Sound, silence, music: Organizing audible work settings

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Music is by and large an underexplored social resource in the organization theory framework. There is small but intriguing literature on the uses of music in organizations, stretching back to the days of the engineering revolution, and a body of texts examining the innovation of musical instruments, but music remains primarily a marginal phenomenon in organization theory. Drawing on a variety of literatures, this paper suggests that music plays a key role in creating possibilities for agency. Studies of the use of music in manufacturing settings and in retailing provide empirical evidence of how music is not detached from broader social interests and concerns but rather is a constitutive element in the social fabric. The paper concludes that music and the scholarly field of musicology are two domains to be further explored in organization theory and management studies.

Keywords: agency; music; musicology

Introduction

> You know what's the loudest noise in the world, man? The loudest noise in the world is silence.
>
> Thelonius Monk (cited in Kelley 2009, 449)

Recent orientations in social theory and organization theory are emphasizing the role of objects such as technical artefacts, tools, materials, and so forth being used in social practice (Knorr Cetina 1997; Lowe 2004; Fleming and Spicer 2005; Law and Singleton 2005; Whyte et al. 2007; Daston 2008). In this view, social practice is of necessity always a sociomaterial practice wherein cognitive, embodied, and material resources are co-aligned and combined. This ensemble of intangible and material resources includes a variety of tools, equipments, skills, routines, and so forth, all being part of the set-up within a specific field of expertise. Professional knowledge is thus organized around a variety of individual and organizational resources that taken together enable social action. Seen in this view, music, the totality of audible resources, can be fruitfully examined as an element in some agencies. For instance, in retailing, the shopping experience is fundamentally influenced by the audible environment being constructed to entice the consumer to spend more time in, for example, a supermarket. Music is here what is in midway between the intangible and the material, on the one hand being ethereal and fluid, not really possible to capture, while on the other hand being immediately

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perceived and recognized by the listener. Music is thus an excellent source for what Corbett (2003) calls 'psychosonic management'. The audible milieu, 'the soundscapes of modernity', in Thompson's (2002) phrasing, or the 'acoustic territories' in LaBelle's (2010), is a conspicuous and undeniable element of the social world and therefore music deserves some proper scholarly attention. 'The mundane, down-to-earth, functional, material and practical aspects of consumption are as important in the business game as their intellectual, ritual, cultural or anthropological approach,' Cochoy (2009, 33) remarks, calling for a more detailed analysis of how practices of consumption are being organized. In their literature review of studies of music in organizations, Prichard, Korczynski, and Elmes (2007, 5) identified three bodies of texts, (1) the empirically focused literature on 'the role and impact of recorded music in work environments', (2) a literature 'that asks us to consider what scholars can learn from music about managing and organizing' (e.g. Hatch 1999), and (3) a literature that asks 'what structures and processes patterns both music and work' (see, e.g. Schumkler 2002). In some cases, music is examined as a cultural expression bearing witness to the experiences from work and organizations (Rehn and Sköld 2005; Rhodes 2007). In addition to such studies, there is a small but interesting corpus of texts examining the innovation work where new musical instruments and equipment are produced and brought to the market (Pinch and Trocco 2002; Beijsterveld and Schulp 2004; Schmidt 2004). In addition, the organization theorist seeking to examine the role of music in working life and in organizing social reality is facing a relative lack of concern for the role of music. In relationship to literature or art, music is underexplored by intellectual discourses. Said (1991, 15) says that Michel Foucault noted the 'remarkable ignorance of contemporary intellectuals about music, whether classical or popular'. Of the major social theorists of the last century, it is only a handful of thinkers (e.g. Adorno, Weber, Edward Said) who have spoken of music as anything more than a marginal phenomenon. Musicologists McClary (1987, 15) suggests that this is indicative of a long-standing tradition in Western culture, thinking of music in 'non-social, implicitly metaphysical terms'. Such an ignorance of music as being what has little to do with everyday life or being strictly separated from the world of work or the domain of leisure and enjoyment is surprising given how powerful medium music is in terms of affecting humans in their everyday pursuits. Says McClary (1991): 'Music is an extremely powerful medium, all the more so because most listeners have little rational control over the way it influences them. The mind/body split that has plagued Western culture for centuries shows up more paradoxically in attitudes towards music: the most cerebral, nonmaterial of media is at the same time the medium most capable of engaging the body.' Contrary to the dismissive view, thinking of music as being at best additional or supplementary to other intangible or material resources (Subotnik 1996), this paper suggests that music is a key element when organizing society. Music is in short a resource that enables the agent to accomplish certain objectives through the use of music as either an element of a social milieu or setting or by affecting the attitudes and beliefs through sonar sense impressions. In this view, the argument put forth by Attali (1985), that music is 'illustrative of the evolution of our entire society', is recognized as a forceful recuperation of music. In Attali's (1985) view, an analysis of the music of a particular society or period of time is indicative or illustrative of that society or period in its entirety. Having said that, this paper will discuss the role of music in organizing society from both an analytical perspective, that of organization theory, as well as a social practice, constituting agencies that help to accomplish desirable social goals.

This paper is structured accordingly: first, theories of the role of music in society and in organizations will be examined. Second, a number of empirical illustrations will be provided. Third, some methodological issues regarding the study of the organizing of audible work settings are addressed. Fourth and finally, some theoretical and managerial implications will be listed.

