From Structures of Sound to Expressions of Emotion in Music: A Defense of Formalism

By

Ronan Brooks

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Supervisor: David Weberman

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Abstract

Once Platonism is accepted, a formalist theory of expression of emotion in music must be accepted. By demonstrating this connection between Platonism and formalism, I offer a new defense of formalist theories of expression of emotion in music. I begin with an outline of the two dominant accounts of expression of emotion in music, the formalist and arousal theories. Then, I turn to ontologies of music and discuss Platonism and nominalism. To demonstrate why nominalism must be rejected in favor of Platonism, I address common objections and original counterexamples to the nominalist ontology. I conclude by illustrating why an arousal theory of expression of emotion in music cannot be accepted alongside Platonism. As a result, the only coherent combination of theories is formalism and Platonism.

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Table of Contents

Chapter 1: Introduction

Discussions on the expression of emotion in music and the ontology of music are generally kept separate. Within the discussions on expression of emotion, philosophers debate why listeners attribute emotions to pure music. That is, what aspect of the music determines its expression of emotion?[1] Within the ontological discussions, the issues are broader: What constitutes music? What individuates one piece of music from another? While the questions relevant to the discussions of the expression of emotion in music and the ontology of music are distinct, the conclusions of each debate are more interrelated than is generally recognized. That is, implicit in any discussion of the expression of emotion in music is an ontology of music. And similarly, implicit in any ontology of music is a theory of expression of emotion in music.

In the past, debates on theories of expression of emotion in music have focused on the ontology of emotion, rather than the ontology of music. Arguments on the ontology of emotion have been used as a source of support and critique for these theories. Here, I will explore the ontology of music as a source of support and critique for theories of expression of emotion in music. In my discussion, I will address two opposed ontologies of music, Platonism and nominalism, and two opposed views on the expression of emotion in music, formalism and arousal theories.

I will begin by examining theories of expression of emotion in music. I will analyze the formalist theory defended by Peter Kivy and the arousal theory defended by Jenefer Robinson. I then turn to ontologies of music. First, I will explore the Platonist ontologies offered by Jerrold Levinson and Simon Evnine, and I will assume Evnine's argument as the strongest position.

[1] For example, why do listeners so widely interpret Vivaldi's "Spring" of *The Four Seasons* as expressive of joy, rather than sadness?

Then, I discuss the alternative to Platonism, nominalism. To demonstrate why Platonism must be accepted over nominalism, I will introduce a series of issues that only a Platonist ontology can address. After rejecting nominalism, I will analyze the possible combinations of theories of expression of emotion in music and ontologies of music. Through this analysis, I conclude that once Platonism is accepted, formalism must also be accepted. For this reason, I hold that formalist theories of expression of emotion in music should be adopted over arousal theories. Before I begin with these discussions, I will outline the motivations behind the theories I address.

1.1: Motivations for Considering the Ontology of Music

The question of "What constitutes music?" is motivated by an intuitive distinction between mere sound and musical works. In asking the ontological question, the goal is to provide an exhaustive list of the conditions an event must satisfy for it to be considered music. When I listen a recording of a violin concerto, for example, I am drawn to conclude that this is different from other kinds of auditory experiences, like listening to the steady drip of my leaky faucet. While the violin concerto and the leaky faucet may share tonal and rhythmic qualities, they are clearly distinct. An answer to the ontological question must identify the aspects of each event that justify the conclusion that they are distinct. This task may seem simple in case of the leaky faucet and the concerto, but it is less clear in other instances. What distinguishes a bird's song from a concerto? What distinguishes the random pitches produced by wind chimes from a concerto? What distinguishes a composer's pre-compositional notes from the final score? An answer to the ontological question must be able to address all these concerns.

The issue of the ontology of music is further complicated by the fact that different groups of people tend to understand music differently. The perspective of the musician is especially relevant for consideration. Historically, musicians and philosophers have offered divergent views

on the ontological question. From the perspective of the musician, music is usually discussed as if it were a language. Leonard Bernstein famously taught and wrote about music as if it were a language (Baber 18-24). This is an intuitive argument for the musician, since instrumental music seems capable of representation in some cases (a strike of the timpani can replicate the sound of thunder, for example). Further, when an orchestra rehearses a piece, conductors rely on the notion of music as language to instruct the players. That is, conductors frequently instruct musicians to play as if they are communicating a determinate meaning in performance. For example, when an ensemble studies *The Four Seasons*, they may read the sonnets that Vivaldi took as inspiration for the composition (Lockey 265-266). In this case, the musicians may be instructed to recreate the imagery of the sonnets through changes in their style and articulation. By changing these aspects of technique, musicians may feel as if they achieve resemblances between their performance and the imagery. This common practice can lead musicians to the conclusion that there is an aspect of music that functions as a language.

However, considering music as a language creates new problems when the issue is approached from a philosophical perspective. From a philosophical perspective, the ontology of music is not an isolated argument. The ontology of music must conform to a broader ontology of art, which must conform to other ontological arguments within the theory. To consider music as a language, a theory would need to reconcile this claim with the status of other forms of art. Why would music be a type of language and abstract pictorial art not be? Perhaps, all forms of art are language. But once an ontology starts down this slippery slope, where would a theory draw the line? Importantly, a theory that incorporates a model of language into the ontology of art will still face the well-known puzzles. For example, to argue that music and all forms of art function as language offers very little support in addressing the puzzle of the statue and the clay. An

answer to the ontological question must be consistent with the perspectives of the philosopher and the musician, while accounting for the distinctions between music and other auditory events.

1.2: Motivations for Considering the Expression of Emotion in Music

The discussions on the expression of emotion in music originate in the tendency to understand music as capable of representation. Kivy offers an analogy that many formalists have adopted to illustrate the issue of expression of emotion in music (*The Corded Shell* 2-11). When people look at a dog with a droopy face, they recognize the dog as expressing sadness. However, anyone who recognizes the sad look on their dog also recognizes that their dog is not actually sad. That is, while the dog may seem to represent sadness in the droopiness of its face, the dog is not necessarily experiencing sadness. This is the issue of expression of emotion in music. When a person listens to "Spring" of *The Four Seasons* and claims that it expresses joy, this is the same kind of claim as saying that the droopy-faced dog expresses sadness.

To understand the importance of the issue of expression of emotion in music, consider the difference between listening to a poem expressed as speech, and the same poem sang in a melody. There is an undeniable difference between the spoken words and the sung words. This difference is what is captured in the analysis of expression of emotion in pure music. The obvious difference between the spoken words and the sung words are pitch, and perhaps rhythm, yet just by adding this, something new is achieved in the performance. Something is expressed in the pitch that was not captured when the words are just spoken. In the discussion on the expression of emotion in music, that is why the focus is on pure music. By stripping away everything from music except for the core aspects of sound, it is possible to investigate what music adds in every other situation.

1.3: Pure Music

The discussions on the ontology of music and the expression of emotion in music only concern pure music. Pure music is instrumental music, which lacks lyrics or dramatized performance. An opera, which incorporates instrumental music with vocalized lyrics and drama, is not considered pure music. On the other hand, a piano concerto is considered pure music. Additionally, in considering the expression of emotion in music, the title of the song is not understood as part of the music. For this reason, in analyzing "Spring" of *The Four Seasons,* the meaning of the title would not be considered relevant in addressing the music's expression of emotion. Similarly, any imagery or text that are intended to accompany a piece are not relevant to the expression of emotion in music. For *The Four Seasons*, which was composed as an accompaniment to a series of sonnets, the accompanying texts could not be considered in addressing the piece's expression of emotion. Finally, concerning live performance, the physical motion of the musicians is also not part of the music. I will only refer to music in this pure sense.

