European Association for Music in Schools

European Perspectives
on Music Education
6

Oliver Krämer, Isolde Malmberg (eds.)

Open Ears – Open Minds

Listening and Understanding Music

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Open Ears – Open Minds: Listening and Understanding Music
European Perspectives on Music Education 6
edited by Oliver Krämer & Isolde Malmberg
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Starting with this volume, *European Perspectives on Music Education* is a peer-reviewed book series. It was printed with the generous support of the Rostock University of Music and Theatre.

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Layout and typesetting: Georg Toll, tollmedia, Innsbruck
Charts and artwork: Dr. Kristin Riebe, Potsdam/Nuthetal
Print: Opolgraf SA, Opole

HI-W7736
ISBN 978-3-99035-383-7
ISMN 979-0-50239-371-7

1st edition / 1st print run 2016
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Veronika Busch, Nicola Bunte, & Michael Schurig

Open-Earedness, Musical Concepts, and Gender Identity

Music appears to be very important to individuals, but as Rentfrow, Goldberg, & Levitin state (2011, p. 1155): "[c]uriously, however, very little is known about why music is so important". One possible answer to this question might lie in music's ability to function as an expression of one's identity. The differentiation between *identities in music* and *music in identities* made by MacDonald, Hargreaves, & Miell (2002) proves very helpful in approaching this wide area of research. Whereas *identities in music* especially refers to aspects of self-definition as a musician, *music in identities* refers to "how we use music as a means or resource for developing these aspects of our individual identities" (ibid., p. 2). The present chapter is mainly concerned with *music in identities* and as such with music as a means to develop psychological identity, which, amongst other determinants, is related to age, gender, or nationality. Music preferences are a central facet of music's ability to serve as a means in identity development and expression.

Th[illegible] empirical results on music preferences and musical concepts and discusses [illegible] in terms of so-called *open-earedness* (Hargreaves 1982). It argues that identity development plays a major role in understanding the development of music preferences, especially of *open-earedness* and that musical concepts build the background against which these processes unfold.

Theoretical Background: Music Preferences, Musical Concepts, and Musical [illegible]entity

According to Behne (1993, p. 340) music preference refer[illegible] a pr[illegible]dgement in a given situation. The judgement relates to musical concepts [illegible]ned as “the [illegible]n of beliefs, attitudes, information, prejudices, etc. held by an individual co[illegible]rtain more or less defined musical object” (Behne 1975, p. 36).[1] Th[illegible]bject could be a music genre or a musician, for instance. Building on this definition, [illegible] understood as associative structures stored in memory.[2]

Musical concepts are nourished by the [illegible] exp[illegible]ces that individuals gather in life and which are seen as influencing [illegible]ical b[illegible]viour [illegible]hne 19[illegible]), with experiences in early childhood appearing to be o[illegible] importance for the development of music preferences (Kleinen 2011). The notion o[illegible]cal concepts also ties in with the idea of “personal networks of musical and cultural asso[illegible]tions”, which as part of “personal musical geographies” are se[illegible] as the context for constructing musical identities (Hargreaves, Hargreaves, & North [illegible]2, p. [illegible]). According to Schneider and Lindenberger, personal identity is the “unique [illegible]on of [illegible]ose personal characteristics that the person is aware of and can use to exp[illegible]im[illegible] to others” (Schneider & Lindenberger 2012, p. 770). In constructing identity a perso[illegible]y revert to the musical concepts already learnt and relate her or his [illegible]ity to them. Schäfer and Sedlmeier concluded that “the most important reason[illegible] pe[illegible]ir music are its ability to express their identity and their values [illegible] its [illegible]ity to b[illegible] people together” (Schäfer & Sedlmeier 2009, p. 297). North & Ha[illegible]es ([illegible]9, p. 90) describe music as a badge in adolescents’ social cognitions. What [illegible]is badg[illegible]ds for and which musical objects can function as a badge is defined by a[illegible]usical [illegible]epts. If an individual’s network of associations is centred around a mus[illegible]ge[illegible]is genre can function as a reference point for all connected social and [illegible]ltural ass[illegible]tions.

In [illegible] music preference[3] points towards the purposeful usage of music prefere[illegible] order to influence the way the individual is seen by others. Rentfrow, Goldberg, & Levitin ([illegible]) argue for multiple influences on music preferences, such as psych[illegible]ition, social interaction, exposure to popular media, or cultural trends. A wealt[illegible]rese[illegible] adults’ music preferences indicates additional influences, which all appear co[illegible]ed to identity development: The personality dimension “openness for experience” (Cost[illegible]McCrae 1992) correlates with broad music preferences (Delsing et al. 2008; Ra[illegible]Cian[illegible]arelli 19[illegible]). A migration background enhances preferences for music from the respective countries of origin (Cremades, Oswaldo, & Lucia 201[illegible] [illegible]ger 19[illegible] Teo, Hargreaves, & Lee 2008). Bourdieu (1993, p. 150) sees music preference[illegible] [illegible] ind[illegible]tor of a person's belonging to a specific social class with a specific [illegible]bitus, meaning [illegible]lly tied gestures and behaviour. Neither Peterson & Simkus (1992) [illegible] Cha[illegible]horpe (2007) support this explicit attribution of music preferences to social class, but fou[illegible] connections between social status and stylistic broadness of music preferen[illegible] [illegible]on 199[illegible] Eijck 2001). Last but not least, age and gender are often [illegible] as key factors that explain music preferences (e. g., Hargreaves, North, & Tarrant 200[illegible] LeBla[illegible]96; Ren[illegible], Goldberg, & Levitin 2011).

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[1] All Engl[illegible]anslations [illegible] this chapter are by the authors.

[2] Detail[illegible]heoretica[illegible]nsiderations as well as comprehensive analyses of the qualitative data summarised in this chapter will be provided in the doctoral thesis by Nicola Bunte.

[3] See Sloboda, La[illegible]nt, & Greasley 2009 for a research review.

Regarding children's music preference[illegible] [illegible] age a[illegible]ender are examined extensively. Research often refers to Hargreaves' hypothesis that "yo[illegible]er children may be more 'open-eared' to forms of music regarded by [illegible] unconventional" (Hargreaves 1982, p. 51). By unconventional he means avant-garde, a[illegible] or electronic music (Hargreaves, North, & Tarrant 2006, p. 144), as well as classical and eth[illegible] music (Hargreaves, Comber, & Colley 1995). Age as an influencing [illegible]iable is inherent to Hargreaves' developmental hypothesis, and studies support the [illegible]tion that pupils lose their initial openness for various styles and forms of music during [illegible] [illegible]y school, so that at the beginning of puberty they mainly prefer current rock and po[illegible]ic ([illegible] Gembris & Schellberg 2007).

With regard to the variable of gender, research mostly suggests that boys are less *open-eared* than girls towa[illegible]rious or classical musical styles (Hargreaves, Comber, & Colley 1995; Gembris & Schellberg [illegible]7). [illegible]nder-specific musical socialisation might be an explanation (Busc[illegible]-Wern[illegible] & Liermann 2009). This is supported by Wilke's (2012) finding that [illegible]tary school boys already use gangsta rap to convey masculinity and display thei[illegible] gender. [illegible]rch on the development of gender identity also hints at a stronger fixa[illegible]ndered [illegible]eotypes in boys than in girls (Maccoby 2000; Ruble, Martin, & Berenba[illegible] 200[illegible] [illegible]tler-Prahm 2012). Thus, differences in music preferences are possibly n[illegible] the r[illegible]t of gender-specific musical socialisation, but also an important step tow[illegible]'s own gender identity. So *music in identity* already appears to be important [illegible]entary school children.

Hence, educa[illegible] contexts should provide a variety of music experiences. Especia[illegible] [illegible]ement in music shapes music preferences (Bourdieu 1993; Hargreaves, Comb[illegible] Co[illegible]; Louven 2011). Therefore, music-oriented programmes for young children [illegible]ergarten and elementary schools seem a suitable way to provide (possibly) new worlds [illegible]periences that might assist children to sharpen their sensitivity for musical sty[illegible]heir aesthetic judgement. This could help children to broaden their usual music-[illegible]ic *ha[illegible]s* and to detect new or alternative scopes of music-related actions. A wealth of experi[illegible]es might help children to make use of specific music for their individual needs in identity development later on. The present study aims to investigate these assumptions by focusing on the development of music preferences in elementary school children.

Empirical Approach:
Music Preferences, Musical Concepts, and Gender Identity

The study is part of the research project *SIGrun*[4] and follows [illegible] longitudinal mixed methods approach. The following questions are addressed quantitatively:

- Can music preferences of elementary school children be described by different factors indicating the existence and development of musical concepts early in childhood?
- Do music preference ratings develop according to the *open-earedness* hypothesis?
- Do gender, migration background, personality, [illegible] social status influence music preferences at various times of measurement?

The qualitative part of the study explores explanations for the quantitative findings. Behne's (1975; 1987) theoretical framework of musical concepts serves as a lens to analyse children's musical and extra-musical associations with musical objects (e. g., music genres) and their evaluations of them. In [illegible] analyses focus on the following questions:

- Which musical concepts can be found among elementary school children?
- Do these concepts [illegible] during elementary school?
- To what extent are they related to children's music preferences?
- How are musical concepts, music preferences, and identity development intertwined?