Examining the concept of music

Music in social theory

'In sociology, we are familiar with visual materials but we have thus far paid little attention to sound. Sound is part of the material world,' Pinch (2008, 466, footnote 13) remarks. Such a neglect of the audible derives from what Mody (2005, 175) calls the 'ocularcentrism' of the Western tradition of thinking (Jay 1988; Warneke 1993; Corbett 2003), the strong emphasis on the visible and visuality at the expense of other domains of perception. Frith (1987, 144) is pointing at the polymorphous role of music in society as 'the creation of identity, in the management of feelings, in the organization of time'. All these functions or affordances are of central interest for the management of individuals or groups of individuals. In addition to the more practical knowledge interests (in Habermas's 1968 term), music is an interesting social resource in its own right. In Attali's (1985) seminal and much-cited defense of the study of music, a highly original little book overflowing with short declarative statements regarding the social use of music, written by a French economist and an obligatory passage point in works of musicology addressing the social role of music, music is portrayed as the key to the understanding of a particular society: 'Music is more than an object of study: it is a way of perceiving the world. A tool for understanding,' Attali (1985, 4) announces. Attali (1985, 11) is even granting an even more central role of music as what is capable of predicting a forthcoming society: '[T]he political economy of music is not marginal, but premonitory. The noise of a society is in advance of its images and material conflicts.' Attali (1985) explicates his position:

> Music is inscribed between noise and silence, in the space of the social codification it reveals. Every code of music is rooted in the ideologies and technologies of its age, and at the same time produces them. If it is deceptive to conceptualize a succession of musical codes corresponding to a succession of economic and political, it is because time traverses music and music gives meaning to time. (19)

Attali is thus suggesting that an understanding of the music produced in a particular society is enabling an understanding of the underlying social formations. Ideologies, beliefs, aesthetic norms and preferences, available technologies, etc., are all addressed in the analysis of music. For instance, the line of demarcation between noise and silence is a social concern that deserves some attention. As Attali (1985) suggests, music is 'inscribed between noise and silence' but both noise and silence are in themselves highly ideological terms, subject to 'social codification' in Attali's formulation. As composer R. Murray Schafer cited in Cox and Warner (2004, 37) suggests, 'In the West, silence has for many centuries been unfashionable.' Silence here 'equals death' (as in the campaign following the AIDS epidemic in the early 1980s; see Epstein 1996) or a withdrawal from society. Silence is thus becoming an 'unnatural' condition that may be even intimidating for individuals. William S. Burroughs (cited in Land 2005, 457) emphasizes the ideological suppression of silence emerging in a society preoccupied with ongoing chatter: 'I don't think of silence as being a device of terror at all. In

fact, quite the contrary. Silence is only frightening to people who are compulsively verbalizing.' Such 'compulsive verbalizing' is also addressed by Deleuze:

> Repressive forces don't stop people from expressing themselves but rather force them to express themselves. What a relief to have nothing to say, the right to say nothing, because only then is there a chance of framing the rare, and ever rarer, thing that might be worth saying. What we're plagued by these days isn't blocking of communication, but pointless statements. (1995, 129)

In the contemporary period, silence is thus denoting non-sociality, a failure to uphold communication and consequently the mechanisms that maintain and reproduce social formations. For Kaulingfreks (2010, 40), 'the distinction between sound and silence . . . is one of meaning.' In addition, silence is, Kaulingfreks (2010, 45) remarks: 'the prerogative of the elite. They live in silent surroundings and work in quite atmospheres'. As a consequence, organization and management is the social process of either 'flattening all noise, reducing it or filtering it out', or on the contrary, 'creating their own corporate noise like the encounter in the form of muzak or the loud popular radio in factories' (Kaulingfreks 2010, 41), that is, fabricated soundscapes that suppresses the noise of the working environment. The 'management of noise and creating of silence' is thus a matter of accomplishing qualitative sound environments – soundscapes – contributing to a productive balance of sounds and noises, created and unavoidable, Kaulingfreks (2010, 42) says.

However, in the arts there are still spaces of silence. Most famously the works of John Cage (e.g. his composition *4:33*) are exploiting the contrast between sound and silence. 'The music of John Cage is an homage paid to silence,' Lyotard (1997, 244) remarks. The renowned director Daniel Barenboim also emphasizes the relationships between sound and silence: '[S]ound is ephemeral . . . sound has a very concrete relation to silence. I often compare it to the law of gravity; in the same way that objects are drawn to the ground, so are sounds drawn to silence, and vice versa' (Daniel Barenboim, cited in Barenboim and Said 2002, 30–1). Sound and silence are thus opposing forces; sound is the 'consumption of energy', silence is rest and inertia. The term noise – discussed shortly – is also having an ideological function inasmuch as it denotes 'unstructured' or even 'uncontrolled' sounds. But what is unstructured and uncontrolled is by and large a matter of perspective and preferences. The noisy sound of major metropolitan city may be stressful and intimidating for one person but a familiar and even blissful experience for another. Bull's (2003) study of the 'soundscapes of the car' demonstrates that the driving experience is embedded in combinations of perceived silences and noises. For instance, the car doors should close 'silently' (the perceived quality of the car is judged on basis of the sound of the closing of the doors) but the sound of the engine should reveal the powers it comments. More specifically, Mody (2005, 176) calls for a more systematic analysis of how forms of 'listening, hearing, attuning, and other ear-work' are used in laboratory research work (see also Sterne 2003) to reveal the difference between noise and silence, sounds that in various ways indicate whether the research work proceeds as anticipated. Such a capacity to distinguish between various sounds is part of the researcher's tacit knowledge but is widely overlooked in laboratory studies, Mody (2005, 177) suggests.

Historical views of music

For the Greeks the term *mousike* did not have the same connotations as for the contemporary, late modern human. Music was not separated from society at large, being part of

some 'system of art' but was rather part of society: 'The sphere of aesthetic values was not distinguished from that of the ethical, religious, cognitive or practical in the way it has been in the West since the eighteenth-century revolution in the arts,' Hamilton (2007, 13) says. In addition, *mousike* was 'a general term for all cultural activities' and was not separated from, for example, poetry and dance (Hamilton 2007, 16). For the Greeks, there were no firm separations between the society of the arts, all being part of the same plane of *techne*, practical knowledge enabling skilful performances (Le Goff 1993, 62). Until at least the renaissance, Leppert (1993) suggests, the term music was primarily a concern for ecclesiastical writers and musicians, and music was developed as composition and performance in the praise of God. In the renaissance period, an increasingly socially differentiated society caused by economic growth and global trade between the Mediterranean region and the orient and the far east, music gradually acquired the role of creating what Bourdieu (1984) calls 'distinction value': 'Music . . . could help stabilize and authorize hierarchical social position and the various means by which it is gained and held,' Leppert (1993, 44) notes. From the period between the fifteenth century Italian renaissance and the mid-twentieth century when the era of mass-produced and mass-marketed music emerged, music served a key function in regulating social relations between the bourgeoisie and other social classes, but also to reconfigure gendered and sexual relations. For instance, the piano, the arch-typical example of a rational instrument innovation enabling no less than 10 tones to be produced simultaneously (Weber 1958), and suitable for the bourgeoisie indoor salon culture and its *soirées* north of the Alps, played an paradigmatic and symbolic role in this social class:

