The Philosophy of Musical Instruments

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THESIS

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SUMMARY

Simple reflection suggests that musical instruments are central to both musical practice and experiences of music. Nevertheless, there is neither a robust philosophical literature about musical instruments themselves nor much work in the philosophy of music that considers instruments when accounting for the nature of music. The overarching claim of this dissertation is that conceptual approaches to music that overlook or minimize musical instruments are thereby impoverished. This case is made in three parts. First, I argue that one source of the neglect of the contribution of instruments to music is the set of assumptions that I call, in a variation on a theme by Arthur Danto, the *philosophical disenfranchisement of instruments*. Several of these assumptions, which are common in both aesthetics and the philosophy of art, have their roots in Kantian aesthetics, notably anti-instrumentalism, spectator-centered aesthetics, and the genius-model of creativity.

Second, I consider applications of the disenfranchisement of instruments in the philosophy of music, including widely accepted views such as the acousmatic account of musical listening and the "pure" music paradigm. I also discuss ways in which philosophical uses of musical concepts, particularly 'timbre,' diverge from their uses within musical practice. This reveals a second source of the neglect of musical instruments: the *work-centered approach* to music, which privileges the concept 'musical work' over other musical concepts (e.g. 'performance,' 'composition,' 'tone').

Finally, I make a positive case for a conceptual approach to music that acknowledges the centrality of musical instruments in musical practices and experiences. This *instrument-centered approach* to music, as I conceive of it, is rooted in the notion of a musical culture. Instruments

SUMMARY (continued)

are both shaped by, but also shaping of, musical cultures. They thereby contribute to both

experiencing and making music.

1. INTRODUCTION

Though there are many divergent musical cultures that give rise to diverse musical practices, music itself is a nearly universal human phenomenon. And in most musical cultures, musical instruments have a place of prominence.[1] Nearly anyone, from any musical culture, then, could plausibly affirm Philip Alperson's claim that

> The picture of a musician playing his or her musical instrument seems to be at the foundation of what we mean by the practice of music; and the idea of the musical instrument seems central to our understanding of the musical art. Of course we know that music may include other kinds of practices such as dance, narration, verse, theatrical action, surtitles, and subtitles. But it is the musician playing the musical instrument that is at the core of [musical] practice. All other thoughts of music are parasitically or metaphorically based on this idea. (2008: 37)

Alperson thus, quite plausibly, suggests that musical instruments play a prominent role in both musical practice and common sense thought about music.

Simple reflection supports this suggestion. Listening to music is, in large measure, attending to a musician's playing of her instrument.[2] But, further, many people also experience music by, for example, learning to make music with an instrument, such as a piano, guitar, or their own voice. These music students typically engage in private practicing with their instrument, have one-on-one lessons with teachers about how to engage with the instrument, and spend time observing other musicians playing the same instrument and discussing technique. Advanced students often also study the history of music and musicianship with particular regard for their instrument's place in it, and learn at least the basics of their instrument's technological

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[1] Kartomi (1990).

[2] Though in some musical contexts the designation 'instrumental music' refers to music without singing (or vocalization), there are good reasons for regarding the human voice as a musical instrument. From such a perspective, listening even to vocal music is largely attending to a musician's use of her instrument.

workings and development. In these several and various ways, musical instruments are indeed central to musical practice and experience.

Nevertheless, musical instruments have not had a place of prominence in recent philosophy of music. Philosophers of music have, by and large, regarded musical instruments as dispensable; they have found, that is, that the philosophy of music isn't missing anything important by ignoring them. Musical instruments have, however, been the object of scholarly investigation outside of philosophy. There is, for instance, a branch of musicology (organology) devoted to the study of musical instruments. This work has done much to enrich our understanding of music, and, though the study of musical instruments might seem prone to overemphasizing the most traditional and conservative aspects of musical practice, organology historically played an important role in expanding the purview of Anglophone music scholarship beyond the confines of so-called Western music by studying instruments from many cultures. It has also fostered musicological understanding of recent musical developments through the study of electronic and digital musical instruments. In short, this musicological study of instruments has enhanced scholars' and performers' understanding of music itself.

Just as musicology has benefited from organology, I contend that the philosophy of music stands to similarly benefit from a philosophy of musical instruments. In particular, by drawing our attention to phenomena and issues in music that have been largely overlooked in the philosophy of music, the philosophy of musical instruments promises to prompt us to both (a) reconsider long-standing assumptions and approaches to thinking about music and (b) investigate aspects of music that have been neglected or ignored.

To those ends, this dissertation will pursue two fundamental questions. First: On what basis have philosophers concluded that musical instruments are dispensable for the philosophy of

music? What barriers, in other words, prevent most philosophers of music from fully embracing Alperson's insight that instruments are central to musical experience and practice?

And, second: What would an alternative approach to music, one that takes seriously the observation that musical instruments are central to musical experience, look like?

1.1 Overview

Chapter 2 primarily addresses the first of these two fundamental questions, that of why the philosophy of music has neglected musical instruments. I propose to answer this question by outlining a broader trend in philosophy of disregarding or dismissing instruments, instrumentality, and instrumental value. I call this trend the philosophical disenfranchisement of instruments, and, in Chapter 2, I will consider its influence primarily in philosophical aesthetics and the philosophy of art.

Chapter 3 is primarily addressed to the second of the two fundamental questions, that of what an approach to the philosophy of music that puts instruments at the center would consist of. I propose to answer this question by drawing a distinction between two general approaches to music. One, the work-centered approach, is prevalent in the philosophy of music, and it is characterized by its broad acceptance of the assumptions made by the philosophical disenfranchisement of instruments. The other, the instrument-centered approach to music, regards music as primarily a cultural practice in which instruments participate as collaborators with musicians.

Chapter 4 concludes the dissertation by discussing the instrument-centered approach to music in general and considering some of the broader implications of this way of thinking about music and musical experience for the philosophy of art and aesthetics more generally.

1.2 Method

At the heart of this inquiry, then, is a distinction between two general lines of thought about aesthetics, art, and music. Often when philosophers draw such distinctions the purpose is to reject one possibility in favor of the other. Considerations that count in favor of one are elaborated into reasons to discount the other. This sort of oppositional thinking, which prizes "knockdown" arguments is what Robert Nozick called "coercive philosophy," and it is not the sort of philosophy I seek to engage in.[3] Instead, I seek to show that, though the work-centered approach to music succeeds in guiding philosophical thought about some aspects of music, there are other aspects of the phenomenon that it cannot capture. I offer the instrument-centered approach to music, acknowledging that it is not a cure-all, but a guide for thinking about some philosophical issues otherwise overlooked. Since the aspects of music best captured by one approach are, by and large, those that are ignored or dismissed by the other, there is much to be gained from paying attention to the differences between the two.

As I shall discuss and illustrate, the work-centered approach has long been dominant in the philosophy of music. Indeed, as we shall see, some long-standing and heated debates in which philosophers of music carefully distinguish their own view from those of their rivals, are really debates between several different work-centered theories. And though the instrument-centered approach to music is evident in some philosophical work, it is rarely discussed explicitly. Because of this imbalance, my attitude toward each of the two approaches will differ. My primary goals with respect to the work-centered approach are to demonstrate its prevalence and identify some of its basic assumptions. I will largely assume that the value of adopting the work-centered approach is well-known. By contrast, my primary goals with respect to the

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[3] In a similar vein, Anne Eaton has spoken of "pugilistic philosophy," presentation to the ASA Annual Meeting 2018, and Anthony Simon Laden has written of the "authority of command" or legislation ascribed to what he calls the "standard picture of reasoning" *Reasoning: A Social Picture,* p. 141.

instrument-centered approach are to demonstrate its plausibility and value as a guide for thinking about music. I will, therefore, also identify the instrument-centered approach's basic assumptions and demonstrate its way of thinking about philosophical issues about music. But I will also focus on those cases in which the instrument-centered approach can improve upon the work-centered approach by commending our attention to features of music that are otherwise overlooked or by prompting us to revise assumptions and positions that otherwise seemed satisfactory.

In this way, the philosophical method most obviously at work in this inquiry is one that Anthony Simon Laden calls "conceptual optometry." (2013)   This is the generally pragmatist notion that there is sometimes more to be gained from examining the contours of two (or more) different ways of thinking about a given subject than there is from relentlessly pursuing one overarching view. This is akin to optometry in that one "lens" will bring out certain aspects of the target phenomenon while obscuring others, and another "lens" will likely clarify some aspects that had been blurry and blur some aspects that had been clear. Just as there is no one optical lens that results in perfect vision in all situations, there is likely no single conceptual scheme that fully captures a complex phenomena. The practice of conceptual optometry, then, encourages us to compare the different views of the target phenomenon available through different lenses in order to discern a more complete view than would be possible from adopting only one vantage.

Another philosophical idea operating in the background of this inquiry is also a pragmatist one. Wittgenstein is often understood as distinguishing the understanding and abilities of "insiders" of a given domain--such as fluent speakers of a language, adherents of a

religion, and members of a culture--from those of "outsiders."[4] Similarly, Stanley Cavell

(1969a, 1969b) often adverts to the notion of 'competence,' especially in discussing language

use and users. Both Wittgenstein and Cavell, then, suppose that there is a difference between the

perspective of those who have been initiated or have achieved competence within a given

domain and those who have not. Insiders will know and be able to perceive things that outsiders

might miss. And those who are competent will develop what Cavell calls, with reference to

competence with a natural language, an "ear." Competent speakers of English, for example,

have the capacity to evaluate, in fine detail, the right thing to say in a given circumstance. Was it

an *accident* or a *mistake*?[5] Did he *carry* the knife or *wield* it? Does she *acknowledge* my pain or

merely *know* that I am hurt? Importantly, competent speakers of a language make these

judgments by means of their "ear," not through intuition or empirical study. Their competence

with the language gives them the status of fluent users of it and entitles them to judge

authoritatively (though, of course, other competent speakers are entitled to disagree). Just as one

can become competent with a language and participate in its continual development, I claim, one

can also become a competent participant in a musical culture. As with language use, competence

is developed through practice and participation.