Chapter 2: Theories of Expression of Emotion in Music

Now, I will begin by exploring the two dominant positions on the issue of expression of emotion in music. First, I will address the formalist theory of expression of emotion in music as defended by Kivy. After addressing formalism, I will turn to the arousal theory of expression of emotion in music as defended by Robinson. Keep in mind, although my discussion in Chapter 2 focuses on particular formalist and arousal theories, my discussion in other chapters is will not be limited to these positions. I rely on the arguments of Kivy and Robinson because they are most prominent defenders of their positions, but I aim to generally defend formalism and to generally reject arousal theories. For this reason, I will not address all the counterarguments to each position. Here, I only aim to provide a general account of formalist and arousal theories.

Before I start my discussion of expression of emotion in music, however, I must define the notions of "expression" and "emotion." As I noted in the outset, theories of expression of emotion in music are usually critiqued through the ontology of emotion. A formalist, like Kivy, endorses the judgment theory of emotions, which holds that "an emotion has to have a cognitive object, something that it is directed towards or about," (Robinson, *Deeper Than Reason* 350). In contrast, an arousal theorist, like Robinson, argues that emotion consists in the complex relationships between "affective appraisals, physiological changes, action tendencies, and cognitive monitoring," (Robinson, *Deeper Than Reason* 86). I will not develop these definitions because the issue of the ontology of emotion is unimportant to my analysis. I am only concerned with the relationship between the ontology of music and theories of expression of emotion in music, so I can avoid the debates on emotion. As I stated, my goal is Chapter 2 is to outline the general arguments of formalist and arousal theories, and there is not a determinate ontology of

emotion associated with either position. A common-sense understanding of emotion is sufficient to grasp the formalist and arousal theories.

Regarding "expression," I will adopt the terminology endorsed by Robinson. For Robinson, the expression of emotion in music is parallel to the expression of emotion in people. Robinson identifies two components to the expression of emotion. First, the expression must originate from something that possesses the emotion (Robinson, "Expression and Expressiveness in Art" 19). When a person expresses emotion, this person is understood as experiencing that emotion. Similarly, when a piece of music expresses an emotion, we must understand the music as possessing that emotion. Second, the expression of emotion must be perceivable (Robinson, "Expression and Expressiveness in Art" 19). To say that a person or a piece of music expresses an emotion implies that this expression is observable. In essence, Robinson's characterization of "expression" amounts to the claim that expressions of emotion cannot exist independently. That is, expressions of emotion cannot just float around. Expressions of emotion must be attached to an object, which must be observable.

2.1: A Formalist Theory of Expression of Emotion in Music

Kivy established the modern formalist account of expression of emotion in music.[2] Under Kivy's formalist theory, an expression of emotion is an attribute applied to music by the listener. The listener only appreciates an expression of emotion through reflection on the form of a piece (Kivy, *Introduction* 68). Thus, a piece's expression of emotion is determined by its formal properties. The formal properties of a piece reflect the structure of sound of which the piece is composed. That is, the form refers to the relationships between the individual pitches, rhythms, timbres, dynamics, articulations, and tempi within a piece. The form does not refer to any

[2] Aesthetic formalism was originally articulated by Kant before Hanslick developed the theory specifically in relation to music (Robinson, *Deeper Than Reason* 295).

physical component of an actualized performance. That is, formal properties do not include the aspects of performance like the reverberation of sound in the concert hall, or the ornate designs on the performers' instruments.

Importantly, the listener's attribution of emotion to a piece does not rely on the notion that music contains semantic content (Kivy, *Introduction* 68). Instead, a piece's expression of emotion is a property imposed on the music by the listener. To explain the uniformity of listeners' interpretation of music as expressive of specific emotions, Kivy holds that formal properties consistently elicit certain emotional responses because the structures contain similarities in "contour" to human experience (*Introduction* 40).[3] The contours of human experience could include the pace of a person's movement, the rate of their heartbeat, or the cadence of their speech, while the contours of music could include tempo, dynamics, or articulation. Thus, a listener's attribution of sadness to a piece would reflect a similarity between the listener's experience of sadness and the piece's formal structure.

To illustrate Kivy's theory, consider "Spring" of Vivaldi's *The Four Seasons*, which is widely interpreted as expressive of joy. A formalist, like Kivy, will argue that "Spring" is expressive of joy because reflection on the formal properties of the piece yields such a judgment. Notably, while the listener may apprehend the structure of the piece through the experience of hearing its performance, this experience, in itself, does not produce the judgement that the piece is expressive of joy. This reflection could occur instantly in the listener, or the reflection could occur after deliberation. According to the formalist, the listener would only appreciate "Spring"

[3] Kivy holds that the relationship between music's formal properties and its expression of emotion is like a "black box," because there is no way to identify which exact aspects of the structure of a piece correspond to the contours of our experience (*Introduction* 43). This problem can be addressed through ontology by reference to the composer's intentions, history, and social practices. However, as I mentioned above, I am not interested in accounting for every counterargument against formalism. I am only concerned with expounding the formalist perspective in general. So, I will forgo a solution to Kivy's black-box issue.

as expressive of joy once she reflects on the formal properties. Upon reflection, the listener might find similarities between the quick pace and precision in the opening of "Spring" with bodily expressions of joy. The harmonies and resolutions of dissonance might compare to the contours of an experience of ease, which may be associated with joy. There are innumerable formal properties that the listener could identify in making the judgment that "Spring" expresses an emotion like joy. For Kivy, however, any formal property that leads to the judgment that the piece expresses joy must have similarities to the human experience of joy (*Introduction* 40). It would be difficult to imagine a listener finding a similarity between the contours of this piece and an experience of sadness.

2.2: Arousal Theories of Expression of Emotion in Music

Opposed to formalist theories of expression of emotion in music are arousal theories. To address the issue of how music can express emotion, arousal theories focus on the experience the listener, rather than formal properties of music. Plato offered the first arousal theory when he held that music is expressive of emotion because music arouses emotion in listeners (Kivy, *Introduction* 15). Under this original version of the arousal theory, the expressiveness of a piece is considered reducible to the arousal of emotions in listeners. That is, a piece might be understood as expressive of joy because subjects feel joy when they listen to it. Some modern philosophers have maintained the simplistic approach articulated by Plato. Aaron Ridley, for example, holds that the expression of emotion in music is determined by the arousal of emotion in listeners (Robinson, *Deeper Than Reason* 352-358). Under these basic arousal theories, listeners interpret a piece as expressive of emotion because they have an emotional response to the music. To illustrate these theories, consider again "Spring" of Vivaldi's *The Four Seasons*. The simple arousal theorist will claim that "Spring" is expressive of joy because the listener

experiences joy while listening to the piece. That is, the fact that listeners experience joy while listening to "Spring" determines their judgment that the piece is expressive of joy. This analysis is significantly different from the analysis of a formalist.