> In Victorian culture the piano functioned in sound and sight alike as an analogical referent to social harmony and domestic order, Its sonorities, whether potential or realized, served as the aesthetic metaphor simultaneously connecting and justifying between public and private life – between the outside world of the Industrial Revolution and the protected inner sanctum of the Victorian bourgeois home, between men and women in their social relations, and (in some ways more important) between bourgeois desire and erotic capacity, on the one hand, and their sublimation (a tense and contradictory process), on the other. (Leppert 1993, 139)

The piano was also a highly gendered instrument, an instrument for younger women as opposed to string instruments such as violin being played by men, and in paintings from the eighteenth and nineteenth centuries, it is common with female piano players posing for the artist, at times accompanied my male fiddlers (Leppert 1993). Until the end of the twentieth century, piano lessons were part of a proper bourgeoisie upbringing for many girls and young women (and eventually, boys and young men). It was not until the mid-nineteenth century and the huge success of the Hungarian piano virtuoso Franz Liszt, one of the first international superstars in music touring all over Europe (Kramer 2002, 90), that the female connotations of the instrument were downplayed. The piano was in short a symbol for a range of social relations and the careful separation of categories and strata.

   The history of classic music begins with the church and its role as being part of the praise of God (as in the case of J.S. Bach), continuing over the royal court society where the tastes and preferences of kings and monarchs played a role in determining success and careers (as in the case of W.A. Mozart), over to a more civil society where concern halls and enterprising music agents produced a market for classic music (as in the case of L. van Beethoven) (Elias [1991] 1993). However, by the mid-twentieth century, 'classical

music had passed out of the public sphere', Kramer (1995, 5) says. Like perhaps no other social theorists, Theodore Adorno, the noted Frankfurt school theorist, represents this critique of this decline of classic music as an element of social standing and in the schooling of aesthetic sensibilities. Adorno's fierce critique, even hatred, of popular music such as jazz (Adorno 1978) has been both praised as well as treated as *prima facie* evidence of his inability to appreciate the music of his time and to see beyond the bourgeoisie culture that was part of his generation. Adorno (2003, 7) deplored what he regarded as 'the collapse of all criteria for good and bad music, as they had been codified during the early days of bourgeois era. For the first time, dilettantes everywhere are launched as great composers'. No matter if Adorno's critique is adequate or not, he identified a decline in classic music in the great continental tradition beginning with the composers of Italian renaissance and ending with the Vienna School dodecaphony (Schönberg, Berg, Webern). With the twentieth century came both modernist composition and mass-produced popular music, piped into virtually every corner of everyday life.

Criticizing universalist conceptions of music: the contribution of the modernist composition

Contrary to the writings of, for example, Adorno, new musicologists such as McClary (1987) have emphasized that the Western (i.e. European) tradition of composition is by no means a universal standard for beauty and harmony but that all such traditions are created over time. McClary even speaks of the Western tradition of tonality as a form of bourgeoisie ideology emphasizing certain sounds over others:

> The tonal procedures developed by the emerging bourgeoisie to articulate their sense of the world here become presented as we, in fact, want to believe they are: eternal, universal truths. It is no accident that the dynasty of Great (bourgeoisie) Composers began with Bach, for he gives the impression that *our* way of representing the world musically is God-given. Thereafter, tonality can retain its aura of absolute perfection ('the way music goes') in its native secular habitat. (McClary 1987, 58)

The great tradition of tonality has been a source of criticism in modernist composition. Early experimental composers such as Hector Berlioz, combining instruments in unusual ways in compositions such as *Harold in Italy* in the mid-nineteenth century, and Eric Satie, using the sound of a typewriter in his composition *Parade* (1916) (Trieb 1996, 175–9), were role models for the first generation of modernist composers. In 1913, Russolo, an Italian futurist, published the manifesto *The art of the noises*, declaring that while ancient life 'was silent', today, in the modern period 'noise is triumphant and reigns sovereign over the sensibility of men' ([1913] 1986, 23). For Russolo, the noises of modernity, the sounds of the streets, the factories, the machines, were audible resources that the modern composer could 'select, coordinate, and control' to 'enrich mankind with a new and unsuspected pleasure of the senses' ([1913] 1986, 27). For composers such as Edgard Varèse, Karlheinz Stockhausen, John Cage, R. Murray Schafer, and later on, Steve Reich and Terry Riley, music composition could be released from its European tonal tradition (Dokic 1998). Edgard Varèse, the French-American composer living most of his life in Greenwich Village in New York City, was passionately interested in sound and even refused to speak of music but favoured the term 'organized sound': 'I tell people I am not a musician. I work with rhythms, frequencies and intensities,' Varèse (cited in Clayson 2002, 143) claimed. For Varèse, great composers in the European tradition such as W.A. Mozart

were 'boring', and 'tunes', Varèse claimed, 'are merely the gossips of music' (cited in Clayson 2002, 143). In Varèse's view, music should be 'open' rather than bounded and thus he sought or new musical instruments to bring into his compositions (such as sirens). Also in Europe, the modernist tradition brought new modes of compositions. The German composer Karlheinz Stockhausen made use of all sorts of audible sources in his work and emphasized that the distinction between noise and music is, physically speaking, primarily a matter of order and of the filtering of sounds:

> 'White noise' can be described as the simultaneity of all audible vibrations. It sounds like the roar of the sea. From this 'white noise' we can filter out frequency bands using all sorts of electrical filters – hence coloured noises (consonants like *sh*, *f*, *s*, *ch* etc. are such 'noise spectra'). The sound continuum between the 'pure tone' and 'white noise' can – for now – be defined such that the 'pure tone' is the narrowest 'noise band,' or vice versa, that 'white noise' is the densest superimposition of 'pure tones'. (Stockhausen, cited in Cox and Warner 2004, 375–6)

In Stockhausen's view, 'noise plus mechanisms for filtering equals music'. Also in the fields of composition using conventional instruments, the modernist emphasis on 'open systems', gained a foothold. In the jazz scene, traditionally anchored in the traditional music of the black former slave population of the American south, the free-jazz movement represented by, for example, Ornette Coleman (whose album *Free Jazz* remains a landmark in the genre) and Cecil Taylor effectively sought to break down the conventions of jazz music. In general, popular music has gone through a remarkable, in Susan McClary's term, 'African-Americanization' (cited in Cox and Warner 2004, 295) where rhythm and repetition are brought to the forefront. Says James A. Snead apropos this change in perspective:

> In black culture, repetition means that the thing circulate (exactly in the manner of any flow) …. There is an equilibrium. In European culture, repetition must be seen to be not just circulation and flow but accumulation and growth. (James A. Snead, cited in Cox and Warner 2004)

In contemporary American composition, major composers such as Steve Reich and Terry Riley have worked on composition that is highly repetitive, underlining the shift in focus from European tonality to African-American repetition of rhythm elements in the composition.