Quantitative [illegible]

Pupils ($n = 735$) at [illegible] elementary schools in North Rhine-Westphalia and Hamburg answered questionnaires at four points of measurement (2009, 2010, 2011, 2012; for details see Lehmann-Wermser [illegible]). Music preferences were investigated using a sound questionnaire based on [illegible] research on *open-earedness* (e. g., Gembris & Schellberg 2007; Kopiez & Lehmann 2008). The questionnaire (see Tables 1 and 2) features 16 (+1) instrumental music examples ([illegible]tional and unconventional) with identical durations (30 sec) and a medium tempo range ([illegible] bpm). Three examples were adopted from previous studies to establish comparability of results. Four examples represent different music cultures (Turkey, Russia, China, and [illegible]) and one example (Garrett) provides a cross-over between *classical* and

---

[4] *SIGrun – [illegible] of Instrumental Tuition in Elementary Schools* (http://www.jeki-forschungsprogramm.de/forschungsprojekte/jedem-kind-ein-instrument/sigrun [08.11.2016]) was funded by the German Ministry [illegible] Education and Research (Bundesministerium für Bildung und Forschung) and conducted by the Universities of Bremen and Hamburg (2009 to 2013). The main goal was the evaluation of the programme *JeKi – An Instrument for Every Child* (cf. Lehmann-Wermser et al. 2014).

pop music. Additionally, eight pieces were especially composed to [illegible]ally c[illegible]bine the parameters style of composition, style of instrumentation, a[illegible] presen[illegible]bs[illegible]e of a drum set (Table 2). The sound questionnaire was presented o[illegible]CD pla[illegible]r at a s[illegible]ardised volume and children rated their (dis-)like of each example o[illegible] five-p[illegible] scale ranging from very happy (1 = strong liking) to very angry (5 = stron[illegible]liking) ico[illegible]

Music example	Composer/artist/album	Title	[illegible]cription
Trial example	Friedbert Kerschbaumer/ Die schönsten Kinderlieder auf der Panflöte	*Ein Männ[illegible]steht im W[illegible]*	[illegible]en's song pl[illegible]d on acoustic g[illegible] and panpipes
Africa	Magi Shamba/ Colors of Africa	*Upepu*	Interwoven pa[illegible]rns in steady metre played [illegible] different percus[illegible]ion instru[illegible]ts
Turkey	Sümer Ezgü/Ege Toros Yörü[illegible] Türkmen Türküleri (Anatolia Ethnic Music. Turkish Folk Music)	*Ümmü*	Folk tune with pronounced melody accompanied homorhythmically on traditional instruments
Russia	Samovar Russian Folk Music Ensemble/ Some of our Be[illegible]	*Sh[illegible]*	Folk tune with some expressive tempo variations played on traditional Russian instruments
China	Chinese Ensemble o[illegible] Music and F[illegible]s/ Zhong G[illegible]o J[illegible] Le (Chines[illegible]t Mus[illegible]	*[illegible] Rong*	Circular tune with steady metre played on traditional Chinese string and wind instruments
Garrett	Joh[illegible]ebastia[illegible] Da[illegible]/Encore	3rd Orchestral Suite, *Air*	Baroque violin piece accompanied by popular instrumented orchestra including drum set
Mendelssohn	[illegible] Mende[illegible]hn- [illegible]	4th Symphony, 1st movement	Romantic orchestral passage dominated by constant short notes with melodic interplay between groups of instruments
H[illegible]	[illegible] Werner Henze	3rd Symphony, 3rd movement, *Beschwörungstanz*	Contemporary orchestral passage with increasing sound intensity and density and pronounced wind, string, and percussion instruments
Bach	J[illegible]n Sebast[illegible] Bach	3rd Orchestral Suite, *Gavotte I*	Baroque orchestral passage with pronounced metre and melodic interplay especially between string and wind/brass instruments
Eight exa[illegible]s compos[illegible] by Achim Gieseler for this study (see Table 2)			

Tab. 1: Music examples f[illegible] the sound questionnaire (part I)

Music example	Style of composition	Style of instrumentati[illegible]	Drum[illegible]
Cla-Cla	Classic	Cla[illegible]	[illegible]
Cla-Cla D			Yes
Cla-Pop		Pop	No
Cla-Pop D			Ye[illegible]
Pop-Cla	Pop	[illegible]lassic	[illegible]
Pop-Cla D			[illegible]es
Pop-Pop		Pop	No
Pop-Pop D			Yes

Tab. 2: Music examples from the sound questionnaire (part II: comm[illegible] compositions)

Statistical analyses investigated wh[illegible]er the theoretical construct of *open-earedness* could be operationalised via confirmato[illegible] factor [illegible]odels (Bollen 2002). The hierarchical structure of school-based data was taken [illegible] by co[illegible]ecting the standard errors for complex samples (Muthén & Muthén 1998–201[illegible] [illegible]del [illegible]parisons revealed that a solution with three factors (*classical*, *po*[illegible] and *ethnic/avan*[illegible]*de* music) was by far best suited to the data. The examples Russia, [illegible] D, and Po[illegible]Cla were excluded from further analyses due to unclear factorial assig[illegible]ents ([illegible]e Busch et al. 2014).

The results in[illegible] young ch[illegible]en already distinguish between different styles of music in their ae[illegible] ju[illegible]ents. Further analyses showed significant gender differences: Boys rated [illegible] *class*[illegible]sic examples significantly worse than other examples and far worse than [illegible] othe[illegible]d boys liked the music example by Henze better than girls. At grade fou[illegible] th[illegible]ctor structure breaks down, indicating individualisation of music pref[illegible]ces by [illegible] end o[illegible] elementary school.

U[illegible]om age a[illegible] gender neither migration background nor social status nor pers[illegible] significantly af[illegible]ted music preference ratings.

In sum, the q[illegible]tive approach revealed that (1) children's preference ratings can be[illegible]ing to broad sty[illegible]ic categories even at an early age, (2) children start elemen[illegible] scho[illegible] *[illegible]eared* and show a decline in *open-earedness* for unconventional, but also for c[illegible]tional music correlated to age, and (3) in addition to age, gender in combination wit[illegible]re emerged as the most relevant variable influencing music preference rati[illegible] relation between gender, genre, and music preference might point towards [illegible]'s fu[illegible]on in developing gender identity and will be investigated more closely in the followin[illegible]alitative approach.

Qualitative Approach

A sub-sample of children with diverse music, family, and sch[illegible]l backg[illegible] inter-viewed in groups of up to four (same-sex and mixed) during [illegible]ool h[illegible]rs at tw[illegible]terview points (IP), first in second grade[5] and again in fourth grade.[illegible]ervie[illegible]es consist[illegible]d of questions on music preferences, on two music example[illegible]p-Pop D, C[illegible]lla), an[illegible] music-specific gender stereotypes.

Musical concepts were categorised using te[illegible]iques of structuring and [illegible]ummarising content analysis (Mayring 2010) resulting in [illegible]leve[illegible]ction ([illegible]Table 3). On the lower level, categories representing single mus[illegible]co[illegible]pts were nam[illegible]d after the central musical object referred to (e.g., *rock* [illegible]*Turkis*[illegible]*sic*). On the [illegible]perordinate level, concepts were grouped by theoretical[illegible]sonin[illegible] seco[illegible]ategory [illegible]tem contains music preferences for musicians, instruments[illegible]al parameters.

Superordinate category	Musical concept
Genre	Rock; [illegible]ical m[illegible]sic; pop; rap; musical; opera; hip hop; jazz; Schlager; Ger[illegible]Volksm[illegible]; rock 'n' roll; hard rock; oldies; ballads
Gender	Boys' mu[illegible]music
Thematic	Ballet music; film m[illegible]love songs; computer music; Christmas songs; [illegible]ch songs; Hal[illegible]ween songs; Barbie music
Mood	Happ[illegible]usic
Country or language	[illegible]sh; German[illegible] French; Turkish; Polish; Russian; Spanish; Portuguese
Musician	[illegible]hael Jackson; Peter Fox; Pur; Black Eyed Peas; Justin Bieber
Currentness/po[illegible]	Ch[illegible]ic; old music
Age	[illegible]y or grandpa music; children's music
Institutio[illegible]	School musi[illegible]JeKi music

Tab. 3: Categories [illegible]l concepts of both int[illegible]rv[illegible]ew points

Ge[illegible]nd the concep[illegible]of *chart music* and *rock music* were most widely de-scribe[illegible] the[illegible]. At IP[illegible]many children differentiate between *girls' music* and *boys' music*, w[illegible]ept charact[illegible]isations being more evident in boys' statements than in girls'. Neverthele[illegible]ir similar [illegible]scriptions add up to a broadly consistent picture of the con-ce[illegible]ing opposed[illegible]one another. Whereas *girls' music* is characterised as *quiet* and [illegible]and [illegible]ociated with violin, cello, flute, and female vocals, *boys' music* is most often

---

[5] IP 1: $n=31$, 16 ma[illegible] groups: 1 boys-only, 1 girls-only, 7 mixed; 18 to 30 minutes.

[6] IP 2: $n=28$ from [illegible], 14 male, 9 groups: 2 boys-only, 1 girls-only, 6 mixed; 33 to 40 minutes.

SAMPLE PAGE www.helbling.com www.helbling.com

defined as incorporating electric guitar or rock guitar and drums, [illegible] characterised as *rock music*, *rocking*, and *loud*. These elements appear as the stereotypical [illegible] of [illegible] gender concepts.

Contrary to this, at IP 2 girls in mixed interview groups either [illegible] reject the existence of gender concepts or do not make any statements about them. In the girls-only context they are posed from a boys' perspective: *My brother [illegible] girls' music is when a woman sings* (IG E2, IP 2). Boys also rarely agree [illegible] the gender concepts at IP 2. Most strikingly, the strong association of *boys' music* and *rock music* [illegible] at IP 1 gives way to more discriminating descriptions at IP 2.

