Chapter 8
An Anthropology of Soundtracks in Gym Centres
Serena Facci, translated by Elena Boschi

My aim is to help my clients to burn fat and improve their cardiovascular and respiratory function. I can achieve the same results with individual exercises and a treadmill, but it’s not the same. My discipline is effective also because we’re together and there’s music. This gives a boost and motivation.

Tony

Tony is a step-aerobics and Total Body instructor and personal trainer. He trained in fitness dance choreography, an aerobic discipline that, in addition to music, uses some dance principles. In gyms, music is used extensively, and the motivations expressed by Tony, as well as by other instructors, are very articulate and denote remarkable awareness.

In this chapter I will report and comment on the results of research I undertook in a number of sport centres and gyms in Italy. Right from the outset, it was interesting to note that music was present both in the disciplines that have been placed between gymnastics and dance (such as aerobics) since the 1980s and in activities that had nothing to do with dance, such as spinning, running, work-out machines, Pilates, postural gymnastics and so on.

Physical Response as Musical Function

For all animals, including Homo sapiens, sounds are one of the guides through which they relate to the world, and motor reaction to sounds is biologically important. For prey, it is vital to perceive motion produced by a predator and vice versa. Moreover, sounds not only produce motor reactions, but are themselves the product of motion. Psychologically, we are used to associating sounds with ideas.

1 Interview with Antonio (Tony), instructor at the Centro Sportivo Forum in Rome, January 2012.

2 Part of the results of this research have been published in Serena Facci, “‘Funziona?’ Valori e usi della musica nella contemporaneità’, in Serena Facci and Francesco Giannattasio (eds), L’Etномusicologia e le musiche contemporanee (Venice, 2009) <http://www.cini.it/publications/letnomusicologia-e-le-musiche-contemporanee-it> (accessed 20 January 2013).
of motion and therefore vitality, excitation and sometimes danger. Conversely, silence evokes lull, tranquillity and, taken to the extreme, absence of life. ‘Silence worries’, said one of the gymnastics instructors I interviewed when summing up the complex of reasons that pushed her to use music in various ways in many gymnastic disciplines. In an attempt to understand the relationship between music and sporting activities, it is appropriate, first, to remind ourselves of this atavistic universal background. The next step, however, is to understand how sounds that are specifically musical (that is, organized according to rhythmic, melodic and timbral criteria combined in various ways) induce and organize motion. In his fundamental book *The Anthropology of Music*, Alan Merriam places physical response in the list of music’s functions intended in the socio-cultural sense, but observes how it is questionable whether physical response can or should be listed in what is essentially a group of social functions. However, the fact that music elicits physical response is counted in its use in human society, though the responses may be shaped by cultural conventions. Possession, for example is clearly elicited in part at least by music functioning in a total situation, and without possession certain religious ceremonials in certain cultures are considered unsuccessful … Music also elicits, excites, and channels crowd behaviour; it encourages physical reactions of the warrior and the hunter; it calls forth the physical response of the dance, which may be of prime necessity to the occasion at hand. The production of physical response seems to be an important function of music; the question of whether this is primarily a biological response is probably overridden by the fact that it is culturally shaped. The ‘biological’ motor response to sound and musical stimuli that Merriam talks about is very common. Just watch how our legs instinctively keep time while we are listening to a song, the ease with which even small children spontaneously move in the presence of singing or music, and, as recently observed, the spontaneous propensity to move shown by Alzheimer patients – even in advanced stages of the illness – if stimulated by music. The phenomenon of entrainment (whereby two oscillators moving at different rhythms tend to synchronize if put in contact) is probably also at the basis of rhythmic interaction at a biological level. Various research studies in the neurosciences, biomusicology, music therapy

3 Interview with Alessandra, spinning and holistic disciplines instructor at the Centro Sportivo Venice Gym in Rome, May 2006.
and ethnomusicology, use entrainment to explain how musicians converge on a common tempo and interact in various ways during performances.\textsuperscript{6} However, as Merriam stated, a physical response to musical sounds (which acquire different and less basic aims than simple signals) often occurs within complex events and is therefore intertwined, in individual as well as in group experience, with other aesthetic, emotional, communicative, affective and relational reactions, which are largely regulated by culturally shared codes. In his book \textit{Il concetto di musica}, Italian ethnomusicologist Francesco Giannattasio proposes categorizing music’s functions into three groups: (1) expressive functions, (2) organization and support of social activities, (3) induction and coordination of sensorimotor functions.\textsuperscript{7} It is not difficult to recognize all three categories – albeit with different weights – in any musical experience. Giannattasio, for example, describes the wealth of functions in work chants.\textsuperscript{8} In eurhythmic chants, in which music and work gestures share the same beat or rhythmic model, sensorimotor reactions are often accompanied by the chants’ ability to facilitate social organization – evident in group work – and to communicate information and considerations not necessarily tied to work activities. Moreover, chants help make time pass more pleasantly.

In the matching of music and gymnastic activities the situation is not very different: the stimulus to react and organize motion is intertwined, as will illustrate, with many other effects that make the presence of music significant on various levels, improving performance and distracting from the sensation of fatigue.

