

# Chapter 8:

## MUSIC, MOTION AND EMOTION

### Metaphorical Projection in Selected Pieces from *A Hundred Hardanger Tunes*<sup>181</sup>

We must hear with the eyes, see with the ears,  
smell with the hands, think with the heart,  
and feel with the brain.

Carl Nielsen

Nicholas Cook has described musical analysis as “the practical process of examining pieces of music in order to discover, or decide, how they work” (1987: 1). Throughout his work Cook problematizes the relation between musical analysis and musical experience, but he also emphasizes the necessary link between the two, stating: “The point of an analytical method is that it should guide you towards a clear and compelling account of the music as you experience it” (ibid. 114). In *A Guide to Musical Analysis* Cook gives an extensive survey of the most influential music-analytical methods, demonstrating the way in which each of these can provide partial answers to how a musical composition works. I share Cook’s belief that it is through a combination of analytical methods that we have the best chance of elucidating the workings of musical compositions. The methods which Cook discusses in *A Guide to Musical Analysis*, however, are almost exclusively concerned with allegedly autonomous musical structures—which represent but one aspect of our rich, complex, and highly heterogeneous musical experiences. Although I share Cook’s belief that is neither possible nor desirable to render the musical experience exactly, as I have argued in earlier sections of the dissertation, I believe that new insights might be gained by seeking other structures than

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<sup>181</sup> This chapter is built upon two earlier papers: “A Cognitive Approach to Musical Analysis: Metaphorical Projection in Music” (published in A. Gabrielsson (ed.), *Proceedings of the Third Triennial ESCOM Conference*, Uppsala University, Sweden, 1997) and “Metaphorical Projection in Music: A Pathway into the Cognitive and Emotional Functioning of the Mind”, presented at the Second International Seminar on Researching and Applying Metaphor, Copenhagen, May 1997. The first mentioned paper received the 1997 ESCOM Young Researcher Award.

those included in the traditional structure-analytical approaches that were discussed and employed in Part II (cf. the discussion of cognitive structures in Section 4.1).

In the following I will present a listener-oriented analytical approach that seeks to reflect the heterogeneity and embodiment of musical experience. The objects of analysis will thus be sought not primarily in the score or the “music itself” (a rather dubious notion, as Cook himself points out in his recent article “Theorizing Musical Meaning”), but rather in the listeners’ cognitive processing of sounding music and score—a processing which involves both auditory, visual, emotional, kinæsthetic, linguistic, and other domains of experience. The structures at issue here can be understood in terms of Varela, Thompson, and Rosch’s notion of cognition as embodied action, where cognitive structures are regarded as properties which emerge from recurrent sensorimotor patterns, implying that “the reference point for understanding perception is no longer a pre-given, perceiver-independent world but rather the sensorimotor structure of the perceiver (the way in which the nervous system links sensory and motor surfaces)” (1991: 173). Sensorimotor approaches to music have recently gained support among a number of musicologists, who have focused upon the fundamental link between bodily movement and gesture, musical performance, and musical experience (e.g. Keil 1994; Mead 1999; Pierce 1989, 1997; Graybill 1990; Hatten 1993), as well as upon the fundamental cross-modality of musical experience, which enables us to hear music in terms of shapes, spaces, and sound-producing actions (Godøy 1993, 1997, 1999, 2001).

In this chapter I will approach structures of musical experience by means of the cognitive semantic notion of metaphorical projection. Since Aristotle metaphor has been regarded as a linguistic phenomenon where an entity from one semantic field is transferred to another semantic field (cf. the etymology of the term “metaphor”: *carrying-over*). Cognitive metaphor theory, also called the Lakoff-Johnson theory of metaphor, regards metaphor not as a matter of language alone, but as a basic cognitive principle where the transfers occur between conceptual domains; thus, the cognitive linguist George Lakoff defines metaphor as “a cross-domain mapping in the conceptual system” (1993: 203).<sup>182</sup> Another difference between traditional metaphor theory and cognitive metaphor theory is that according to cognitive metaphor theory, the motivation for metaphorical mappings can be both iconic and indexical, as the music semiotician Robert Hatten has pointed out (1994: 164). An example of the latter is the ubiquitous metaphor which Lakoff and Johnson have named MORE IS UP (e.g. “my income *rose* last year”; 1980: 16), where the mapping is based on a correlation rather than on an underlying similarity.

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<sup>182</sup> Thus, whereas metonymy is regarded as an association within the same conceptual domain, metaphor is regarded as an association across conceptual domains (cf. pp. 249-50 for a discussion of conceptual domains). As the main concern of this chapter is to apply aspects of the Lakoff-Johnson theory of metaphor to the analysis of specific pieces of music, I have chosen to limit the discussion of the theory itself to a minimum. Those interested in more comprehensive music-theoretical discussions of cognitive metaphor theory, can find this in a number of recent works, e.g. Brower 2000; Cox 1999; Haver 1997; Iglund 2000; Larson 2000; Saslaw 1996, 2000; Zbikowski 1997, 1998, 1999, 2000; and Johnson & Larson 2001.