While the arousal theorist claims that the emotional response of the listener determines the expression of emotion of the piece, the formalist claims that the formal properties of the piece determine its expression of emotion. The difference between the formalist and the arousal theorist is clearest through example. In measure 15 of "Spring," the solo violin performs a series of trills on an E-string B, which usually elicits a joyful response. The formalist will claim that the joyfulness of this moment is determined by the formal properties of the series of trills. For example, the formalist may highlight the fact that the trills occur on a perfect fourth of the major key. The stability of the perfect fourth offers this moment a sense of brightness and purposiveness, which the formalist might claim is characteristic of an experience of joy. Further, the formalist may highlight the trill itself. The trill, which rapidly oscillates between B and C#, resembles the fluttering of one's heartbeat while experiencing joy. Thus, for the formalist, this passage in "Spring" is expressive of joy because there is a resemblance between these formal aspects of the music and the experiences characteristic of joy.

A simple arousal theorist, on the other hand, relies on the idea that the music makes the listener feel joy in explaining why the passage is expressive of joy. Such an arousal theorist will claim that the passage of trills at measure 15 of "Spring" is expressive of joy because when the listener experiences this passage, she is drawn to the feeling of joy. That is, the arousal of joy in the listener determines the expression of joy in the music. If the trills in this passage generally made listeners feel sad, then the arousal theorist would claim this passage expresses sadness.

On its face, this simple arousal theory seems plausible. It is hard to imagine how a piece of music could be considered expressive of an emotion that it does not elicit. That is, it is hard to imagine anyone arguing that "Spring" expresses sadness, given the piece's tendency to produce a sense of joy in the listener. The explanation for why certain aspects of music tend to elicit certain emotional responses varies between arousal theories. The essential argument in these arousal theories is that the expression of emotion in the music is determined by the arousal of emotion in listeners. However, the notion that the arousal of emotion determines a piece's expression of emotion has implications that undermine the plausibility of these theories.

The simplistic version of the arousal theory has several implausible consequences. For example, if the arousal of emotion determines a piece's expression of emotion, then sad music would necessarily arouse the corresponding sad emotions. Yet, the sadness aroused by a sad piece of music is clearly distinct from a normal experience of sadness. If the sadness aroused in the piece were identical with the sadness expressed in the piece, then it would be hard to imagine why listeners enjoy such music. The simplest form of the arousal theory is not equipped to differentiate between the emotions aroused in the listener and the emotions expressed in the music, so it cannot account for this problem. Still, there are deeper issues confronting such arousal theories: How can an arousal theory account for the complex emotions of which a piece can be expressive? That is, how can a piece be considered expressive of an emotion like unrequited love, which is not directly aroused by the piece?

The arousal theory defended by Robinson can address many of these problems. Robinson, like the basic arousal theory discussed above, holds that music is expressive of emotion because it induces emotional responses in the listener. For Robinson, however, there are different kinds of emotional responses, which have different roles within the expression of

emotion of the piece. First, Robinson holds that for music to be expressive of emotion, it must elicit small-scale emotional responses in the listener (*Deeper Than Reason* 376-377). These are the same kind of emotional responses I discussed above in relation to the simplest form of the arousal theory. In the passage at measure 15 in "Spring," Robinson will maintain that the trills must induce the listener to joy for the passage to be expressive of joy. As is characteristic of arousal theories, these small-scale emotional responses are not the product of contemplation. That is, for Robinson, the listener does not need to reflect on the experience of listening to the passage at measure 15 of "Spring" to conclude that the passage is an expression of joy. Rather, the experience of joy in listening to the passage is the immediate basis for understanding the passage as expressive of joy.

The importance Robinson places on these small-scale emotional responses is motivated by the example of being startled by thunder (Kania sec. 3.2). When a listener hears a burst of thunder, she is startled without reflection. For Robinson, there is no difference between a person's immediate emotional response to thunder and the emotional responses a listener experiences during the individual moments within a piece. For example, when the listener hears the resolution of a dissonant chord, she might experience a simple feeling of satisfaction, which can be joyful or sad depending on the key of the piece. If the dissonance is left unresolved, the listener might experience a simple feeling of tension. This theory is appealing. There does not seem to be a clear distinction between the basic emotional response elicited by an instance of thunder and a moment in a piece of music that is punctuated by a sudden, *fortissimo* strike of a timpani, for example. But how can Robinson's theory address the complex emotions expressed in music?

For Robinson, the simple emotional responses from distinct moments within a piece accrue to create the complex expressiveness of the whole. That is, under Robinson's theory, the expression of complex emotions is achieved through the accumulation of these simple emotional responses ("Expression and Arousal of Emotion", 19-21). Reflection on the series of simple responses yields the interpretation of the whole piece as expressive of emotion. It is important to emphasize that reflection is only relevant to understanding the expression of complex emotions. The simple emotional responses do not require reflection. But if the listener is reflecting on her emotional responses of the piece, and she is not concerned with formal properties, then what is the focus of reflection? Robinson holds that the listener must reflect on the experience through imagining a persona who experiences the series of emotions (*Deeper Than Reason* 330-332). The notion of persona in Robinson's theory is an artifact of her broader theories on art and emotion, which I will not discuss here. At this point, it is only important to highlight the necessity of Robinson's notion of persona in explaining the expression of complex emotions in music.

To demonstrate Robinson's theory, I return to Vivaldi's "Spring." To explain why "Spring" is expressive of joy, Robinson will point to individual instances of the piece that elicit emotionally positive responses. Robinson would likely highlight moments like the passage of trills beginning in measure 15. To explain how "Spring" is expressive of a more complex emotion, like carefreeness, Robinson would argue that the listener must reflect on the emotional experience of the whole piece through a persona. That is, Robinson holds that the listener must imagine a persona experiencing the series of simple emotional moments, like the passage at measure 15, before she can conclude that the piece entire piece expresses carefreeness. In "Spring," the series of emotions could include the moments of joy in the opening, followed by

tensions and resolutions of the middle section, followed by the return to moments of joy in the piece's conclusion. Perhaps, the listener envisions her persona frolicking in sync with the development of the piece. Perhaps, the listener envisions her persona living an ordinary carefree day. In any case, the listener must imagine her own experience of being carefree as parallel to the series of emotions evoked by the piece. Thus, by introducing the idea of reflection on a persona, Robinson's theory can provide a method of analysis for the expression of complex emotions in music.

Chapter 3: Ontologies of Music

Thus far, I have outlined two competing theories of expression of emotion in music. Each theory attempts to explain of why listeners attribute emotion to music. While the formalist claims that the formal properties of music determine the expression of emotion, the arousal theorist holds that the arousal of emotion in the listener determines the expression of emotion. Each of these theories requires an underlying ontology of music. While the formalist theory is usually paired with a Platonist ontology, the arousal theories usually accompany a nominalist ontology. In general, the debate between the formalist and the arousal theorist has revolved around the ontology of emotion. That is, different conceptions of emotion have led to different conceptions of expression of emotion in music. Here, instead of focusing on the issue of emotion, I focus on the ontology of music.

In this chapter, I will discuss two approaches to the ontology of music, Platonism and nominalism. Although there are other approaches, Platonism and nominalism are the only two theories that receive substantive debate (Kania sec. 2.1). Notably, even the most ardent defenders of nominalism admit that Platonism is the consensus view (Tillman 13). Although most ontologies of music endorse Platonism, there is ongoing discussion over the best formulation of the theory. I begin with a discussion of Levinson's theory, which developed the basis for modern Platonist approaches to the ontology of music. Ultimately, I will adopt the ontology of music offered by Evnine, since his theory addresses the broadest range of issues concerning composition. I will then discuss the nominalist alternative to the ontology of music. Before I address these ontologies, however, I must introduce some essential terminology.

