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What Text Painting Can Tell Us about Musical Structure

ABSTRACT

Text painting is usually thought of as a rather cheap trick: to summon the leaps of a tiger, as Josef Haydn did in No. 21 of *The Creation*, all one needs is a succession of rapid arpeggios, spaced at appropriate intervals and increasing in register. But although Haydn himself deprecated such tricks — calling those he later used in *The Seasons* 'Frenchified trash' —, the technique of text painting can tell us much about musical structure. After all, the actual leaps of a tiger have no significant sonic component: to connect Haydn's arpeggios with the energetic movements of a fearsome beast we have to draw on a cognitive capacity that contributes much to the distinctiveness of human cognition: analogy. More specifically, tricks like text painting — and, more broadly, the correlation of musical sound with physical gestures, the steps of dance, and the physical and psychological processes associated with emotions — rely on humans' capacity to draw analogical connections between sequences of musical sound and various dynamic processes. In this paper, I will review recent research on analogy, explain how correlations between structural elements from two different domains can yield a type of reference (such that rapid arpeggios might be understood to refer to the leaps of a large animal), and offer analyses of examples of text painting that show how the careful arrangement of sequences of musical sound can summon complex and multivalent dynamic processes.

1. INTRODUCTION

Let me begin with a brief example of text painting taken from Josef Haydn's oratorio *The Creation*, a work that was premiered in April of 1798. The portion of the oratorio from which this example is taken focuses on the spectacle of God filling the world with life, a scene which Haydn's librettist, Baron Gottfried van Swieten, illustrated with a vivid assortment of animals. As happens with the musical depictions Haydn offers throughout the oratorio, we first hear the musical representation of a characteristic aspect of the phenomenon under consideration and then the words that situate the representation, which in this instance is provided by the angel Raphael's running commentary. The passage as a whole — in a recorded version conducted by René Jacobs, with the part of Raphael sung by Johannes Weisser — lasts less than nine seconds and, heard in isolation, can be a bit difficult to grasp, as can Raphael's 'Hier schiesst der gelenkige Tiger empor', which can be translated as 'Here the supple tiger springs upwards'. Because I shall want to consider this passage in some detail the score for this portion of the movement is given in Example 1. As should be evident from both the recording and score, what Haydn gives us in this excerpt would seem to be a straightforward musical depiction of the tiger's spirited leaps — that is, he has painted the image suggested by Baron van Swieten's text.

Ex. 1. Joseph Haydn, *The Creation*, No. 21, bb. 14–18.

Musical devices like this were a source of a fair amount of anxiety for music critics of the late eighteenth and early nineteenth century. On the one hand, they were undoubtedly effective, having been used by composers of both religious and secular music across history to summon tremors of fear, descents from heaven, and thunderous storms. On the other hand, such effects, in their crudest forms, threatened to squander the expressive resources offered by music. This was precisely the concern of the dramatist and philosopher Johann Jakob Engel who, in an influential essay on musical depiction written in 1780, counselled the composer to study the text he was to set, discover its central concepts, and then draw out the aspects of those concepts that would have the most significant impact on the listener. 'In the concept *sea*, for example, one should probably take into consideration in the actual association of ideas only its dangers, its depths, its broad expanse. It would be the most obvious sin against expression in this case to paint the gentle washing of the waves' (Engel 1998, 963). Engel believed that for text painting to be effective it had to be subtle rather than obvious, to provide a way *into* the text rather than simply a depiction of the first images that might strike one's mind.

The anxiety about text painting that emerged in the later eighteenth century has continued, in one form or another, through to the present day and has contributed to debates about the relationship between music and other expressive media. My focus in this paper is not, however, on this anxiety and the debates which it has fuelled but on the simple question of how text painting is possible in the first place. Eighteenth-century writers such as Abbé Dubos assumed that music more or less directly imitated natural sounds: 'Wherefore as the painter

imitates the strokes and colours of nature, in like manner the musician imitates the tones, accents, sighs, and inflexions of the voice; and in short all those sounds, by which nature herself expresses her sentiments and passions' (Dubos 1748, 360–61). Such an explanation will not, however, do for Haydn's tiger, for the leaps of a large predator like a tiger are largely soundless. One could, of course, liken the visual impression made by the notational representation of the rapid ascending arpeggios prominent in the passage to the trajectory of the tiger as it springs, but this stretches the notion of imitation far beyond anything countenanced by eighteenth-century writers. A better explanation, and one I would like to pursue in the following, is that text painting relies on humans' capacity for drawing analogical relationships between disparate domains. Because analogy exploits structural similarities between the domains that are drawn into correlation with one another, the success of text painting — where, indeed, it is successful — can tell us some interesting things about musical structure, for it reveals how sequences of musical materials can be arranged to represent things like tremors of fear, descents from heaven, thunderous storms, or the leaps of a tiger.