Although there is mounting evidence that metaphorical projection is a cognitive reality in many different domains of experience (see also Lakoff & Turner 1989; Gibbs 1994; Lakoff & Johnson 1999), the use of metaphors in musical discourse—especially metaphors with strong emotional connotations—has often been rejected as hopelessly subjective and unscientific by music analysts. However, as the music theorist Marion Guck has demonstrated (1994a), even the most scientifically oriented analyses abound in metaphorical language. Furthermore, as ethnomusicologists like Steven Feld (1981, 1990) have pointed out, the use of metaphors to describe music is a cross-cultural phenomenon. Metaphorical projections seem to be essential not only to the linguistic description of music but also to the music listening experience, and are manifested not least through cross-modal associations, which are so pervasive that we tend to regard the most common associations as intrinsic to the “music itself” (cf. e.g. the ubiquitous metaphor of musical space and the convention of describing timbre in terms of color, as evident in the German term “Klangfarbe”).<sup>183</sup> I wish to argue that many of the body-based metaphors which arise through our encounters with music can in fact be intersubjective, due to shared biological and cultural dispositions among the listeners, and that much of the music is lost if we focus solely on the “disembodied” score in music analysis. To demonstrate my point, I will start out with the orchestral folk tune arrangement “Vélkomne med æra” (“O be ye most heartily welcome”), which opens *A Hundred Hardanger Tunes*, and which is one of the most popular of all of Tveitt’s pieces.

I will focus initially upon a section towards the end of the piece, as this can exemplify two contrasting metaphorical associations which, I believe, are characteristic of the piece as a whole and contribute greatly to its import. The first and dominant association is that of floating in a seemingly weightless state (see ex. 8.1, section E), whereas the second association is that of gravitating or being pulled towards something (section D).<sup>184</sup> How can such associations arise? Let us first look at the “gravitational” part of this example. The measure preceding m. 35 ends on a dominant chord—thus, m. 35 starts as a deceptive cadence, but soon moves by way of an appoggiatura down to the tonic E Aeolian. The movement does not stop here, however: The bass line continues downwards, reaching a C in m. 36, which defines a sixth chord on the fourth scale degree; and thereafter a B, which is sustained as a dominant pedal point through m. 38. This last measure is an almost exact repetition of m. 37—thus, it delays our arrival at the longed-for tonic, thereby greatly increasing the

<sup>183</sup> Interestingly, recent neuroscientific findings support the view that music perception is cross-modal. Robert Zatorre and his associates (1994) have observed that passive listening to unfamiliar tonal melodies entails a cerebral blood flow (CBF) increase, i.e. an activation, not only in the areas of the brain that are known to be specialized for auditory processing but also in the visual cortex; more precisely in the right occipital cortex (fusiform gyrus). Zatorre et al. also report an insignificant CBF increase within area 19 (extrastriate visual cortex) and refer to similar findings by Griffiths & Brown, who have raised the possibility that their findings reflect a cross-modal spatial perceptual system engaged by the apparent movement of frequency-modulated tones. However, it remains to be seen which parts of the brain are active during an *aesthetically and emotionally engaged* listening experience.

<sup>184</sup> Kinaesthetic metaphors such as these are pervasive in musical experience, as we tend to hear music in terms of agency (see Guck 1981a, b, 1991). However, as the music theorist Fred Everett Maus has observed, we find “a pervasive *indeterminacy* in the identification of musical agents” (1988: 68).



expressivity of this passage.

But how is it that the tonic can be heard as a point of arrival, and how is it that we can actually long for the tonic? In an attempt to understand this, I will turn to the philosopher Mark Johnson's notion of *image schemas*—more specifically, the PATH and ATTRACTION schemas. Johnson describes image schemas as “recurring structures of, or in, our perceptual interactions, bodily experiences, and cognitive operations” (1987: 79), emphasizing that these basic structures are experientially based, developing through our encounters and interactions with our environments. This implies that image schemas are dynamic, and that they are modified during the course of our development. However, they are constant enough to be recognized both across time and between individuals, due to our shared biological dispositions and basic bodily experiences (e.g. the experience of gravity). Interestingly, Johnson emphasizes the amodal quality of image schemas, noting “It would seem that image schemata transcend any specific sense modality, though they involve operations that are analogous to spatial manipulation, orientation, and movement” (ibid. 25). As a result, they can be metaphorically projected onto many different domains of physical and psychological experience, enabling associations to be made between phenomena which pertain to different cognitive domains. But although Johnson both names and illustrates a number of different image schemas, he emphasizes that one must not confuse the illustrations with the things themselves: Image schemas are neither propositions nor rich images, but skeletal structures which belong to the cognitive unconscious (see Lakoff & Johnson 1999), the level of massively interacting basic cognitive processes which underlie our conscious experiences, and which we can observe only indirectly by means of cognitive experiments and philosophical reflection.