Music and Sport

In the last few decades, experimental research has been carried out on the relationship between music and sport,\textsuperscript{9} which has highlighted music’s different effects:

\begin{itemize}
\item \textit{Psychological} effects refer to how music influences mood, emotion, affect (feelings of pleasure or displeasure), cognition (thought processes) and
\item \textit{Performance} effects refer to how music can influence the skill and technique of the performers
\item \textit{Motivational} effects refer to how music can influence the motivation of the performers
\item \textit{Affective} effects refer to how music can influence the affective state of the performers
\item \textit{Sensory} effects refer to how music can influence the sensory experiences of the performers
\item \textit{Environmental} effects refer to how music can influence the environment of the performers
\end{itemize}

\textsuperscript{6} Martin Clayton, Rebecca Sager and Udo Will, ‘In Time with the Music: The Concept of Entrainment and Its Significance for Ethnomusicology’, \textit{European Meetings in Ethnomusicology}, 11 (ESEM-CounterPoint, 1) (2005): pp. 1–82. As far as ethnomusicology is concerned, the intuitions and influence on subsequent studies of John Blacking must be mentioned, as he positions the potential and limitations of the human body at the centre of his articulated reflections on music–making. See John Blacking, \textit{How Musical is Man?} (Seattle and London, 1974); and John Blacking (ed.), \textit{The Anthropology of the Body} (London, 1977).


\textsuperscript{8} Ibid., pp. 218–28.

\textsuperscript{9} Anthony Bateman and John Bale (eds), \textit{Sporting Sounds: Relationships between Sport and Music} (London, 2009).
behaviour. The *psychophysical* effects of music refer to the psychological
perception of physical effort as measured by ratings of perceived exertion
(RPE) … Music engenders an *ergogenic* effect when it enhances work output
or yields higher than expected levels of endurance, power, productivity or
strength.\(^\text{10}\)

Such effects have been registered in all stages of aerobic activities involving
prolonged effort, whereas the effects of music seem to be indifferent in maximum-
effort anaerobic stages (for example, during sprinting): ‘The aspect of the model
most relevant to this phenomenon is known as the *load-dependent* hypothesis;
when work intensity increases beyond anaerobic threshold, external cues such as
music do not have any significant impact on perceived exertion.’\(^\text{11}\) In this chapter,
I will deal with some non-competitive aerobic disciplines carried out in sport
centres, such as step, spinning and Pilates. In these disciplines, music is an integral
part of the protocol.

However, it is worth remembering that there are also experimental studies on
professional athletes and team sports. Music listening is a psychological aid for
the training of athletes, too, and the support of chanting fans and music played 18
over the stadium’s PA system conditions team performance. In this case, music
acts asynchronously.\(^\text{12}\)

Equally significant is the function of music in individual sporting activities
such as athletics and running. The debate within sport, in this case, is about which
musics or even which songs are the most effective, and it involves technical
motivations (for example, the importance of choosing pieces with a beat with
the right tempo to run to or for aesthetic motivations, taking into account the
pleasure of running and training while listening to one’s favourite music. The Web
is full of sites that give advice on and offer selections of music to run to, sorted
by bpm (beats per minute). In particular, I would like to point out the website
Run2Rhythm, where an article extolling the benefits of running in synch with the
music’s tempo analyses ‘Eye of the Tiger’ by Survivor (1982). According to the
author and founder of the website, Gary Blake, the song’s bpm is too slow for the 31
right running rhythm – despite the extramusical reference to the soundtrack of the
film *Rocky III* (Sylvester Stallone, 1982) and the routine use of the song at the 33
openings of big sporting events in the United States.\(^\text{13}\)

\(^{10}\) Costas I. Karageorghis and Peter C. Terry, ‘The Psychological, Psychophysical,
and Ergogenic Effects of Music in Sport. A Review and Synthesis’, in Bateman and Bale,
*Sporting Sounds*, p. 15 (italics in original).

\(^{11}\) Ibid., p. 18.

\(^{12}\) Karageorghis and Perry have identified three different ways music can be associated
with sport: asynchronously, synchronously and pre-task.

1 The complexity of musical language works on multiple levels. In this chapter, I will consider the list of music’s motivational qualities in sport identified by Costas Karageorghis and Peter Terry: Rhythm response relates to natural responses to the rhythmical and temporal elements of music, especially tempo. Musicality refers to pitch-related (as opposed to rhythm-related) elements of music such as melody and harmony. Cultural impact draws upon the pervasiveness of music within society or a particular sub-cultural group, whereby frequent exposure to music increases its familiarity which has an important role in determining preference. Finally, association pertains to the extra-musical associations that music may evoke.14

This is not very far from what Giannattasio states in relation to work chants. However, unlike what used to take place in pre-sound-recording societies, in gyms we mainly make use of reproduced music – that is, music composed for other purposes and chosen or adapted for the occasion.

Musicalization

The pervasiveness of reproduced music in gyms falls within a broader phenomenon that I would define as ‘musicalization’ of the soundscape.15 According to studies on the anthropology of sound as conceived by Steven Feld in his research in the rainforest or in Europe, the sounds that characterize an environment (be they natural such as birdsong or produced by humans such as bells) carry essential value for affective relationships as well as relationships of cohabitation between people and the space they inhabit. These relationships obviously end up involving music as well.16

Various studies, including this book, deal with urban realities like the Italian ones that I am discussing, where reproduced music is increasingly taking the place of ambient sounds and becoming a constituent part of the soundscape.17 Its status as

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14 Karageorghis and Terry, Psychological, Psychophysical, and Ergonomic Effects of Music in Sport, p. 17.
15 The term ‘musicalization’ is used above all in theatre and literature to define the musical quality of texts and plays. Personally, I have already used it with regard to phone ringtones, the evolution of which, both by producers and by users, has seen musical features being given to the sound signal; see Serena Facci, ‘Musicalizzazione: le suonerie’, AAA TAC: Acoustical, Art and Artifacts. Technology, Aesthetics, Communication, 2 (2005): pp. 179–94.
aesthetic product certainly qualifies music as ‘pleasant’, its evocative abilities give
it a familiar character and its ancient history alongside men makes it reassuring
and human, beyond the differences between various genres. Music is thus a useful
system to humanize and render the sonic environment familiar, and deliver it not
only from the cacophony of machine noise, but also from the vacuum of silence.
The ‘musicalization’ of the sonic space means that a status similar to that of
events traditionally connected to music (dance, meditation, celebration) is also
attributed to activities carried out in the gym. In the words of step instructor
Valentina Ziliani: ‘Sometimes, near the entrance on the street there’s a speaker
blasting dance music at full volume, as if to say that inside there’s a party.’ As
we will see later, functional music for gymnastics is often an aesthetic choice and
experience.