3.1: Abstract Objects and Sound Structures

All Platonist approaches hold that a work of music is an abstract object. Abstract objects are opposed to the concrete. The distinction between abstract and concrete is contentious and there is no consensus on the proper mode of distinguishing objects of each type (Falguera et al. sec. 1.0). However, a precise distinction between abstract and concrete is not necessary for my purposes here, so I will assume the definition of "abstract" most widely accepted: "An object is abstract if and only if it is non-spatial and causally inefficacious," (Falguera et al. sec. 3.5.2). Anything that does not meet this definition is considered concrete. Thus, tables and chairs are concrete because they necessarily exist in space, and they necessarily have a causal origin. On the other hand, the Pythagorean Theorem is abstract because it does not have spatial existence (because it's an equation), and it is causally independent (Falguera et al. sec. 3.5.2).

For Platonists, works of music are abstract because all music is constituted by a sound structure. To understand the notion of "sound structure," think of the soundwave produced by an accurate performance of a piece. The structure of this soundwave encompasses the relationships between each individual sound within the piece. All formal properties of music are captured by the sound structure. Thus, every rhythm, pitch, timbre, dynamic, tempo, and articulation is captured in the sound structure. The sound structure can be represented pictorially (by the graph of a piece's waveform), mathematically (by the equation of a piece's waveform), or in musical notation (by the score of a piece).

3.2: Levinson's Ontology of Music

The development of modern Platonist ontologies of music began with Levinson, whose account was later critiqued and improved by Evnine. For Levinson, a piece of music is not strictly identified with its structure of sound, though the sound structure is an essential

component of its constitution. That is, Levinson holds that a piece is constituted by its sound structure as indicated by the composer at a given time, an "indicated structure" (Levinson 20). Here, Levinson uses the word "indicate" as a more general notion of composition. In other words, to indicate a sound structure is to identify and transcribe this structure in musical notation.[4]

Levinson's notion of indication is motivated by a common counterargument against Platonism. Namely, if a Platonist ontology holds that music is exclusively constituted by its sound structure, then works of music could not be created (Levinson 7). That is, since sound structures are causally inert, composers cannot be understood as bringing something new into existence. Since ontologies of music must reflect the reality of composition, which is understood as a creative act, Levinson must address the role of the artist. By constituting music in the sound structure and the composer's indication, Levinson's theory can explain how a piece can come into existence while maintaining the Platonist premise that sound structures underly works of music.

Although Levinson's theory makes significant progress in articulating a Platonist ontology of music, the notion of indication raises new concerns. First, Levinson's account of music is vague in what constitutes the actual entity we refer to as "music." That is, at what point does a sound structure cease to merely exist in form and become combined with the property of being indicated by a composer? Is the creation of music identifiable with the act of indication? These questions are left unclear in Levinson's account. More pressingly, the theory fails to address the standard practice of revision in composition (Evnine, "Constitution and Qua Objects"

[4] Kit Fine offers a similar theory to that of Levinson. For Fine, an object O with property P forms a distinct qua object, O qua P. Fine's theory is parallel to Levinson's. That is, Levinson's sound structure assumes the role of the object in Fine's account, which takes the property of being indicated by a composer at a given time (Fine 68).

216). An unfinished draft of a piece, which may sound identical to the final draft, would still constitute an entirely different piece of music. The theory offered by Levinson does not address this kind of temporal flexibility in music. But music also exhibits modal flexibility. For example, imagine if Vivaldi included an additional violin part in the opening of "Spring," and this new section of violins played the same pitches, rhythms, articulations, and dynamics as the violas. The sound structure would be slightly different, but the performed product would be indistinguishable from the standard version of the piece. Should these two versions of "Spring" be considered different pieces of music? Intuitively, the answer is no. A proper ontology would be able to account for these common aspects of music.

3.3: Evnine's Ontology of Music[5]

Evnine addresses these issues through his hylomorphic, Platonist ontology. As with any hylomorphic ontology, Evnine holds that there are two elements to the constitution of an object, the matter and the form. Evnine also accepts the basic elements of a Platonist account of music. Namely, Evnine holds that pieces of music are abstract objects of which the sound structure is an essential component ("Constitution and Qua Objects" 203). By accepting this basic premise of Platonism, Evnine must address the issue of creation that I discussed with Levinson. That is, if a work of music consists in its sound structure, which is considered a fixed and independent entity, then composition of music cannot be understood as a creative act. This conflicts with the common understanding of composers as artists, equivalent to those working in other mediums (Evnine, "Constitution and Qua Objects" 203). To avert this objection, Evnine posits additional ontological conditions beyond the music's sound structure - the artist's work and intention.

[5] See "Author's Declarations" on page 4.

Before addressing music, Evnine develops his ontology through discussion of the issues of material constitution. Under Evnine's account, the constitution of a concrete object is determined by its production, which has three elements: the matter, the act of creation, and the intentions of the creator (*Making Objects* 70). Under this conception of constitution, these artifacts are ideal because they are the product of impressing a mind on matter. In other words, for Evnine, the existence of an artifact is dependent on the intentional states of the mind of the maker (*Making Objects* 69).

Analogous to his account of artifacts, Evnine holds that a piece of music is the product of a composer's intentional work on an abstract structure of sound. Evnine summarizes his ontology of music when he writes, "A musical work is a sui generis kind of object that is essentially such that it comes to exist, and to have a sound structure as its matter, when an artisan (a composer) works on the sound structure with the intention of creating a musical work (or a musical work of a certain kind) out of it," (*Making Objects* 136). Thus, parallel to his analysis of concrete artifacts, Evnine argues that there are three components to a piece of music's constitution: the abstract sound structure of the piece, the work of the composer on that sound structure, and the intentions of the composer as she works on that sound structure.

The first component, the sound structure, assumes the role of matter, which was essential to Evnine's account of concrete artifacts. To clarify how something abstract can assume the role of matter, Evnine argues that the composer identifies a piece's structure by engaging with the saturated sound space ("Constitution and Qua Objects" 215). Evnine encourages the reader to think of this sound space as a "block of white noise," (*Making Objects* 137). In the case of the statue of Goliath, the matter that preceded the existence of the sculpture was a block of clay. Similarly, in the case of music, the block of white noise precedes the existence of the piece. In

the same way a sculptor identifies the structure of her statue through the intentional work of carving the block of clay, so too does the composer work to reveal the piece of music from the sound space. Importantly, the sound space and the totality of noise it encompasses is causally independent of the composer. Evnine's commitment to Platonism requires that the sound structures of all realized and unrealized pieces of music exist prior to any act of composition. Evnine does not attempt to justify how it is possible for an artist to interact with a causally independent entity, though he remains committed to this idea through his acceptance of the basic tenets of Platonism (*Making Objects* 137).

The second and third components of Evnine's ontology of music are closely related. The second component, the work of the composer, consists in the activity of identifying a piece's sound structure from the saturated sound space (Evnine, *Making Objects* 136). In composition of notated music, for example, the work of the composer is the process of writing the piece's score. The third component, the composer's intentions, guide the composer in identifying the pitches, rhythms, timbres, etc. from the sound space, which determines the structure of sound of the piece (Evnine, *Making Objects* 136). Evnine explains how these three components fit together in an act of composition, "[The composer] intends to compose a composition of kind G, where G is some more or less determinate kind of sound structure. And she does this by working on [...] a sound structure of kind G. In engaging in this work, she brings into existence a new object, in addition to the sound structure of kind G, namely a musical work of kind G," ("Constitution and Qua Objects" 215). In composition, the composer's act of identification of the sound structure is immediately connected to the composer's intentional state.[6] Therefore, the constitution of

[6] I must note an important counterargument to Evnine's theory: If composition requires intentional action on a sound structure, then Evnine's ontology is unable to account for forms of composition in which the work on the sound structure is necessarily distinct from the intentions of the composer, like in free improvisation or procedurally generated music. Evnine faces this problem because he is vague in explaining the connection between the intentions

"Spring" would be determined by the sound structure of the piece and the intentions of Vivaldi throughout his process of composition.