As Johnson observes, the PATH schema is often linked with the basic metaphor STATES ARE LOCATIONS (1987: 114). We use these structures in many different ways, and especially as a way of creating temporal order—like we do when we hear the arrival of the tonic as a location towards which the music strives, thereby drawing a path. But even more interesting than this ubiquitous and very obvious metaphorical mapping, is the mapping which enables us to “long for” the tonic in mm. 37-38. Here we are acting according to a cultural convention which is limited to the paradigm of modern Western tonal harmony. But although this musical effect is culturally determined, it seems to be motivated by our bodily being in the world. In cognitive semantic terms one can say that functional harmony has been incarnated in our ears and bodies in terms of a set of image schemas that are essential to musical experience—the FORCE schemas. I will here focus especially upon what Johnson calls the ATTRACTION schema:

A magnet draws a piece of steel towards itself, a vacuum cleaner pulls dirt into itself, and the earth pulls us back down when we jump. There is a common schematic structure of attraction shared by these experiences. This same structure is present, too, when we feel ourselves physically attracted to some other person. The force is not gravitational, in the standard sense, but it is a kind of gravitation toward an object. As such, it shares the same underlying ATTRACTION schema (ibid. 48).

The strong “yearning” effect of the dominant pedal point in our example seems clearly to be based upon this schema, the tonic acting as a musical “center of gravity”. Interestingly, one of the founders of modern harmonic theory, Jean-Philippe Rameau, was a contemporary of Isaac Newton, and Rameau seems to be drawing explicitly upon Newton’s theory of gravity when he writes that the tonic

must be seen as the centre of the mode, towards which is drawn all our desires (*auquel tendent tous nos souhaits*). It is effectively the middle term of the proportion to which the extremes are so tied (*liés*) that they cannot stray from it for a moment. If [the progression] passes to one of them, it must return back right away (*y retourner sur le champ*) (Rameau rendered in Christensen: 189).<sup>185</sup>

According to Riemann’s later functional theory of harmony, the main driving force of harmony is the tension between the dominant and the tonic, as epitomized by the dominant chord’s leading tone being pulled towards the tonic. In our culture we both hear and feel this harmonic “suction” as a major source of musical tensions and releases—and accordingly, as an important expressive means in tonal music. The music theorist Steve Larson regards these and similar musical forces as so essential to musical expression that they form part of the fundament for his own theory of expressive meaning in music (1993, 1994, 2000), in which music is understood as “purposeful action within a dynamic field of musical forces” (1994: 226). Larson operates with three prototypical musical forces: musical gravity (“the tendency of an unstable note to *descend*”), musical magnetism (“the tendency of an unstable note to move [up or down] to the *nearest* stable pitch”), and musical inertia (“the tendency of a pattern of musical motion to continue in the *same* direction”—analogous to the Gestalt law of good continuation).

Returning now to our musical example, let us take a closer look at section E. As we can see from the score, the tonic is reached in m. 39, but this cadential move does not create a very strong sense of closure and rest. Instead, the music seems to start floating, as it did in the beginning of the piece. How can this sensation arise? Let us again take the structural features as our point of departure. First of all, the bass line does not make a standard cadential move but continues to lie on the “dominant” B, entailing that the tonic appears in second inversion. The tonic six-four retains some of the preceding passage’s “dominant feel”, as this chord is in fact identical in structure with the cadential six-four—it is the context that has led me to interpret it as a tonic six-four. Tonic six-fours are rarely found on strong beats and in cadential passages in traditional major-minor music, as they are conventionally heard as relatively unstable and implying continued movement. When presented as passing notes, tonic six-fours can contribute to the directional drive of a musical passage; but when they are presented as in this example, without being followed by a more stable musical structure, the effect will be just the opposite: The music will tend to lose its directionality. In addition to this voice-leading effect in mm. 38-39, the subsequent rotation between six-four chords on the first and second scale degree also contributes to the floating character of this

<sup>185</sup> I am grateful to Janna Saslaw for having introduced me to the work of Thomas Christensen.

passage; and the static harmonic effect is enhanced even further by the two chords' common notes, E and B (the first and fifth scale degree of E Aeolian; a structure which enables us to hear the second chord also as a simple prolongation of the tonic). To summarize: Tveitt has substituted the linear, functional harmonic concept of section **D** with a more static, coloristic harmonic concept in section **E**, thereby breaking the convention of harmonic development (cf. French impressionism).

The lack of development in section E is not limited to the harmonic structure, however; in rhythmic and melodic respects, too, this passage is strikingly static. To understand why, let us take a closer look at its composition. The passage has a very simple structure, consisting of three sonorous layers: sustained chords in the strings, repeated quarter notes in the harp, and the slowly pacing folk tune presented by a clarinet. The changes in each of the layers are slow and very subtle—even in the folk tune, which consists solely of two repeated, closely related rhythmic motives. The melody revolves mostly around the tonic, and with but one exception, it moves only stepwise or by thirds employed in eighth note rotations between the first and sixth scale degree (which occurs twice in the folk tune). This structural stasis contributes greatly to the floating sensation of the passage, which is enhanced even further by its slow tempo and subdued, static dynamics.