Music has different roles. First, to use Merriam’s words again, it adds the
dimension of ‘aesthetic pleasure’ to physical activities through ‘musicalization’.
Through a process similar to that of designing for the figurative arts, a bit of art is
added to events that started with a completely different aim. It is a phenomenon
similar to the one I studied in Burundi, where, in some situations, women use
sung (that is, musicalized) greeting formulas. They do it to give the encounter a
more solemn value, but also with the declared purpose of having fun and doing
something beautiful (akahibongozo).
To be truly effective, this process of ‘musicalization’ requires certain
competences. Managers and instructors in sport centres must know how to choose
and apportion the music to offer. As far as I was able to observe, the best ones
achieve remarkable levels of sensitivity and creativity in evaluating and reusing
musical pieces.

Sport Centres

Since the 1980s, in Italy, being active has been one of the most widely shared
pleasures and duties. In cities, as well as in small towns, there are both large and
small sport centres where one can practise different activities, ranging from sports
like football and tennis, to swimming and other aquatic disciplines, to various
kinds of gymnastics.
The term ‘fitness’ is often used to refer to a set of gymnastic disciplines
that can be practised individually (such as muscle strengthening and slimming

18 Interview with Valentina, musicologist and step instructor at the Centro Sportivo
toto Modo in Cremona, October 2006.
20 Serena Facci, ‘Akazehe del Burundi. Saluti a incastro polifonico e cerimonialità
femminili’, in Maurizio Agamennone (ed.), Polifonie. Procedimenti, tassonomie e forme:
programmes involving specific machines) or in a group (aerobic disciplines such as step or holistic ones like Pilates, and so on). To best pursue the objective of fitness, larger sport centres are sometimes combined with beauty centres offering massages and other beauty treatments, as well as medical assistance. In her socio-anthropological study of gyms in Italy, Roberta Sassatelli defines fitness as an obsession of our society, which is centred on caring for one’s body in the medical and aesthetic sense. Those who join a specialized centre generally do it to feel better and to take care of themselves, and go there alone. So, in contrast to what takes place on a tennis court or football pitch, in fitness centres people are in the company of strangers, and ephemeral and heterogeneous groups are formed to meet the requirements imposed by the various disciplines.

Those who work in these centres claim that music helps clients overcome the unease of finding themselves alone doing demanding work among strangers with whom they have to share even intimate spaces like the showers. As the manager of a sport centre in Rome has pointed out:

Here people are all together, sometimes they socialize, but it’s not easy. We need to make sure they’re at ease. In the fitness suites where everybody does their own programme by themselves, we have the radio and sometimes the TV on, so those who want can watch it to kill time, but also so they don’t have to look at others. Some clients though prefer bringing their iPod, so they can listen to their own music. (Stefania)\(^1\)\(^2\)

Filling our ears with music from an iPod while doing an individual programme in the fitness suite next to another client whom we do not know or even letting the music piped into the changing rooms envelope us are sufficient techniques to maintain our privacy. Through music we build a familiar space in a place we have to share with a mix of strangers, a fictitious environment of isolation – whatever the musical genre might be. This is why individual solutions that help a client feel at ease, such as listening to a favourite playlist (that is, iPods), are tolerated. Individual playlists are also used to measure the duration of an exercise (i.e. I ran on treadmill for five songs) in a more pleasant way than with a stopwatch. Some centres play what is being broadcast by easy-listening and current chart hits radio stations in the reception area and in the changing rooms. Others choose the music on the basis of the time of day and type of clientele, as Valentina points out:

In the morning it’s Italian songs, because the clientele is mostly older women who love that kind of repertoire; at lunchtime, for clients who take advantage of

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\(^{1}\) Roberta Sassatelli, *Anatomia della palestra: Cultura commerciale e disciplina del corpo* (Bologna, 2000).

\(^{2}\) Interview with Stefania, manager of the Centro Sportivo Venice Gym in Rome, May 2006.
the break from work, it’s more dynamic music like commercial dance; after 6 pm it’s all a party with disco and techno music. (Valentina)

Step – in Synch and in Tune

Group disciplines require many people to share the same space. Music is carefully chosen by the instructor who, among other things, aims to create – however temporarily – forms of solidarity and identity, including gender identity. Alessandra notes how ‘[i]n masculine disciplines such as Fitbox the music is always very strong; they mostly use hip hop’. The disciplines that are traditionally more intrinsically tied with music are the aerobic ones. In *Music in Everyday Life*, Tia DeNora devotes a significant part of her chapter on ‘Music and the Body’ to aerobics. She points out how every class is rigidly governed by musical tempo, whose function is to produce a controlled acceleration of physical work and therefore of cardiac rhythm, followed by an equally gradual and controlled deceleration. Referring to research undertaken with Sophie Belcher, DeNora reconstructs the three essential phases of a class (warm-up, core, cool-down), identifying a precise grammar (aerobic grammar), shared and pursued both by instructors and participants. Music is an integral part of this grammar. However, it works on different levels, facilitating motor coordination, but also constructing motivational emotional reactions:

On the one hand, music is a prosthetic technology of the body because it provides a resource for configuring motivation and entrainment, enabling the body to do what, without music, it could not do. On the other hand, the bodily movements that music profiles may lead actors to identify, work-up and modulate emotional and motivational states.