3.4: A Nominalist Ontology of Music

The main argument competing with Platonism is nominalism. As I mentioned at the beginning of the chapter, the nominalist view is rarely defended because Platonism is so widely accepted. Here, I rely on the arguments expressed by Chris Tillman, one of the few philosophers developing a nominalist ontology of music.

Unlike Platonists, nominalists deny that music is constituted by an abstract structure. While the Platonist argues for a distinction between a work of music and its manifestations, the nominalist does not. Rather, for the nominalist, music is constituted by its set of concrete instantiations (Tillman 15). The specific concrete objects that establish the set, which constitute the piece of music, vary between nominalists. However, most nominalists will agree that performances, written materials (scores and notes), and recordings should be included in the set of concrete instantiations (Tillman 15). To illustrate nominalism, I return to the example of "Spring" of *The Four Seasons*. For the nominalist, "Spring" is constituted by the totality of its performances, recordings, and scores. Each performance, beginning with its premiere in 1725 and extending into the future, play an incremental role in constituting the existence of "Spring."

To understand why nominalism is so often rejected, I will explain three of the common objections. First, there is the "Many-One" objection (Tillman 21). According to this objection, a piece of music cannot consist in sets of concrete instantiations because there are many instantiations that correspond to a single work, and "nothing is possibly identical to two or more distinct things," (Tillman 21). In other words, the "Many-One" objection identifies the logical

and the work. However, this problem can be avoided by interpreting Evnine as claiming that the intention need not coincide with the work on a piece's sound structure. I will assume this charitable interpretation of Evnine.

fallacy in nominalism of identifying the constitution of a single entity (a work of music) with an indefinitely large number of other entities (the concrete instantiations, like performances of the work of music).

Second, there is the objection of "Destructive Asymmetry" (Tillman 22). According to this objection, nominalism is false because it implies that "no musical work survives longer than every relevant material object," yet intuitively "some musical work survives longer than every relevant material object," (Tillman 22). To illustrate this objection, imagine an apocalyptic scenario in which every concrete manifestation of Vivaldi's "Spring" is destroyed. Without any concrete objects to constitute "Spring," the nominalist would have to hold the implausible claim that "Spring" ceases to exist. In other words, it would seem implausible to argue that such a scenario could completely eliminate the existence of "Spring."

Finally, there is the objection concerning musical variations in performance (Kania sec. 2.1). Because the nominalist defines a piece of music in its concrete instantiations, differences in performance (perhaps by error, or perhaps by creative decision) would be incorporated into the constitution of the music. The nearly infinite number of variations produced by performers and students would determine the constitution of pieces of music. It would seem wrong to identify a piece of music with an inaccurate performance. Additionally, a certain point, enough variation in performance should yield a new piece of music, yet the nominalist has no resources to differentiate between the actual piece (as intended by the composer) and the faulty performances. The constitution of a piece of music would be indeterminate and the intentions of the composer would be disregarded.

Tillman holds that nominalism can overcome the common objections, though his solutions are undeveloped.[7] Here, I will not address Tillman's solutions because there are additional, equally potent counterexamples to nominalism. These counterexamples are the focus of the next chapter.

[7] To address these objections, Tillman argues that nominalism would need to incorporate perdurantism in some cases and endurantism in other cases (Tillman 21, 28). Endurantism is the view that "musical works are material objects that persist by occupying distinct spatiotemporal regions without occupying their union," (Tillman 18). Perdurantism is the view each concrete instantiations "are temporal parts of musical works," (Tillman 16). The details of these solutions are not essential to my analysis because Tillman's analysis is incomplete. The fact that Tillman's argument received little discussion is further indication that his solutions are not worth treatment here.

Chapter 4: Rejecting Nominalism

In Chapter 3, I provided an outline of Platonist and nominalist ontologies of music. As I have already mentioned, nominalism is widely rejected in favor of Platonism. To understand why nominalism is disregarded, I will now explore four issues concerning composition. For each issue, nominalism fails to provide a solution while Platonism succeeds. My conclusions on these issues are critical to my analysis in next chapter where I show that once Platonism is accepted, formalism must also be accepted.

4.1: The Issue of Revision

To demonstrate the strength of Platonism over nominalist ontologies, consider the issue of revision. As with any form of art, revision is an essential aspect of the composition of music, so an ontology of music must be able to account for this practice. A revision in music refers to any change in the structure of a piece, which can include something small, like a change of a single pitch, or something more significant, like the removal of an instrument. The issue of revision concerns the relationship between a composer's gradual process of writing a piece and the constitution of the finished work. How do individual revisions of a piece of music impact the constitution of the completed work? I will first consider how the Platonist ontology addresses this issue.

For the Platonist account, as defended by Evnine, a piece is constituted by the music's abstract sound structure, the intentions of the composer, and the work of the composer on the abstract sound structure. Evnine's theory has various tools to address revision. When a composer is drafting a piece, this process is captured by the notion of the "work" of the composer. That is, under Evnine's ontology, a piece is not constituted by a single action. Instead, the piece is constituted by a series of actions, which is the work of developing the sound structure. Included

in Evnine's concept of "work" is the process of revision. The aspect of Evnine's ontology that connects each revision to the constitution of the final piece is the intention of the composer. One revision may be understood as contributing to the constitution of the piece of music, while another may not, through reference to the intentions of the composer.

The nominalist ontology has much more difficulty in accounting for revision. Under nominalism, the piece is constituted by the collection of all concrete performances and written material. The problem for the nominalist is connecting each revision to the constitution of the finished piece. Suppose a composer writes two completely distinct opening movements and she only chooses one of them for the final work. For the nominalist, the way to understand which revision constitutes the piece would be through reference to the performances. The nominalist has no tools beyond the collection of concrete particulars to demonstrate that one revision constitutes the piece while another does not. This strategy is untenable when considering pieces of music that are never performed. Suppose that the composer who writes two distinct opening movements never has her piece performed. In this scenario, which revision constitutes the final draft of the piece? The nominalist does not have the tools to address this. Since the nominalist must rely on the set of performances and scores in constituting a work of music, revised pieces that have no performances will only be constituted by their scores. Because revisions yield many distinct scores, each of the scores would be considered distinct pieces of music. Thus, unlike the Platonist, the nominalist is unable to address this issue of revision.

4.2: The Issue of the Cadenza

Another ontological issue is presented by the cadenza. A cadenza is a brief solo that occurs in a concerto, which the composer does not dictate. Originally, cadenzas were meant to be an improvised performance. In contemporary performances, many of the original indications of a

cadenza have been filled in with transcriptions of famous solos. Historically, however, the practice of incorporating improvisation into the structure of a piece was common, especially in Baroque music. Occasionally, modern performers still attempt original cadenzas. Even though modern performers may mostly rely on transcriptions of old cadenzas, there is always an element of improvisation in these kinds of performances. The ontological problem of cadenzas concerns the relationship between these improvisations and the constitution of the piece.