The critique of Adorno and others that classic music is one the way out from the bourgeoisie culture is failing to take into account the impact of modernist composition where the ideology of tonality is gradually displaced by forms of composition emphasizing other musical elements. In addition, the technological advancement of new media for producing, distributing, and consuming music has also contributed to a new role of music. Above all, music is no longer confined to the concert halls, the music halls, and other venues but is effectively piped into every conceivable social domain and therefore structuring everyday life in organizations in new manners. Finally, the very idea of music has been gradually shifted from being a relatively confined and regulated domain to what is open to all sorts of audible resources. As figures as diverse as Luigi Russolo, Karlheinz Stockhausen and modern hip-hop musicians demonstrate, the noise of everyday life may becomes an element in composition. This leaves us with an image of music as not being based on universal, God-given principles but as a social convention. In this tradition, music is produced in the matrix of

silence, sound, and unfiltered noise, and in many cases, as a combination of all three forms of audibility. Music is in other words based on a set of social agreements that are, as Attali (1985) argues, dependent on the socio-economic conditions of the period.

Music at work

Music in manufacturing

In 19 December 1877, Thomas Alva Edison received his registered patent for his phonograph, a technical device produced to store speech for the benefit of secretaries, no longer needing to take the dictations from their managers but being able to store the speech until other more urgent assignments were handled. Edison is commonly portrayed as a visionary genius capable of orchestrating large-scale mobilizations to make society adapt to his innovations (Hughes 1983; Akrich, Callon, and Latour 2002), but not even Edison was capable of anticipating the possibilities for and demand of recorded music. The phonograph was designed to preserve speech not to 'mass replicate' music (Attali 1985, 91). Not until 1914, 37 years after the patent, the first symphony was recorded for the phonograph. In Edison's society, music was produced by live orchestras and music halls and dancing palaces thrived as sources for entertainment. Anticipating the massive supply of recorded music in a century later was not easily accomplished.

In the interwar period, recorded music started to play a key role in organizing plats and workplaces. The engineering revolution represented by systematic management methods such as scientific management developed an interests for using music in the workplace and Frank Gilbreth, perhaps F.W. Taylor's most innovative and original disciple, spoke in appreciative terms about the use of music to entertain the workers in a Cuban cigar factory he visited (Gilbreth 1911). The human relations tradition, developed by Elton Mayo at Harvard and financed by the Rockefeller foundation to help finding ways to curb radical unionism in America (O'Conner 1999), was the other stream of research that made music an element of the factory setting and the work environment. Concern for the worker's experience of monotony and boredom was in fact one of the main reasons for considering music as a managerial resource. In 1929, Clarke argued that 'music in industry is no longer an experiment. Its efficacy has been practically demonstrated under varying conditions and in nearly every field of industrial activity' (1929, 1). In the characteristic rationalist narrative of the period (Shenhav 1999), Clark pointed at the win–win situation where both workers and employer benefitted from the use of music: 'It is the good fortune of music in industry that while it does increase the efficiency of the employee and thus greatly benefits the employer, it also brings a great deal of personal happiness to the worker who takes part in it' (1929, 8). In Clark's view music had many merits including its positive effect on productivity, providing 'common meeting ground for executives and the working force', the improving of the morale of the workers, and the reduction of turnover of workers (1929, 9–13). The workers benefitted from music's ability to 'counteract the monotony and fatigue of the job' and the possibilities for 'self-expression' (Clark 1929, 18–19). Clark's book provides many examples of how music can be effectively used in 'great stores', in 'manufacturing' (including the steel business, automotive industry, textile plants, and oil refineries), and in 'business offices' – in virtually all organizational setting, there is a role for music to play. While Clark (1929) claims to make reference to empirical studies and practical experience, Wyatt and Langdon's

study from 1937 is generally considered to be the first clinical research work reporting the effects of music on workers (Jones 2005). Over 24 weeks, Wyatt and Langdon tested the effects of six '[d]iffering temporal programmes of "dance music", "foxtrots", and "waltzes" on twelve women making paper crackers in a confectionary factory' (Jones 2005, 727). The research was aiming at understanding how music could relieve the boredom of repetitive tasks without 'distracting visual and cognition attention' (Jones 2005, 727). They concluded that the type of music played under varying conditions helped increasing output between 6.2% and 11.3%. With Wyatt and Langdon's pioneering study, music became a new social resource for engineers and managerial experts to examine and exploit. For instance, a few years later, in 1943, Burris-Meyer studied what he referred to as 'auditory stimuli', claiming that music was capable of a variety of cognitive and embodied processes including metabolism:

> By auditory stimuli, we can control metabolism. We can increase or decrease muscular energy. We can increase respiration. We can increase or decrease pulse rate ... We can change the threshold of sensory perception, and this is very important in precision work. We can reduce, delay, or increase fatigue. By the control of these phenomena it is possible to establish a physiological basis for the generation of emotion. (Burris-Meyer 1943, 262, cited in Jones 2005, 727)

Music was a resource in the hands of social planners and social engineers. Benson (1945) entertained a more modest ambition in identifying music that helped create more sustainable work systems at the same time as productivity could be enhanced for the benefit of both the employer and the workers. Benson (1945) wanted to fine-tune Clark's (1929) recommendations and find out '*when* to play and *what* kind of music'. However, Benson warns that 'there is no foolproof method in knowing just exactly how to do this' (Benson 1945, 19). Benson points at the many benefits from his study:

> Those employers who have installed broadcasting systems have learned that by playing music during a certain number of minutes out of each work period, much of the wasted energy and time is counteracted or else spent more beneficially. Instead of leaving their bench or machine, workers are more apt to be found whistling or singing (at their work), singly or in groups, to the music, or, if there is a rest period, dancing to the music. This break in the monotony, this getting rid of excess energy or pent-up emotions does more to alleviate fatigue and overcome irregular work habits than trying to make the employee work in time to the music. (Benson 1945, 22–3)

In order to entertain the workers, music should be 'easily recognized, easily sung, and easily heard', and consequently 'the recordings must have a definite melody line, a steady rhythm, and as nearly as possible a constant volume level' (Benson 1945, 23). Being even more explicit in her recommendations, Benson (1945) says that 'Hawaiian music, waltzes, and South American music' is 'very good work music', while 'scientific surveys have led us to believe that classical music should not be played in a factory, either during work or rest periods' (Benson 1945, 25). The analytical procedures in Benson's research thus boils down to very specific recommendations.

While Clark (1929) and Benson (1945) used clinical data when formulating their managerial recommendations, there were also cases of experimental activities in industry based on humanist concerns for the workforce giving some evidence of the accuracy of such research endeavours. Robertson, Korczynski, and Pickering (2007) report how the English confectionary companies Rowntree and Cadbury, owned by Quakers, used

music in their production facilities. The Cadbury board of directors were concerned that the 'factory labour might stunt the growth of younger workers' and therefore they advocated singing as a 'form of physical exercise' (Robertson, Korczynski, and Pickering 2007, 217). However, this singing should be done 'systematically', the board prescribed. That is, what songs to sing and when to sing them were carefully designed. Also in the Rowntree factory, this kind of physical exercise was implemented for the same reasons. The company magazine reported in January 1922 that 'the half-hour singing . . . is looked forward to and enjoyed by all concerned . . . By general consent . . . the half-hour is a pleasant one, according to more than one of the girls is the shortest in the day' (cited in Robertson, Korczynski, and Pickering 2007, 218). Even though the Cadbury and Rowntree board of directors were concerned about the (primarily female) workers' health and well-being, they were not ignoring the potential effects on productivity:

> [P]art of the official reasoning for the use of music was an apparent increase in productivity. This was reflected in one woman's narrative: 'You could work like billy-o with it, you know.' The right music could provide a rhythm for the performance of repetitive tasks like packing. For those women working on conveyor belts, even if the rhythm of the music was not keeping pace with the machines, or was going faster, lively music could have led them to feel that they had more energy and therefore could work more productively. (Robertson, Korczynski, and Pickering 2007, 225)

Just like the engineers advocating the use of music as parts of the factory infrastructure, the Cadbury and Rowntree management learned that music could play a key role in creating a better working environment. Another case of the use of music is the 'Music While You Work' programme broadcasted by BBC during the World War II years. Korczynski and Jones (2006, 146) suggest that this represented a return of music to the workplace – singing and chanting have always been parts of work in pre-industrial times, in the cotton fields in the south of the USA as well among sailors as they hauled the ropes for setting the sails – after being eliminated for decades as the workers were disciplined to adhere to factory routines and rules prohibiting music. For instance, Manchester spinners in the mills of the early nineteenth century 'would be fined for even whistling at work' (Korczynski and Jones 2006, 146). However, as the engineering sciences colonialized even larger territories, stretching outside the factory outline and production logistics flow, factors such as the 'motivation' and 'attention' of the workforce gradually became a source of interest (Münsterberg [1913] 1998). The first uses of music at work could be located to the beginning of the 1910s and even tough visionary leaders in companies such as Cadbury and Rowntree elaborated on music at work in the interwar period, it was not until the 1940s that music at work became more common. Especially during the war years, when new and inexperienced workers such as women entered the factories, music gained a firm foothold in the manufacturing setting (Korczynski and Jones 2006, 148). During the World War II, BBC started broadcasting the music programme 'Music While You Work' reaching 'over 9,000 major industrial organizations' by 1945, according to BBC's survey (cited by Korczynski and Jones 2006, 148). Consonant with previous studies and common knowledge, BBC stated in a memo issued by 10 July 1940 that the music should be '(a) rhythmical music, (b) non-vocal (*familiar vocals now accepted*), (c) non-interruptions by announcements, (d) *maintain volume to overcome workshop noises*' (Korczynski and Jones 2006, 149; emphasis in the original). Korczynski and Jones (2006) argue that managers and decision-makers wanted to

'humanize the workplace' while at the same time avoiding to disturb the 'essentials of Taylorism' and therefore they worked hard to develop better ventilation and lighting systems and creating 'optimum rest break systems'. Say Korczynski and Jones (2006, 154): 'Central here were attempts to reform elements of work in a way that would lead to both greater efficiency *and* to higher levels of satisfaction among the workforce. But, ultimately, such reforms, at the margins of the basic Taylorist organisation of work, were only worthwhile if they did increase efficiency.' The *Music While You Work* programme was thus part of these attempts at creating sustainable yet effective work systems. Unsurprisingly, the BBC programme was accompanied by research efforts leading to reports making claims about the good effects of the broadcasted music: 'Research has proven conclusively that music acts as mental "tonic", relieves boredom and encourages the tired worker, promotes happiness, improves health, lessens nervous strains, and gives increased production,' a report written by a certain Reynolds published in 1943 announced (cited by Korczynski and Jones 2006, 157). Even though such positive effects potentially benefitted the workers, the whole programme was implemented in a rather paternalistic manner, granting little or no active role to the workers and the trade unions:

> [T]he introduction of factory music was primarily a top-down exercise in which the workforce and their representatives played at best secondary roles. In particular, the absence of a central role played by the trade unions in pushing demands for factory music is telling. Also, the evidence showed clearly that there was a significant degree of mediation in the type of music played, and an absence of workforce voice regarding decisions over the duration of the music played. Given this, it is hard to see the development of factory music as a straightforward accommodation between capital and labour in mid-twentieth century Britain. (Korczynski and Jones 2006, 160)