Turning to the question of how children [illegible] music concepts in their preference descriptions it is noticeable that they hardly ever directly refer to gender by, for instance, describing preferred or not-preferred music as [illegible] or *manly*, or indicating that music the other gender likes is explicitly not liked. However, at IP 1 gender differences are introduced quite often even before the interview question on boys' and girls' music. At IP 1 the relevance of gender concepts for children's music preferences becomes visible against the background of the strong association between *boys' music* and *rock music*. Characteristics of *rock music* are used frequently at both IPs to describe music preferences, but play a more distinct role at IP 1. Boys predominantly declare *rock music* and its characteristics as their preferred music, whereas girls use the concept less and mostly only as a follow-up to boys' positive evaluations. To express their music preferences, boys at IP 1 refer to *loud* and rhythmically accentuated music [illegible] instruments (drums, electric guitar), whereas girls also like *medium loud* [illegible] *quiet music* as well as cello and flute. Thus, although references to gender were rarely used directly to express personal preferences, there is a tendency – more pronounced for boys [illegible] state music preferences congruent with their *own* gender concept at IP 1.

However, descriptive statements like *Some girls also listen to boys' music or boys listen to girls' music* (IG C1, IP [illegible]) can already be found at IP 1. These still appear at IP 2 and children now agree [illegible] level that *there are no rules* (IG B1, IP 2) and *you can listen to whatever you like* (IG B1, IP2). But in the boys-only groups, harsh rejections of music associated with girls still reveal strong connections between boys' music preferences and gender concepts: [illegible] *kill myself right now if I hear that* [Justin Bieber music] (IG C1, IP 2).

Additionally, at IP 2 a new dimension becomes particularly relevant for music preferences: currentness/popularity. Analysed as the concept of *chart music*, descriptions incorporate elements like *modern*, *Top 100*, *the latest songs*, as well as certain radio stations. Noticeably, children did not reveal any special musical characteristics of *chart music* and again it is predominantly described and used by boys. Currentness and verbal music preferences appear to be closely associated: *Modern* music is liked, *old* music is rejected. Interestingly, *chart music* is distinguished from concepts for which hints had already been detected at IP 1 namely *old music* as well as age-oriented concepts of *granny* or *grandpa music* and *children's music*. At IP 2 these concepts appear as counter horizons to *chart music*.

Chart music adds a new discrimination line that can be discussed in terms of identity construction: A child's own preferred music is distinguished from other music in terms of its currentness and additionally from music associated with other age groups. In some instances *school music*, as music heard and learned about in school, is associated with *old music* and opposed to *chart music*.

Triangulation of the Results

Following a "complementary model of triangulation" (Erzberger & Kelle 2003, p. 469) results of the quantitative and the qualitative approach were reviewed in relation to each other with the following results:

- Children's music preferences can be statistically modelled with the three factors *classical*, *pop*, and *ethnic/avant-garde* music. This indicates that pupils at the beginning of school have already acquired musical concepts for different musical styles and genres, which they use in aesthetic judgements of musical examples.
- *Open-earedness* can mainly be predicted by age, but additionally by gender and music genre, which appear closely related to musical concepts.
- The expected decline of *open-earedness* during elementary school can generally be confirmed, though only for grades one to three and also for the *pop* examples.
- The dissolution of the factor structure in grade four coincides with the dissolution of the strong link between *boys' music* and *rock music* and points towards the development of more discriminating and individualised music preferences.
- In grade four a new concept of *chart music* emerged and served as a reference point for preference judgements. The *pop* examples lack characteristics of *chart music* as they were specially composed for the study and thus unknown to the children, which explains the unexpected decline of the *pop* ratings.
- Right from grade one, *classical* music examples displayed a strong boy-biased peer-group effect ([illegible]ig 2012). *Classical* examples lack the typical instruments of *rock music* preferred by boys. Furthermore, *classical* instruments are associated with *girls' music* and the boys' rejection of *classical* music helps them to distinguish themselves from girls in order to develop their gender identity.
- In grade four a new normative awareness hinders the verbal designation of certain kinds of music as specific for boys or girls in mixed-gender interview groups, whereas harsh rejections of *girls' music* occurred in boys-only groups.

Summing up, the multi-method approach suggests that boys especially use music preferences for individual and social functions in identity development. [illegible] findings are in accordance with research on general development of standardised gender behaviour, which points towards a more pronounced fixation on the stereotypes [illegible] and *female* in boys compared to girls (Maccoby 2000; Ruble, Martin, & [illegible]enbaum [illegible] cf. Beutler-Prahm 2012).

Outlook: Empirical, Theoretical, and Educational Implications

The results of the study indicate that the use of music for psychological functions already begins in elementary school and thus earlier [illegible] suggested so far (cf. Behne 1997; Baacke 1993). Musical concepts were shown to help understanding of the use of music especially in identity development. Behne's (1986, p. 19) assumption that "preferences should be describable as a function of functions that music can have" was supported and differentiated by Schäfer & Sedlmeier (2009) who described music's function in identity development as most important. Musical concepts [illegible] be interpreted as the background against which this connection between musical preferences [illegible] identity evolve. Behne (1987) argues that musical concepts especially can be challenged and changed by listening experiences that contradict existing concepts and thus musical concepts might be seen not only as a premise of music education efforts [illegible] also as a possible target.

These results [illegible] a challenge [illegible] music education: On the one hand, openness towards unconventional music is surely worth supporting. On the other hand, children should be encouraged to [illegible] individual music preferences and to make use of music's potential in identity development and expression. So it seems as if music educators need to oscillate between maintaining *open-earedness* and encouraging the use of music for psychological functions. One could argue that these two goals are not necessarily contrasts, but [illegible] facilitate identity development in children. Engaging elementary school children into a variety of different musical styles might help them to give more informed aesthetic judgements and not to reject unconventional music categorically as *the other* [illegible] preferences of other children might also be more easily tolerated. Engaging in different musical styles will build up a rich fund of musical experience, which might enable children to look at alternative options for their musical behaviour and as a consequence expand the boundaries of their musical *habitus*. Rich music experiences will most probably help children to decide more precisely how to make use of music preferences to develop and express their personal and social identity. Thus, *open-earedness* and functionalisation of music do serve the same goal.

Why is music so important to humans? One answer might be that already in childhood, music serves as a means for fundamental psychological functions such as expressing and developing identity. Hence, it appears plausible that music [illegible] this importance for individuals during their lifetime. But all of these assumed benefits [illegible] probably only unfold if children's musical experiences are of personal meaning to them. But how can music be taught in a meaningful way?

Research literature already offers different aspects that might be helpful in music education to enhance the personal meaning of music. Practical [illegible] in music will foster attentive and appreciative listening strategies, and both appear promising for developing a positive and meaningful relation to music. [illegible]Donald, [illegible]ves, & [illegible] (2009, p. 466) argue that encouragement and positive feedback ([illegible] regardless of specific music performance) help to unfold a *virtuous* [illegible] at the same time hinder a *vicious circle* in the development of music identity. It might be helpful [illegible] focus on *mastery-oriented behaviour* with an *internal locus of control* (D[illegible]) in order to enhance the certainty of pupils' being able to master the given task (*self-efficacy*, Bandura 1997). This could be achieved by offering children the opportunity to influence music instruction to a certain degree, for example, with regard to choosing the specific musical instrument or the specific piece of music to be played, listened to, or discussed. Some freedom of choice would also give children the opportunity to [illegible] their music practice to their musical concepts, and thus to unfold meaning in their [illegible] systems gained primarily through listening experiences. For McPherson, Davids[illegible] Faulkner (2012) a positive learning environment and a large variety of learning options are the key to developing intellectual curiosity and emotional engagement, which are the basis of a lifelong interest in music. As enjoyment and having [illegible] appear to be the most relevant predictors for such a long-term music involvement, [illegible] of rather loosely structured activities with lots of improvisatory and creative [illegible] are suggested (ibid.). According to Welch & McPherson (2012), the focus [illegible] programmes should lie on expressive, affective, and communicative processes of [illegible]tion.

All these aspects lead to the conclusion that strengthening children's *music identity* through [illegible] might result in opening up opportunities for using *music in identity*. In this [illegible] musicality can be seen as an integral part of being human, and consequently a right to [illegible] education exists (Bowman 2012).

References

Ba[illegible] (199[illegible]). Jugendkulturen und Musik [Youth culture and music]. In H. Bruhn, [illegible] Oe[illegible] & H. Rösing (eds.), *Musikpsychologie: Ein Handbuch*. Reinbek: Rowohlt, pp. 2[illegible]237.

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. New York: W. H. Freeman.

Behne, K.-E. (1975). Musikalische Konzepte: Zur Schicht- und [illegible]tät musikalischer Präferenzen [Musical concepts: On the specificity of music [illegible] according to social class and age]. In E. Kraus (ed.), *Forschung [illegible] Musikerziehung*. Mainz: Schott, pp. 35–61.

Behne, K.-E. (1986). *Hörertypologien: Zur Psychologie jugend[illegible]en Musikg[illegible]macks* [Listener typologies: On the psychology of adolescent music tas[illegible]rg: Bosse.

Behne, K.-E. (1987). Urteile und Vorurteile: Die All[illegible]musiktheorien jugendlicher Hörer [Judgement and prejudice: The everyday theor[illegible] listeners]. In H. de la Motte-Haber (ed.), *Psychologische Grundlagen des [illegible]lebens*. Kassel: Bärenreiter, pp. 221–272.