For the Platonist ontology, as defended by Evnine, the cadenza does not pose an issue. In Evnine's account, the intentions of the composer are integrated into the constitution of the piece. Evnine's ontology has no trouble with the cadenza because the improvisation is an intentional element of the piece's sound structure. The cadenza section gives freedom to the performer, or a third-party composer, to contribute to the sound structure, and thus, the cadenza is incorporated into the constitution of the piece. Even though a cadenza could theoretically differ in every performance, the constitution of the piece would not change because the improvisation is aspect of the intention of the composer.

Again, for the nominalist, an account of the cadenza is problematic. The nominalist constitutes the piece of music in the set of all performances and scores. In the scores, the cadenza is unwritten and is simply indicated as an area of the piece for improvisation. Although every score will look the same in their indications of the cadenza, the lack a direct instruction for performance will leave the scores as an incomplete representation of the piece. On the other hand, if the cadenza is written into the music, in the case in which a famous performance has been adopted as the standard, the score will not reflect the work of the composer. Thus, there would not be a clear way of identifying the music as the product of the composer. Either the score would be incomplete, or it would not be a product of composer. Still, the nominalist could

point to the performances as a way of addressing the uncertainties left in the score. However, this would also be a fruitless solution. For the performances, the cadenza could theoretically be distinct in every instance. In the time before a cadenza becomes established as the standard, each performance could involve a unique improvisatory section. If each performance involved a distinct section of music, then the performances would be distinct. With distinct improvisations in performance, and incomplete scores, the nominalist would need to recognize each instance of performance as a distinct piece of music. Thus, the nominalist would be unable to incorporate each performance into the constitution of a single piece.

4.3: The Issue of Unfinished Compositions

There are many examples of works of music that were never completed, yet these works are performed and considered as whole pieces. So, it is essential for an ontology of music to be able to account for these works. To illustrate this problem, consider Bruckner's Symphony No. 9 in D minor. Bruckner wrote the first three movements of this piece, but he never finished the final movement before his death. While the final movement was incomplete and never published with the finished movements, Bruckner had extensive notes indicating his plans for this unfinished portion of the work. For a nominalist ontology, such unfinished works present a conflict.

Under the nominalist account, a work of music is constituted by the set of concrete particulars that include all performances and scores. In the case of Bruckner's Symphony No. 9, the set of all performances would only include performances of the first three movements. However, for Bruckner's Symphony, the set of scores and written material includes the final movement and other significant musical content that is never performed. The problem here is that the nominalist must rely on the scores that contain the unfinished material, because these

scores also contain the material that is the basis of performance. The nominalist must find a nonarbitrary rule for differentiating between the material of the score that is performed (and is accepted as standard repertoire) and the material that is dismissed as unfinished. Since the nominalist must rely on concrete particulars, there is no way for her to distinguish between the parts of the score that are performed and the parts that are unfinished.

The same problem exists for the Platonist ontology, but there are more avenues for a solution. Under Evnine's account, the work of music is constituted in the abstract sound structure, the composer's work on the sound structure, and the composer's intentions. These components of Evnine's ontology offer a strategy for differentiating between the unfinished and finished work in the score. Evnine can rely on the notion of intention to differentiate between the parts of the score that are performed and the parts that remained unfinished. That is, the first three movements of Symphony No. 9 are considered constituents of the piece because Bruckner's intentions were fulfilled in his work on these sections of the piece. In the unfinished movement of Symphony No. 9, Bruckner still had intentions, which are indicated by his notes, but these intentions were never realized in his work on the sound structure. Since Bruckner never completed the work on the sound structure of the final movement, the final movement does not need to be regarded as an element of the constitution of the Symphony. Thus, Evnine's theory can differentiate between the unfinished elements of the score and the piece as performed through reference to the intentions of the composer.

However, there is still an issue facing Evnine's apparent solution. When Bruckner wrote Symphony No. 9, he intended to have four movements. Therefore, Symphony No. 9 (as performed) does not reflect the intentions of Bruckner. This secondary issue is resolved by the fact that Bruckner's Symphony No. 9 is not understood as a finished work. If the piece were

understood as a finished work, then there would still be conflict between the intentions of the composer and the constitution of the piece. Since Bruckner's Symphony No. 9 is recognized as an unfinished work, the Platonist can rely on the intentions of the composer to identify the components of the piece that constitute the musical entity.

For the problem unfinished works, the Platonist can employ abstract notions, like that of intention and work on a sound structure. In contrast, the nominalist is left to wrest a solution from the concrete. With only concrete notions, the nominalist does not have a nonarbitrary method of distinguishing the finished material of the score, which is performed, and the unfinished material, which is disregarded. Even though the issue is present in both accounts, the Platonist is better equipped to address it.

4.4: Issues of Artificial Intelligence

Another issue facing the Platonist and the nominalist arises from music generated by artificial intelligence. To illustrate this issue, consider a sequence of 8 notes generated by artificial intelligence, which I will denote as *a*-*h*. For the nominalist to account for *a*-*h*, the piece would need to be actualized in a concrete form. That is, because the nominalist constitutes music in its set of concrete particulars, the AI-generated *a*-*h* would either need to be performed or transcribed into a score. However, for such a work, the music could exist without ever being actualized. The work, *a*-*h*, could exist purely as the set of procedures that enable its actualization, without ever being actualized. That is, *a*-*h* could be understood as existing in the potential of the AI-program, or it could be understood as existing in the series of calculations involved in producing the piece. Because of these potential scenarios, *a*-*h* would be able to exist in such a way that it does not involve anything concrete. Thus, the nominalist would not be able to account for such a piece.

The Platonist has similar difficulty account for this problem, though there are strategies for a solution. Under Evnine's account, there is no problem with *a-h* existing as a procedure before being actualized. The Platonist can rely on the notion of abstract sound structure to identify the existence of the pre-actualized *a-h*. That is, even if *a-h* is not actualized in a performance or score, the sound structure would still exist as represented by the procedure. But there is another problem for such an account. Evnine's ontology must incorporate the intentions of the composer into the constitution of the piece, which will be hard to identify in this case. Evnine must either consider artificial intelligence capable for intention, or he must recognize the intention of the programmer(s) involved in creating the procedure that generates *a-h*. Either case will be controversial. However, for my purposes here, it is enough to recognize that the Platonist has potential solutions to this problem. Simultaneously, the nominalist does not have any recourse for addressing this issue of music created by artificial intelligence.

Chapter 5: A New Defense of Formalism

So far, I have outlined two discussions in the philosophy of music, the expression of emotion in music and the ontology of music. Within each issue, I highlighted the most widely accepted theories. That is, for the issue of expression of emotion, I described the differences in what the formalist and the arousal theorist argue determines a piece of music's expression of emotion. While the formalist holds that formal properties of music determine the expression of emotion, the arousal theorist holds that the music's arousal of emotion determines its expression of emotion. For the issue of ontology, I described how a Platonist and nominalist define the constitution of music. For the Platonist, I adopted Evnine's approach, which states that a piece of music is a compound of the artist's intentional work on an abstract sound structure. For the nominalist, on the other hand, a piece of music is constituted by its concrete instantiations. To show why nominalism must be rejected, I devoted the last chapter to a discussion of a selection of issues that nominalism is unable to address. Now, I will demonstrate that once nominalism is rejected in favor of Platonism, a formalist theory of expression of emotion in music must also be accepted.