If we now analyze this analysis, we will discover that we are again experiencing the music in terms of the PATH and ATTRACTION schemas; this time, however, in the form of a negation. Due to the harmonic, rhythmic, melodic, and dynamic peculiarities of this passage, the music seems no longer to be progressing—and it seems to have liberated itself from the gravitational forces to which we earthly beings are subject. This has dramatic temporal consequences, as it seems that time itself starts to float in this passage. Another way of expressing this would be to say that the music has an *ethereal* character; a metaphor that is based upon our experience of things floating in air, as well as upon our cultural images of an incorporeal and atemporal afterlife. These metaphorical associations are enhanced by the ethereal connotations of the instrumentation, where we find a dominance of muted strings, harp, and soft-sounding wind instruments, all of which figure prominently in the “heavenly” musics of our culture.<sup>186</sup>

Let us now turn to another group of image schemas that Johnson discusses in *The Body in the Mind*: the BALANCE schemas, named AXIS BALANCE, TWIN-PAN BALANCE, POINT BALANCE, and EQUILIBRIUM (1987: 86ff). I believe that most Western music listeners would hear “O be ye most heartily welcome” as *well-balanced*. But how is it that the notion of balance—which in its most primal form is related to fundamental somatic

<sup>186</sup> When this analysis was presented to a group of composers recently, the metaphors “religious” and “melancholy” were also suggested as descriptive of the piece. Interestingly, both metaphors are in accordance with the above-mentioned characteristics of section E; religious belonging to the same semantic field as “ethereal”, and “melancholy” deriving from the piece’s slow pace, soft sound, and static structure—musical features which correspond to the bodily attributes of melancholia or depression (see Aksnes 2002). The musicologist Eiliv Olsen’s hearing of this folk tune arrangement as an expression of Tveitt’s nostalgic feelings towards his ancestral farm (1969: 120), seems to be based on similar mappings.

experiences like that of our own center of gravity—can be so aptly applied to music which, strictly speaking, is nothing but a constellation of soundwaves? Musical balance is a gestalt quality dependent on both melodic, harmonic, rhythmic, registral, contrapuntal, dynamic, instrumental, idiomatic, and many more features. For the sake of simplicity, I will here concentrate on the rhythmic and melodic balance of the folk tune upon which Tveitt has based his arrangement (ex. 8.2).<sup>187</sup>

Two staves of music in 4/4 time. The first staff starts with a treble clef and a key signature of one sharp (F#). The melody consists of eighth and quarter notes with various rests. The second staff continues the melody. There are some markings above the notes, possibly indicating fingerings or breath marks.

Ex. 8.2: "O be ye most heartily welcome" (adapted from Tveitt's orchestral arrangement, VI I, mm.11-18)

Handwritten analysis of the folk tune. The top part is titled "Rhythmic structure" and shows two measures of music with rhythmic annotations: "a1+a2" under the first measure and "a3+a4" under the second measure. The bottom part is titled "Melodic contour" and shows the same two measures with melodic annotations: "a1", "a2", "a3", and "a4 (=a1)" under the notes.

Ex. 8.3: Rhythmic structure and melodic contour of "O be ye most heartily welcome"

As we have seen, the folk tune has a very simple structure, consisting solely of two repeated, closely related rhythmic motives, each stretching over two bars. These motives are paired, the second and fourth motive functioning as a "reply" to the first and third motive—a dialogue effect which is enhanced even further by the strings' quasi-vocal gesturing of the folk tune in the C# Aeolian presentation in ex. 8.2. This conventional "question-answer" structure creates a sense of musical symmetry, i.e. of balance, which has both rhythmic and melodic aspects depending on whether we are projecting rhythmic (temporal) or melodic (spatial) symmetry axes upon the sounding music. The barlines between mm. 2-3 and 6-7 in ex. 8.2

<sup>187</sup> Thanks to Arvid Vollsnes for preparing this musical example for me.



are the most important rhythmic axes, in that they separate the first and third motives from their rhythmically more or less identical “answers”. The perceived symmetry of this repetitive rhythmic structure is in accordance with the ancient Greek and Roman understanding of symmetry as being dependent upon repeated proportions (see E. Rothstein: 164), and the same principle underlies the perceived symmetry of the Classical Viennese School. Clearly, the rhythmic symmetry is not a physical property of the folk tune, but in our experience of the tune we seem to be drawing upon basic balance schemas, such as TWIN-PAN BALANCE, where rhythmic statements are “counterbalanced” by identical statements, or by different statements carrying equal “weight” (see Johnson: 89ff).

Let us now turn to the melodic balance of the folk tune. As mentioned, we can project spatial symmetry axes upon the melody; e.g. by hearing the first motive’s downward movement to be counterbalanced by the second motive’s upward movement, the repeated  $e^2$ ’s functioning as a melodic symmetry axis. If we examine the melodic contour of the folk tune more closely (ex. 8.3), we see that it tends to move up and down by thirds. More important than this melodic symmetry, however, is the experience of melodic balance which draws upon our understanding of the tonic as a musical center of gravity towards which the melody strives (cf. the harmonic gravitational effects discussed above). In this sense the folk tune feels melodically balanced because it draws a path in which the melody moves repeatedly toward and away from the tonic, before it ultimately finds rest on the tonic; a melodic development which can be heard in terms of the periodic “rises” and “falls”, or tensions and releases, of the CYCLIC CLIMAX schema (see *ibid.* 120). A third sense in which the folk tune is balanced, arises through the fourth motive’s return to the melodic contour of the first motive, which gives the melody an aesthetically pleasing arch form, in accordance with the very basic CYCLE schema. Johnson’s description of this schema can easily be applied to the temporal unfolding of melodies: “whether in the simple *circular* form, or in the sine-wave representation with its imposed climactic character, the CYCLE schema manifests a definite recurring internal structure. This structure constitutes one of our most basic patterns for experiencing and understanding temporality” (*ibid.* 121).