Behne, K.-E. (1993). Musikpräferenzen und [illegible]sikge[illegible]mack [illegible]sic preferences and musical taste]. In H. Bruhn, R. Oerter, & H. [illegible] (eds.), *Musikpsychologie: Ein Handbuch*. Reinbek: Rowohlt, pp. 339–353.

Behne, K.-E. (1997). The Development of "Musikerleben[illegible] Adolescence: How and Why Young People Listen to Music. [illegible] Deliège & J. A. Sloboda (eds.), *Perception and Cognition of Music*. Hove: Psychol[illegible] Pres[illegible]p. 143–159.

Beutler-Prahm, B. (2012). *Gesch[illegible]sche [illegible]pekte in der musikalischen Präferenz bei Grundschulkindern* [Gender-sp[illegible] as[illegible]s in music preferences of elementary schoolchildren]. Bachelor's thesis, Univer[illegible] of Bremen.

Bollen, K. A. (2002). Laten[illegible]bles in Ps[illegible]hology and the Social Sciences. In *Annual Review of Psychology* 5[illegible], pp. 6[illegible].

Bourdieu, P. (1993). [illegible]oziolog[illegible]he Frag[illegible] [Sociological questions]. Frankfurt am Main: Suhrkamp.

Bowman, W. (20[illegible]). Mus[illegible]ce in Education. In G. E. McPherson & G. F. Welch (eds.), *The Oxford [illegible]k of Mu[illegible]ducation*, vol. 1. New York: Oxford University Press, pp. 21–39.

Busch, V., [illegible]mann-W[illegible]mser, [illegible], & Liermann, C. (2009). The Influence of Music Genre, Style[illegible]nder of Singing Voice on Music Preference of Elementary School Ch[illegible]. In J. Louhivuor[illegible] T. Eerola, S. Saarikallio, T. Himberg, & P.-S. Eerola (eds.), *Proceeding[illegible]he 7th Triennial Conference of European Society for the Cogni[illegible]f Music (ESCOM) in Jyväskylä 2009*. Jyväskylä: University of Jyväskylä, pp[illegible]–37

Busch, V., [illegible]rig, M., Bunte, N., & Beutler-Prahm, B. (2014). "Mir gefällt ja mehr diese Rockmus[illegible] Zur Struktur der Präferenzurteile im Grundschulalter ["I prefer this [illegible]sic": On the structure of preference judgements at elementary school age]. In *Musikpsychologie* 24, pp. 133–168.

Chan, T.[illegible] & Goldthorpe, J. H. (2007). Social Stratification and Cultural Consumption: Music in England. In *European Sociological Review* 23 (1), pp. 1–19.

Costa, P. T. & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO PI-R) and NEO Five Factor Inventory: Professional Manual.* Odessa: Psychological Assessment Ressources.

Cremades, R., Oswaldo, L., & Lucia, H. (2010). Musical T[illegible]s of S[illegible] School Students with Different Cultural Backgrounds: A Study in the Spanish North African City of Melilla. In *Musicae Scientiae* 14 (1), pp. 121–141.

Delsing, M. J. M. H., Bogt, T. F. M. T., Engels, R. C. M. E. [illegible] Meeus, W. H. J. (2008). Adolescents' Music Preferences and Personality Characterist[illegible] In E[illegible] *Journal of Personality* 22 (2), pp. 109–130.

Dweck, C. S. (2000). *Self-Theories: Their Role in* [illegible] *Personality and Development.* Hove: Psychology Press.

Eijck, K. v. (2001). Social Differentiation in [illegible] Patterns. In *Social Forces* 79 (3), pp. 1163–1184.

Erzberger, C. & Kelle, U. (2003). Making Inferences in Mixed Methods: The Rules of Integration. In A. Tashakkori & C. Teddlie (eds.), *Handbook of Mixed Methods in Social & Behavioral Research*. Thousand Oaks: SAGE, pp. 457–488.

Gembris, H. & Schellberg, G. (20[illegible] [illegible]enohrigkeit und ihr Verschwinden bei Kindern im Grundschulalter [Open-earedness [illegible] its disappearance at elementary school age]. In *Musikpsychologie* 19, pp. 71–92.

Hargreaves, D. J. (1982). The Development of Aesthetic Reactions to Music. In *Psychology of Music* 10 (Special Issue), pp. [illegible]54.

Hargreaves, D. J., Co[illegible], C. [illegible] Colley, A. (1995). Effects of Age, Gender, and Training on Musical Preferences of British Secondary School Students. In *Journal of Research in Music Education* 43 (3), pp. 242–250.

Hargreaves, D. [illegible] C., & [illegible]ant, M. (2006). Musical Preference and Taste in Childhood and Adolescence. [illegible] G. E. McPherson (ed.), *The Child as Musician: A Handbook of Musical Development*. New York: Oxford University Press, pp. 135–154.

Hargrea[illegible] J., & North, A. (2012). Imagination and Creativity in Music Listening. [illegible] Hargreaves, D. [illegible] Miell, & R. A. R. MacDonald (eds.), *Musical Imaginations*. New York: Oxford University Press, pp. 156–172.

H[illegible] (1999). Ethnically Diverse Sixth Graders' Preferences for Music of Differ[illegible] *[illegible]as Music Education Research* 3, pp. 37–43.

Kleinen, [illegible]11). Musikalische Sozialisation [Musical socialisation]. In H. Bruhn, R. Kopiez, [illegible] C. Lehmann (eds.), *Musikpsychologie: Das neue Handbuch*. Reinbek: Ro[illegible]p. 3[illegible]–66.

[illegible]ez, R. [illegible] Lehmann, M. (2008). The "Open-Earedness" Hypothesis and the Development [illegible] Age-Related Aesthetic Reactions to Music in Elementary School Children. In *British Journal of Music Education* 25 (2), pp. 121–138.

LeBlanc, A., Sims, W. L., Siivola, C., & Obert, M. (1996). Music Sty[illegible]ces of [illegible]ferent Age Listeners. In *Journal of Research in Music Educati[illegible]* 44 (1), p[illegible]5[illegible]

Lehmann-Wermser, A., Busch, V., Schwippert, K., & Nonte[illegible] (eds.) [illegible]014). *M[illegible]ikrofon und Fragebogen in die Grundschule: Jedem Kind ein Inst[illegible]ent [illegible] empirische Längsschnittstudie zum Instrumentalunterricht* [With a[illegible]rophone a[illegible]a questionnaire in elementary schools: “Jedem Kind ein Instrument ([illegible]pirical longitudinal study on instrumental tuition]. Münster[illegible]mann.

Louven, C. (2011). Mehrjähriges Klassenmusizier[illegible] und [illegible]wirkungen auf die “Offenohrigkeit” bei Grundschulkindern: Eine Lang[illegible]tst[illegible] [Several years of instrumental music-making and its effects on [illegible]en-ea[illegible]ess” of elementary school children: A long-term study]. In *Diskuss[illegible] Musi[illegible]dagog[illegible]* [illegible]0 (11), p[illegible]48–59.

Maccoby, E. (2000). *Psychologie der Geschle[illegible] S[illegible]elle Identität in [illegible]n verschiedenen Lebensphasen* [Psychology of the two sexes: Gro[illegible]p apart, co[illegible]ing together], trans. by E. Vorspohl. Stuttgart: Klett-Cotta.

MacDonald, R., Hargreaves, D. J., & [illegible]ell, D. (2002). *Musical Identities*. New York: Oxford University Press.

MacDonald, R., Hargreaves, D. [illegible] Mi[illegible] D. (20[illegible]). Musical Identities. In S. Hallam, I. Cross, & M. Thaut (eds.), *The Oxfor[illegible]dbo[illegible]f Music Psychology*. New York: Oxford University Press, pp. 46[illegible]–470.

Mayring, P. (2010). *Qualit[illegible]Inhaltsana[illegible]e: Grundlagen und Techniken* [Qualitative content analysis: Fu[illegible]enta[illegible]te[illegible]iques]. Weinheim: Beltz.

McPherson, G. E., D[illegible]son, [illegible]., & Fa[illegible]ner, E. (2012). *Music in Our Lives: Rethinking Musical Ability, [illegible]lopm[illegible] and Identity*. New York: Oxford University Press.

Muthén, L. K. & [illegible]uthen, [illegible] (1998–2012). *Mplus User’s Guide*, 7th ed. Los Angeles: Muthén & [illegible]

North, A. C. & Ha[illegible]ave[illegible] (1999). Music and Adolescent Identities. In *Music Education Re[illegible]ch* 1 (1), [illegible]75–[illegible].

Peterson[illegible] (1[illegible]rstanding [illegible]udience Segmentation: From Elite and Mass to Omnivore [illegible]nivore. In *Poetic[illegible]* [illegible]1 (4), pp. 243–258.

Pete[illegible]on, R. A. & S[illegible], A. (1992). How Musical Tastes Mark Occupational Status [illegible] Lamont & M. Fo[illegible]nier (eds.), *Cultivating Differences: Symbolic Bound-ar[illegible]nd t[illegible]g of In[illegible]ality*. Chicago: Chicago University Press, pp. 152–186.

Rawlings, [illegible]Ciancarelli[illegible] (1997). Music Preference and the Five-Factor Model of the NEO Per[illegible]lity Inventory. In *Psychology of Music* 25 (2), pp. 120–132.

Re[illegible]J., Goldberg[illegible]R., & Levitin, D. J. (2011). The Structure Model of Musical Pref-[illegible]rence[illegible] Five-Factor Model. In *Journal of Personality and Social Psychology* 100 (6), pp. 1[illegible]1157.