My experience in Italy confirms much of DeNora’s conclusion. Step, which I have dealt with in particular, has reached very high levels of ‘musicalization’. For example, one of the varieties of this discipline, known as ‘choreography’, consists of preparing in every class a sequence of exercises that are combined, memorized and repeated by the group as if they were dancing. The instructor uses combinations of steps and choral motifs borrowed directly from dance styles like mambo, *chassé* and so on. Instructor training, which takes place in specialized schools, therefore includes a musical component:

In step, like in all aerobic disciplines, the session is based on prepared sequences of routines. The first thing we instructors learn is to recognize the master

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24 Ibid., p. 107.
beat. Each routine consists of eight movements that correspond to eight beats recognizable in the musical accompaniment. Between the eighth beat of a routine and the first of the following (master beat) there’s a signal (for example, a drum roll or a cymbal) that indicates the beginning of the new cycle. (Valentina)

Music forces us to count. Keeping count is important for an instructor, who is then sure that all the participants in the group are doing the necessary repetitions of the movement. Experience has helped me to increase my musical sensibility. In the end you’re so in tune with the music that you no longer need to count the beats. I listen to the piece and I know when and how to organize the steps. (Tony)

The music used in step must have clearly demarcated sections:

1. regular and very evident beat and controlled variation of bpm;
2. no odd-numbered metric or formal structure;
3. varied musical genres (although pop and dance music are the most used), but the pieces are reduced to samples and are always remixed;
4. forte or fortissimo dynamics.

**Controlled Beats**

We have seen how Karageorghis and Terry, in their list of musical features that have ‘motivational’ effects on sport, distinguish between musicality, by which they mean melody and harmony, and rhythm. For a musician or a musicologist, the splitting of rhythmic parameters from the concept of musicality may sound strange, as temporal organization and rhythmic figures are integral parts of musical language. But, for sports experts, rhythm is primarily a regulator of the human body’s motor patterns, starting from the basic ones like heartbeat, breathing and steps.

So even if music works on various levels, tempo and rhythm remain a priority in both step and other kinds of gymnastics. Tony is persuaded of the wealth of stimuli that music brings to his choreography classes, which seem to cross into dance, but have clearly distinct aims, especially with regard to the management of tempo:

There is, however, a substantial difference between our classes and dance classes: we can’t stop. Music always goes on, because we can never lose the right timing of breathing and cardiac rhythm. In dance classes teachers demonstrate the new step. Then they turn off the music and everybody learns it. They can slow down and stop, because the aim is to learn it well to then perform it again with the

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music. For us what counts is training. I gradually propose new steps, making the figure more and more complex, but the participants learn them by constantly continuing to move. (Tony)

It is principally the beat that synchronizes and regulates movements. Valentina notes how ‘[e]ach session is based on four phases: warm up, aerobic, cool down and relax. For each of these phases the bpm have to change. We start slower and reach a maximum speed of 140 bpm in the aerobic phase. Then we begin to slow down again.’ According to Tony (whom I interviewed in 2011, a few years after Valentina) exceeding 136 bpm can be dangerous. His ‘interval training’ and ‘step and tone’ classes alternate step and strengthening exercises. As a general rule, however, the phases described by Valentina and identified by DeNora and Belcher are observed.

The ability to synchronize movements to sound stimuli is variously studied and connected to the above-mentioned phenomenon of entrainment, which, in this case, would guide all participants in a step class to move simultaneously, following the music’s tempo. The perception of musical tempo and our ability to move to an external metre is due to neural circuits, located particularly in the cerebellum. Studies in biomusicology have examined this phenomenon in some animal species and have traced evolutionary hypotheses that document how widespread this ability is in Homo sapiens.

Obviously, when the movement performed is externally imposed, instead of being spontaneous, and the metric impulse is included in the music, synchronization is not at all mechanical, but rather an aim to achieve. DeNora and Belcher have noted how, for example, ‘bad music’ (that is, music that did not produce the desired effects on the participants) was stopped by the instructor to avoid compromising studies in biomusicology have examined this phenomenon in some animal species and have traced evolutionary hypotheses that document how widespread this ability is in Homo sapiens.

The cerebellum is one of the most ancient parts of the brain. Further studies are demonstrating that there are connections between the various areas of the brain dedicated to decoding musical parameters, which allows us to reconstruct the musical message in its entirety. Moreover, these studies are examining the relations between musical perception and emotional reactions. See Isabelle Peretz, ‘La musica e il cervello’, in Jean Jacques Nattiez with Margaret Bent, Mario Baroni and Rossana Dalmonte (eds), Enciclopedia della musica: Il sapere musicale, vol. 2 (Turin, 2002), pp. 260–64; Isabelle Peretz, ‘Musical Emotions: Brain Organization’, in Patrik N. Juslin and John Sloboda (eds), Handbook of Music and Emotion: Theory, Research, Applications (Oxford, 2010), pp. 104–26; Daniel J. Levitin, This is Your Brain on Music: The Science of a Human Obsession (London, 2007).

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28 As some ethnomusicological studies have shown, the very perception of the beat is culturally conditioned, but even among individuals belonging to the same culture it can happen that the beat is perceived differently within the same musical piece – for example, by privileging the offbeat. See Clayton, Sager and Will, ‘In Time with the Music’.
the outcome of the class.\textsuperscript{29} Hence, for instructors it is fundamental that the beat is very clear: ‘Musics must be remixed. Bass must be heard clearly, to guide the steps.’ (Tony).