In what follows I would like to offer a brief review of humans' cognitive capacity for making analogies and to use the perspective this provides to explore not only the leaps of Haydn's tiger but also text painting in an aria from Georg Friedrich Handel's *Messiah*. My aim will be not only to illuminate the cognitive processes that make text painting possible but also to show how it points to fundamental aspects of musical organization.

2. RESEARCH ON ANALOGY

Most discussions of analogy begin with the phenomenon of similarity, since it is the similarity of one thing to another that forms the basis for any analogy. For instance, a pen and a pencil are similar to each other both in appearance and in function, although the kind of marks these tools make on a writing surface — permanent or impermanent; of relatively consistent coloration or subject to gradation — are different. Analogy takes as its point of departure similarity judgments of a more abstract sort. For example, a finger is analogous to a pen in that it is an approximately cylindrical structure that ends in a point; unlike a pen or pencil, however, the finger leaves no discernible marks on the writing surface and its 'cylinder' is firmly attached to the larger structure of the hand. Making the analogy between a pen and a finger, then, involves drawing structural correlations between the two: the cylindrical shape of the pen maps on to the shape of the digits of the finger, and the point of the pen maps on to the tip of the finger. With the analogy in place, we can imagine using a finger to 'write', or a pen as an extension of our hand. More generally, analogies involve mapping systematic structural relationships between a source domain — such as that which includes writing instruments — and a target domain — such as that which includes bodily appendages — for the purpose of extending knowledge from the source to the target (Gentner 1983; Gentner and Kurtz 2006; Holyoak and Thagard 1995, chap. 2; Holyoak 2005).

It bears emphasis that analogy is not simply about correlating elements from one domain with elements in another domain but about mapping relationships between these domains. It is thus often described as concerned with relations among

relations (or 'second-order' relations): in the analogy between a pen and a finger, for instance, the relationship between *pen* and *finely tapered device for delivering ink* — by which I mean the business-end of the implement — is correlated with the relationship between *finger* and *tapered appendage for guiding communication*.[1] And so, while other species are able to make some very sophisticated similarity judgments, current evidence indicates that no other species comes close to making or using analogies with the facility and speed of humans.[2] Of equal importance for human communication and reasoning, this capacity appears to be available from a very early age: children as young as ten months are able to solve problems by analogy, and by the age of three years analogical abilities are quite robust (Goswami 1992 and 2001; Gentner 2003).

With this research in mind, I would like to propose that we hear the leaps of van Swieten's tiger not by chance but because of our ability to draw analogies between sound sequences and movements. To create a sonic analog for the energetic actions of this powerful animal Haydn carefully organized his musical materials to provide correlates for the distinctive features of such actions. For example, the rapid upward strokes in the strings correlate with the continuous movement of a leap; the overall ascent in register and expansion of the interval spanned by the upward strokes — from a perfect fifth, to a minor sixth, to a major sixth, to an octave — correlate with a succession of larger and more energetic leaps; the silence introduced by the notated rests correlate with the moments of repose that occur between such leaps; the forte dynamic and the sound produced by the massed strings correlate with the bulk and power of the animal; and the combination of a static harmonic field with the activity suggested by these other features correlate with the physical tension we might feel — frozen between a desire to flee and a fascination with the unusual — when suddenly confronted by a dangerous animal.[3] In this brief span of music, then, Haydn has provided us with a skillful sonic representation of a complex phenomenon that has no significant sonic component.

I should also like to point out that Haydn's text painting involves the analogical correlation of a sequence of musical events with a dynamic process: the sequence of musical materials set out in these measures thus provides a sonic analog for the dynamic process constituted by the leaps of the tiger. Indeed, I would claim that this is true of text painting in general: although the compositional technique is usually conceived of

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[1] The notion that fingers provide a 'tapered end for guiding communication' reflects work by Michael Tomasello and others on the role of pointing — most typically, with individual fingers — in human communication. See Tomasello (2006 and 2008).

[2] Evidence for spatial reasoning that exploits analogical relationships is discussed in Oden, Thompson and Premack (2001), Call and Tomasello (2005). For a discussion of body-mapping capacities by bottlenosed dolphins, see Herman (2002). And, finally, on the apparent uniqueness of humans' capacity for drawing analogies, see Gentner (2003).