Ruble, D.N., Martin, C.L., & Berenbaum, S.A. (2006). Gender Dev[illegible]n W. [illegible]mon & R.M. Lerner (eds.), *Handbook of Child Psychology*, vol[illegible] 6th ed[illegible]ke[illegible]Wiley, pp. 858–932.

Schäfer, T. & Sedlmeier, P. (2009). From the Functions of [illegible]sic t[illegible]eference. [illegible]n *Psychology of Music* 37 (3), pp. 279–300.

Schneider, W. & Lindenberger, U. (2012). *Entwicklungspsycho*[illegible]pmenta[illegible] psychology]. Weinheim: Beltz.

Schurig, M. (2012). Response Bias und Messinvar[illegible] im [illegible]il zu mus[illegible]lischer Präferenz: Hinter der Messinvarianz [Response bi[illegible]nd [illegible]asurement i[illegible]ariance in a judgement on music preference: Beyond [illegible]reme[illegible]variance]. Pa[illegible]er presented at the *77th Conference of the Arbeitsg*[illegible]*e für* [illegible]*piris*[illegible] *Pädago*[illegible]*he Forschung (AEPF)*, Bielefeld, September 2012.

Sloboda, J.A., Lamont, A.M., & Greasley, A.E. (20[illegible] Choosing to [illegible]ear Music: Motivation, Process, and Effect. In S. Hallam, I. Cross, & M[illegible]haut (eds.), *The Oxford Handbook of Music Psychology*. New [illegible]k: Oxford University Press, pp. 431–440.

Teo, T., Hargreaves, D.J., & Lee, J[illegible]08). M[illegible]sical Preference, Identification, and Familiarity: A Multicultural Compari[illegible] S[illegible]ndary [illegible]dents from Singapore and the United Kingdom. In *Journal of Research in*[illegible] *E*[illegible]*tion* 56 (1), pp. 18–32.

Welch, G.F. & McPherson, G.E. (2012). In[illegible]ction and Commentary: Music Education and the Role of M[illegible] People's L[illegible]s. In G.E. McPherson & G.F. Welch (eds.), *The Oxford Handbo*[illegible]*Mus*[illegible], vol. 1. New York: Oxford University Press, pp. 5–20.

Wilke, K. (2012). *B*[illegible]*ode*[illegible]*unt sind schon die Wälder?! Musikpräferenz von Kindern in der Grund*[illegible]*ule* [G[illegible] rap or children's songs?! Music preferences of children in elementary [illegible]Münste[illegible]

David Holland

Acoustic Ecology and Its Role in Education

Learning to Listen to the Sounds

> "Now I will do nothing but listen …"
> (Walt Whitman, *Song of Myself*, quoted in Schafer 1977, p. 3)

I would like to invite you to close your eyes and open your ears to all the sounds that surround you right now. What [illegible] you hear? What is the quietest sound? What is the closest? What is the furthest away?

How often do [illegible] really stop and listen to our towns and cities, our places of work, our homes, or even [illegible] the sounds of nature? The discipline of *acoustic ecology* asks us to consider our relationship [illegible] these sounds, their impact on society, how they change, and what we can [illegible] improve [illegible] sonic environment. The term was created by R. Murray Schafer (b. 1933), [illegible] is [illegible] Canadian composer, teacher, and scholar. He suggests that we treat the sounds that make up our acoustic environment as a musical composition for which we [illegible]. This is a composition in which we are all "simultaneously its audience, its performers and its composers" (Schafer 1977, p. 205). He argues that we can only improve this composition by learning to listen, through developing an increased aural aw[illegible]thing that Schafer has worked for many years to introduce into schools. This chapter w[illegible]duce Schafer's philosophy, which forms the basis of the study of acoustic e[illegible]y, and explores how his ideas have been applied in education.

The term *soundscape* (usually credited to Schafer) could be said to refer to "all of the so[illegible] reaches our ears in a given moment" (Krause 2013, p. 26). It refers to the sonic [illegible]onment, which can include actual environments or created sound environments such as musical compositions (Schafer 1977, p. 274). Schafer founded the *World Soundscape Project (WSP)* with colleagues at the Simon Fraser University near Vancouver in the early 1970s. The project was "devoted to the comparative study of the world soundscape"

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(ibid., p. 275). A number of sonic environments were documented [illegible] study of the Vancouver soundscape that involved sound level measurements, “soundscape recordings and the description of a range of sonic features” (Wrightson 2000, p. 10). Their work was “primarily intended as educational and archival” to help develop [illegible] awareness of soundscapes. However, a new style of electroacoustic music called “soundscape composition” by the composer and early *WSP* member Barry Truax (b. [illegible]) emerged from the *WSP*’s work (Truax 2002, p. 5). Schafer and his colleagues at the *WSP* were concerned with the connection of each unique soundscape to [illegible] place [illegible] it exists in “through the combination of its special blend of voices, whether urban, rural, or natural” (Krause 2013, p. 27).

Acoustic ecology is by nature interdisciplinary because sound reaches into all aspects of life and the study of it “cannot help [illegible] all disciplines” (Westerkamp 2000, p. 4). In order to understand sound’s relationship with the environment and its effect on human life many different perspectives must be taken by the acoustic ecologist. The composer Hildegard Westerkamp (b. 1[illegible]), who was one of the leading figures in the *WSP*, has said that “listening forms the basis for all work in acoustic ecology” (ibid., p. 3) and for the *WSP* listening is central to [illegible] and understanding of the soundscape and therefore “for improving the orchestration of the soundscape” (Schafer 1977, p. 206). By this Schafer means making decisions regarding the types of sounds we want to preserve and those we want to eliminate (Westerkamp 2000, p. 4) through being openly attentive to whatever sounds are occurring.

Education has always played an important part in the *WSP*’s work, and listening exercises designed to open students’ ears and therefore develop awareness of their relationship with the soundscape usually play a central role in soundscape educational programmes. Before [illegible] some of the teaching methods used by the *WSP*, in particular in relation to listening [illegible], it would be useful to outline some of the key features of Schafer’s philosophy in more detail.

R. Murray Schafer: Tuning the World

A key [illegible] in [illegible] the theory of acoustic ecology is Murray Schafer’s *The Soundscape: The Tuning of the World* (1977). In this book he brings together a number of concepts previously discussed in publications released throughout the 1960s and 1970s. Central to his argument, [illegible] echoed by others in the *WSP*, such as Truax in *Acoustic Communication* (2001), is that human beings’ listening abilities have deteriorated due to the dominance of the visual in Western culture since the Renaissance as well as increased noise pollution. Schafer proposes that before the spread of the written word hearing was more vital than sight as knowledge was transmitted orally, but concern over issues such as noise pollution shows that there is now a desire to regain *clear hearing* or what Schafer [illegible] *clairaudience* (Schafer 1977, p. 11). Schafer states that the ear, unlike the eye, cannot be [illegible] will, as we do not possess ear lids. Therefore our only protection to the level of noise [illegible] modern society is to filter out many of the sounds around us (ibid.).

To aid the analysis of the soundscape Schafer identified significant features to enable categorisation of three particular types of sounds: keynote [illegible]s, and soundmarks (see Figure 1). *Keynote sounds* represent the background sounds that give a soundscape its fundamental tone in reference to the musical [illegible] identifies the key of a composition. These sounds are ubiquitous but not always consciously heard and can have a "pervasive influence on our behavior and [illegible] (ibid., [illegible]). Whereas keynote sounds occupy the background, *signals* are sounds that occupy the foreground of [illegible] soundscape. These might be, for example, sounds that [illegible] warnings, such as bells or horns – sounds designed to attract attention. The third feature Schafer identified is that of the *soundmark*, derived from landmark. This is a sound that is unique and due to its qualities particularly regarded by the local community. These features emphasise the uniqueness of particular soundscapes, which contribute to the life of communities.

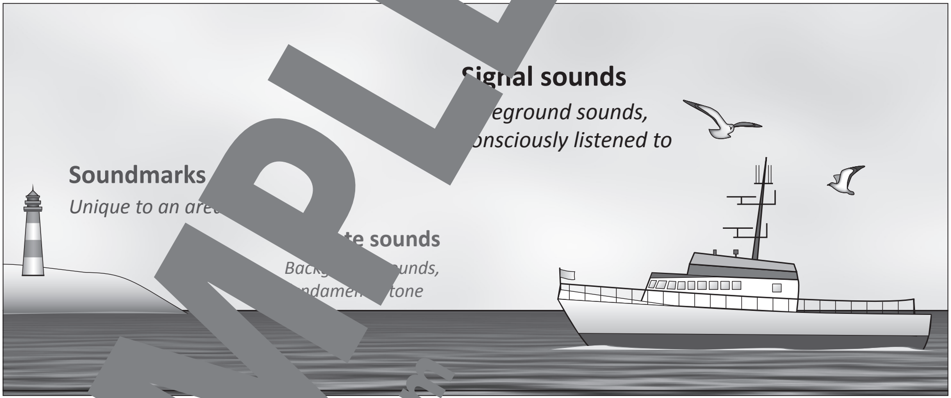
Signal sounds
Foreground sounds, consciously listened to
Soundmarks
Unique to an area
Keynote sounds
Background sounds, fundamental tone

Fig. 1: Main features [illegible] soundscape as identified by Schafer

However, [illegible] Schafer pointed out, the unique character of many soundscapes has been jeopardised by increasing noise pollution since the industrial revolution, resulting in what Schafer describes as *lo-fi soundscapes* (ibid., p. 43). In opposition to that, Schafer defines *hi-fi soundscapes* as follows: "The hi-fi soundscape is one in which discrete sounds can be heard clearly because of the low ambient noise level. The country is generally more hi-fi [illegible] the city; night more than day; ancient times more than modern" (ibid.).