Interestingly, all of these different aspects of melodic balance are based upon a hearing of the melody in terms of the metaphor of musical space, which is an instantiation of the basic metaphor NONVISUAL PERCEPTUAL SPACE IS PHYSICAL SPACE (Lakoff 1987: 513). This metaphor can also be recognized in our notation of the folk tune, which places the melody in a visual—although two-dimensional—space. And like all other things moving in space, we tend to hear the movements of the melody in terms of energy.<sup>188</sup> The rising melodic lines of mm. 3-5, for example, are heard as an increase in tension, and the subsequent return to the melody’s registral point of departure as a return to the folk tune’s original

<sup>188</sup> Energy metaphors are pervasive in musicological discourse, as in the Danish musicologist Erik Christensen’s theory of music listening, in which the four basic listening dimensions of space, timbre, movement, and pulse meet in the dimension of “intensity” (1996: 15).

energy level; much like our understanding of potential energy, which is proportionate to the elevation of an object. It is obvious, however, that the metaphor of potential energy can account for only part of the pattern of tensional build-up and release in the folk tune: The dramatic downward leap in m. 5, for example, is heard as highly energetic, due to the inherent tension of disjunct motion and the higher energy level (kinetic energy) of fast notes. Here the tension is resolved by the subsequent conjunct motion *upwards*, in accordance with an ancient melodic convention which has been termed “gap-fill melody” by the musicologists Burton S. Rosner and Leonard B. Meyer (1982: 323).

Music characterized by regular patterns of melodic and tensional rise and fall is commonly experienced as well-balanced, and often accordingly as well-formed. In fact, the understanding of musical balance within Western culture seems at least partially style-independent, as is evident from the Palestrina scholar Knud Jeppesen’s account of the Renaissance composer’s melodic lines, an account which could just as well apply to the folk tune employed by Tveitt: “All in all the melody is surely restrained and well-balanced; up and down are approximately equilibrated [...] One will, moreover, notice that the large intervals are treated in a special way, as they are balanced by stepwise progression” (Jeppesen: 82-83; translated from Danish). This correlation is interesting in light of the particular *soothing* effect that both Palestrina’s music and “O be ye most heartily welcome” can have upon me when I am troubled—an effect which indicates that musical balance is not only heard but also felt, thus meaning much more to us than dynamic patterns of notes which are heard to be in “auditory equilibrium”.<sup>189</sup> I am inclined to answer that the music helps me regain my mental equilibrium, and like Johnson, I believe that it is no coincidence that I experience it this way. In *The Body in the Mind* he writes:

The mental is understood and experienced in terms of the ‘physical’. The notion of ‘emotional balance’ is a good example here, because our emotional experience is typically thought of as having both a bodily and mental aspect. We experience our emotions on a homeostatic model in which health depends on a proper balance of emotional forces and pressures (1987: 88).

Drawing upon a related metaphor—the ancient Greek notion of *Harmonia*—I could say that harmonious music puts me in a harmonious mood (or even more romantically: that the beauty of this music attunes my soul). Here the projections have gone well beyond the bounds of kinaesthetic experience and have entered into the realm of *emotions*; which are characterized by an interplay between somatosensory information (information about the state of the body) and our cognitive evaluations of this information. Musical balance thus seems to have both structural and emotional aspects, and a study of the metaphorical basis of this notion can serve to problematize the sharp distinctions that are often drawn between

<sup>189</sup> It should be noted that the soothing effect of this music is, of course, also highly dependent upon my own liking for the music. Taste obviously has the ability to overrule otherwise intersubjective soothing effects, as I can experience when I find exaggeratingly “soothing” New Age music *annoying*, despite this music’s explicit intention to calm down the listener.

“intra-musical” structure and “extra-musical” associations such as the perception of emotions in music.

But are image schemas sufficient as an explanation as to how we evaluate our bodily sensations? Image schemas represent one possible way of categorizing the wealth of information which reaches our cerebral cortex, and can help us to understand how we draw upon our own experiences as (and of) moving bodies when we listen to music. However, they are less apt for analyzing many of the subtle dynamic effects which are so important for musical expressivity. In an attempt to understand how such musical effects can acquire meaning, I will therefore look elsewhere: to the psychologist Daniel Stern’s notion of *vitality affects*; amodal activation contours which manifest themselves in many different experiential domains, and which act as a complement to the Darwinian categorical affects.<sup>190</sup>

...many qualities of feeling that occur do not fit into our existing lexicon or taxonomy of affects. These elusive qualities are better captured by dynamic, kinetic terms, such as “surging”, “fading away”, “fleeting”, “explosive”, “crescendo”, “decrescendo”, “bursting”, “drawn out”, and so on (1985: 54).<sup>191</sup>