5.1: Possible Combinations of Ontologies and Theories of Expression of Emotion in Music

Any theory of expression of emotion in music necessarily assumes an ontology of music. That is, for the formalist and arousal theories of expression of emotion in music, there is necessarily a musical entity with which the listener interacts. Since there are only two broadly accepted solutions to the issue of expression of emotion, the formalist and arousal accounts, and there are only two broadly accepted solutions to the ontological issue, nominalism and Platonism, there are four possible combinations of these theories: arousal-nominalist, arousal-

Platonist, formalist-nominalist, and formalist-Platonist. I will briefly address each of these combinations of theories.

How does a nominalist ontology fit with the formalist and arousal theories of expression of emotion in music? The combination of any theory of expression of emotion in music with a nominalist ontology can be quickly discarded. Nominalism creates insurmountable conflict with the common understanding of music, as I discussed through the issues of revision, the cadenza, unfinished works, and artificial intelligence in Chapter 4. Thus, regardless of a theory's argument concerning the expression of emotion, if a theory adopts nominalism, it will face serious challenges. For that reason, the formalist-nominalist and arousal-nominalist positions can be rejected. Before I eliminate the formalist-nominalist and arousal-nominalist positions, I will describe what each of the combinations would entail.

Consider the formalist-nominalist combination. A formalist account of the expression of emotion in music must rely on the listener's ability to reflect on the formal properties of a piece. However, since nominalism denies the abstract existence of music, the formalist-nominalist will have difficulty in identifying the form on which the listener reflects to yield an interpretation of a piece as expressive of emotion. The formalist-nominalist would simultaneously hold that formal properties determine the expression of emotion in music, while denying that these properties constitute the music. Unsurprisingly, although the formalist-nominalist position is theoretically possible, it is never defended.

Consider the arousal-nominalist combination. An arousal theory must maintain a determinative relation between the listener's experience of music and the expression of emotion in music. Because of the importance arousal theories place on this relation, nominalism is the most intuitive accompaniment. That is, the arousal theorist relies on the listener's interaction

with concrete instantiations of music, while nominalism constitutes music in these concrete instantiations. Unlike the formalist-nominalist combination, the arousal-nominalist theory can claim that judgments about the expression of emotion in music originate in a genuine interaction between the listener and the music. The arousal-nominalist theory, however, is still confronted with the many problems of nominalism. Thus, even if the arousal-nominalist theory is an intuitive combination, the theory will always be susceptible to counterarguments aimed at the ontology.

Given that the nominalism-based theories have been eliminated, I turn to those based in Platonism. First, how does a Platonist ontology of music fit with the formalist theories? Formalist theories closely align with the arguments and implications of a Platonist ontology. Under the formalist theory of expression of emotion in music, the listener only recognizes the emotional content of a piece of music upon reflection on the piece's form. In combination with a Platonist ontology of music, the listener would be understood as reflecting on the sound structure of the piece.

How would a Platonist ontology of music fit with an arousal theory? For the arousal theorist, a piece's expression of emotion is directly linked with the experience of listening to the music. In other words, the arousal of emotion is distinct from the piece's abstract sound structure, which would constitute the piece under Platonism. Thus, the arousal theorist is left with an ambiguous relationship between the listener's experience of a piece and the piece's structure of sound, which undermines the notion of arousal as the basis of the expression of emotion. The arousal-Platonist combination requires a more detailed analysis before it can be rejected.

5.2: The Combination of Arousal Theory and Platonism

The two combinations of nominalism with theories of expression of emotion in music have been eliminated because nominalism is burdened by too many problematic counterexamples. So, only the combinations of formalism-Platonism and arousal-Platonism remain. Here, I focus on the combination of an arousal theory of expression of emotion in music with a Platonist ontology. By showing that this combination not sustainable, I will demonstrate that the only defensible position is that of the formalist-Platonist.

There are three consequences of combing an arousal theory with Platonism that I will explore here. First, when an arousal theory is combined with Platonism, the argument of the arousal theory becomes identical to formalism. That is, an arousal-Platonist theory must hold that the expression of emotion in music is determined by formal properties of the music. Second, an arousal-Platonist theory has difficulty accounting for the expression of emotion in music that has never been performed. That is, a Platonist must accept that music can exist without being performed, yet the arousal theorist claims that the expression of emotion can only be attributed to a piece once a subject has listened to a performance. Third, an arousal-Platonist theory must address the standard counterarguments to arousal theories through a Platonist framework, which creates insurmountable issues.

5.3: The Arousal-Platonist Theory Reduces to Formalism

An arousal theory of expression of emotion in music holds a determinative relation between the experience of listening to music and the music's expression of emotion. However, what can be arousing the emotion, if not the form? What is the relationship between the imagined persona of Robinson's theory and the form of the piece?

If an arousal theory of expression of emotion is combined with Platonism, the arousal theory reduces to formalism. To consider how an arousal theory might be understood through a Platonist ontology, I will briefly reintroduce Robinson's argument. For Robinson, the simple emotions expressed in a piece of music are those directly aroused in the listener. For example, under Robinson's arousal theory, the listener's claim that the *fortissimo* strike on a timpani expresses a sense of danger derives from the experience of the listener feeling startled. Such an analysis is unlike that of the formalist, who would identify elements of the formal structure of the timpani strike to determine a resemblance between this instance and the human experience. To explain the complex emotions expressed in music, Robinson argues that the listener must posit a persona who experiences the series of simple emotions. That is, Robinson claims that the listener reflects on the series of simple emotions, which are represented by the imagined persona, to arrive at an understanding of the expression of the complex emotions. For example, to explain why a piece is expressive of a complex emotion like remorse, Robinson might point to the collection of individual moments of tension and dissonance. For Robinson, reflection on the accumulation of these moments, through a persona, leads to the understanding of music as expressive of remorse. When these arguments are accepted alongside Platonism, this arousal theory begins to look more like a formalist theory.

A Platonist ontology necessarily recognizes that an abstract sound structure underlies all music. Therefore, an arousal theorist who accepts Platonism must also accept that aspects of the sound structure correspond to the moments in a piece that arouse the simple emotions. For a Platonist, the individual moments of a piece that arouse simple emotions – for instance, an unresolved dissonance that induces unease in the listener, or a *fortissimo* strike of the timpani that startles the listener - exist as abstract formal structures before the piece has ever been

performed or experienced. Simultaneously, the arousal theorist must claim that the expression of emotion in music derives from the arousal of these simple emotions. Thus, if the arousal theorist accepts Platonism, then the music that arouses the simple emotions is derived from an abstract sound structure. If the expression of emotion derives from the abstract sound structure, then an arousal-Platonist argument would cease to be an arousal theory, and it would reduce to a formalist theory.

The reduction of arousal theories to formalist theories under Platonism is even more clear in analyzing the expression of complex emotions. As I already mentioned, for the arousal theorist, the expression of complex emotions in music is the result of the accumulation individual moments of arousal of simple emotions. For an arousal theorist who accepts Platonism, these individual moments necessarily correspond to formal aspects of the music (the tempo, dynamics, pitch, timbre, etc.). So, what is happening when, as Robinson argues, the listener reflects on the series of aroused emotions through a persona? Under an arousal-Platonist theory, the listener is necessarily reflecting on formal properties captured in the sound structure.