That said, my impression after observing his classes is that the phenomenon of entrainment in step is not exhausted by the synchronization of movements and basic pulse – however important this may be. For example, the way Tony – like others – communicates while teaching the exercises is essentially based on bodily communication: the instructor proposes a figure and the participants have to repeat it until they have learned it well. This teaching/learning mode, very widespread in oral musical traditions, is based on partly spontaneous imitative processes that fall within the field of proxemics and seem to descend from automatisms whereby bodies interact among them.\textsuperscript{30}

Dance patterns that are transmitted this way are needed to move the various parts of the body in harmony and do not only respond to rhythmic musical stimuli, but also to melodic, timbral and dynamic ones. To choose ‘good music’ for a step session, instructors take into account the fact that music is a complex sound event, in which pitches, melodies, timbres and harmonies are rhythmically organized in time.

Music must be prepared ad hoc. First of all, its duration must match that of the class, if possible without pauses. Each instructor owns a set of CDs that have the same duration as the class, follow tempo acceleration and deceleration, have a powerful groove to guide movements and a formal structure following that of the routine:

We call these ‘square discs’ because they are based on 4/4 bars and cycles of 8 beats marked by the master beat. If you look on the internet it is full of sites where DJs advertise their discs, good for every type of fitness discipline. Sometimes they sell them to us at training courses. (Valentina)

There is indeed a broad range of materials sold through the Web, and those working in the field note that there are commercial interests behind the whole world of fitness and therefore also in the specific sector of dedicated musical production. An example of this is the website Power Music that sells selections of hits divided by decade (starting from the 1940s), artist (Sinatra, Beatles, Madonna and so on), genre (dance, hip hop, classical, Broadway) and also specific typologies such as Christian and Christmas.\textsuperscript{31}

\textsuperscript{29} DeNora, \textit{Music in Everyday Life}, p. 96.

\textsuperscript{30} Clayton, Sager and Will, ‘In Time with the Music’.

\textsuperscript{31} <http://uk.powermusic.com/> (accessed 31 May 2012).
However, many instructors, including Valentina and Tony, prefer to organize their own material, choosing musical pieces that they deem appropriate for the participants in their classes and relying on friends who are DJs to remix them. The division of the beats is binary, the bars are generally 4/4 and the form of the pieces is organized on combinations of cycles of eight beats that can originate combinations of 16 or 32 beats. Binary formulas (for example, a melody that is repeated identically twice) are useful for exercises because motor patterns must be repeated identically for the right and left side of the body.

The basic cycle that ends with a marker is eight beats, but my choreographies are based on blocks of 32 beats. The steps are first orientated from right to left then from left to right. Everything I do towards the right, I then have to do towards the left. (Tony)

However, I do not think that it is purely functional reasons that guide the compositional procedures of DJs, which are significantly conditioned by cultural models. Four-four time signatures and melodic forms based on binary patterns are very widespread in Western music. Let us consider the eight-bar themes in the classical period, divided in phrases of four and strophes of two, or the 32-bar structure of Tin Pan Alley songs. These also prevail in pop and dance music, which are the most familiar genres for gym clients.

Fortissimo Dynamics

Music is loud because it has to ‘be there’. (Alessandra)

This quote by Alessandra makes us think of a saturating and almost tangible presence in the gym, due not only to high volume, but also to the use of a very wide spectrum of frequencies. We can observe in Figure 8.1 the sonogram of a fragment taken from a CD expressly created for a step session by DJ Marco Manara. The harmonics of the sounds of the groove reach beyond 20,000 Hz (the conventional limit for human hearing). Images like this characterize electronic dance music and are definitely unusual in non-remixed music.

I attended one of Tony’s interval training classes. It is a class in which the step routines are interspersed with rather demanding strengthening exercises (in this case with weights). The atmosphere of the gym was vibrant with very high volume music, and Tony kept proposing exercises following the beat, but various participants preferred to move more slowly, depending on their abilities, and therefore fell out of synch with the tempo. The group that earlier looked compact, as in line dancing, seemed to break up. At the end of the class, I asked some participants who seemed among the most experienced whether music is necessary:

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Figure 8.1  Marco Manara,  *World Step 54*,  sonogram of a 3.5" excerpt of the initial sample.
1 ‘Music is essential in step. Without music we couldn’t do anything.’ I asked
2 whether this was also true during exercises with weights, when not everybody
3 managed to stay in synch, and a participant in the interval training class said:
4 ‘With weights everybody needs to find their own tempo, not everybody manages
5 to follow that of the song. But music is still important, because it gives energy.’
6 So music gives energy even when it does not command a synchronized response.
7 Exercises with weights would seem to escape the norms of step and, instead, fall
8 within one of the cases of asynchronous use that Karageorghis and Terry talk
9 about. The research presented in their article principally deals with tempo speed,
10 and they have shown how a slow tempo (below 100 bpm) reduces the quality of
11 the performance, whereas a fast tempo or – better still – an acceleration offers a
12 better performance, even without synchronization.33

13 These studies do not address the role of dynamics. I spoke to Björn Merker
14 about the evolutionary reconstruction of entrainment. My question was: ‘Why is
15 music, especially if very loud, perceived as useful to gather the necessary energy
16 for demanding movements, even in an asynchronous situation?’ According to the
17 Swedish scientist, the answer lies in the level of excitement that is reached – for
18 example, in collective party situations when many people find themselves in a loud
19 and lively situation. Some phenomena observed among primates, like ‘carnival
20 display’35 in chimpanzees, offer evidence of this among animals.36 It is not difficult
21 to find examples, both in our personal experiences and in the anthropological
22 literature, of frenzy during parties or rituals, in music-saturated environments that
23 help us stay active and awake for hours, even during night-time, without feeling
24 tired. As an example, Merker mentioned rave parties. But we can also think of
25 how children become hyperkinetic during school parties with music. We may have
26 inherited a propensity for emotional excitement accompanied by loud vocalization
27 and vigorous physical movement in a group setting from the common ancestor we
28 share with chimpanzees, along the lines of what occurs today in the chaotic and
29 unsynchronized chimpanzee carnival display. To this general background humans
30 have, of course, added synchrony of both voices and movement to a common beat,
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32 33 Interview with Sara, participant in the interval training course at Centro Sportivo
33 Forum in Rome, January 2012.