One term closely associated with Schafer and explained in the book is that of *schizophonia* (ibid., p. 90). He first used the word in one of his early educational pamphlets *The New Soundscape*, later reprinted in *The Thinking Ear* (Schafer 1986, p. 139). The term refers to the way a sound can, since the technological developments of the [illegible] century, be split from its original source through transmission or electrical reproduction. This [illegible] a new development, as Schafer points out, “Originally all sounds were originals” they uniquely happened in one time and place (ibid.). Its similarity to the word [illegible]nia was deliberate as he wanted to convey “the same sense of aberration and drama” (ibid.). Schafer argues that this means that, “Modern life has been ventriloqu[illegible] 140). Schizophonia “creates a synthetic soundscape” (Schafer 19[illegible]91) and significantly adds to the lo-fi soundscape. In this situation we can become [illegible] natural sounds and our environment.

When we lived in a more hi-fi rural environment our [illegible] were more attuned to our surroundings. “From the nearest details to the most distant horizon, the ears operated with seismographic delicacy” (ibid., p. 44). [illegible] through *ear cleaning* that, according to Schafer, we can begin to regain clear hearing, and [illegible]tion has always played a key role in this for the *WSP*.

The *World Soundscape Project* [illegible] its Educational Aims: An Introduction to Schafer’s Teaching Methods

Central to the *WSP*’s ethos is [illegible] commitment [illegible] combine research, education, and composition. As described above, the foundation [illegible] Schafer’s philosophy was to note the dominance of the visual in society. [illegible] his experience of teaching he noticed that children’s listening skills were deteriorating (Wrightson 2001, p. 10). Therefore Schafer argued passionately that listening skills should [illegible] part of the national curriculum (ibid.). He stated that it is only through an [illegible] of the sounds of our environment that the soundscape can be improved and that education from a young age plays an important role in this. “For many years I have been fighting for ear cleaning in schools to eliminate audiometry in factories. Clairaudi[illegible] (Schafer 1977, p. 4). *Clairaudience* means clear hearing which can be achieved [illegible] practising ear cleaning exercises (ibid., p. 272).

Ear [illegible] Exercises

Ear cleaning [illegible] the term Schafer used to describe the process of cleansing the ears necessary [illegible] the students can listen clearly to their environment. Of course, he did not intend a physical cleaning, but a regained sensitivity achieved through a series of listening [illegible]. Schafer shared many such exercises in educational booklets that he first published in the 1960s and which were later all presented in the collection *The Thinking Ear*. Schafer’s principal aim was to try to open the ears of the students to sounds that they had not noticed before (Schafer 1986, p. 46). His teaching approach usually involved participation. He argued that students could only learn about sound and music by making their own sounds and music (ibid.). The exercises often require the students to consider different qualities of sound, such as the nature of noise, silence, timbre, and rhythm. For example, in an assignment for students to carry out at home, he instructed, “Silence is elusive. Try to find it!” (ibid., p. 51). Or sometimes he asked students to make lists of the sounds they could hear without talking. He observed that some of the younger children noticed very intimate sounds such as their breathing, heartbeat, [illegible], which older students failed to notice (ibid.). Some exercises he used in these situations encouraged students to consider whether there is such a thing as silence, as John Cage, after his famous visit to an anechoic chamber in 1951, had concluded that absolute silence does not exist (Cage 1961).[1] To help illustrate that there is always something to hear, Schafer created activities such as passing a piece of paper around slowly (Schafer 1986, p. 51), which was designed to draw the students’ attention to the quietest sounds. Schafer’s aims in the exercises he developed were often to either [illegible] the ears, release creative energy, or both (ibid., p. 89), but this always involved engaging the students.

Some of the exercises Schafer designed used only the human voice. He argued that we need to understand the link between the human voice and the ear and that these “must provide the standards in [illegible] of the acoustical environment salubrious for human life” (ibid., p. 170). The ear has evolved to be particularly sensitive to the voice and the frequency range it inhabits. Therefore any acoustic environment that is favourable to humans needs to account for this. The type of vocal exercises he devised in his 1960s pamphlets involved onomatopoeia. For example, “[u]sing only your voices, create a composition on the sounds of nature. Make your imitations as convincing as possible” (ibid., p. 176).

Another activity is [illegible] children to bring in interesting sounds to the class, which he warns can [illegible] students. However, when they actually take part in the exercise it helps them to discover the sounds around them by listening to them with new ears. He explained: “A boy brought a metal clacker. He said it was interesting because all his life he had been [illegible] was the first time he actually had ever been asked to listen to it” (ibid.).

So[illegible]

Another important exercise that Schafer proposed for introducing into schools was soundwalking. Hildegard Westerkamp describes soundwalks as “any excursion whose main purpose is listening to the environment. It is exposing our ears to every sound around us no matter where we are” (Westerkamp 2001a). She uses soundwalks as part of soundscape workshops whereby participants are asked to focus on particular [illegible] such [illegible] the sounds of the body, nearby sounds, the quietest sounds, or something [illegible] such as the wind and how many different sounds it creates. Schafer differentiated between [illegible] types of soundwalks, which are listed below:

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[1] In the anechoic chamber, which is a completely soundproof room, Cage said he could still hear two sounds. The engineer in charge told him that one was his nervous system and the other was his blood circulating. This led Cage to redefine silence as the absence of intended sounds or what happens when we stop paying attention or turn off our awareness (see Cage 1961 and Kostelanetz 1988).

1. A listening walk is simply a walk where the participants [illegible] in silence.
2. A soundwalk explores the soundscape of a [illegible] area but might also include: ear cleaning exercises, sound-making by [illegible] order to explore the sounds of the environment and be aware of [illegible] sound, and a score, which might include a map that could draw [illegible] attention to unusual sounds or qualities such as pitch.

As John Levack Drever (Professor of Acoustic Ecology [illegible] Sound Art, University of London) notes, composers have long walked for inspiration – [illegible] Beethoven, Mahler, Satie to Cage. Cage's famous silent piece [illegible] (1952) brings "fringe phenomena into the foreground" therefore "becoming [illegible] (Drever 2009, p. 179). This is similar to Westerkamp's definition of soundwalking, which [illegible] close attention to the sounds around us in order that quieter sounds may not be missed ([illegible] 2001a). It was through the *WSP* that soundwalking became fully established not [illegible] as a compositional tool but also a pedagogical one (Drever 2009, [illegible]). As Westerkamp observes, participating in a soundwalk without talking is a rare [illegible]'s world and students often find the experience inspirational ([illegible] 2011, [illegible]). In the *City Voices* festival that took place in Wiesbaden, Germany, [illegible] students took part in a mass soundwalk through the city. Lena Dietze, who teaches [illegible] ecology in German schools, noticed how one participant who at [illegible] sceptical [illegible] was won over by the experience: "I heard sounds I had never heard before [illegible] for example, or bird songs. I paid special attention to certain things. I [illegible] I never experienced anything like this before" (quoted in Dietze [illegible]).

Dietze [illegible] observed that talking about the experience afterwards with the other participants could [illegible] awareness of the sound environment (ibid., p. 21). This is also so [illegible] acknowledged by Westerkamp from her experiences of organising soundwalks (Westerkamp [illegible] [illegible] discussions are open and can often involve participants' reflections on [illegible] the shared experience of listening with others balanced by their own personal interpretations of sounds (ibid.).

[illegible] is an activity that invites participation, can help us learn about our relationship [illegible] our environment, or as Westerkamp points out "can simply be fun" (Westerkamp [illegible]). Most importantly it makes listening the priority providing: "a temporal and spatial frame for our ears to be open in the everyday, and open to the everyday, yet with a reverence of concert hall listening […] a social art form that calls for active participation

[…] and to quote Cage everyone is in the 'best seat'" (Drever 2009, [illegible]). [illegible] this [illegible]son, it is still frequently used in soundscape-related educational programmes [illegible] examples of some of these are given in the following section.

Recent Examples of Using Soundscape Approaches in Educational Initiatives

Schafer's ideas on education are still very influential as evidenc[illegible] [illegible]ied edition of *Soundscape: The Journal of Acoustic Ecology* in 2001. [illegible] includes a number of examples where Schafer's techniques are still being used successfully [illegible]:

Michael Cumberland, a teacher in Canada, describes the value of these techniques in developing listening skills after using [illegible] with a wide range of age groups from elementary to high school level (Cumberland 2001). O[illegible]r cleaning exercise that Cumberland describes is that of making sou[illegible]en the children are asked to listen for one minute and then make individual lists of what they heard. When doing such exercises Cumberland always encourages children to provide as much detail as possible; for example, he will ask how many times [illegible] sound happened during the minute's listening and when. He even turns it into a collaborative exercise as the children then make an overall list of all the sounds that were heard [illegible] many ears working together in this way provides a more detailed account of the acoustic environment. This represents the starting point of the listening training and from here more detailed listening lists are made in other locations and on a soundwalk. [illegible] Cumberland also asks the children to categorise the sounds, for example, as technological or [illegible], discrete or continuous, and to convert them into symbols on sound graphs. [illegible] can be [illegible] rewarding exercise for both pupils and teacher, and as Cumberland acknowledges the results are always different as the soundscape is never the same (ibid.). The [illegible] then creates compositions made from vocal imitations of the soundscap[illegible] exerc[illegible] devised by Schafer in *When Words Sing* (Schafer 1986, p. 170). Cumberland argues that Schafer's teachings are understandable to a wide range of age groups. He suggests that they can be used by teachers with little musical training and equipme[illegible] a very positive effect on children's awareness of the soundscape (Cumberland 2001) and can enable them to engage creatively and musically with environmental soun[illegible]