Another example of the use of music at work having paternalist overtones is the case of the IBM songbook. Thomas Watson Sr., the founder and chairman of IBM, was fond of music, and even if biographers portray him as tone-deaf and unmusical, he endorsed what has been called 'the IBM songbook'. The IBM songbook included a collection of songs that were in many cases old folk tunes given new lyrics that celebrated the company, its products, and its executives: 'Through song, IBM employees would sing to praise IBM, to senior leaders, and, no least. To Watson Sr. himself,' El-Sawad and Korczynski (2007, 85) say. The topics addressed in the songs were rather monotonously circulating around the superiority of the IBM products (65% of the songs) or the ability to get recognition for and promotion on basis of hard work in the company (as to which 31% of the songs refer). While the other cases of music at work discussed previously were part of a project to humanize work and creating a better work environment, the IBM songbook had a more straightforward ambition to discipline the workers to adhere to certain corporatist ideologies:

> Through song, employees were instructed on how to think, what to feel, and what to do. They should unite, sing praise, all hail, pay homage, and proudly cheer IBM and its senior executives. They should revere, honor, follow, and serve forever their leaders, They should sell, They should feel loyal, faithful, and proud; love, honor, and adore IBM, its products, its senior executives, and last but certainly by no means least, Watson Sr. (El-Sawad and Korczynski 2007, 87)

Music was in short a medium for creating a sense of *espirit de corps* and camaraderie among the co-workers. El-Sawad and Korczynski (2007) emphasize that the IBM

songbook was already out of step with contemporary American popular music – jazz and swing – at the time of the first printing in 1931, but as the twentieth century advanced and new musical expression such as rock music became popular in the 1950s, it was increasingly complicated to entice the IBM co-workers to join in singing outmoded tunes about the company. No one ever thought of writing new IBM-celebrating lyrics to Elvis Presley's *Heartbreak Hotel*. The IBM songbook gradually slipped into becoming an historical curiosity.

Music in retailing

While manufacturing and especially monotonous and repetitive work was the principal site for the experimental uses of music at work, today music is colonializing virtually all spheres of public life. Especially in the field of retailing, shopping has been promoted as a major experience from the very outset. When the major department stores were opened in the first half of the nineteenth century (i.e. Selfridge's in London, Bonmarché in Paris, and Marshall Fields' in Chicago), the shopping experience was promised to be a pleasurable tour involving all senses (Rappaport 1995). Still today, shopping malls, department stores, flagship stores (such as the Niketowns or Adidas brand stores located in metropolitan areas) are shopping spaces where music plays a key role in shaping the sense impressions to suit the branding of the specific store. Sterne's (1997) study of the Mall of America in Minneapolis is an illustrative case of how music becomes 'a form of architecture':

> Rather than simply filling up an empty space, the music becomes part of the consistency of that space. The sound becomes a presence, and as that presence it becomes an essential part of the building's infrastructure. Music is a central – an architectural part – of malls and other semi-public commercial spaces through the country. (23)

Programmed music, music carefully selected based on consumer targeting strategies and consumer behaviour research, is thus used in all these consumption spaces. The role of music is in brief to promote consumption: 'Programmed music in a mall produces consumption because the music works as an architectural element of a build space devoted to consumerism,' Sterne (1997, 25) says. For the critic, the music being piped into shopping spaces is music, in Radano's (1989) phrasing, 'stripped of any distinctive elements' and representing 'a style devoid of surprise'. Such a definition of music (or any art for that matter) being devoid of any disturbing elements is consonant with the concept of kitsch (Dorfles 1968), art without any deeper meaning than to gratify and be pleasurable. For the less concerned commentator, kitsch is a dismissive term and music is not good or bad *per se* but must always be examined as being a situated resource, serving a specific role in a setting or failing to do so. Sterne (1997) says that retailers choose music that cultivates their brand and their business image and that is considered appealing for the demographic group of customers 'they hope to attract' (35). Sterne (1997) says that music is used to produce what he calls a 'metonymic effect', that is, where some cultural values associated with a specific music genre 'spills over' onto the brand. For instance, the retailing chain *Victoria's Secret* selling lingerie and underwear for women was playing classic European music in the Wiener-classicist and romantic traditions of the eighteenth and nineteenth centuries, with the ambition to cultivate a certain refined sensibility that North–American shoppers potentially associate with European culture. The consumers are thus not expected

to associate the lingerie with sordid sexuality but with delightful experiences (Sterne 1997, 37). By selecting this kind of music to accompany the product offerings, *Victoria's Secret* is capable of attracting the economically endowed middle-class consumers and giving legitimacy to the products offered. Yalch and Spangenberg (1990, 60) speak of such strategies to use 'colors, lighting, sounds, and furnishing to stimulate perceptual and emotional responses by consumers' as the use of 'atmospherics'. However, at the same time as they propose the use of such approaches, they admit that despite widespread belief and extensive research, the literature provides 'minimal support' for music having positive effects on 'increased store traffic, greater satisfaction and higher sales'. Still, research results show that there is a psychological and behavioural response from shoppers even though few shoppers consciously noted the presence of music. These somewhat puzzling results suggest that music is part of the shopping experience but that it fails to produce any substantial effects on the part of the consumers. Yalch and Spangenberg (1990) thus maintain a belief in the ability to engineering consumption spaces by using carefully designed atmospherics: 'Atmospherics remains an area of environmental psychology offering great potential for improving the efficiency and effectiveness of retail and service operations,' Yalch and Spangenberg (1990, 62) contend.

