne & Victorian College of the Arts and Music.

Carlsson, Anders. 2010. *Power Users and Retro Puppets: A Critical Study of the Methods and Motivations in Chipmusic*. Master's thesis. Lund: Lund University.

Cogan, Brian, and Gina Cogan. 2006. "Gender and Authenticity in Japanese Popular Music: 1980−2000." *Popular Music and Society* 29:69-90.

Collins, Karen. 2008 "In the Loop: Creativity and Constraint in 8-bit Video Game Audio." *Twentieth-century music* 4:209-27.

Cottrell, Stephen. 2007. "Local Bimusicality among London's Freelance Musicians." *Ethnomusicology* 51:85-105.

Dittbrenner, Nils. 2007. *Soundchip-Musik. Computer- und Videospielmusik von 1977-1994*, Osnabrück: Electronic Publishing Osnabrück.

Donath, Judith. 1999. "Identity and Deception in the Virtual Community." In *Communities in Cyberspace*, edited by Marc A. Smith, and Peter Kollock. London & New York: Routledge.

Driscoll, Kevin, and Joshua Diaz. 2009. "Endless loop: A brief history of chiptunes." *Transformative Works and Cultures* 2.

Fillitz, Thomas, and Jamie A. Saris (eds). 2013. *Debating Authenticity: Concepts of Modernity in Anthropological Perspective*. New York: Berghan Books.

Ford, Phil. 2013. *Dig: Sound and Music in Hip Culture*. Oxford: Oxford University Press.

Frith, Simon. 1988. *Performing Rites: On the Value of Popular Music*. New York: Oxford University Press.

Graham, Gordon. 2002. *Genes: A Philosophical Inquiry*. New York: Routledge.

Grant, Elizabeth K. 2004. *Unseen, Unheard, Unspoken: Exploring the Relationship between Aboriginal Spirituality and Community Development*. Dissertation. Adelaide-Whyalla-Mount Gambier: University of South Australia.

Hallam, Elizabeth, and Tim Ingold (eds). 2007. *Creativity and Cultural Improvisation*, ASA Monographs 44. Oxford: Berg.

Hine, Christine. 2007. "Connective Ethnography for the Exploration of e-Science." *Journal of Computer-Mediated Communication* 12:619-34.

Hood, Mantle. 1960. "The Challenge of Bi-Musicality." *Ethnomusicology* 4:55-9.

Katz, Mark. 2004. *Capturing Sound: How Technology Has Changed Music*. Berkeley: University of California Press.

Khoo, Suet Leng, Ling Ta Tiun, and Lay Wah Lee. 2013. "Unseen Challenges, Unheard Voices, Unspoken Desires: Experiences of Employment by Malayisians with Physical Disabilities." *Majian Malaysia* 31:37-55.

Lindholm, Charles. 2008. *Culture and Authenticity*. Malden: Blackwell Publishing

Lisón-Tolosana, Carmelo. 1966. *Belmonte De Los Caballeros: Anthropology and History in an Aragonese Community*. Princeton: Princeton University Press, 1983 edition.

Looseley, David. 2003. *Popular Music in Contemporary France: Authenticity, Politics, Debate*. Oxford: Berg.

Marcus, George. 1995. "Ethnography in/of the world system: the emergence of multi-sited ethnography." *Annual Review in Anthropology* 24:95-117.

Menotti Gonring, Gabriel. 2009. "Executable Cinema: Demos, Screensavers and Videogames as Audiovisual Formats." In *Re:live: Media Art Histories 2009 Conference Proceedings*, edited by Sean Cubitt, and Paul Thomas, 109-13. University of Melbourne & Victorian College of the Arts and Music.

Merriam, Allan, P. 1964. *The Anthropology of Music*. Illinois: Northwestern University Press

Nettl, Bruno. 2005. *The Study of Ethnomusicology: Thirty-one Issues and Concepts*. Champaign: University of Illinois Press, second edition.

Orgad, Shani. 2009. "Question Two: How can researchers make sense of the issues involved in collecting and interpreting online and offline data?" In *Conversations about Method: Internet Inquiry*, edited by Annette Markham, and Nancy Baym. Sage Publications.

Pasdzierny, Matthias. 2012. "Geeks on Stage? Investigations in the World of (Live) Chipmusic." in *Music and Game. Perspectives on a Popular Alliance,* edited by Peter Moormann. Wiesbaden: Springer VS.

Polymeropoulou, Marilou. 2014. Creativity in Networked Digital Music: an Ethnography of Chipmusic and the Chipscene. University of Oxford: Dissertation Manuscript.

Reunanen, Markku, and Antti Silvast. 2009. "Demoscene Platforms: A Case Study on the Adoption of Home Computers." In *History of Nordic Computing 2*, edited by John Impagliazzo, Timo Järvi, and Petri Paju, 289-301. Berlin: Springer.

Shifman, Limor. 2013. *Memes in Digital Culture*. Cambridge: MIT Press.

Stevens, Carolyn S. 2008. *Japanese Popular Music: Culture, Authenticity and Power*. Abingdon: Routledge.

Stokes, Martin (ed.). 1994. *Ethnicity, Identity and Music: The Musical Construction of Place*. Oxford: Berg Publishers.

Tasajärvi, Lassi (ed.), Bent Stamnes, and Mikael Schustin. 2004. *Demoscene: the Art of Real-Time*. Helsinki: Even Lake Studios & katastro.fi.

Théberge, Paul. 1997. *Any Sound You can Imagine: Making Music/Consuming Technology*. New England, Hanover: Wesleyan University Press.

Theodossopoulos, Dimitrios. 2013. "Laying Claim to Authenticity: Five Anthropological Dilemmas." *Anthropological Quarterly* 86: 337-60

Tomczak, Sebastian. 2011. On the Development of an Interface Framework in Chipmusic: Theoretical Context, Case Studies and Creative Outcomes. Unpublished dissertation. Elder Conservatorium of Music, University of Adelaide.

Tomczak, Sebastian. 2008. "Authenticity and Emulation: Chiptune in the Early Twenty-First Century." Conference Paper at the International Computer Music Conference, 24-29 August, 2008.

Toynbee, Jason. 2012. "Music, Culture, and Creativity." In *The Cultural Study of Music: A Critical Introduction*, edited by Richard Middleton, Trevor Herbert, and Martin Clayton. London: Routledge

Turkle, Sherry. 1995. *Life on the Screen: Identity in the Age of the Internet*. New York: Simon & Schuster Inc.

Yabsley, Alex. 2007. The Sound of Playing: A Study into the Music and Culture of Chiptunes'. Unpublished dissertation. Queensland Conservatorium, Griffith University.