Many cultural practices develop concepts that are understood differently outside of the

domain than they are within it. Sometimes, this is a case of misunderstanding or

misinterpretation. In popular culture, for example, Heisenberg's "uncertainty principle" is often

invoked as if it were a kind of extreme version of the observer effect, one which suggests that all

observation fundamentally transforms the observed object and so nothing can be definitively

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[4] This is one of the ways in which Wittgenstein has been used in the study of religion. See, for example, his lectures
on religious belief (1966: 53-80). For an interpretation of this aspect of Wittgenstein applied to religious studies, see
Springs (2008).
[5] Austin (1957).

known through observation. That, of course, is simply a misunderstanding of Heisenberg. But there are similar examples of this sort of conceptual divergence from the domain of music.

For example, the concept 'atonal.' To a musician, 'atonal' refers to a particular compositional style in Western art music that is often said to have been inaugurated by Richard Wagner in the opening passage of the prelude to *Tristan und Isolde*. The famous "Tristan chord" found there is, unusually, ambiguous in its relation to the key (the tonality) of the passage. It is a chord that does not immediately announce itself as being in one key or another. It is not even immediately clear whether it is a major chord or a minor one. In fact it is the lush but tense combination of two different chords, one a chapter 4of Tristan's motif and the other chapter 4of Isolde's. The designation 'atonal' to a musician refers to music of this sort that is the result of a composer's deliberate transgressions of the customary practices and "rules" of composition regarding tonality common in some historical periods of Western music. But outside of musical practice, the concept 'atonal' is often used to designate music that sounds dissonant. This use of the concept is at odds with the one from within musical practice, since there is no overlap between atonality and dissonance.[6]

This project seeks to recognize and take account of these divergent uses of musical concepts across different domains. And though it will not, in general, police concept-usage, it will point out when philosophical uses of musical concepts do not accord with either their uses or their implications within musical practice. In this it will rely on considering the perspective of a competent musician. In this it will not simply assume that the musician is right and the philosopher of music wrong, but will instead seek to understand how and why such divergences occur.

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[6] That is, atonal music may be either dissonant or consonant, and tonal music may be either dissonant or consonant.

1.3 Caveat about 'Western Music'

Many recent works in Anglophone philosophy of music issue a caveat to the effect that what's under discussion is 'Western music' or even 'Western classical music' The reasons for such caveats are both descriptive (i.e. accurately describing the scope of the claims on offer) and normative (i.e. to acknowledge that there are musics other than these, e.g. Western popular musics and non-Western musics). Like these other writers, I will devote most of my attention to the music that is widely called 'Western classical music,' and I, too, acknowledge that this focus will limit the scope of my claims. But unlike most of them, I want to point out some of the downsides of construing music in this way.

The 'Western' in 'Western music' (as, by the way, in 'Western art,' 'Western culture,' 'Western philosophy,' and so on) is confused. Some Russian music, even that which is widely thought to express a certain Russian national character, counts. But Russian Orthodox chant is generally placed at the fringes of Western music, and all Chinese music, for example, is well outside. Some of the central examples of Western music originated in Italy and France, but the music of Morocco and Egypt a short distance across the Mediterranean, are decidedly non-Western. Similarly, the music of the indigenous peoples of North and South America is obviously not part of the tradition of Western music, though it originates in the global west. 'Western,' then, is geographically inaccurate. What's more, it obscures the fact that much of Western music originates in Europe or with Europeans, or is made in a European style. Nevertheless, 'Western music' is now a widely used technical term, and familiar enough that its meaning is mostly clear.

More consequential, in my view, is the fact that 'Western music' is so often used to refer to a set of musical products--things like works, performances, improvisations, and recordings.

This suggests that Western music is simply a set of such products, including such items as Beethoven's Fifth Symphony, Miles Davis's *Kind of Blue*, *Abbey Road*, and possibly John Cage's *4:33*. From this basic perspective, the philosophy of music can proceed simply by examining some of the many diverse members of the set 'Western music' and try to discover how the relevant concepts work and possibly even discover what, if any, commonality exists such that the set is coherent rather than arbitrary.

I don't doubt that these musical products are an aspect of 'Western music,' but, for reasons that will become clear across the breadth of this inquiry, I prefer thinking of music as an *activity*. Instead of focusing on musical products, then, I will focus on musical processes, such as applying techniques to play or perform pieces of music, building and maintaining musical instruments, and using music as an enrichment for such things as sporting events, religious rituals, and films. As we shall see, many of these processes have long histories, and they have been shaped by social, political, economic, geographic, and other factors. In light of this acknowledgement, I am reluctant to use the term (or concept) 'Western music' at all, for it is more accurate to think of 'Western musical culture.'

What's missing even from the improved formulation 'Western musical culture' is some acknowledgement that the kind of music most often discussed by philosophers as 'music' with no appended adjective is what is sometimes called "Classical music." This designation is also a bit confused, since 'Classical' sometimes refers to the mainstream European music from the Classical period, which lasted, roughly, from 1750-1800; in these cases, a piece of music is "Classical" if it is not, for example, "Baroque" or "Romantic" or "Modern." At other times 'Classical' refers to any Western art music of any historical period; in these cases, a piece of music is "Classical" if it is not "Popular" or "Jazz" or "Gospel." Most of the time, though

certainly not all of it, the music I have in mind is the art music of Western musical culture from any of its known historical periods. To avoid such cumbersome phrases, I will refer to "Western musical culture," "Western art music," and even sometimes "Western music," but it should be understood, especially when I am speaking on behalf of the instrument-centered approach to music, that I acknowledge the difficulties and tendentiousness of these terms, and that I am primarily interested in a musical culture and its associated practices.

One last drawback of the widespread habit of restricting philosophical discussions of music to "Western classical music" is that this is often used as a way of restricting focus to that subset of Western art music that is regularly called "pure music," music so-called because it has no extra-musical content, such as text or narrative. As we shall see below (2.2.2), this excludes a great deal of the music of Western musical culture. So while many inquiries in the philosophy of music, especially those that seek to speak to the phenomenon of music in a general way, exclude "impure music," this investigation will not.

1.4 Pipe Organs as Case Study

Throughout this inquiry into musical instruments, my touchstone will be the pipe organ. The reasons for this are several: First, the pipe organ is one of the very earliest musical instruments developed, and, within its native musical culture (i.e. that of "Western" classical music, especially sacred music), it is unique in having a repertoire that stretches unbroken from the 14th century to the present day. Unlike, for example, the piano, which achieved its modern form in the mid-nineteenth century, the organ is native to every period of the recorded history of Western musical culture. These facts mean that the pipe organ is especially well-suited to serve

as an example of both (a) the ways in which musical instruments are situated in time, place, and culture and (b) how instrument-types change across time, place, and culture.

Second, organs are much more long-lived than other musical instruments. Indeed, there are extant organs, playable largely by means of their original mechanism, from as early as the beginning of the fifteenth century. This means that pipe organs can also serve as an example of how instrument-individuals persist or change over time. One important reason why pipe organs can last so long is that there is a long tradition of repairing, restoring, and rebuilding them. In recent years, organ restorers have increasingly regarded their work as that of maintaining an organ's original condition without alterations. But it is nearly impossible to do restorative work without making some changes to the instrument, and many restorations of the past altered instruments so drastically that they are better regarded as wholesale revisions. The organ, then, is a good case study for thinking through questions of the identity of instrument-individuals.

Third, in the course of their long history, organs have been put to many different uses, from the most solemn of church music to showy virtuosic concert performances to the accompaniment of silent films to the riling of crowds at sporting events. These characteristics suggest that the organ is central to several Western musical sub-cultures. It is not, of course, the only instrument of which this is true. The piano (and its facsimiles), for instance, plays a role in nearly every Western musical sub-culture, and, in any case, surely more than the pipe organ does. But the pipe organ does feature in many different kinds of music making.

Finally--and most personally--I am an organist and organ technician, so the pipe organ is the instrument I happen to know best. My interest in musical instruments, then, is grounded in the experience and knowledge of them that comes from many years of playing, repairing, and

building them, and studying their history, technology, and repertoire. And I will draw upon and appeal to insiders' musical knowledge and experience in this inquiry.