[3] A further aspect of this passage is the physical action through which it is rendered in performance — that is, the successive bow strokes of the string players. There is some evidence that actions like these are, to a certain extent, encoded into the musical sound. See, for instance, Leman (2008, chap. 6), and Godøy (2010).

as simply painting a picture, it actually involves the representation of a dynamic process rather than a static image.[4]

Two further points should be made about analogical thought and its relationship to musical understanding. First, analogies are always framed by context. There are, for instance, any number of similarities between a pen and a finger — both are concrete objects, both can be found in domestic situations, both occur in a variety of colors — but in my analogy I focused on only those features relevant to the process of human communication. The alignment of features and structure that typifies analogy is, in all cases, shaped by contextual goals that are distinct from the analogical process proper (Holyoak and Thagard 1995, chap. 1; Medin, Goldstone and Gentner 1993). It follows, then, that a listener who did not understand German or who was unable to follow the general plot of *The Creation* might not make a connection between the brief passage of music on which I have focused and the energetic actions of a powerful animal.

The second point, related to the first and of moment for my overall argument, concerns the constraints a given sequence of musical events will impose on analogical interpretations. Although our hypothetical listener might not imagine the leaps of a tiger, given the structural features of the music — the brusque upward strokes, the minimal melodic information, and all the rest — it would nonetheless be unlikely that she would imagine that the music is meant to evoke a lullaby or a pastoral setting. Successful analogies, musical or otherwise, are based on the correlation of elements and relationships between two different domains. Thus while a given sequence of musical events might admit of a range of analogical interpretations, the most successful of those interpretations will draw on extensive mappings between the elements and relations of the musical and non-musical domains.

The first thing text painting can tell us about musical structure, then, is that sequences of musical materials do not simply paint pictures but instead offer sonic analogs for dynamic processes. A second thing text painting can tell us about musical structure concerns how text painting fits into the larger design of a composition, and to illustrate this let me turn to an aria from the first part of Handel's *Messiah*.

3. TEXT PAINTING AND MUSICAL STRUCTURE

Handel's librettist, Charles Jennens, began his text for the oratorio with five verses from chapter 40 of the book of Isaiah. Jennens's choice of these verses fits with his main aim for the oratorio, which was to set out the promise of God's salvation through an emphasis on accomplished prophecies. Thus verse 3, which concludes the opening accompanied recitative — 'The voice of him that crieth in the wilderness, Prepare ye the way of the LORD, make straight in the desert a highway for our God' — is a prophecy noted by Matthew, Mark, Luke, and John in the New Testament, one that was to be fulfilled by Jesus. There is good evidence that Handel understood both the ecclesiastical and dramatic significance of this verse: although he provided the rendering of the first two verses with a rich

accompaniment, for this third verse he stripped the accompaniment to the bare bones and led it directly into the aria that follows, which is occupied exclusively with the fourth verse from Isaiah: 'Every valley shall be exalted, and every mountain and hill shall be made low: and the crooked shall be made straight, and the rough places plain'.

Space being limited, I shall not try to discuss the whole of the aria but will focus on a section in its latter half which will illustrate the main points I would like to make. The aria is in E major and — as might be expected — in the first portion of the aria Handel establishes E major and then modulates to the dominant, B major. At the point we take up the aria he has just cadenced in B major and briefly touches back on E major, which is quickly made to serve as the dominant of A major. The first portion of the excerpt, then, emphasizes A major before the aria returns to E major, which is where it will conclude. I will be particularly interested in how Handel sets three words: 'exalted', 'crooked', and 'plain'. The score for this portion of the aria is given as Example 2.

Ex. 2. George Friedrich Handel, *Messiah*, **'Ev'ry Valley' (No. 3), bb. 44–70.**

Let me turn first to what may be the most straightforward example of text painting in the aria, Handel's setting of 'plain'.[5] In both of the instances that occur in this excerpt he sets the word with a long sustained pitch, a compositional

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[4] In other work I have proposed that sonic analogs for dynamic processes are basic to musical utterances, and used not only for the depiction of exceptional or unusual phenomena but also to represent emotions, gestures, and the patterned movements of dance. See Zbikowski (2017).

[5] It bears mention that Handel has emphasized the words 'exalted', 'crooked', and 'plain' in a variety of ways — indeed, the only other words that are given special attention are those that open the aria, 'Ev'ry valley', which are immediately repeated every time they appear. This emphasis clearly reflects his interpretation of the text as a whole: although the words 'ev'ry mountain and hill made low' might seem to offer an opportunity for musical depiction, they are treated more or less as filler in between words that, from a compositional standpoint, he views as more important.

strategy that contrasts with the flourishes accorded to other emphasized words. Indeed, the first time Handel more or less literally 'makes the rough places plain' with the singer's repeated A, which straightens out the vocal line as it approaches the end of the phrase. What I would like to emphasize, however, is not the visual component of Handel's text setting but its sonic aspects: as the line straightens out it becomes easier to sing and easier for the ear to follow, thus providing a sonic analog for a journey that is unimpeded and that leads toward a clear and secure goal.