[illegible] project described in the same issue concerns an initiative on the Isle of Lewis [illegible] the [illegible] of Scotland. The guiding aims of this project (conducted by Scotland-bas[illegible]nd artist Gregg Wagstaff) were to "describe and document the social, cultural and nat[illegible] make up of the islands through their soundscape" in a process that would inv[illegible] local people (Wagstaff 2001, p. 30). As part of the project Wagstaff arranged [illegible]o-day workshop with children between the ages of 8 and 12 at a local elementary school in order to "engage the children in listening *to* and thinking *about* their soundscape" (ibid., his italics). He led the children in activities such as listening to recordings of different soundscapes from around the world and asked them to write down what they thought the sounds were, where they thought the sounds were recorded, and [illegible] made them feel. They also engaged in sound-mapping exercises in which they were [illegible] asked to find a place to sit outside away from the other pupils. They then individually recorded on paper (in writing, drawing, or in any form of notation) all the sounds they [illegible] hear and the direction from which they were coming. Additionally, the children were asked [illegible] keep sound diaries and write a piece of poetry about sound.[2] Below is an [illegible] a 10-year-old pupil's sound diary that Wagstaff provides as an example:

> "Bus grunts and snorts starting on our run home. Choir
> sings high then low, words coming to life in tune, [illegible]
> me sleepy. Pencil squeaks over paper, [illegible] taps [illegible] beat,
> desperate to remove a stain. I feel frustrated [illegible]ing it.
> 'Whirr' – the ball swings round. 'Cra[illegible] the [illegible] hits the
> bat. Happy. Radio sings over the whirring engine, voices
> desperate to drown out the 'vroom'. T.V. blasts [illegible]s voices,
> mindless." (Ibid., p. 31)

Wagstaff also provides this piece of sound poetry (produced by another 10-year-old pupil):

> "The whistle of the wind by my [illegible]
> The wind blowing against the trees[illegible]
> Trees 'swish'. Sounds heard,
> Forcing us back. Sto[illegible] you hard,
> The wind pushing the sea [illegible]ASH against the rocks,
> Moving clouds [illegible]
> With the calm comes silence." (Ibid., p. 30)

This impressive piece of work demonstrates how such exercises can enable an imaginative exploration tha[illegible] children [illegible]h their sound worlds in a creative way.

Also in the [illegible] Robin McGinley outlined the *Stockholm Soundscape Project* which was [illegible] for 15-year-olds and encouraged them to keep sound journals for five days in which [illegible] and reacted to sounds they heard around them (McGinley 2001, p. 26). Th[illegible] served the same purpose as the sound diaries used in Wagstaff's project. The general aim was [illegible] the students' awareness of their sound environments but also to [illegible] studying contemporary experimental and electroacoustic music. The idea w[illegible] simp[illegible] by opening up the students' ears to the sounds around them, they would be [illegible] willing to listen to these types of music: "If you can encourage people to listen to *everything*, they can listen to *anything*" (ibid., p. 29, emphasis in original).

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[2] Schafer believes that the practice of keeping a sound diary can be an important tool for developing as an acoustic ecologist, as it enables one to note differences and variations in sound over time and in different locations (Schafer 1977, p. 211).

One recent soundscape initiative was part of the *Soundscapes and Cultural Sustainability Project* that had its origins in *WSP* research led by Schafer in 197[illegible] [illegible] that had originally studied the soundscapes of five villages in different parts of Europe. One of the aims of the *WSP* has always been to document how soundscapes [illegible] over time and Schafer has always emphasised the evolving nature of soundscapes in his educational projects. Therefore, in 2000 a comparative study was made of [illegible] villages to analyse how the soundscapes had evolved. In 2011, Dollar in Scotland and Cembra in Italy were visited again to present the findings of these studies to [illegible] communities. On this occasion school pupils were also invited to produce their own views on the Dollar soundscape, which can still be seen as part of a blog [illegible] the Dollar Soundscape website (Dollar Soundscapes 2011). Activities conducted with school children involved "Sound Preference Tests" in which they were asked to fill [illegible] to show the sounds they liked or disliked in Dollar. Also, children aged 7 and 8 took p[illegible] soundwalks during which they made and recorded sounds from crisp packets, railings, and plastic bottles which were then posted on the blog. This project was heavily influenced by the original research of the *WSP*, but the scope was expanded to include community and educational initiatives to encourage local people to learn [illegible] their soundscapes and how they have changed (Uimonen 2011).

These examples demonstrate that young people can connect with their acoustic environments in ways that give them a fresh perspective on the influence of sound in their lives, which in turn might then [illegible] them to engage with unfamiliar forms of music. In many of these examples the projects involve creative engagement with the soundscape, and this can be particularly effective for learning about and listening to the soundscape when it involves soundscape composition.

Soundscape Composition and Listening

Soundscape composition (a term coined by Barry Truax) began as a practice in the 1970s and was [illegible] conducted by the *WSP*. Early compositions were recordings of soundscapes [illegible] the main intention of documenting them and representing them to the listener. An early example of this is the recordings made of the Vancouver soundscape th[illegible] in 1973. However, later in the 1970s compositions started to involve the transformation [illegible] sounds using studio processing. Truax suggests that one of the most notable characteristics of soundscape composition is that most of the pieces "can be placed on a continuum between what might be called 'found sound' and 'abstracted' approaches" (Truax 2002, p. 6). This continuum can result in a diversity of works ranging from those which are analogous to real-world experience to those that might involve associations with memories and dreams (ibid., p. 12). Despite this, according to Truax soundscape compositions always retain a degree of recognisability in the sounds used.

Truax explains that soundscape pieces can encourage listeners to concentrate on and explore sounds in more depth, hearing them differently from in everyday life (Truax 2002). This could be because they are heard in isolation, removed from everyday experience within the context of a composition or also because they are manipulated in some way to emphasise a particular characteristic. The Canadian soundwalk artist Andrea McCartney points out that Hildegard Westerkamp “aims to sensitise listeners [illegible] sounds of the environment around them, and to bring attention to small sounds that are often unnoticed” by amplifying them or juxtaposing them with processed versions (McCartney 2002, p. 45).

Westerkamp believes that listening itself is integral to soundscape composition, and that regular listening practice will benefit [illegible] composer by deepening the relationship with the acoustic environment (Westerkamp 200[illegible]). Westerkamp underlines the role of listening, not only for the composer but also [illegible] audience, in the success of such works:

> “The listener also plays a role in this process – i. e. how can the listener’s ears give birth to a piece? One can assume for audiences listening to such compositions that the experience of conscious soundscape listening in daily life would add significantly to the understanding of and involvement with a soundscape composition.” (Ibid., p. 56)

The aspects of soundscape composition that relate to memories or feelings connected to a particular place can be used to help engage children in educational contexts. This is demonstrated by a project run by Savage and Challis (2001) with schoolchildren from Suffolk in England. Soundscape approaches were used to help the pupils create compositions that related to their feelings and experiences of Dunwich, a small village on the Suffolk coast. The pupils were required to produce musical responses to various environmental stimuli (e. g., photographs, pictures, and writing that related to Dunwich and its past) as well as the pupils’ own memories of the Suffolk coast. These responses involved producing vocal sounds and using environmental recordings that the pupils could manipulate using sound processors. Savage and Challis argue that one pedagogical value of acoustic ecology is that by appropriately incorporating technology, music education can be “democratised”, while at the same time the pupils’ environmental awareness can be raised. They emphasise the role [illegible] in this, as they argue it can successfully engage the children “meaningfully with life itself” (Ibid., p. 38).

The Dunwich project is a good example of an educational initiative influenced by soundscape compositional practice as soundscape composition puts an emphasis on the local [illegible] of place. This is explicably highlighted by the founders of the *WSP*, such as Schafer (1[illegible]) and Westerkamp (1999). Capturing a sense of place is often key to these types of works, and practitioners such as the British sound recordist and composer Chris Watson (b. 1952) view this as an important part of their work (Hollings 2010, p. 53). In many of their pieces composers such as Watson and Jacob Kirkegaard are not trying to capture the soundscape exactly as it is experienced by human beings, [illegible] photo[illegible]ph” (Montgomery 2009, p. 146). Using technology, they often sh[illegible] us wha[illegible] hear (ibid., p. 161) by putting microphones in places that our [illegible] cann[illegible]t go ([illegible]xample, Watson has recorded the sound of ice in an Icelandic gla[illegible]. Ho[illegible]ax has more recently placed a particular emphasis on works made in lo[illegible]ns that ar[illegible]own to the audience, which therefore require composers to engage in dee[illegible]ent wi[illegible] particular social, cultural, and environmental contexts, [illegible]areful thought about wh[illegible] needs to be said about them” (Truax 2012, p. 200), therefo[illegible]ving[illegible] particul[illegible]eaning and relevance to that audience. This, too, can be an en[illegible]ing[illegible]ect of educa[illegible]onal initiatives in which the students use recordings of [illegible]wn [illegible]tic environm[illegible]nts to make soundscape compositions or sound installa[illegible]s rela[illegible] to p[illegible][3]

Many composers connected to the so[illegible]tradition advocat[illegible] a type of listening that uses the imagination through memories [illegible]ssociations triggered by sounds. Sound has powerful properties in this regard. For examp[illegible] hearing sounds from the past can sometimes bring the whole “co[illegible]ext back to life” (Truax 2001, p. 29). Some composers try to guide the listener towa[illegible] this t[illegible]e of reflection, as in Westerkamp’s *Kits Beach Soundwalk*. Westerkamp draws t[illegible]o the t[illegible]kling and crackling of the barnacles as a way of shifting the listener’s perspect[illegible]m t[illegible]source to the inner world of the sounds and “to stimulate the imagination” (Kolber 2[illegible]p. 42). Westerkamp argues that listening is a creative act and that sou[illegible]pe compo[illegible]tions can create “a place of balance between inner and outer worlds, [illegible]lity an[illegible]in[illegible]n” (Westerkamp 1999).