1.5 Precursors

One of the most vibrant and promising avenues of research in aesthetics and the philosophy of art in, say, the last 30 years is the trend toward what I call "expansionism." Expansionist projects seek to expand the philosophical conception of either art or the aesthetic (or both). One prominent source of expansionist projects is the large and growing movement known as "Everyday Aesthetics," which challenges art-centered aesthetics.[7] Other examples come from the many attempts to expand the horizons of what philosophy can regard as forms of art. For example, though it is easy to forget given the large volume of recent work on the philosophy of film, it was not so long ago that philosophers had to make the case that film is an art.[8] More recently, philosophers have made the case for food, comics, games, and tattoos.[9] There have even been expansionist projects in the philosophy of music, as philosophers began to examine popular music, songs and singers, and film music.[10]

Similarly, there has also been ever-growing interest in the study of materiality and material culture. This is evident both in more general fields, such as sociology, anthropology, and cultural studies, but also in areas such as the history and criticism of the visual arts, literature, and music.[11]

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[7] Saito (2007, 2017).
[8] Early examples of the philosophy of film include Arnheim (1957) and Cavell *The World Viewed*
[9] On food, see Korsmeyer (1999), John (2014); comics, Meskin (2009); games, Nguyen (2020); tattoos, Dadlez (2015), Sizer (2020).
[10] On popular music, see Gracyk (1996, 2007), Kania (2006); on song and singing, Bicknell and Fisher (2013), Bicknell (2015); on film music, Levinson (1996).
[11] In the visual arts, see Baxandall (1982); in music, Cox (2016).

This project owes much to these expansionist and materialist projects, since it too seeks to expand traditional ways of thinking about music and musical experience by paying attention to the details, both technical and material, of the role that instruments play in music-making. The most significant difference between it and most other expansionist projects is that it seeks to use an expansionist lens to investigate a traditional artform. Whereas most expansionist projects in aesthetics and the philosophy of art seek to show that traditional assumptions and lines of thought cannot accommodate newly developed modes of art or artforms that were historically denigrated to "low" or "popular" status, this project seeks to show that even historic and traditional aspects of Western musical culture present challenges to widespread assumptions and lines of thought about art and the aesthetic.

2. THE PHILOSOPHICAL DISENFRANCHISEMENT OF INSTRUMENTS

Recall the first of the two fundamental questions that guide this inquiry: On what basis do philosophers of music conclude that musical instruments are dispensable for the philosophy of music? In my view, finding the answer depends on recognizing a larger trend.

Philosophers working on many different topics have regarded instrumental value and instrumental qualities as generally more dubious and less important than intrinsic value and intrinsic qualities. From this point of view, objects that are primarily instrumental--including musical instruments, but also scientific instruments and other tools and utensils--seem marginal and of negligible value for philosophical investigation. Moreover, instrumental concerns are often seen as distractions from genuine philosophical pursuits. For example, the fact that a given recording of an upbeat pop song can be used to elevate a listener's mood or to give rhythm to her workout is a kind of consideration that often seems too tenuous to reveal much about the nature of the song, much less the nature of music in general. In a variation on a theme by Arthur Danto (2004), who wrote of the philosophical disenfranchisement of art, I call this tendency the *philosophical disenfranchisement of instruments*. I will discuss the central features of this line of thought by outlining three of the assumptions that underwrite it and four upshots of those assumptions that are evident in aesthetics and the philosophy of art.

2.1 Aesthetic and Artistic Anti-Instrumentalism

Perhaps the most straightforward way in which philosophers have disenfranchised instruments is by adopting one or another form of anti-instrumentalism. Many, perhaps most, anti-instrumentalist views are domain specific and are founded on the conclusion that the domain in question is (partially) constituted by its being non-instrumental. Thus philosophers have

concluded, for example, that whatever ethical value might consist of, it is importantly distinct from instrumental value. Similar conclusions are drawn for pleasure, science, and, of course, art and the aesthetic.

One perennial difficulty for aestheticians and philosophers of art is that of locating and constraining their object of inquiry: respectively, the aesthetic and art. Of course, this is a difficulty faced by anyone investigating anything. It is part of the reason that researchers must devote significant thought and attention to developing hypotheses and working-definitions in advance of their investigations. But art and the aesthetic present special problems for those who dare to investigate them.[12] A central aspect of both of these domains are various kinds of subjective experience, especially perceptual, affective, and cognitive experiences. But, many philosophers of art and aesthetics do not understand this fact as implying some sort of anti-realism; that is, just because art and the aesthetic involve experiences that take place within subjects does not mean that they are domains about which there are no facts. In this vein, one of the central projects for philosophical aesthetics since the 18th century has been that of accounting for how there can be 'objective' or 'universal' aesthetic facts. And one of the central projects in the philosophy of art has been that of searching for the grounds of facts about art. These projects have produced, in some cases, wildly divergent answers.[13] Further, both the realm of art and that of the aesthetic are large and heterogeneous. The former includes such things as cave paintings, Homeric epic, Renaissance frescoes, Dadaist works, and conceptual pieces (to name but a few categories of art), but also things like artistic intention, artistic

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[12] To be clear, I don't mean to claim that there are *unique* or *distinctive* problems of this for aestheticians and philosophers of art, for there is some overlap with the problems faced by, e.g., philosophers of religion, political philosophers, and so on.

[13] As for the aesthetic: compare, for example, the account of the aesthetic in Kant's third critique with that in works of Everyday Aesthetics, such as Saito (2010) or Irvin (2008). As for art: compare, for example, the account of art in Bell (1914) with that in Dickie (1974).

properties, artistic action, and artistic achievement. The latter includes both those objects (art and non-art) of which it is possible to have an aesthetic experience, but also such abstract things as aesthetic experience, aesthetic judgments, aesthetic properties, aesthetic concepts, and aesthetic value. For these reasons, 'art' and 'the aesthetic' continue to be contested concepts.

One way that philosophers have dealt with these difficulties is by emphasizing the gaps between, on the one hand, the artistic or the aesthetic and, on the other, the instrumental. Perhaps the most influential theory in this vein is Kant's aesthetics, the centerpiece of which is the disinterestedness thesis. Kant writes, "*Taste* is the faculty of judging an object or a mode of representation by means of a delight or aversion *apart from any interest*. The object of such delight is called *beautiful*." (2000: 90) Here Kant establishes the familiar and widely influential system of thought about the aesthetic: 'Taste' is the name of the faculty by which aesthetic judgments are made. These judgments are licensed by a certain kind of pleasure (or aversion), namely disinterested pleasure (or aversion). 'Disinterest' here describes a mode of pleasure that is free from instrumental concerns, such as uses or purposes the object might serve, uses or purposes the object's maker may have had in shaping it, and the means by which it was made. The verdict so rendered by the faculty of taste concerns the beauty (or lack thereof) of the object in question, where only those objects that provoke disinterested pleasure are beautiful. Kant thus concludes that aesthetic judgments are constitutively non-instrumental.

In giving detail to the idea of disinterested pleasure, Kant writes, "All one wants to know is whether the mere representation of the object is to my liking, no matter how indifferent I may be to the real existence of the object of this representation." (2000: 93) By 'representation' here, Kant means something like a mental representation or perception. Nick Zangwill understands Kant to mean by this that disinterested pleasure is pleasure free from desire, for desiring

something characteristically involves desiring its use. (1992: 149) I desire a hamburger in order to eat it and satisfy my hunger. In this light, the kind of pleasure afforded by an aesthetic experience subverts the typical workings of instrumentality. But aesthetic appreciation, according to the Kantian principle of disinterest, is a case of experiencing pleasure in simply attending to the object and without regard for the various ways in which it might be used to some further end.

Though Kant uses the concept 'disinterest' to describe a mode of pleasure, his general disinterestedness account of aesthetic judgment is part of the basis of the notion that is sometimes called the "aesthetic attitude." This is the idea that there is a distinctive aesthetic mode of attention, characterized by disinterest or "distance" and is the proper mode of attending to aesthetic and artistic objects.[14] The main thing excluded from this sort of attention is instrumentality. To have an aesthetic experience of a rose means attending to it without regard for any use to which it might be put--as a gift to win favor with a lover, say, or as a lapel decoration. Instead, attending aesthetically means appreciating the rose "for its own sake." This suggests that, for example, a snow-shovel could be appreciated aesthetically, but only by disregarding its function.[15] Similarly, a hamburger could be appreciated aesthetically, but only if the subject has divested herself of any hunger pangs. The aesthetic attitude, then, is a kind of aesthetic anti-instrumentalism, for it conceives of the aesthetic as in opposition with the instrumental.

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[14] The idea of the "aesthetic attitude" is perhaps most closely associated with Dickie (1964), who coined the term in order to characterize and criticize a trend in philosophical aesthetics. Zangwill (1992) plausibly contends that Kant did not conceive of disinterestedness as an *attitude*, but as a *mode of pleasure* (one which is free from desire). Bullough (1912) does explicitly endorse something very much like the aesthetic attitude, as does Levinson (2005).

[15] One of Marcel Duchamp's readymades, *In Advance of a Broken Arm* is a snow-shovel. It is doubtful that, in displaying it as a work of art, he meant to commend disinterested attention to it, much less to invite it to be seen as beautiful in any grand, Romantic sense. See Demos (2007).

The disinterestedness thesis provides the basis of a distinction, which is commonly drawn by philosophers of art, between the aesthetic and the artistic. Artistic phenomena are objective in the sense that they inhere in objects, so, for example, 'being black' is (when it is true of a work of art) an artistic property, since it is a property of the object itself. Aesthetic phenomena, by contrast, are subjective in the sense that they occur to or within a subject, namely, a spectator. Thus experiencing a painting as jovial, feeling the sadness of the *adagio* movement of a Beethoven quartet, and judging a poem to be trite are all aesthetic phenomena in that they are not simply the recognition of objective qualities of an artwork, but are responses to it that occur within the spectator.

This distinction between the artistic and the aesthetic is, *prima facie*, a helpful way of distinguishing between two different modes of anti-instrumentalism. On the one hand, the disinterestedness thesis is a straightforward example of aesthetic anti-instrumentalism, the idea that aesthetic experience is essentially divorced from instrumental concerns. On the other hand, the familiar notions of the uselessness of art and "art for art's sake" are straightforward examples of artistic anti-instrumentalism, the idea that artworks themselves serve no purpose. Having discussed the aesthetic anti-instrumentalism of the disinterestedness thesis above, let's now consider two examples of artistic anti-instrumentalism.