A second prominent instance of text painting — although a somewhat more complicated one — occurs with Handel's setting of the word 'exalted'. Throughout the aria, as here, the word is treated to exuberant melismas that span between two and four bars. To understand Handel's text setting here we need to draw a distinction between 'to exalt', which means to raise up, and 'to exult', which means to rejoice. Although Handel's setting here seems to suggest the latter, I would propose that it instead offers a sonic analog for the ecstatic energies through which the valleys will be raised — that is, exalted. Energies such as these are, after all, required to realize the ambition of Isaiah's third verse and so to prepare a way for the Lord. Although much of the force of this analog is carried by the acrobatic efforts of the voice, these efforts are given shape by compositional strategies that forge a path from one harmonic pillar to another. Handel's text painting of 'exalted', then, aims not to depict the increase in vertical position for which the word stands but instead aims to summon the physical energies through which the valleys will be raised.

As I see it, the third instance of text painting that occurs in this excerpt, which relates to the setting of the word 'crooked', departs most from the usual ideas about text painting. To be sure, in two cases Handel sets the word with a quite angular melody; for the first instance, however, he sets the word with the neighbor-note motive that has been used, in a generic way, to activate the musical surface. This inconsistency points toward a different interpretation of Handel's setting of 'crooked': rather than attempting to sketch in music the visual impression made by a twisting path Handel is instead interested in portraying the physical effort of traversing such a path. The important thing, then, is the contrast between the way 'crooked' is set and the way 'plain' is set. This is particularly evident in his settings of these two words in the first half of the aria; the relevant passage is given in Example 3. In bars 27 through 32 the setting of 'crooked' with the neighbor-note motive contrasts with the unembellished setting of 'plain'; in bars 33 through 41 the setting of 'crooked' is much more angular, but the setting of 'plain' is also more embellished. By this means, a sonic analog for effort is contrasted with a sonic analog for ease: what is again important is not the physical barriers themselves, it is the effort with which they will be removed in preparation for the coming of the Lord.

Ex. 3. George Friedrich Handel, *Messiah*, 'Ev'ry Valley' (No. 3), bb. 27–41, voice only.

I have, of necessity, proceeded very quickly through these examples, but I hope to have given some sense of how the arrangement of musical materials — that is, musical structure — makes possible an interpretation of a text that goes far beyond simplistic quasi-visual devices. In Handel's rendering Isaiah's words come alive: through miraculous efforts — the raising of profound valleys, the leveling of insurmountable peaks, the straightening of twisting paths — 'a way shall be prepared for the Lord'. What language can only hint at, then, music can enact through the sonic analogs for dynamic processes key to the full understanding of Isaiah's text.

4. CONCLUSION

As I noted in my opening comments, text painting has been a compositional technique that has long been deprecated by those concerned with the integrity of musical expression. To be sure, there are some examples of text painting that are rather laughable and others that do little to deepen our understanding of the text. For that matter, I do not believe Haydn's text painting of the parade of animals in *The Creation* moves us to profound truths although I do think Handel's use of the technique in 'Ev'ry valley' has the potential to move the listener toward a new appreciation of Old Testament prophecies. In all cases, however, what remains to be explained is how such effects are possible in the first place — that is, how a sequence of musical sounds can represent a nonmusical phenomenon, especially when that phenomenon has no significant sonic component. My argument has been that such representations rely on humans' ability to make analogical connections between disparate domains, such that a series of rapid ascending arpeggios can come to represent the leaps of a tiger, or an exuberant melisma the ecstatic efforts required to raise valleys and lower mountains.

By way of conclusion I would like to emphasize three points: first, analogies are always framed by context: the apparent immediacy of text painting is, indeed, only apparent, for in almost every case it is embedded within a larger interpretive framework. The second point is that effective instances of text painting rely on the coordination of a significant amount of musical wherewithal: Haydn's evocation of the leaps of a tiger, for instance, drew on almost every resource of musical expression he had at his disposal. The third point — and the one I believe most important for our understanding of musical structure — is that the sonic analogs basic to text painting invariably represent dynamic processes. The use of patterned nonlinguistic sound to represent dynamic processes is a communicative resource uniquely exploited by music, one that makes it possible not simply to *refer* to a dynamic process but to enact it. By this means a composer can sketch the leaps of a tiger, summon ecstatic efforts that could transform Nature herself, and represent through sound the feeling of an easy and

purposeful path forward. What text painting can tell us about musical structure, then, is that it is not quite like the structure of any other communicative medium and thus suggests why music continues to grip and fascinate the human imagination.

KEYWORDS

Text Painting, Handel, Haydn, Analogy, Music and Text.

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