The perhaps widely known and famous example of the use of music as atmospherics is the piped music provided by the Muzak Corporation. Today being a dismissive term denoting any use of industrialized music to shape and influence human behaviour, the term muzak was not initially burdened by such association. Instead, the Muzak corporation provided what Lanza (1994, 40) calls 'functional music', music developed to fashion social spaces – the 'non-spaces' (Augé 1995) of hotel lobbies, elevators, waiting areas, and so forth. From the very outset, Muzak provided a service embedded in an engineering vocabulary and worldview: music was 'programmed', structured into 'sequences', carefully avoiding any disturbing elements that might call for attention on part of the listener. Richard L. Cardinell, a researcher at the company (cited in Lanza 1994, 48), described how the music was composed and performed to accomplish the desired outcomes:

> Factors that distract attention – change in tempo, loud brasses, vocals – are eliminated. Orchestras of strings and woodwinds predominate, the tones blending with the surroundings as do proper colors in a room. The worker should be no more aware of the music than of good lightning. The rhythms, reaching him subconsciously, create a feeling of well-being and eliminate strain. (Richard L. Cardinell, cited in Lanza 1994, 48)

Throughout the company's entire history, Muzak conducted research work to prove the effects of the music provided. In the 1930s, a study at the Stevens Institute of Technology in the USA demonstrated that 'functional music' reduced absenteeism in the workplace by 88% and many industry psychologists were interested in pursuing further research work regarding the effects of music (Lanza 1994, 43). For instance, throughout the 1960s, Muzak conducted several experiments in collaboration with the US Army Human Engineering Laboratories on how to enhance the individual's performance when observing objects at a radar screen, showing that subjects listening to a Muzak programme demonstrating 'a 0.27 of a second faster reaction time than those exposed to nothing but the white noise of a small fan' (Lanza 1994, 151). Again, music became a tool in the hands of social planners engineering the social space and architecture.

The two cases of music at work and music in retailing demonstrate the potential of music as a source for enjoyment and relaxation as well as a resource in creating a milieu where the consumer is perceived as inspiring or and complying with personal aspirations and preferences. As pointed out by musicologists such as McClary (1987, 16), the human ear is a most vulnerable organ in terms of being unable to isolate from the steady flow of sounds that are produced in, say, a metropolitan city landscape or in a confined shopping space. The listener (a worker or a consumer) is in many cases not even paying attention to the audible environment – a fact being exploited by a number of engineers and marketing experts designing audible architectures – and consequently there is room for manipulating listeners. Seen in this view, music is not innocent but is always already produced and consumed, consciously or not, in a social and organization setting where interests, ideologies, and beliefs strongly affect how music is being used and what role it is expected to pay. While common sense thinking may suggest that music is eternal and non-contingent – for instance, the often repeated belief that European composition and its emphasis on tonality is an universally accepted standard for beauty and harmony (McClary 1987, 15) – musicologists and organization researchers studying the role and function of music in the contemporary period demonstrate that the uses of music appear in polymorphous forms.

The study of music at work and the soundscapes of the contemporary period

As a methodological research framework, there are at least two complementary perspectives. The first takes music, as DeNora (2000) does, as a technology of the self in the Foucaultian sense of the term (see Foucault 1978, 1997, 177), as a resource that are used by individuals to accomplish specific goals and objectives. In this view of music, audible resources and organizational soundscapes are designed to advance specific forms of subjectivities helping the actor to establish her or him as an ethical subject adhering to instituted norms and beliefs. This renders music essentially a personal resource being under the control of the agent, at times even in conflict with organizational soundscapes as in the case of the employee listening to her iPod rather than to the music being broadcasted in the facilities, thereby refusing to take part in the shared audible environment but fashioning her own private soundscape inaccessible for other co-workers. A research agenda drawing on the technologies of the self-research tradition can thus explore how organization members are constructing identities and subject positions on the basis of music and other sounds being brought into the work situation. In the second perspectives, music is conceived of as being part of an *agencement*, a patchwork or assemblage of heterogeneous resources enabling agency (Callon 2007, 2008; Muniesa, Millo, and Callon 2007). Such a view of agency as agencement, recently articulated in what Mackenzie (2009) calls 'the social study of finance', emphasizes that agency is always already constituted by tools and equipment and cognitive resources and know-how such as theories and – in the case of financial trading – calculative and computational skills. Agencement is thus an analytical concept opening up for a broader perspective on the conditions for how agency is executed, granting special importance to the materialities engaged in the work. In French, the term *agencement*, used by Deleuze in his post-structuralist philosophy (Philips 2006), means something very close to 'arrangement' or 'assemblage'. The term also conveys the idea of a 'combination of heterogeneous elements that have been carefully adjusted to one another' (Callon 2007, 320) at the same time as it shares roots with the

French verb *agencer*, 'agenting': '*Agencements* are arrangements endowed with the capacity of acting in different ways depending on their configuration' (320). Muniesa, Millo, and Callon (2007) explain

> An *agencement* is constituted by fixtures and furnishings, by elements that allow tracing lines and constituting a territory. It is only when devices are understood as *agencement* that the evolving intricacies of agency can be tackled by the sociologist or the anthropologist. (3)

Callon (2008, 38) adds the prefix 'socio-technical' – socio-technical agencement – to underline that any agencement is of necessity what is composed of both material resources such as media, tools, and technologies, as well as more intangible resources such as know-how, an understanding of organizational and professional routines, calculative and computational practices, and so forth, that is, an agencement is always cutting through the divide between material and intangible resources. 'The modifier "socio-technical" underscores the fact that the entities which are included in the *agencement* and participate in the action undertaken are both human and non-humans,' Callon (2008, 38) remarks. Besides being able to accommodate both material and non-material resources, another virtue of the concept of agencement is that it does not assume that actors have 'fixed natures of fixed characteristics' (Mackenzie 2009, 22). Instead, as in the case of financial trading, it is the equipment used, the particular processes of calculation drawn on, and the distribution of cognition that 'makes an actor' (see, e.g. Buenza and Stark 2004; Zaloom 2006). In this operative vocabulary, the agent is assembling an agencement that includes music as a constitutive element, creating many possibilities for accomplishing various things. Music is a source of enjoyment and happiness but it is also a tool for shielding off the external world or for helping the individual relax during stressful periods or situations. In other words, rather than having one stable, 'immanent' meaning or purpose, music can be many different things under varying conditions. The agencement is thus not only composed of materialities, cognitive skills and know-how, and embodied capacities, but also of audible resources. In this view, music serves the role of constituting an organizational setting or architecture wherein the audible qualities are at times designed to be overlooked or ignored (as in the case of 'elevator music'), while in other cases being conspicuous and immediately perceived (as in the case of the music broadcasted in retailing settings); in either situation, human agency *qua* agencement is bound up with the audible environment being produced. In this perspective, music is one component among other resources in a broader organizational arrangement; music is not under the strict control of the agent but becomes part of the environment wherein the actor is conducting the work. Consequently, the audible environment becomes a source of negotiation and controversy in cases where organization members are not appreciating the music and sounds being used, for instance, the music used as atmospherics in retail settings. Such a perspective would be helpful when examining what kinds of music are used in, for example, gendered settings or how music is used to demarcate between functional domains (e.g. muzak in the front office hotel lobby and rock music in the back office restaurant kitchen).