One prominent example of artistic anti-instrumentalism is R.G. Collingwood's (1938) account of the distinction between art and craft--or, more precisely, between art-making and craft-making. Craft-making, for Collingwood, is characterized by there being a distinction between the means by which a thing is made and the end of those means, the object itself. A carpenter building a table, then, participates in craft, since the means of making the table--such things as the plans, tools, supplies, materials, and techniques--are distinct from the table itself.

This means that the carpenter's activity is that of craft-making, and the resulting table is a work of craft. According to Collingwood, there is no such means-end distinction to be made in the case of "art-proper," which is always the result of an artist, without plan or design, expressing emotion.[16] Collingwood's view of art-making, then, is a kind of anti-instrumentalism, for his characterization of the difference between art and craft rests mainly on his contention that craft-making involves instrumentality (in the traditional sense), but art-making does not. And it further suggests that spectatorial attention to how a work of art was made is an inappropriate way of attending to artworks, for the answer is both unknowable (since there is no means-end relation between the artistic process and the artistic product) and irrelevant (since what matters is the artist's expression, not her means of expression). Collingwood's view is an example of artistic anti-instrumentalism in that it holds that artists cannot produce works of art by means of an instrumental (ends-directed) process.

Another recent example of artistic anti-instrumentalism is Jerrold Levinson's treatment of pornography (2005). In response to Matthew Kieran's (2001) argument that there is such a category as "pornographic art," Levinson retorts with an appeal to the aesthetic attitude: the kind of attention paid to pornographic works is fundamentally at odds with attending to aesthetic qualities, and, because proper attention to artworks requires appreciating their aesthetic qualities, there can be no such category. According to Levinson, works of pornography are, in the typical case, *used*, but *using* a work of art is a mistreatment of it precisely because aesthetic appreciation requires disinterested attention. This is another example of artistic anti-instrumentalism, but one that functions a bit differently than Collingwood's art-craft distinction. Levinson is not concerned with the way in which pornography is made, but, rather, argues that works of

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[16] For Collingwood, expressing is a matter of working out or clarifying one's emotions, to oneself as much as to others.

pornography cannot also (simultaneously) be works of art because pornographic works are designed to stimulate interest and desire, but works of art demand aesthetic attention. Levinson's strategy here is but one example of the widespread phenomenon, in the philosophy of art, of using aesthetic anti-instrumentalism, along with the ideas that artworks are primarily (meant to be) aesthetic objects and, therefore, that aesthetic attention is the proper mode of attending to them, to reach a kind of artistic anti-instrumentalism.

In general, aesthetic anti-instrumentalism claims that the aesthetic and the instrumental are in opposition to one another. There are many ways of cashing out such a claim, but two are particularly salient. It might mean that (1) any experience of an object that the percipient is currently using as the means to some end is, for that reason, not aesthetic experience. Examples of this include the experience of a meal eaten for the express purpose of eliminating the feeling of hunger and the experience of a rock song blasted over headphones in order to motivate a runner's last mile. These are both cases in which the observer has some agenda for interacting with the object. On the other hand, aesthetic anti-instrumentalism might claim that (2) instrumental concern about the object of an aesthetic experience is not properly aesthetic. Examples of this instrumental concern include such things as wondering about how a particular painterly effect was achieved or what atmospheric gasses contribute to the colors of a sunset, since these are both ways of attending to the means by which a given end (namely, the aesthetic object) came to be as it is. Much work in aesthetics seems to accept both of these versions of aesthetic anti-instrumentalism.

Similarly, there are at least two different ways of understanding artistic anti-instrumentalism, the claim that art and the instrumental are opposed. On the one hand, this may mean that (3) true art cannot be made by means of an instrumental process. This is, roughly,

Collingwood's way of marking an art-craft distinction. But, on the other hand, it may mean that (4) true art cannot be used in order to further some end of the spectator or the artist. Levinson's idea that pornography cannot be art because the former is meant to be used while the latter is not is an example of this, for it is a case in which a spectator uses the object in pursuit of some particular end.   Examples of artists using works of art to further some end include such phenomena as political art, art for social change, and other kinds of art that seek to issue commentary. Some forms of artistic anti-instrumentalism would not regard these as forms of true art.

These two modes of anti-instrumentalism--aesthetic and artistic--contribute to the philosophical disenfranchisement of instruments in several ways. In particular, the disinterestedness thesis implies that the only way of viewing an instrument as an aesthetic object is to regard it without perceiving or considering its usefulness. It is surely possible to view musical instruments in such a way, and, because many of them are built with the highest standards of craftsmanship and some are highly decorative, many of them can sustain and even repay such attention. But, from the perspective of a performing musician or an instrument builder, the instrumentality cannot be detached from the instrument, even accounting for the craftsmanship and decoration.

Further, anti-instrumentalism leaves no room for a musical instrument's instrumentality to contribute to the aesthetic experience of the music it is used to make. If in order to attend to a piece of music aesthetically I have to focus only on those qualities which can provoke disinterested pleasure, then no thought or perception of such things as the relation between the instrument and the player's body or the instrument's material and technological aspects can inform or enrich my aesthetic experience of the music. Indeed, such concerns would distract the

observer from attending simply to the music itself and thereby impede aesthetic experience of it. Anti-instrumentalism suggests, in other words, that there is nothing to be learned about music as an aesthetic object from considering musical instruments as instruments.

2.2 The Traditional Conception of Instrumentality

Since at least the time of Plato, the view that we might call the traditional conception of instrumentality has been a dominant way of thinking about such things as intrinsic, extrinsic, and instrumental value; ends and means; and instrumental normativity and rationality. On the traditional conception, intrinsic value is regarded as conceptually prior to instrumental value since the latter, like all modes of extrinsic value, is understood to be essentially derivative. That is, the extrinsic value of an object issues from something other than the object itself, which means that a change in the object's value can occur even in the absence of any change in the object itself. The classic example of this phenomenon is currency: A U.S. dollar bill has economic value only insofar as it has purchasing power, which is only the case under certain political and social conditions. In the absence of the conditions that confer the status of valuable legal tender upon dollar bills generally, an individual bill has no purchasing power. That particular extrinsic value has been removed, though others, such as the kind of historical value that appeals to collectors, may remain. The currency value of the dollar bill, then, is extrinsic in that it is derived from its status as legal tender and not from any of the bill's intrinsic features. What's more, valuing a dollar bill for its purchasing power is not so much a way of valuing the bill itself as it is a way of valuing something it can do--namely, making purchases and paying debts.

Pleasure, on the other hand, is often thought to have intrinsic value--value that is not derivative. A common procedure for identifying objects that are valuable for their own sake is to imagine, or to actually engage in, a conversation that consists mainly of repeated iterations of the question 'Why is that valuable?' You might, for example, ask me why my cup of tea is valuable. I could respond by pointing out some of its features, such as the flavor of the tea or its warmth. Why, you then ask, are those things valuable? Because, I might say, they afford me a pleasant experience. And why is pleasure valuable? This is an odd question. Pleasure is just good, and there doesn't seem to be much more to say about how or why it is valuable. This suggests that pleasure is intrinsically valuable--valuable for its own sake.

Intrinsic value thus seems to be conceptually prior to the various modes of extrinsic value. Whereas intrinsic value inheres in the valuable object, extrinsic value attaches to objects in various ways, often through complex webs of association, as in the case of the economic value conferred upon currency. Whereas intrinsic value, such as the pleasure afforded by a cup of warm tea, emerges from qualities of the valuable object, an object's extrinsic value may be only arbitrarily related to the object and its qualities. And whereas intrinsic value is direct, extrinsic value is derivative.

The traditional conception of instrumentality also regards ends as having priority over means. Instrumental transmission, the idea that such things as value, normativity, and reasons are transmitted from an end to the means to that end, is central to the traditional conception. If, for example, there is value in eating an omelet, then, by transmission, there is value in breaking a few eggs, since breaking eggs is part of one possible means of making an omelet, which is itself part of one possible means of eating an omelet. Similarly, if I have a reason to eat an omelet, then I have a reason for breaking eggs and making an omelet. And if I have the intention of

eating an omelet, then my instrumental rationality depends on my having a corresponding intention to carry out one or another of the possible means of doing so that are known to me. In this way, ends are conceptually prior to means: whatever value or normativity attaches to the latter is derived from that of the former.

The traditional conception is especially wary of arbitrariness. As we have seen, because extrinsic value is derived from something other than the features of the objects in which it inheres, the relation between an extrinsically valuable object and its value is arbitrary. Currency need not take the form of coins and bills, but could just as well be shells or stones or something else. Similarly, because any given end can be accomplished through any of several different possible means, ends and means are also only arbitrarily related. My breaking some eggs is a means of my eating an omelet, but I could also have someone else break the eggs before making the omelet or I could order an omelet in a restaurant. This arbitrariness is sometimes taken to show that extrinsic modes of value, including instrumental value, are irrelevant as considerations in investigations of extrinsically valuable objects and that means are irrelevant as considerations in investigations of ends.