34 34 Karageorghis and Terry, Psychological, Psychophysical, and Ergogenic Effects of
35 Music in Sport, p. 27.

36 35 ‘On irregular occasions, typically when a foraging subgroup discovers a ripe fruit
36 tree or when two subgroups of the same territory meet after a period of separation, the
37 animals launch an excited bout of loud calling, stomping, bursts of running, slapping of
38 tree butresses, and other means of chaotic noise-making. There are no indications that any
39 kind of inter-individual co-ordination, let alone rhythmic synchrony, forms part of these
40 chimpanzee group displays.’ See Merker, Madison and Eckerdal, ‘On the Role and the
41 Origin of Isochrony’, p. 6.

42 36 See Merker, Madison and Eckerdal, ‘On the Role and the Origin of Isochrony’. The discussion with Björn Merker occurred in Venice during the 17th Seminar in
43 Ethnomusicology, January 2012.

44
but apparently, even in us, social and physical excitement can take place without it. Francesco Giannattasio, who has researched the difference between real time and musical time in possession rituals in Somalia and Nepal, has commented that formal or even just rhythmic cyclical patterns of music push us to keep going on hearing them. In other words, music ‘pulls’ us into its dimension where everything could proceed ad infinitum even if we cannot follow its tempo rigorously. To conclude, we can say that even when we are not in synch, we tune in with music and with others.

A fitness class is obviously not a party, and the physical work is often burdensome and boring, but sport centres offer a place of well-being where people can allow themselves a pleasant break from everyday stress, as if they were in a play situation or on holiday. Valentina, Tony and his instructor, Gil Lopes, have clearly said that many elements of an aerobics class are reminiscent of the euphoria of a party, a club or entertainment activities in holiday resorts. In particular, Gil used this comparison to define aerobics conventions. These are events that take place annually in various parts of the world. Instructors meet for a few days to update and exchange experiences. Many motivated participants join very crowded classes attended by hundreds of people in a full immersion of aerobics, which is lived as a holiday. This is also one of the many aspects of ‘musicalization’. I would add that the use of music is not aimed at entertaining or putting on shows, but at improving the exercises. However, sometimes sport centres do put on aerobic choreography shows.

Tastes, Contexts and Associations

Among the motivational values of music in sport, Karageorghis and Terry also include ‘cultural impact’ (that is, sport enthusiasts conforming to specific cultural models of behaviour and musical experience). First, music has an effect on socialization. Synchronized motion is an expedient used in many contexts to create cohesion within a group and, if necessary, make enemies fear that group. Tia DeNora, in fact, looks at the comparison between synchrony in aerobics and among soldiers.

Formalized choreographies in step use a formation that Curt Sachs was first to define ‘frontal’ in his Eine Weltgeschichte des Tanzes to differentiate it from

37 Giannattasio, Il concetto di musica, pp. 231–63. The discussion with Francesco Giannattasio occurred in Rome during his lectures in Ethnomusicology at Università La Sapienza, April 2012.
38 Interview with Gil, competitive aerobics instructor, multiple international champion, January 2012.
39 Karageorghis and Terry, Psychological, Psychophysical, and Ergogenic Effects of Music in Sport, p. 17.
a circular formation. Frontal line choreographies, unlike circular ones, generally
have representational aims: one dances in front of, and for, someone. Participants
in an aerobics group, whether they like it or not, project images of their bodies
in motion and offer seductive messages. Among the dances that use frontal
formations Sachs mentions those very widespread courtship dances in which
groups of men and women arrange themselves specularly in front of one another.
In aerobics, the specular relationship is between the group and the instructor
who performs the exercises, sometimes even on a stage in order to be visible by
everybody. This formation recalls that of a show in which an artist performs in
front of a participating audience. The instructor’s charisma and the complicity
established between them and the members of the group can produce affective
reactions, esteem, trust and admiration. Both Tony and Gil have said that a good
instructor must be able to galvanize the group, also by creating pleasant social
moments outside the classes. According to Gil, ‘[m]usic puts us in communication
with the others: we’re all doing the same thing and we feel like a group. There isn’t
competitiveness like in sport.’ This relationship also involves the instructor being
sensitive to, and having respect for, the musical tastes of the participants:
The genre most commonly used is American dance music, but you can use
everything, as long as it’s remixed. Generally I choose the pieces based on their
current popularity, the type of mood they can transmit, but also based on the ages
and tastes of the participants. You always need to mediate with other people’s
tastes and try not to displease anybody, even if it’s not easy. (Tony)
Again, to make the class pleasant, instructors often change compilations in order
not to bore participants:
For the end of the class sometimes I ask my friend the DJ to prepare a section
that’s called ‘show’. I choose a song that I know the group particularly likes
(perhaps because it’s the hit of the moment) and use the whole piece. For the
group it’s a surprise: being able to perform the exercises to a song they like,
when they know the choreography well, gives them a lot of satisfaction. (Tony)
The last motivational quality that Karageorghis and Terry identify is the ability to
create emotional and symbolic associations.
Valentina introduced me to the CD mentioned in Figure 8.1, entitled World Step 54’,
The author of the remix, Marco Manara, used samples of musics and chants from various parts of the world, suitably edited and remixed on a base of electronic loops. The overall duration is 54 minutes, like a step class. It goes from Latin American examples, to North Africa, India, Australia, Spain, the United States and Ireland.