In the study of music and agencement, there are at least two perspectives that may be taken. First, music may be used to jointly structure the work, that is, to impose a certain pace or 'rhythm' of work where individuals share a workspace as in the studies of factory settings. Lefebvre's (2004) little referenced and somewhat schematic

and underdeveloped book with the title *Rhythmanalysis* is suggesting that the practice of everyday life may be examined based on the very idea of the 'rhythms' of both biological and social systems. The human body has its own rhythms such as the beat of the heart, the endocrine cycles, periods of sleep, and so forth, and Lefebvre (2004) suggests that society demonstrates the same periodicity in its daily functions. The study of music as part of individual agencement may rest on such an analytical framework. For instance, Lanza (1994, 42) accounts for how programmed Muzak entertainment is prescribing different genres of music and rhythms during the day, from 'cheery sunrise melodies' in the morning to 'cocktail tunes' in the afternoon, all designed to reinforce the individual and social rhythm of the time of the day. While Lefebvre's (2004) emphasizes the very rhythm *per se*, the temporality and sequencing of social activities, the concept of agencement in the sense used by Callon and colleagues is stressing the totality of material and intangible resources being used to structure any activity or practice. Second, music takes on a symbolic function in terms of imposing certain organizational aesthetics (Linstead and Höpfl 2000; Martin 2002; Carr and Hancock 2003; Hancock 2005), such as in the case of fashioning retailing settings with soundscapes that is expected to attract targeted consumer groups. In the first case, music serves as a form of architecture structuring the work; in the second case, as a symbolic regime signalling certain qualities reinforce the agencement of either the individual or the community.

In addition to the theoretical frameworks guiding the research, the uses of music in organizations could be studied from a historical perspective and as a contemporary, synchronic practice. The pioneering and excellent studies of the intersections of music and organization published by, for example, Marek Korczynski, Steve Linstead, and Ruud Kaulingfreks set an example for an historical perspective. In the field of marketing, studies of how, for example, music are used to attract or repel groups of consumers (Alan 2006; Bode 2006), are interesting contributions to the study of how audible resources structure organizational activities. Speaking of more practical data collection and data analysis methods, a combination of ethnographic research methods (e.g. Sterne 1997; Lingo and O'Mahony 2010), case study methods (e.g. Porcello 2004; Mody 2005), archival and document studies (Jones 2005; Korczynski and Jones 2006), or even quantitative research methods may be combined to provide an understanding of how music structures and influences organization.

Concluding remarks

The concept of music remains relatively underexplored in organizations vis-à-vis many other cultural entities such as visual art and literature. As a consequence, the musicology literature, and especially the so-called new musicology represented by Susan McClary, Lawrence Kramer, Rose Subotnik, and Richard Leppert among others, a new orientation in musicology seeking to examine how social and cultural elements (e.g. gender, post-colonial thinking) are inscribed into music, are rarely explored in organization theory research. If music is to be examined as a social, organizational, and managerial resource to be exploited in organizations, this body of literature is providing many interesting inroads to the study of music. One of the concerns in this literature is that in the Western tradition of thinking, music has been largely dismissed as being of marginal philosophical importance by major thinkers such as Kant (Kramer 1990, 3) and that composition and music have been commonly treated as an effeminate domain in the Anglo-American tradition of thinking (McClary 1991, 17). Organization

theory has been remarkably successful in accommodating new theoretical orientations, and after literature theory and theories of art and design, it may be that musicology and theories addressing the contemporary soundscapes (Thompson 2002: LaBelle 2010) more broadly may serve as a fruitful influence in organization research.

Such a study of the manifold uses of music in organizations needs, however, to be couched within an analytical framework. Here, music may be treated as either a Foucaultian technology of the self or as an agencement, a 'combination of hetero-geneous elements' being 'carefully adjusted to one another' (Callon 2007, 320). While music has often been overlooked as being part of everyday entertainment or been excluded from social studies because of its 'non-material' and fluid qualities, it is important to recognize that music can serve as, under determinate conditions, elements of the agencement of certain actors. For instance, in manufacturing settings, it is common that workers engaging in repetitive work are listening to the radio to entertain themselves and ease the perceived boredom derived from monotonous work. Also in professional work, office spaces may be fashioned on basis of music that is capable of signalling the qualities and standards of expertise that the company seeks to promote. In Sweden, for instance, popular music journalism uses mildly derogatory terms such as 'advertisement agency music' to denote genres supposedly appealing to hip, urban professional workers (see, e.g. Nixon 2005). This label is often associated with new and innovative genres such as electronically produced music (e.g. electronica). Thinking of music as being part of, with Sterne's (1997) term, the organizational archi-tecture opens up new ways to think of music. Music is then no longer merely *supplemen-tary* to other occupational and professional skills and domains of expertise but instead become parts of the totality of the resources mobilized by the agent – his or her *agence-ment* – in the course of action. For instance, in DeNora's (2000, 134) study of the use of music in a retailing setting, the music broadcasted in the shop helped the staff to take on a 'co-shopper' persona when they were helping the clients to outfit themselves through orchestrating a 'cosy, gossipy' forms of informal communication (DeNora 2000, 139). Music then serves as a shared ground for the joint construction of identities and modes of communication and interaction, helping the two parts accomplishing shard objectives. 'Music has organizational properties. It may serve as a resource in daily life, and it may be understood as having social "powers",' DeNora (2000, 151) suggests. Music is then not only used as method to reduce the strains of working life, or to promote a mass-produced consumer commodity, but is also part of the social fabric, being used in a variety of ways to construct meaningful relationships en route. For the salesperson in the retailing setting, music is part of the agencement as carefully selected music may repel the wrong category of clients (e.g. elderly people not very likely to buy garments designed for younger people) reducing the time spent on clients unwilling to buy the pro-ducts, and attract targeted clients with whom the salesperson may create transient but fruitful social relationships. Music is in short in the middle of things in many social relations. It is an essential but often overlooked part of the social fabric.

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