The traditional conception of instrumentality participates in the philosophical disenfranchisement of instruments in several ways. By regarding instrumental value as essentially derivative, the traditional conception militates against investigation of instruments themselves. If the instrumental value of a screwdriver is derived solely from the value of its effects, then an examination the tool itself cannot reveal much about the ends to which it is or may be put. All such considerations can be gleaned from an investigation of the effects, which are the true source of the value. Similarly, by regarding instrumental transmission as asymmetrical--operative in only one direction, from ends to means--the traditional conception

denies that consideration of the means by which an end is achieved is relevant for an investigation of that end. If the instrumentality of musical instruments is conceived of on this model, their relation to music is nothing but that of a means, and, from this perspective, there is little that can be learned about music from investigations of instruments.

2.3 Spectator-Centered Aesthetics

Most thought about the realm of the aesthetic assumes that it bears a special relation to spectators. Aesthetic objects, for example, are aesthetic insofar as they repay a certain sort of contemplation by an observer. Aesthetic experience is something that arises in spectators when, under the right conditions, they perceive an aesthetic object. Aesthetic properties are qualities of objects that, when perceived in the right way, contribute to the aesthetic experience of spectators. These general conceptions are both widespread and spectator-centered. One of the roots of this idea is Kant's aesthetics, including the disinterestedness thesis.

Nietzsche was an early critic of Kantian aesthetics, especially of the notion of disinterestedness, but also, more generally, the assumption that the aesthetic can only be understood, as it were, from the perspective of the spectator. He writes,

> Kant, like all philosophers, instead of envisaging the aesthetic problem from the point of view of the artist (the creator), considered art and the beautiful purely from that of the "spectator," and unconsciously introduced the 'spectator' into the concept "beautiful." (1967: 103-104)

Thus Nietzsche diagnoses the trend of spectator-centered aesthetics. It is worth noting that, while Nietzsche criticizes Kantian *aesthetics* in this passage, his framing of the discussion around artists and spectators suggests that what he is really concerned with here is *art*. In this

way, he seems to endorse the view, common in his time and in our own, that the aesthetic is central to art.

To understand what spectator-centered aesthetics consists in, and what Nietzsche means to criticize, we must consider what is meant by 'spectator,' for there are at least two interpretive possibilities. According to Nick Zangwill's (2013) careful reading of this passage, Nietzsche thinks that while some people are endowed with the capacity to actively create works of art (call those people "artists"), others are constitutionally incapable of such creativity, but can nevertheless appreciate works of art (call those people "mere spectators"). By these lights, Nietzsche's complaint that Kantian aesthetics is spectator-centered understands Kant to privilege the aesthetic experiences of mere spectators over those of true artists. Thus, on Zangwill's reading, Nietzsche rejects Kant's focus on the aesthetic experiences of mere spectators and instead commends our attention to the more varied and insightful aesthetic experiences of which artists are capable. In slogan form: spectator-centered aesthetics is misguided because artists are better spectators than mere spectators are.

On this interpretation, Nietzsche's critique of spectator-centered aesthetics has several interesting upshots. First, in suggesting that the knowing position of the artist is better than the naive position of the mere spectator, it prompts us to revisit the common assumption of the opposite. We often think that artists are "too close" or "too disenchanted" or "too agenda-driven" to be good spectators, not only of their own work, but also the work of other artists. Because, for example, they know how a given artistic effect is produced, artists' experience of it must be less powerful than ignorant spectators'. In this vein, Zangwill recounts a case in which he was so enchanted by a musical phrase that he learned to play it, whereupon the enchantment disappeared completely. (2013: 79) Nietzsche may reply that if this music's interest could not

sustain knowledge of its inner workings, then it is not really as interesting as it may have at first appeared. The artist-spectator will be generally more discerning than the mere spectator, and so will avoid being confused by artworks that initially seem compelling but fail to repay sustained attention.

Second, in connection with Nietzschean perspectivism, the privileging of the artist's perspective over the mere spectator's puts us in mind of the great diversity of artists. Indeed, it seems that (to botch a quotation from Tolstoy) where mere spectators are largely alike, artists are each different. This is especially true if spectators are determined by their ignorance and artists by their knowledge and experience, for different artists will bring different sets of knowledge and experience to bear on their spectatorship. They will thereby produce a diversity of spectatorial responses to a given work, each guided by their own individuality and creativity. It is easy to see why Nietzsche would find such aesthetic experiences to be greater than those of impersonal, naive, passive spectators.

Finally, Zangwill ultimately understands Nietzsche's critique of spectator-centered aesthetics as focused on its privileging of disinterested pleasure over other kinds of pleasures. That is, where Kant regards the kinds of interested pleasure available to artists as beneath the disinterested pleasures available to spectators, Nietzsche inverts this valuation. In this way, Zangwill's reading does not entail that Nietzsche rejects the notion of disinterestedness outright, but simply that Nietzsche thinks that interested attention is a more fitting way of regarding artworks.[17]

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[17] One of the distinctive features of Zangwill's reading of Nietzsche is its focus. He considers only the one passage in the *Genealogy* that has to do with Kant's aesthetics. Thus he sets aside Nietzsche's remarks about Schopenhauer in the same essay, and he consults no other work of Nietzsche's. So where many commentators—perhaps especially those with a "postmodernist" bent—might turn to the famous bits of Nietzsche's writing in which he claims in one way or another that an objective "view from nowhere" perspective is perhaps impossible and in any case unappealing, Zangwill simply allows one passage to speak for itself.

These three insights--that, in at least some cases, a person with artistic knowledge and experience is in a better position to respond to a work of art than an ignorant, inexperienced one; that, given the wide diversity of artistic creativity, artists will likely respond more divergently, and thereby more insightfully, than naive spectators likely will; and that there are a variety of aesthetic pleasures that can be weighed so as to emphasize the interested modes of pleasure rather than the disinterested one--are revealing of some of the ways in which an aesthetics might be spectator-centered.   These three insights have much to recommend them--they are persuasive as considerations that Nietzsche might make, they are persuasive as considerations against a spectator-centered aesthetics, and, most importantly for present purposes, they help to define what such a spectator-centered aesthetics consists of.

But this reading does not make use of all of the possibilities within Nietzsche's critique of spectator-centered aesthetics. The slogan form of Zangwill's reading--artists are better spectators than mere spectators are-- brings an ambiguity to light. Zangwill's reading relies on the concept 'spectator' to specify both (a) the role or activities of spectatorship, which can, in principle, be enacted by anyone and also (b) an artistically naive person capable of only a passive engagement with art. This ambiguity at the very least suggests that there is another way in which a theory of the aesthetic can be understood to be spectator-centered--namely, by centering on the role and activities of spectatorship to the neglect or exclusion of other aesthetic roles and activities.

This more radical reading of Nietzsche's critique of spectator-centered aesthetics still allows for the insights that Zangwill's reading yields, but also makes room for the idea that aesthetic experiences are possible in people who are not, at the time, occupying the role or enacting the activities of spectatorship. That is, in addition to pointing out that artistic

knowledge and experience and interest can give rise to greater spectatorial experiences, Nietzsche suggests that we can also regard artists' experiences of *making* art as properly aesthetic.

Though Nietzsche raised this critique in a book first published in 1887, and though his contention that it applies to *all* philosophers is surely an exaggeration, it is nevertheless the sort of criticism that one might be tempted to make of the field of aesthetics today. Consider, for example, how much more dominant are debates about spectator-centered concepts (e.g. aesthetic experience, aesthetic judgment, emotional responses to artworks) than artist-centered concepts (e.g. creativity, expression). This imbalance suggests that, even if philosophers of art and aesthetics have accepted Nietzsche's point that the philosophy of art and aesthetic is not exhausted by thought about spectators and their experience, they have continued to privilege spectator-centered aspects over artist-centered ones.

Nietzsche, polemical as usual, seems to suggest that, of the two centers (spectator or artist), it is the artist-centered approach that is superior. But we might also accept his insight in a more pragmatic frame of mind. That is, we might reject the suggestion that aesthetics must be either spectator-centered or artist-centered, but accept the suggestion that our conception of it can be expanded by expanding the scope of our consideration to include perspectives other than just that of the spectator.[18] This, in turn, would lead us to notice that *spectator* and *artist* are not the only perspectives (or roles) with which persons interact with artworks. We are also *collectors* and *curators* and *conservators* and *restorers* and *manufacturers* (of art-materials and art-tools).

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[18] I do think that this is a plausible reading *of* Nietzsche, and perhaps even more plausible than the one that regards him as posing a dichotomy, given other commitments (namely, to perspectivism). But in the passage in question Nietzsche forcefully sides with Stendhal against Kant. In any case, Nietzsche exegesis is beyond the scope of this dissertation.

And those are just some of the more high-minded roles we adopt: we are also *consumers*,

dealers, *buyers*, *sellers*, *exploiters*, and, increasingly, *investors* or *speculators*.[19]

The tendency to center accounts of the aesthetic on spectators contributes to the

philosophical disenfranchisement of instruments primarily by marginalizing the concerns and

processes of other constituents of the aesthetic. Among these many constituents, spectators are

in the best position to deny or disregard instrumentality, since these other roles often put

instrumental processes associated with artworks front and center. This suggests that, by focusing

their attention almost exclusively on spectators and spectatorship, philosophers of art often avoid

or simply disregard the instrumental processes associated with artworks. This approach also

militates in favor of the dispensability of musical instruments for the philosophy of music. If the

aesthetic is a spectator-centered phenomenon, then there is no obvious reason why an

investigation of artistic practices and processes should be revealing.