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41 Curt Sachs, Eine Weltgeschichte des Tanzes (Berlin, 1933).
Musical genres are interchangeable, but it depends on the choreography you want to do. For the Irish step we use Irish music and movements with props. With Latin music we use ‘Latino’ steps with pelvic movements. With World Step 54, we do more movements with our hands. With World Step 54 it’s like going around the world in step. (Valentina)

Although they respect the rigid organization of bpm and eight-beat cycles, the compositional criteria are those typical of electronic dance music: the cycles are concatenated, alternating denser and more rarefied parts, and the passages from one sample to the other happen with groove sections featuring variants from one to the next. Moreover, samples are dismembered in sections of four, two or even one single beat and solicit a more refined level of perception than just surrendering to the groove. These expedients make the obsessive repetitiveness of the beat less boring and stimulate the creation of new choreographed motifs, as Valentina said. In Table 8.1 we can see a brief analysis of how the sample of what looks like an African-Caribbean piece, based on the alternation between a female chorus (section A, C, E) and a soloist (sections B, D, F-G), is dealt with. Each line corresponds to an eight-beat cycle. Each cell corresponds to one beat.

Table 8.1 Marco Manara, World Step 54’, segmentation analysis of the first sample.

| Samples: dialogue between a women’s choir (A, C, E) and a male soloist (sections B, D, F, G) in an African-Caribbean song |
|---|---|---|---|---|
| A | A | A | A |
| B | A | B’ | A | B | A | B |
| A | B | A | B’ | A | B | A | B |
| Groove | Groove | | |
| G | G | G | G |
| C | D | C | D | C | D | C | D |
| C | D | C | D | C | D | C | D |
| E | F | E | F | E | F |
| E | F | E | F | E | F |

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The musical evocation of faraway places and the gymnastic stylization of the ‘trip’ around the world contrast with the somewhat claustrophobic environment of a gym. Representing another place is almost institutional in spinning, which, as Valentina told me, ‘is a whole other thing’ with respect to aerobics. A spinning instructor must guide the group of spin-bike users through an alternation of fast, dynamic pedalling with an aerobic function and harder, slower pedalling, useful for muscle strengthening, by imagining an itinerary now on a plain, now up a hill. ‘The instructor talks to us, she tells us what we’re doing, where we are, if on the mountains or by a river. The class becomes more fun this way’, said a participant in a spinning class. According to Alessandra:

There isn’t a speed curve, like in step, but rather alternate phases. For the plain we use specially prepared musics [remixed ad hoc], for the climb I choose them, slower, but also different according to the group or the situation I want to construct. (Alessandra)

Alessandra, too, takes the type of participants into account when choosing the pieces to add to her compilation:

I choose the music according to the participants’ tastes: for groups of over-45s I use Italian songs that can be sung along to. Once we used that song by Petrolini

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Interview with Cristina, member of the Centro Sportivo Venice Gym in Rome, May 2007.
that Manfredi covered, ‘Tanto pe’ canta’ … We were playing about. It was a bit like going for an outing. (Alessandra)44

Spinning websites offer compilations and CDs of the duration of a class with so-called ‘pedallable’ musics. These are chosen from electronic repertoires with New Age references built around the imitation of natural sounds, with sounds that create the idea of open space and not too fast rhythmic parts, but at a tempo that, in this case, it is pertinent to define as andante.45 For instructors, these websites offer tracklists appropriate for each phase of the class (warm-up, climb, sprints, cool-down). On the Spinning Music website each of these lists is preceded by a brief description of the musical features. For example:

The key to a good climbing song is the beat: it’s got to have a beat suitable for matching your cadence. Once you find it, the music will push you to keep going even when your legs are telling you to dial it back. These are my favourites.46

Or:

There’s no mistaking a good sprinting tune: whether it’s seated or standing, it’s got a beat that pushes you toward your own best race day pace. Many of these songs naturally move into a sprinting pace for each chorus, with the verses allowing for recovery in between sprints. Go!47

Therefore, in spinning, the speed and energy of the pieces must be carefully dosed. Moreover, music offers infinite nuances in this sense, and the sensitivity of instructors is particularly important.

The Other Face of Music: Holistic Disciplines

Step and spinning share the need to organize a group. Other disciplines, like Pilates, stretching, yoga, gentle and postural gymnastics, require a strong individualization of physical work.

44 Tanto pe’ canta’, Italian song with Roman dialect influences composed by Ettore Petrolini and Natale Alberto Simeoni in 1932. It was recorded by Petrolini himself a few years later. The famous Italian actor, Nino Manfredi, covered it during a TV show in 1970, which made it very popular.

45 Translator’s note: While in English the Italian term ‘andante’ is just a musical term, in Italian it is also the present participle of the verb andare (broadly meaning ‘to go’, often by various means of transportation including bikes) – hence its pertinence in this case.