Developing i[illegible]nat[illegible]listenin[illegible]ractice as a prerequisite for composition can be used as part of [illegible]tio[illegible]nitiatives. My own research (see *Heightened Listening: A Creative Tool for [illegible]ening [illegible]d Minds to Sound-Based Music* in this book) has involved encouraging c[illegible]eflect [illegible]eir responses to sounds, to consider how sounds resonate with their o[illegible]exp[illegible]e, and to use this to create themes or narratives to help structure c[illegible]position[illegible]regg [illegible]agstaff’s project (described earlier) involved children on the Isle [illegible] own sou[illegible]d poetry, which entailed reflection on the sounds of their enviro[illegible]t. This type of im[illegible]native listening could be a useful pedagogical tool for h[illegible]ping children [illegible]age with sounds creatively. It can be the beginning of listening to[illegible]t as a compos[illegible]nd can be used as a foundation for helping students deve[illegible]deas [illegible]dscape compositions.

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[3] A soun[illegible]allation wi[illegible]often be site-specific and will include sounds or compositions (usually looped) that re[illegible]to ideas [illegible]hemes that the artist is trying to communicate. Sound installations sometimes include an intera[illegible]tive element, and one is able to move around the space in which it is situated for as long as one cho[illegible]es.

Conclusion

Many educators who used Schafer's exercises in the past a[illegible] still use them to[illegible] will argue that the benefits of developing listening skills and so[illegible] aware[illegible] go beyond a knowledge and appreciation of the soundscape. The philo[illegible]hy of Scha[illegible] encourages educators to have a perspective on sound that combines the a[illegible] the ecological. His view is in accordance with Cage who said in a let[illegible] Schafer "Music is sounds, sounds around us whether we're in or out of concert halls" (Cage [illegible] Schafer 1986, p. 94). Similarly, Schafer (1977) presents the whole soundscap[illegible] composition that we all play a part in. Therefore the act of listening to the wo[illegible]und u[illegible] creative one that can have implications that go far beyond the bound[illegible] of music education. For this reason study of the soundscape is by nature interdiscipli[illegible]ing any discipline (e.g., acoustics and psychoacoustics as well as psychology, sociolog[illegible] architecture) that can help us to understand our relationship to sound in the environment in which we live.

Westerkamp (2001b) has a[illegible] what the result would be if soundscape listening and acoustic ecology were [illegible]e par[illegible]f all sound-related disciplines. For example, what would be the impact on b[illegible] the fu[illegible]e if architecture students were asked to analyse the acoustic environments [illegible]ildi[illegible] in the same way as a music student analyses a composition? Or what "if schoolte[illegible]ers and principals were trained to create school soundscapes condu[illegible] learning" (ibid., p. 3)? Educators have acknowledged the profound effect that lis[illegible] tra[illegible] ave on children and themselves as teachers, namely that a new "[illegible]ect [illegible] everyth[illegible] and everybody that is heard" (ibid., p. 4) can emerge. In Wester[illegible] vie[illegible]his type of practice can result in children developing "a more conscious [illegible]lations[illegible] the environment and society" (ibid.), which is a laudable outcome of an[illegible]al prog[illegible]me.

In the digi[illegible] inte[illegible]ge Schafer's approaches to education are more valuable than ever, i[illegible] time wh[illegible] many teachers claim attention spans are shrinking (see Purcell et al. 2012). [illegible] training of this type, which raises general sonic awareness, might well im[illegible] listening to and appreciation of all types of music. Indeed, Schafer argues that such ear c[illegible] is crucial for all music:

> "Before [illegible] a surgeon to perform delicate operations we first ask him to get [illegible] th[illegible]abit of washing his hands. Ears also perform delicate operations, and the[illegible]e ear cleanliness is an important prerequisite for all music listening and music [illegible]ing." (Schafer 1986, p. 46)

References

Cage, J. (1961). *Silence: Lectures and Writings*. Hanover: We[illegible]an Un[illegible]ersity [illegible].

Cumberland, M. (2001). Bringing Soundscapes into the E[illegible]yday [illegible]. In *Soundscape: The Journal of Acoustic Ecology* 2 (2), pp. 16–20.

Dietze, L. (2000). Learning Is Living: Acoustic Ecology as Peda[illegible]nd. A [illegible]eport on Experience. In *Soundscape: The Journal of Ac[illegible]ic Ecology* 1 (1), pp. 20–22.

Dollar Soundscapes (2011). *Dollar Soundscapes: Ab[illegible]* http[illegible]ndscapes.blogspot.co.uk/p/about.html [08.11.2016].

Drever, J. (2009). Soundwalking: Aural Excur[illegible]to th[illegible]ryday. In J. S[illegible]nders (ed.), *Ashgate Research Companion to Experi[illegible]tal M[illegible]*. Far[illegible]n: Ashga[illegible].

Hollings, K. (2010). Chris Watson: Defying t[illegible]ess. In *The Wir[illegible]* [illegible]18, pp. 50–55.

Kolber, D. (2002). Hildegard Westerkamp's Kits Be[illegible]ndwalk: Shifting Perspectives in Real World Music. In *Organised Sound* 7 (1), pp. 41–[illegible].

Kostelanetz, R. (1988). *Conversing [illegible] Cage*. New York: Limelight.

Krause, B. (2013). *The Great Ani[illegible] Orch[illegible]a*, London: Profile.

McCartney, A. (2002). Alien Int[illegible]aring [illegible]ience Fiction Narratives in Hildegard Westerkamp's "Cricket Voice". In *O[illegible]ed [illegible]nd* 7 (1), pp. 45–49.

McGinley, R. (2001). Stock[illegible]olm Soundscape[illegible]ect New Directions in Music Education. In *Soundscape: The Jou[illegible]Acoustic E[illegible]ogy* 2 (2), pp. 25–29.

Montgomery, W. (2009[illegible]Beyond[illegible]cape: Art and Nature in Contemporary Phonography. In J. S[illegible]), *Ash[illegible] Research Companion to Experimental Music*. Farnham: Ashg[illegible]

Purcell, K., Raini[illegible], Hea[illegible]Buchanan, J., Friedrich, L., Jacklin, A., Chen, C., & Zickuhr, K. (2012). [illegible] *Do Re[illegible]h in the Digital World*. http://www.pewinternet.org/Reports/2012/[illegible]len[illegible]arch.aspx [08.11.2016].

Savage, J. [illegible]Challis, M[illegible]2001[illegible]ound Reflections: The Influence of Acoustic Ecology on Class[illegible]In *Sounds[illegible]: The Journal of Acoustic Ecology* 2 (2), pp. 36–38.

Schafer, R. M. [illegible] *The T[illegible]ning of t[illegible] World*. Rochester: Destiny Books.

Schafer, R. M. (1986[illegible]*Thinking E[illegible]r*. Toronto: Arcana.

Tr[illegible]coustic Comm[illegible]ation*. Westport: Ablex.

Truax[illegible](20[illegible]es and [illegible]chniques of Soundscape Composition as Developed at Simo[illegible]r University. In *Organised Sound* 7 (1), pp. 5–14.

Truax, B. (20[illegible]Sound, Li[illegible]ning and Place: The Aesthetic Dilemma. In *Organised Sound* [illegible]p. 1[illegible]3–201.

[illegible]nen, [illegible](2011). Everyday Sounds Revealed: Acoustic Communication and Environment[illegible]ecordings. In *Organised Sound* 16 (3), pp. 256–263.

Wagstaff, G. (2001[illegible]With the Calm, Comes Silence. In *Soundscape: The Journal of Acoustic Ecology* 2 (2[illegible]p. 30–32.

Westerkamp, H. (1999). *Soundscape Composition (1): Linking [illegible]uter [illegible]lds.* http://www.sfu.ca/~westerka/writings%20page/articles%[illegible]pages/[illegible]omp.html [08.11.2016].

Westerkamp, H. (2000). Editorial. In *Soundscape: The Jou[illegible]l of [illegible]ology* 1 ([illegible]), pp. 3–4.

Westerkamp, H. (2001a). *Soundwalking.* http://www.sfu.ca/~[illegible]ngs%2[illegible]e/articles%20pages/soundwalking.html [08.11.201[illegible]

Westerkamp, (2001b). Editorial. In *Soundscape: [illegible]stic E[illegible]* 2 (2), pp. 3–4.

Westerkamp, H. (2002). Linking Soundscape [illegible]sitio[illegible] Acoustic E[illegible]logy. In *Organised Sound* 7 (1), pp. 51–56.

Westerkamp, H. (2006). *Soundwalking as Eco[illegible]ice.* http://www[illegible]u.ca/~westerka/writings%20page/articles%20pages/soundaseco[illegible]html [08.11.[illegible]16].

Westerkamp, H. (2011). Exploring Balance & Focus in [illegible]ustic Eco[illegible]gy. In *Soundscape: The Journal of Acoustic Ecology* [illegible](1), pp. 7–13.

Wrightson, K. (2000). An Introdu[illegible]on to [illegible]oustic Ecology. In *Soundscape: The Journal of Acoustic Ecology* 1 (1), pp. 1[illegible]