2.4 Instrumentality Disavowed

Each of the three assumptions of the philosophical disenfranchisement of instruments--

anti-instrumentalism, the traditional conception of instrumentality, and spectator-centered

aesthetics--have the upshot of disavowing the instrumentality of instruments. By this, I mean

that they suggest that instruments are worthy of attention and inquiry primarily when the fact of

their being instruments--their instrumentality--can be set aside. This is perhaps most obvious as

a consequence of the disinterestedness thesis. By regarding aesthetic attention as essentially

divorced from other interests, aesthetic anti-instrumentalism implies that objects can be

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[19] An interest of mine that is largely beyond the scope of the present inquiry, but which has a good deal of resonance with it, is the question of the implications of the fact that artworks are treated (and traded) as commodities for the philosophy of art and aesthetics. That artworks are so treated and regarded is beyond question. Robert Hughes, one of the most forceful writers on this topic, calls art trading the second largest unregulated market after that for drugs. See "Art and Money" in his (2015).

aestheticized, that it is possible to regard an instrumental object aesthetically by viewing it from a disinterested perspective. Aestheticization of this sort is precisely why so many 19th century novelists seem to have regarded aesthetes as villians: rather than attending to ethical matters, an aesthete is liable to get lost in his disinterested appreciation of formal qualities; rather than attending to a person in pain, he may simply admire the beauty of a tear streaming down a cheek.[20] But aestheticizing does not only blind us to ethical qualities; it can also blind us to instrumental ones.

Consider, for example, the Metropolitan Museum's exhibit of their large collection of musical instruments. One of the highlights is a large display of brass instruments, which includes examples of familiar instrument-types (e.g. trumpets and French horns), but also examples of types that are far less common (e.g. serpents and ophicleides). These instruments are suspended in a large vitrine that, in a way, resembles an aquarium stocked with fish. This allows visitors to view the instruments--many of which are situated well above eyeline, perhaps as high as nine or ten feet from the floor--from multiple vantages. This arrangement invites viewers to be amazed by the array of instruments and to take stock of the visible properties of the instruments, which are, of course, behind glass. It is apparent that some of these instruments are gleamingly shiny while others are dull, that some of them are quite compact and others expansive, some stark and others highly decorated. What is not apparent is what these instruments are. To find out their types and the date of their building, a chart at the bottom of the case must be deciphered. And, more to the point, there is little indication of how these instruments work. There is no explanation of how the instruments were made or what a

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[20] Kierkegaard (1987) uses the example of an aesthete amusing himself by provoking a boring person into an apoplectic fit in order to watch a drop of sweat run down the bore's nose, but I have taken license to imagine an even more dramatic scenario.

performing musician might do with any of them.[21]   This is museum practice that, by downplaying the practical aspects, disavows the instrumentality of these instruments. It invites spectators to view them without regard for their instrumentality, and, therefore, leaves out something quite important.

Similarly, spectator-centered aesthetics also participates in the disavowal of instrumentality by conceiving of the aesthetic as the sole province of spectators. Above, I read Nietzsche's objection to Kantian aesthetics as suggesting that some experiences artists have while engaged in the activity of art-making are aesthetic experiences. But spectator-centered aesthetics does not make room for this possibility. Thus spectator-centered aesthetics militates in favor of disavowing the instrumentality of art-making, both from the artist's and the spectator's point of view.

2.5 Artworks as Products

Philosophers of art have, in general, focused much more of their attention on artistic *products* than on artistic *processes*.[22] For example, the large and expanding literature on art and emotion is almost exclusively concerned with how it is that spectators' attention to artworks (products) can result in the arousal of emotion, rather than being concerned with processes like the artistic techniques and practices that enable artist to provoke these emotional reactions and to

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[21] There are, scattered throughout the musical instrument gallery, screens that periodically show videos of someone playing one of the instruments (e.g. Rihannon Giddens demonstrating an early American banjo. But these play only infrequently and demonstrate only a few select instruments, none of which were, at the time of my last visit, from this large display of brass instruments.

[22] This claim is not original with me, and, indeed, there are at least two very clear statements of it using precisely the same terminology ('products' and 'processes') and many of the same considerations I use. They are Walton's "Style and the Products and Processes of Art" in his (2008) and Sartwell (1995). Further, something very much like this claim is one of the reasons for Yuriko Saito's departure from "art-centered aesthetics" in *Everyday Aesthetics*. It is also on display in the aesthetics of John Dewey (1934) and those who have been inspired by Dewey (e.g. Richard Shusterman's "somaesthetics").

communicate about their own emotional experiences.[23] Similarly, recent debates about art and

morality are generally much more concerned with the moral judgments spectators make about

elements of artworks (especially characters and their actions) and the impact those judgments

have on spectators' experiences than with the processes artists use to provoke such judgments

and, further, what they thereby do (or mean or communicate) by so provoking their audiences.[24]

In both of these cases, artistic processes are overlooked in favor of artistic products.

What's more, artistic processes are not the only processes associated with artworks. For

example, artworks that have some physical component are often subject to the process of

conservation and restoration. For obvious reasons, these restorative processes are most apparent

in works of visual art, such as paintings and sculptures, but there are analogue processes in

artforms that are much less tied to concrete objects. Because many pieces of Western Classical

music exist in multiple, variant scores, for example, musical performers rely on score editors to

produce both critical commentaries on the divergent scores and "urtext" editions that are

designed to minimize errors and omissions and, thereby, to preserve and make available the

composer's original intent. Similarly, performers in this tradition also rely on research into

historical performance practices to inform their approach to playing works of the past. This

includes both learning of the techniques used by past players (by, for example, consulting

treatises and method books[25]), and also acquaintance with the instruments that past players used.

These are, to be sure, processes for conserving techniques and practices, but they are also vital

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[23] There are, of course, exceptions to this generalization, in particular Tolstoy's (1996) idea that artists cannot express emotions that they have not experienced first-hand, and Collingwood's (1938) notion that "art proper" is distinguished by its being a working out of the artist's emotions. However, both Tolstoy and Collingwood are more concerned to describe these processes than to investigate them in detail, and, in any case, neither has won many converts in recent debates.

[24] This literature is also huge and growing. Central examples include Carroll (1996) and Gendler (2000). One exception is Eaton (2012), which is concerned not only with making moral judgements of art-products, but also with the artistic achievement of inducing spectators to both make a negative moral judgment of a character and also to sympathize with this "rough hero."

[25] Perhaps the most famous treatise on keyboard playing is C.P.E. Bach's (1948).

for preserving, in performances of the piece, those elements of historic compositions that are not explicitly communicated by scores themselves.

Similarly, many philosophers of music think of musical performance primarily as an object rather than an activity. This line of thinking is not objectionable on its face, for it is common and useful to appreciate, compare, and discuss the features of different performances of a piece of music, and such conversations can be revealing both about performers and about pieces of music. But it is worth remembering that the product-sense of 'performance' is not the only one, for performance is also a process that, in the Western Classical tradition, involves settling on which score will be used, which techniques, which particular instrument, what venue, and so on.

In an early paper, Kendall Walton outlines what he calls the "cobbler model" of art. On that model, the institution of art is understood as having three components: the creator (artist), the product (artwork), and the consumer (spectator). This is analogous to the three components (cobbler, shoes, and customer) that feature in the transaction between shoe-makers and shoe-buyers. For shoes, what matters is how well they fit the customer's specifications and feet. Applied, by analogy, to artworks, the cobbler model has it that what matters most in the "art transaction" is the quality of the spectating experience afforded by the work. Artists who create works that spectators enjoy are like cobblers who make popular, comfortable shoes, but artists who create works that are, for whatever reason, less appealing are worthy of the same criticism that befalls poor cobblers. This model regards artworks as products judged by how well they please spectators.

Anti-instrumentalism and spectator-centered aesthetics both issue from something like the cobbler model of art, and they both commend our attention to artistic products rather than artistic processes.

2.6 The Genius-Model of Creativity

We often credit artistic--and, as we shall consider below, technological--advances to heroic individuals. Faced with an extraordinary achievement, a common explanation is that one person was able to do what others could not do. In this vein, art is widely regarded as a province of geniuses. Many artworks are monumental achievements that require not only practical skills, such as planning and executing the processes required for making the artwork, but also such intangible things as vision and drive. The activity of art-making, then, often seems mysterious-- even mystical. Who could do it but a singular genius?

One version of artistic anti-instrumentalism holds that the artistic process is not instrumental in the traditional sense. Collingwood, recall, distinguishes art-making from craft- making along these lines. A similar artistic anti-instrumentalism is on display in Kant's aesthetics. For Kant, the aesthetic is essentially non-conceptual. Perceiving an object as beautiful is not a matter of grasping or applying concepts, and neither is making a beautiful object. This means that the aesthetic is, in a certain sense, arational. Beauty is not rule-bound. There is no formula that spectators can use to experience an object as beautiful and there is no algorithm that artists can use to ensure their artworks exhibit a high degree of aesthetic value. Instead, beauty just happens, often is ways that are unpredictable and astonishing.

Nevertheless, according to Kant, "every art presupposes rules." (2000: §46) What exactly Kant means by this is subject to some debate, but, as with his idea that beauty is non-

conceptual, it does have some intuitive pull. There are artistic elements that are consistently pleasing, things like landscapes as a subject of paintings and photographs, sonnets as a form of poetry, and ending a melody on the tonic in music. Trends such as these can lead to even more specific rules, such as, in music, the rules of counterpoint or sonata form, in poetry, rhyme and meter schemes, in painting, rules of perspective and proportion.