The fruition of music is more individual. Music must favour isolation and concentration. As Alessandra puts it, ‘[m]usic must be background, like soft lighting, create an atmosphere’. The idea of ‘background’ can be confused with the idea of sonic wallpaper, of discreet and continuous presence, totally contrasting with the hammering presence of aerobics music. Valentina notes how ‘[n]on-pulsating musics are used in yoga’. But the use of the term ‘background’ must not lead us to think that the role of music is only ambient. Physiotherapist and gentle gymnastics instructor Monica Carcano clearly states that in her discipline music is a tool, not a background. For this reason, with participants/patients who start their training it would be better not to use it, as it may distract them from self-perception. In particular, rhythmical musics that impose their tempo, instead of allowing the patient complete freedom of movement, are not recommended. Past the initial stage there are several arguments in favour of using music:

- It adds auditory stimulation to other stimuli; it facilitates harmonization between bodily rhythms and motor coordination; it helps to memorize brief motor sequences without perceptive errors; it can stimulate the neurovegetative system by varying the tempo from slow to fast; it helps to automate postural correction by facilitating the attention and harmonization of the whole body. (Monica)

Monica has introduced new, important reasons. In particular, help in ‘memorizing’ and ‘automating’ motor sequences. The support of musical coding to the memorization of verbal formulae is known to all those who study orality. Studies on ethnochoreology have also revealed a strict correlation between musical and motor memory. Indeed, in oral tradition contexts, quite often there is no sharp difference between dancers and instrumentalists in the first stages of their learning processes. They all experiment with both dancing and playing the music they dance to (sometimes going through singing) to better understand, memorize and internalize the whole complex of musical language in dance.

Another reason introduced by Monica is ‘harmonization’. In music, harmony is one of the binding elements that allows for the coordination of single parts into a whole. In holistic disciplines, the principal aim is precisely to work on the whole body thanks to the simultaneous perception of the various parts of themselves that participants/patients have.

Another instructor of holistic disciplines, Lucia Avarone, told me that the concentration on listening that music demands is the best vehicle to work up to listening to one’s own body, breathing, heartbeat and blood flow. Lucia used the term ‘echo’ to define the response of the body to musical stimuli. We could call

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48 Interview with Monica, physiotherapist and instructor of gentle and postural gymnastics, February 2012.
49 See Sherry B. Shapiro (ed.), Dance in a World of Change: Reflections on Globalization and Cultural Difference (Champaign, IL, 2008) and Susan Miyo Asai, Nòmai Dance Drama: A Surviving Spirit of Medieval Japan (Westport, CT, 1999).
it ‘resonance’. But this time it is not a hectic resonance, powerful, able to move groups of hundreds of people, as in aerobics. Here, the relationship with sounds is essentially intimate. Fitness centre users are not all the same: depending on age, disposition and physical characteristics, they look for different answers to their need for well-being. Choosing music can be very individual, as Alessandra notes: ‘We use new age music or something else. For example, I like Ludovico Einaudi a lot. … Classical music … no. You know, often people don’t like it. And we need to put people at ease.’ And yet a participant in a Pilates class declared that she uses Bach to achieve maximum concentration during exercises, isolating herself from all potential distractions – be they external, like noises, or internal, like other thoughts. Even more than in step, music must be part of the participant’s listening habits.

Let us also note how musical communication has different effects on concentration levels. Both in aerobic and holistic disciplines it is used to isolate from the outside by creating a special reality in which what counts is fitness. However, in the former it helps to divert attention from the intensity of physical work, while in the latter, less intense but requiring high motor control, it helps concentration on movements.

In this chapter, I have looked at how music is used in fitness centres in Italy to best direct physical work, and make it easier and more pleasant. The qualities of music at work in this process are several. Some have a direct effect on the efficiency of the movements (rhythm control, lateralization, reduction of muscular tension, increase of concentration on the movements themselves), others on the quality of the experience (improvement of socialization and of the relationship with the instructor and the other participants in the group, construction of pleasant moments, evocation of pleasant emotions and symbolic contexts).

‘Being in synch’, ‘being in tune’ and ‘resonance’ are keywords that explain the kind of relationship that instructors intend to establish between participants and the music that saturates the sonic environment of gyms. The phenomenon of entrainment seems, in all cases, significant in understanding the neurophysiological prerequisites that regulate the broad range of reactions our bodies have to music. I also proposed another keyword that seemed interesting from the perspective of musical anthropology: ‘musicalization’ – that is, disguising the real aim (physical work) with motivations belonging more to music as an autonomous activity (the pleasure of listening, dancing and partying). Valentina says that ‘[i]n fact, for many coming to the gym is tiring and repeating the exercises is boring. Music helps to overcome all this.’ Her statement leaves us to imagine that instructors intend music to have a predominantly functional role, and that we indeed find ourselves in front of an almost exemplary case of applied music. But then Tony says that:
In sport it’s different. In competitive activities there’s a goal that unites all the participants and the audience: winning. In the gym the aim, that is fitness, is much less immediate and not very galvanizing. So we need to construct a situation that gives the activity cohesion and strength. Music is essential in doing this. (Tony)

Here, he describes the need to replace one horizon of motivation with another, a fictitious one. The instructor, through the various strategies that I have analysed, puts up a sort of representation, crossing into the territory of performing arts (from dance to theatre). Even more intriguing is Alessandra’s statement – ‘You know, in the end silence worries’ – which touches upon deep psychological territory for the reasons behind music’s ubiquity.

Finally, I have also highlighted aesthetic motivations: music makes physical work more pleasant and fun. This would perhaps require greater care in dedicated musical production. For musicians like Marco Manara, composing for fitness is seen as frustrating. Instructors like Gil, who have shown good musical competence and knowledge of repertoires, say that they have to come to terms with the participants’ tastes. In short, as often happens in Italy, the issue of musical education and cultural politics also emerges in sports centres.