Stern draws upon the philosopher Susanne Langer’s discussion of the different “forms of feeling” that are correlated with vital life processes like breathing or the coming and going of emotions and thoughts, and he emphasizes that vitality affects can exist independently of the traditional categorical affects—“For example, a ‘rush’ of anger or of joy, a perceived flooding of light, an accelerating sequence of thoughts, an unmeasurable wave of feeling evoked by music, and a shot of narcotics can all feel like ‘rushes’” (ibid. 55). He emphasizes further that the vitality affects are inherently expressive; a point he makes by pointing to the expressivity of abstract dance and music. In his discussion of a metaphor in Defoe’s novel *Moll Flanders*, Stern provides a partial answer to why this is so: “...a variety of diverse sensory experiences with similar activation contours can be yoked—that is, they can be experienced as correspondent and thereby as creating organization” (ibid. 58). How is this possible? Stern explains:

Because activation contours (such as “rushes” of thought, feeling, or action) can apply to any kind of behavior or sentience, an activation contour can be abstracted from one kind of behavior and can exist in some amodal form so that it can apply to another kind of overt behavior or mental process. These abstract representations may then permit intermodal correspondences to be made between similar activation contours expressed in diverse behavioral manifestations (ibid. 57-8).

If we now return to Tveitt’s “O be ye most heartily welcome”, we will recognize a number of vitality affects which contribute to the expressivity of this piece—and I am convinced that these elements’ expressivity is due at least in part to mappings between dynamic patterns in the music and similar patterns in our visceral experience. Let us start with the vitality affect

<sup>190</sup> I am grateful to Mark Johnson for having introduced me to the work of Daniel Stern (see Aksnes 2002 for a more comprehensive discussion of Stern’s work).

<sup>191</sup> Interestingly, the neuroscientist Antonio Damasio (private communication) has compared Stern’s vitality affects with his own notion of *background feelings*; feelings which originate “in ‘background’ body states rather than in emotional states” (1994: 150).

“drawn out”, which is represented in two respects in our example. Firstly, it is represented by means of the repetitions in mm. 37-38, which, as we noted, entail a tantalizing delay of the tonic; tantalizing precisely because we react to this delay in the same way that we react to the delay of an expected gratification.<sup>192</sup> The second way in which our example is “drawn out” has to do with the slow tempo, which is also a performance-related feature of the music: It is as if time is drawn out in this passage, as if we are experiencing the musical movements in slow motion—the same way that we can experience dreams, distant memories, and things sounding from far away. Thus, adjectives like “dream-like” and “distant-sounding”, which are often used to describe music with a character similar to this piece, can be regarded as metaphorical entailments of the vitality affect “drawn out”.

Among other vitality affects which are especially prominent in this piece, I wish to mention “surging” and “crescendo”, which play a vital role in ex. 8.4, the passage immediately preceding ex. 8.1. Here we find a dynamic crescendo effect which is combined with an octave leap in the deep strings, marking the repetition of a melodic motive that revolves around the fifth scale degree. The second time round the strings reach the tonic—only to fall back upon the leading tone on the last beat of m. 34. As we can hear, this passage is characterized not only by increased loudness but by a general increase in tension, due to the combined forces of dynamics, pitch, and harmonic expectations.<sup>193</sup> The effect of this musical surging motion is enhanced even further by the following, slight cesura that can be heard on all the recordings of the piece that are commercially available today (most evident in Per Dreier’s interpretation on SIMAX); a vitality affect which is not marked in the score, but is a gift from the conductors. All of these musical effects are analogous in some way to our experience or expressions of emotional arousal and intense anticipation (as to the cesura, cf. the idiom “my heart stood still”).

Now turning to our ability to hear music in terms of *categorical* affects, it is interesting to note that many attempts to explain emotional expression in music draw precisely upon vitality affects as a basis for the perception of categorical affects. According to Susanne Langer (1951, 1953), one of Stern’s inspirators, our ability to perceive emotion in music reflects an isomorphism between the sounding music and our feelings. This view still has considerable influence, as we can see from Dowling & Harwood’s *Music Cognition* (1986), where emotional effects that depend upon patterns within the music itself are discussed in terms of iconic representations.<sup>194</sup>

<sup>192</sup> As we have seen in several earlier sections, the music theorist Leonard B. Meyer believes that the objectification of musical meaning is dependent upon precisely such delays, or inhibitions, of tendencies or habit reactions (1956: 39).

<sup>193</sup> Interestingly, the Danish musicologist Frede Nielsen’s experimental study of musical tension (1983) indicates that even though the perception of musical tension is dependent upon a complex interaction of many different musical parameters, the perceived tension curves within musical compositions seem to be relatively intersubjective.

<sup>194</sup> In the recent interdisciplinary anthology *Music and Emotion: Theory and Research* the music psychologists John A. Sloboda and Patrik N. Juslin call iconic sources of emotion in music “extrinsic”, as opposed to “intrinsic” sources of emotion that include structural characteristics such as “syncopations, enharmonic



follows sound. ... These motions stimulate action, and this action is the sign of feeling” (ibid. 206). Interestingly, as Dowling & Harwood note, Aristotle here combines indexical and iconic representations, pointing not only to the iconic relationship between tonal motion and action but also to the prior indexical associations of actions and feelings (loc.cit.). The relation between our perception of musical structure, motion, and emotion has also been studied by a number of other music psychologists, among them Alf Gabrielsson in studies of rhythm cognition (1973a, b), and Carol Krumhansl in studies of musical tension and of the structural and expressive mappings between music and dance (see e.g. Krumhansl 1997; Krumhansl & Schenck 1997).