These two ideas--that beauty is not rule-bound and that art presupposes rules--are in significant tension with one another, given the ever-present and often unstated premise that the primary aim of artworks is beauty or aesthetic pleasure. To resolve this tension, Kant appeals to the notion of genius. Artists, according to Kant, are special in that they are able to follow the rules of an artform so as to produce beautiful objects, but they do so not through the force of intellect, but because they possess the capacity to, as it were, follow the rules without knowing or being able to articulate them.

Of course, these two notions of artistic genius are not the only ways of understanding the phenomenon, but they are instructive--especially since they both rely on anti-instrumentalism. Indeed, the genius-model of creativity is also an upshot of spectator-centered aesthetics, for there certainly are elements of art-making that are intangible and perhaps even ineffable. Nevertheless, art-making is something that can be--and regularly and systematically is--taught and learned. What's more, some artists can talk sensibly about the processes they use and even certain procedures and rules they follow to achieve particular specified ends. Some of these procedures and rules grow out of traditional artistic practices that are used and developed by many artists across time and space that, together, constitute something like an art-making subculture.

Artistic anti-instrumentalism and spectator-centered aesthetics, together with their upshots of the disavowal of instrumentality and the product-oriented view of artworks, encourage us to disregard artistic processes in general and the instrumentality of art-making in particular. This surely contributes to the notion that the artistic process is essentially mysterious and that great artists must be heroic geniuses.[26]

2.7 The Dispensability of Musical Instruments

Finally, and most importantly for present purposes, another upshot of the philosophical disenfranchisement of instruments is the dispensability of musical instruments. There are two different dispensability theses: one concludes that musical instruments are dispensable for the philosophy of music, and one concludes that instruments are dispensable for music itself. Let's briefly consider each in turn.

First: the dispensability of musical instruments for the philosophy of music. Above, we saw that the traditional conception of instrumentality, aesthetic and artistic anti-instrumentalism, and spectator-centered aesthetics result in a conception of art and the aesthetic that is characteristically anti-instrumental. Taken together, they construe art-making as non-instrumental, aesthetic experience as consisting only of those spectators' experiences that are divorced from instrumentality, and aesthetic attention as the proper mode of attending to artworks. From this perspective, the relation of musical instruments to music seems not to amount to much. Instruments themselves could be aestheticized, but this is perhaps best achieved when there is not a musician present to obstruct the view. Spectators could take interest in how performers use and interact with their instruments to produce musical effects, but this attention is not aesthetic, since it involves instrumental concerns, and non-aesthetic attention

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[26] Nochlin (1971) includes a cogent feminist critique of the genius-model of creativity.

to musical art is improper. Musicians could take interest in the music they are currently engaged in playing, but this, too, is non-aesthetic and improper. The philosophical disenfranchisement of instruments tells us that there is really nothing of substance that we can learn about music by considering musical instruments.

Second: the dispensability of musical instruments for music. The most prominent example of this dispensability thesis is the philosophical account of musical work ontology called *sonicism*. According to the several variations of that view, musical instruments are but one means among many for producing music, which, as the name of the view suggests, is ultimately just sound. From this perspective, no necessity or normativity demands that a performance of a given work follow the composer's instrumentation instructions in the score. A harpsichord suite by Bach can be performed on a harpsichord, a piano, a xylophone, or by the scat-singing Swingle singers, but, so long as they present the identifying sounds of the piece (sometimes understood as its melody, harmony, pitch, and rhythm), none has any greater claim to being a performance of the work than any other.[27] This way of thinking preserves the readily observable fact that performances that are recognizable as performances of a given musical work can be made with quite a wide variety of different means. However, it also suggests that musical instruments are only contingently related to musical practices, such as composing and performing.

Both of these dispensability theses disenfranchise instruments. The dispensability of musical instruments for the philosophy of music tells us that instruments and instrumental aspects of music are not just irrelevant for the philosophy of music, but also that they are unreliable sources of information about the phenomenon of music. The dispensability of musical

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[27] This list is Scruton's (1996: 20).

instruments for music further implies that instruments are not even integral to the practice of

music.

3. Instruments and the Philosophy of Music

Let's turn, now, more squarely toward the philosophy of music.

In Chapter 2, we saw that familiar and influential views about basic issues in aesthetics and the philosophy of the arts underwrite or participate in the philosophical disenfranchisement of instruments. That philosophical trend regards instrumental value as derivative of intrinsic or final value, instrumentality as a highly arbitrary relation, and instruments as untrustworthy sources of information about the domains in which they are used. This line of thought suggests a basis for answering the question, posed at the outset, of why philosophers of music have relatively little interest in musical instruments, even though, as Alperson (2008) reminds us, they are central to our experiences of and practices around music: the disenfranchisement of instruments commends philosophical attention away from instruments and instrumentality.

In this Chapter 3, I will further develop this account of the paucity of philosophical interest in musical instruments by considering some of the ways that the philosophical disenfranchisement of instruments impacts the philosophy of music. In particular I will, across three sections, sketch out a general approach to music characterized by its broad acceptance of the three assumptions and four upshots that constitute the philosophical disenfranchisement of instruments. I call this the *work-centered approach* to music because, as we shall see, it generally regards the concept 'musical work' as the primary object of investigation for the philosophy of music.[28] To be clear, I do not present the work-centered approach as an interpretation of the considered views of any one or several philosophers of music. Rather, like the philosophical disenfranchisement of instruments, I regard it as indicative of a general trend in which many philosophers of music participate to a greater or lesser degree. One of the main

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[28] Matteo Ravasio (2019) critiques the treatment of historically-informed performance by several philosophers of music, in part, on the basis that it is 'work centered.' Ravasio is one of a very small number of philosophers of music who have pursued anything like the instrument-centered approach to music, as I understand it.

aims of Chapter 3, then, is to address, in greater detail than in Chapter 2, the reasons for the

neglect of instruments in the philosophy of music.

Another main aim of Chapter 3 is that of sketching out an alternative to the work-

centered approach to music, the instrument-centered approach, which proceeds from a position

something like the one sketched in the quotation with which this dissertation began:

> ...it is the musician playing the musical instrument that is at the core of [musical]
> practice. All other thoughts of music are parasitically or metaphorically based on
> this idea. (Alperson 2008: 37)

One of the most basic differences between the work-centered and the instrument-centered

approaches to music are the basic assumptions they make about the nature of music itself and, on

that basis, the methods they adopt for investigating it. The work-centered approach to music

focuses on music's most abstract elements, such as questions about the identity and persistence

conditions of works of music. It also adopts something like an "error theory" of music, in that it

characteristically regards appeals to the testimony of musicians about music and to musical

practices as misleading or simply irrelevant for the philosophy of music because it is not

necessarily rooted in philosophical understanding of musical ontology.[29]

By contrast, the instrument-centered approach thinks of music primarily in terms of its

materials and practices. That is, it regards music as what some philosophers, after the work of

Wittgenstein and other "Ordinary Language Philosophers," call a "cultural practice." Briefly,

this is a technical term for an activity that is constituted by implicit rules or conventions that, in

part, determine the size and shape of the various roles or offices that participants in the practice

may or must adopt. Importantly, these roles may be taken up by human participants, but they

may also be played by inanimate objects. Taking one of Wittgenstein's perennial examples, the

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[29] Stephen Davies (2008) criticizes Julian Dodd's account of work ontology on this basis.

game of chess, we can see that there are roles for exactly two humans (the player playing white and the player playing black), but there are six different roles played by chess pieces (pawn, rook, knight, bishop, queen, king). These roles determine what each of the participants may do within the game: the player playing white moves first, the bishop moves only along diagonals.

Some cultural practices, like chess, are relatively rigid in their adherence to and enforcement of their constitutive rules. Though other circumstances surrounding the playing of chess have changed, the pieces move today according to the same rules that governed their movement many centuries ago. Other cultural practices, such as language use, are constantly in flux. Some variations of linguistic norms and conventions are ultimately received not as deviations, but as innovations taken up by the practice. In this fashion, some cultural practices regard their conventions not so much as rigid prescriptions, but as a more or less flexible framework within which and against which mutations occur and undergo something like the evolutionary process of natural selection. In this latter sort of cultural practice, participation itself is an active engagement with the constitutive rules, for participants' activity may effect or enact subtle shifts in those rules, but, equally, other participants may appeal to the rules to chastise or reject non-standard offerings. That is, negotiations between participants--both implicit and explicit--about what participation in the practice consists of is a component of these evolving cultural practices. What's more, the results of these negotiations shape the very practice in which they emerge, resulting in a kind of feedback loop.

The instrument-centered approach to music, as I conceive of it, regards music as a cultural practice that, like language use, is constantly evolving as participants make new contributions to it. Whereas the work-centered approach to music focuses on musical objects, such as works and particular performances of them, this practice-based conception of music is

focused on musical processes. One particular advantage of this way of seeing the phenomenon of music is rooted in the fact that, whereas the work-centered approach begins from the assumption that the unit of music is the work and then must contort itself by offering caveats to the effect that the music it considers as paradigmatic is "pure" Western art music, the cultural practice view of music expects musical diversity. Indeed, it commends recognition of many different musical subcultures that underwrite many different musical activities and conceptions of what music is, what it is for, and how it is made.