If a theory accepts Platonism, then the only difference between the formalist and the arousal theorist is the following: While the arousal theorist claims that the expression of emotion in music originates in the aroused emotions of individual moments in a piece, which have an abstract structure under the arousal-Platonist combination, the formalist claims that the expression of emotion originates in reflection on the abstract structure. Both theories agree that the expression of complex emotions requires reflection. For the arousal theorist, the reflection concerns experience of the music, while for the formalist, the reflection concerns the formal aspects of the music. But for the Platonic arousal theorist, any experience of music is derivative of the abstract sound structure. In this way, the experience of music is necessarily a

representation of the abstract sound structure. That is, just as the abstract sound structure can be instantiated in notation, the sound structure can be instantiated as an auditory experience, which would be accompanied by an emotional experience. Thus, when the Platonic arousal theorist claims that the expression of complex emotions originates in reflection on the arousal of simple emotions throughout the piece, she is describing the process of the listener reflecting on the form of the piece. If the Platonic arousal theorist ultimately claims that the listener reflects on the form of the piece, then this ceases to be an arousal theory and reduces to formalism. Thus, when an arousal theory accepts Platonism, the theory becomes indistinguishable from formalism.

5.4: Expression of Emotion in Unperformed Works of Music

Another notable problem for an arousal-Platonist theory concerns the expression of emotion in unperformed pieces of music. Can a piece that has never been performed be understood as expressive of emotion? For the arousal theorist, a person must listen to a piece of music before attributing an expression of emotion to it. That is, the arousal theorist claims that a subject must be induced to experience a series of emotions in listening to the music before the music can be understood as expressive of emotion. Such a claim creates conflict with the Platonist assertion that music can exist without ever being performed. This conflict is illustrated by the fact that the expression of emotion in music can be determined by reading the score of a piece, without ever listening to the music or being aroused to an emotion. Just by analyzing the score of a piece, a trained composer can identify the moments in a piece that arouse tension, shock, sadness, happiness, or any of the other simple emotions essential to the arousal theory. If it were impossible to identify the expression of emotion in a piece from its score, then it would be hard to imagine how composers could write pieces with the intention of expressing certain emotions. When Vivaldi was writing "Spring" of *The Four Seasons*, he did not arbitrarily throw

notes on a page and hope it expressed joy. Vivaldi wrote "Spring" with the intention that it express the emotions that it does. Thus, Vivaldi was able to identify the aspects of the piece that would express joy from their formal properties.

5.5: Broader Problems of Arousal

Beyond the problems I outlined above, an arousal-Platonist theory is untenable because it will face the common series of objections levied against arousal accounts of expression of emotion in music. I will address two of these objections here.

First, arousal theories have difficulty accounting for the expression of complex emotions. These complex emotions, like unrequited love, are expressible in music, yet they are almost never identical to the emotions directly aroused by the piece. To avoid this issue, arousal theorist must introduce the notion of an imagined persona, or some other entity beyond the music. But is this a convincing picture of how listeners understand the expression of emotion in music? The claim that listeners necessarily posit a persona to understand music as expressive of complex emotions should have an empirical basis. Yet, no such evidence exists. The motivation for introducing the notion of persona is entirely internal to the arousal theory, and there does not seem to be a significant external basis for accepting this notion. The fact that arousal theories must posit entities like an imagined persona demonstrates the insufficiency of these arguments. Occam's razor tells us to reject theories with unnecessary additions like the personae of arousal theories.

Second, there is evidence that music's expression of emotion is distinct from its arousal of emotion. That is, if listeners must be aroused to emotion to understand a piece as expressive of emotion, then we would expect that listeners who have a different capacity to experience emotion have a different capacity to identify the expression of emotion in music. But this is not

case. In a recent study, it was demonstrated that autistic subjects were able to identify the expressions of emotion in music to the same degree as non-autistic subjects (Allen et al. 441). To explore this study, I rely on the analysis of Nick Zangwill, a formalist, who addresses this evidence in his recent article, "Music, Autism, and Emotion." Zangwill relies on the following distinction between an autistic listener and a non-autistic listener: "autistic people are less well-functioning […] (A) in the ability to attribute emotions to others, (B) in the ability to imagine emotions when not having them, and (C) in their ability to describe emotions in language," (Zangwill 1). The results of the study showed that there was not a statistically significant difference between the responses to the music elicited from autistic and non-autistic listeners (Zangwill 2). These findings undermine the central claim of the arousal theorist that the emotional experience of a piece determines its expression of emotion. Since the emotional experiences of an autistic subject are inherently distinct from those of a non-autistic subject, the arousal theorist would expect each subject to find differences in the music's expression of emotion. But this study found that autistic and non-autistic listeners had statistically indistinguishable responses (Zangwill 2). Thus, music's expression of emotion is distinct from the experience of emotion in listeners, which contradicts the foundational premise of the arousal theories.

5.6: The Formalist-Platonist Position

Three combinations of ontologies with theories of expression of emotion in music have been eliminated: the formalist-nominalist, the arousal-nominalist, and the arousal-Platonist. To eliminate the combinations involving nominalism, I rely on the critiques offered in Chapter 4. Namely, any theory that adopts nominalism will be unable to address the issues revision, the cadenza, unfinished works, and artificial intelligence. Importantly, this is not an exhaustive list

of the issues facing a nominalism. A full account of the critiques against nominalism would require separate treatment and further research. However, the weight of these critiques is overwhelming, which indicates that the stronger solution may be nominalism's alternative, Platonism. To eliminate the arousal-Platonist position, I explored the consequences of assuming such a theory. Through this analysis, I demonstrated that an arousal theory based in a Platonist ontology reduces formalism, among other unintuitive consequences.

The formalist-Platonist position is the only one that survives the critiques and counterexamples I have offered here. Such a combination is popular in discussions on the expression of emotion in music (Kivy adopts a formalist-Platonist theory). By demonstrating that Platonism must be accepted, and that formalism must be accepted with Platonism, I have provided a new rationale for adopting a formalist theory of expression of emotion in music.

5.7: Conclusion

At the beginning of this paper, there were two options for theories of expression of emotion in music, the formalist and the arousal theories. Now, I have shown why arousal theories must be rejected in favor of formalism. To arrive at this conclusion, I illustrated the strengths of the Platonist account in addressing a range of ontological problems, from the issue of unfinished compositions to the issue of AI-generated works. Nominalism was unable to address these problems and it had to be rejected. Crucially, I have shown that once a Platonist ontology of music is accepted, formalism is the only theory available in discussions on the expression of emotion. The Platonist view and the formalist view must be accepted together.

Now, there is significant work to be done in the philosophy of music. In discussions on formalist theories of expression of emotion in music, there is still no consensus on the precise relationship between formal properties and expressions of emotion. For example, why do minor

keys tend to evoke sadness, while major evoke joy? In discussions on the ontology of music, there is still no consensus on the best formulation of Platonism. Although I demonstrated the strengths of Evnine's ontology, his theory faces serious counterarguments (see Footnote 6). To efficiently address these various issues, unsound theories must be discarded. While I have given many reasons to discard arousal theories and nominalist ontologies of music, more work is due to conclusively eliminate these arguments.

The importance of these issues in the philosophy of music is especially clear in the recent development of AI-generated music. Over the next century, music and other forms of art will be created through artificial intelligence with increasing frequency and complexity. These technological developments will force philosophers to address the importance of authorship in discussions of expression of emotion in music and ontology. To prepare for these developments, it is valuable to start addressing these questions now, as I have done.

Notably, I have only addressed the most prominent theories in the current discussions. However, there is always room for a new theory, if it can address the issues better than the theories that already exist. To explore the potential of alternative theories, more research is necessary. However, among the theories that are currently discussed, I have shown that Platonism and formalism are the strongest.

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