When discussing the relation between musical and emotional experience, I will continue to employ the metaphor of *drawing upon*, as I have done earlier on in this chapter when I have focused on how we may draw upon other bodily patterns and reactions in musical experience. This metaphor is carefully chosen, as it can include both the so-called “cognitivist” and “emotivist” positions within music philosophy (see Kivy 1987). I do not wish to take sides in the “ancient quarrel” between these positions, as I am convinced that our experience of expressivity in music can result both from a simple recognition of music’s expressive properties (“cognitivism”), and from our actually feeling the expressivity of music (“emotivism”). In my view, these positions can best be regarded as different listening strategies, in accordance with Sloboda’s belief that the cognitive stage of a listener’s response to music “is a necessary precursor of the affective stage [...] However, the affective stage does not necessarily follow the cognitive stage” (1985: 3). Nonetheless, I believe that a certain degree of identification with the emotions of the Other, whether this Other is a person or a musical work, is an inevitable result of our wiring as empathetic humans—a faculty that is necessary for our survival.

I am convinced that indexically (metonymically) motivated metaphorical mappings of the kind described by Dowling & Harwood—mappings which depend upon a metonymic coupling of our expressions of emotions with the emotions themselves—are fundamental to our perception of emotion in music, regardless of whether we only recognize or actually feel the emotions at issue. To demonstrate my point, I will now turn to another example from *A Hundred Hardanger Tunes*, “Friarføter” (“Going a-wooing”; 4-47). To give my readers an idea of this short piece, I will render a score page from the second half of the piece (ex. 8.5), in which the principal theme is presented in celesta and violin flageolets (the upbeat is lacking).

The piece as performed by Bjarte Engeset and the Royal Scottish National Orchestra (who have recently presented the first commercial recording of the entire fourth suite of *A Hundred Hardanger Tunes* on NAXOS) has many of the prototypical characteristics of music which is perceived to express happiness—to quote a recent study by Gabrielsson & Juslin: “fast tempo, moderate variations in timing, moderate to loud sound level, tendency to (relatively) sharpen contrasts between ‘long’ and ‘short’ notes (as in dotted patterns), [...]”



rapid tone onsets, bright timbre [...]” (1996: 86). In addition to these performance-related features, we can point to several of the music-structural features of “happy” music reported by Rigg (1964); such as the piece’s relatively high pitch, its high degree of consonance, and its G-Lydian tonality. (Lydian is commonly heard to be even brighter than major, due to the raised fourth which acts as an upward-striving leading tone.)

To understand how it is that we can experience this piece and the above-mentioned musical features as “happy”, I will draw upon two experiential domains which, I believe, play an active role in our experience of the piece: our bodily expressions of happiness (metonymic metaphors) and our bodily experiences of happiness (“pure” metaphors). First of all, we commonly hear music in terms of manners of walking (see Swanwick: 29); and the Tveitt piece is no exception, due not least to the rhythmic ostinato figure which accompanies the folk tune throughout the piece.<sup>195</sup> The quick, skipping gait of this ostinato can be heard as symptomatic of happiness, and the several unexpected, staccato, and high-pitched sforzato effects (see ex. 8.5) can be metaphorically conceived of as “jumping for joy” (note that this does not imply that the sforzato effect cannot also have specifically sonorous meanings). The analogy of walking is but one possibility, however. David Gallagher writes in the CD booklet of the NAXOS recording that the suitor is “on horseback by the sounds of things”, an association which may draw both upon the sonorous qualities of horseback riding, and upon the exciting and free-flying, rhythmic bodily experience of galloping.

The psychologist Charlotte Wolff’s observation of our postural and gestural expressions of elation can also throw light upon the workings of the Tveitt piece, as every one of Wolff’s observations can be recognized in this piece: “*Elation* is shown by a wealth of unnecessary movement, fast motor speeds, exhibitionist behaviour, spontaneous, emphatic and rhythmical gesture and self-assertiveness” (cited in Swanwick: 28). Returning now to Gabrielsson & Juslin’s study of the emotional expression of happiness in music performance, we find several striking correspondences with Wolff’s study; correspondences which indicate that the perception of emotional expression in music is motivated to a large extent by our bodily being in the world. The Tveitt piece and Gabrielsson & Juslin’s findings correspond not only with our motor expressions of happiness, however; they also correspond with our vocal expressions of happiness (cf. especially the piece’s moderate to loud sound level and bright timbre, as well as its relatively high pitch)—which represent yet another layer of the tightly woven fabric of musical meaning.

But what about the second domain, the domain of our bodily experience of happiness? Interestingly, many of the same musical features which could be heard in terms of our bodily expressions of joy can also be heard in terms of our experience of joy. The quick tempo is in accordance with the heartbeat of an elated person, the relatively high pitch can be heard as indicative of “high spirits” (another metaphor which seems to be based upon our postural

<sup>195</sup> Interestingly, the music pedagogue Alexandra Pierce (1997) has developed a “performer’s guide” in which she discusses musical performance in terms of manners of walking and other distinct movement qualities.



expression of happiness), and the sforzato effects can be metaphorically conceived of as a heart (my heart?) "making a leap". Furthermore, the accelerando effect arising from the repeated diminutions of the rhythmic ostinato in the opening of the piece can be heard as indicative of excitement and anticipation (cf. the physiological effects of emotional arousal); and the sudden dynamic swell as a "rush" of joy (see ex. 8.6).<sup>196</sup>

3 Fl. *grandi*  
Ob.  
C. I  
cl. I (B)  
clar. basso (B + 8)  
Fag. I  
Cor Anglais (F + 8)  
I - II  
vni  
III - IV  
truba I  
II  
III  
Tuba  
arpa  
Celesta  
(SENZA SORDINI)  
v. I  
v. II  
Viola  
celli  
cb.

*a 3/8*  
*con sord mp*  
*sf* *pp* *p* *mf*

Ex. 8.6: "Going a-woeing", *A Hundred Hardanger Tunes*, suite 4, no. 47, p. 1  
Manuscript, Norwegian Music Information Center

<sup>196</sup> Here, too, the conductor has added musical meaning that is not made explicit in the score. The first measure of the score is not played in Engeset's interpretation, and he has also added a dynamic swell in mm. 6-7 rather than following the terrace dynamics indicated in the score.

It should be noted that we rarely tend to objectify such associations during the fleeting music listening experience—many of the associations emerge only as we stop to reflect upon this experience. We have no way of guaranteeing that the associations which arise through later reflection are not *ex post facto* attributions to the real time music listening experience; much the same dilemma that Husserl pointed at when he noted that noematic analysis transforms the very experiences it seeks to elucidate, thereby generating new phenomena (see Section 2.1). However, I find it plausible that since cross-modal associations do occur also during the listening experience itself, many more may be operative on the subconscious levels of this experience, thereby contributing to the network of associations which constitute the emergent meaning at each moment of the experience.

As we have seen above, one and the same musical feature can be heard as indicative of several different phenomena; a peculiarity that is due to the relatively indeterminate nature of musical meaning (see Maus 1988; Walton 1994). However, the associations that I have discussed are far from being arbitrary, as the phenomena at issue can be characterized by similar rhythms, movements, forces, or patterns of agency—the very same aspects of music which have been discussed in terms of image schemas, vitality affects, and forms of feeling.<sup>197</sup> It is also interesting to note that the folk tune used in “Going a-wooing” favors precisely the associations upon which I have drawn: “Friarføter”, literally translated, means “wooer’s feet”, alluding to the Norwegian idiom “å være på frierføtter”—“to be on wooer’s feet”. And if we wish to semanticize the piece even further, we can examine the folk tune’s original text: “Bottolf was unable to travel all the way to Røldal to ask for Anna’s hand in marriage, so he sent her a message. When she received his proposal, she sent him a spoon. Her suitor was delighted at such willing acceptance” (Storaas 1996: 27). Tveitt often sought musical inspiration in extramusical phenomena, as we have seen in earlier chapters, and it is plausible that this particular folk tune has elicited a vast amount of associations pertaining to love, happiness, excitement, anticipation, hope, urgency, and joyfully skipping feet/hoooves in Tveitt’s musical imagination. And as I hope to have argued convincingly, we can recognize many of these associations due to our capacity for metaphorical projection.

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The aim of this chapter has been to use the notion of metaphorical projection as a music-analytical tool which can help us to continue from where the traditional structure-analytical methods stop; the underlying conviction being that the allegedly autonomous musical structures of traditional analysis represent but one aspect of our rich, complex, and highly heterogeneous musical experiences, which are colored both by real time listening and posterior reflection. The most important conclusion that I wish to draw, is that it is problema-

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<sup>197</sup> Interestingly, the music theorist Marion Guck (1981a, b) found the same kind of structural, dynamic, and kinaesthetic homologies when she asked different groups of music students to describe Chopin’s B minor prelude, op. 28, no. 6 in non-technical terms (see Aksnes 2002 for a more comprehensive discussion of Guck’s work in relation to the Lakoff-Johnson theory of metaphor).

tic to operate with rigorous distinctions between “structural” and “emotional”, “intramusical” and “extramusical” aspects of musical experience. For in the musical process—be it one of composing, performing, or listening—all of these aspects seem to be both intertwined and interdependent. To use the balance metaphors as an example, where do the metaphors cease to be intramusical and become extramusical; where do they cease to be structural and become emotional? My answer would be that they are always already both, and that we should strive to include more of the great richness of musical experience in our analyses. For it is only by opening ourselves to the sensuous, emotional, creative, and processual aspects of musical meaning that we can have any chance of understanding how it is that music *moves* us.

As we have seen, the production of musical meaning can go on infinitely, metaphors generating new metaphors in an associative body which knows nothing of our culture’s Cartesian dichotomies. And as I hope to have demonstrated convincingly, even metaphors which have wandered far from the domains that are commonly included in so-called structural analysis—and which are often dismissed as too subjective or idiosyncratic to be of any analytical use—can be highly communicable, due to our shared biological and cultural worlds.

In this chapter I have combined listener- and score-oriented approaches so as to focus upon our musical bodies’ contribution to the play of meaning in selected pieces from *A Hundred Hardanger Tunes*. In the following chapter I will focus more closely upon the musical body itself, giving a more general discussion of the music listening experience from the perspective of cognitive neuroscience (also called neuropsychology).