Like chess, music has important non-agential participants: musical instruments. Just as the appearance of chess pieces is less central to the practice of chess than their chess role is, the surface qualities of musical instruments are less central to the practice of music than their musical role is. According to the instrument-centered approach to music, this role is that of an active participant. As we shall consider in detail below, different instruments provide different affordances and impose different limitations. This is true across both what I shall call instrument-types (e.g. oboes, trumpets, pipe organs) and what I shall call instrument-individuals (e.g. this oboe, that organ). For example, clarinets as a class provide a range of musical possibilities that are not available to violins as a class, but, further, some individual clarinets support musical activities that other clarinets cannot sustain. What's more, instrument-types evolve as their musical subculture evolves. Features of their music-making that were once seen as pleasing and useful, for example, can come to be seen as old-fashioned and hindering. These changes in musical opinion sometimes lead to changes in instrument technology. But technological developments can also influence musical activities, as when the invention of the fortepiano in Western musical culture prompted composers like Haydn, Mozart, and Beethoven to devote a good deal of their significant compositional activity to exploring and exploiting its

musical possibilities. In this way, instruments themselves are both shaped by and shaping of their musical culture in roughly the same way that the musical activities of performers and composers are both shaped by and shaping of their musical culture. From this perspective, instruments are thus participants in the cultural practice of music just as much as human musicians are.

As Peter Lamarque puts it, this conception of a cultural practice is "analytical" rather than "sociopolitical." (2010) Regarding music as a sociopolitical practice involves empirical consideration of things like the material conditions under which musicians work, the influence of factors like race, gender, and socio-economic class on music-making and its reception, and practices in the music industry around the publication of scores and recordings, the hiring and compensation of musicians, and the effects of commercialization on musical practices. To be sure, these things are all of interest, and, in keeping with various movements in critical and cultural theory, this mode of inquiry has been well-represented in various aspects of music scholarship, including musicology, music theory, and music history. By contrast, the analytical approach of Ordinary Language Philosophy does not pursue an empirical investigation, but rather a certain sort of conceptual one. In particular, this conceptual analysis is interested in how concepts are used and understood within a given cultural practice, and it seeks to clarify and make explicit the underlying conventions and rules that govern the practice.

Investigating music in this way entails rejecting the error theory, for it regards participants' musical actions and understandings as partially constitutive of the phenomenon of music, and, therefore, as valuable sources of information about music. But it does not require uncritical acceptance of everything that's been said about music by musicians. For one thing, there will surely be conflicting reports from different musicians--and even, perhaps, from the

same musician whose thinking about music has changed over time. Instead, the analytical approach to music as a cultural practice proceeds by, for example, (1) examining specifically delineated musical roles and practices (not composing in general, but more precisely defined activities like tunesmithing, harmonizing, and instrumentation; not performing in general, but various sorts of playing such as practicing, sightreading, informal performance, and formal performance), (2) examining the practices around the use of musical concepts within the context of musical practice, and (3) discerning what the constitutive rules underwriting a musical subculture consist of and how they have been subject to the evolutionary forces of the feedback loop between them and musical participants.

With these main aims in mind, Chapter 3 is divided into three sections, each of which identifies aspects of recent work in the philosophy of music that participates in the philosophical disenfranchisement of instruments by adopting a work-centered approach to music. Each of the three sections also offers an alternative way of understanding the musical phenomena under discussion, one that is instrument-centered. Of necessity, these sketches of aspects of an instrument-centered approach to music will involve detailed consideration of both musical instruments themselves, especially their materiality, history, and technology, and also various musical practices that involve instruments.

Thus, 3.1 is focused on two different examples of anti-instrumentalism in work-centered philosophy of music. First, the acousmatic account of musical listening, which is an instance of aesthetic anti-instrumentalism, for it holds that proper attention to music is essentially disinterested in several important respects. Second, the trend in the philosophy of music of regarding so-called "pure" music as paradigmatic. This trend is an instance of artistic anti-instrumentalism, for it suggests that central cases of music must have neither instrumental

content nor usefulness. In addition to their anti-instrumentalism, these two work-centered views of music also participate in spectator-centered aesthetics, the assumption that the only locus of aesthetic experience is within a spectating subject. They also both issue from the traditional conception of instrumentality. The instrument-centered response to the acousmatic account of listening and the habit of regarding "pure" music as paradigmatic, then, will address all three of these aspects of the philosophical disenfranchisement of instruments.

The focus of 3.2 is on musical concepts, and, in particular, the ways in which philosophical uses of musical concepts diverge from uses of those same concepts within the context of musical practice. Particular attention is paid to the concept 'timbre,' which has, under the influence of Julian Dodd, recently become an important concept in debates about the ontology of musical works and authenticity in the performance of them. Dodd's use of 'timbre' is, in several important respects, incompatible with uses of the concept within musical practice. I do not claim that intra-musical uses of musical concepts are always the measure of "correct" usage; indeed, I suspect that claim is false. Rather, the mismatch is significant because it demonstrates that Dodd's conception of timbre--one that is adopted by other philosophers, including some that are highly critical of Dodd's work on music--is both more coarse-grained and thus more limited than standard musical conceptions of timbre. This is a case in which attention to the details of musical practices with instruments sheds light on aspects of music that are central to the phenomenon yet overlooked by much philosophy of music. Dodd's conception of timbre exemplifies several elements of the philosophical disenfranchisement of instruments, especially the disavowal of the instrumentality of instruments, the product-oriented view of artworks, and the dispensability of musical instruments for both the philosophy of music and for music itself. The instrument-centered response will, therefore, offer a line of thought that

embraces instrumentality, is oriented toward musical processes, and, of course, that centers on musical instruments.

Section 3.3 is primarily concerned with another aspect of music that is generally overlooked by the work-centered approach: musical instrument technology. It begins with a discussion of technological development in general and identifies two different models of such change. One pervasive model focuses on the discontinuity between a new invention and its predecessors, regarding some innovations through the lens of the metaphor of political revolution. A less common but ultimately more persuasive model of technological change focuses on the continuity between a new invention and other artifacts, which, in some cases, stretches back thousands of years (Basalla 1988). Rather than thinking of technological change in terms of revolutionary political upheaval, this latter model thinks of it as evolutionary, as consisting of small mutations over long time periods. The discontinuous account of technological change is a straightforward example of the genius-model of creativity, and the continuous account is an example of an alternative, craftsmanship-model. This discussion of instrument technology also confronts spectator-centered aesthetics, since it demonstrates that it is not just composers and performers that do aesthetic work in the domain of music, but also instrument builders and technicians.

3.1 Musical Instrumentality

In the discussion of anti-instrumentalism above (2.1), we focused on two different iterations of the phenomenon defined by the practice, common in aesthetics and the philosophy of art, of distinguishing the *artistic* from the *aesthetic*. Thus we considered an example of aesthetic anti-instrumentalism--Kant's disinterestedness account of aesthetic experience and

judgment, which holds that aesthetic experience is necessarily anti-instrumental--and an example

of artistic anti-instrumentalism--Collingwood's distinction between art-making and craft-making,

which holds that art-making is constitutively anti-instrumental. We further saw that, because of

the prevalence of both aesthetic anti-instrumentalism and the assumption that the proper aim of

artworks is producing aesthetic experiences in spectators, aesthetic anti-instrumentalism is often

understood to suggest or imply artistic anti-instrumentalism.

In this section, I will discuss one example of aesthetic and one of artistic anti-

instrumentalism in the philosophy of music.[30] First: many philosophers of music explicitly

defend or implicitly accept the *acousmatic* view of musical listening. According to that view,

listening to music is different from hearing ordinary sounds in that the source of the sound is

irrelevant when attending to music. According to the acousmatic view of musical listening, all a

listener must attend to in order to fully appreciate and understand a work of music are its tonal

relations. The acousmatic view of listening is an example of aesthetic anti-instrumentalism,

since, like Kant's disinterestedness thesis, it holds that proper aesthetic attention to a work of

music involves ignoring all but its intrinsic appearance qualities.

Second: many philosophers of music adopt the tactic of taking "pure" music, music that

has no extra-musical content, such as an associated text or narrative, as the paradigm case. There

are, to be sure, advantages to adopting this method of investigating music, in particular,

restricting such investigations to music that seemingly has only musical content assures the

investigator that she will not mistake non-musical properties and effects for musical ones.

Nevertheless, focusing on "pure" music to the exclusion of such musical phenomena as music

for theatre (e.g. opera, musical theatre, ballet and other dance music, incidental music for plays),

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[30] In 2.2, I will discuss another sort of anti-instrumentalism in the philosophy of music, one that surely owes
something to the lines of thought under discussion here, but that gives an anti-instrumentalist answer to the more
specific question of the nature of the relation of musical instruments to music.

music for worship (e.g. hymns and other religious songs, chant, instrumental settings of familiar religious melodies), and music for film (e.g. scores, songs) leaves out music that, as the main reason for its exclusion suggests, has a complex relationship with its extra-musical content, context, and associations. Further, the exclusion of such musics is an instance of artistic anti-instrumentalism, since, for example, it does not regard music created for a specified purpose as properly musical.

I have thus far contended that the philosophical disenfranchisement of instruments is prevalent, that philosophers are generally in the habit of disregarding or dismissing instrumental phenomena (e.g. instruments themselves, instrumental value, instrumental properties), and sometimes even define a topic of philosophical inquiry by explicitly setting it apart from instrumentality. I suspect that this is why instrumentality itself is rarely discussed with much nuance or precision. Philosophers tend to proceed as if intrinsic or final value is a rich, complex phenomenon posing many puzzles, but that the nature of instrumental value is either obvious (when it leads to an intrinsic or final value) or trivial (when it does not). They can debate *ad nauseum* the relation between 'is' and 'ought' or 'ought' and 'can,' but have relatively little to say about the relation between means and end, except to assume that such a thing exists and that it is straightforward. I suspect that this general attitude toward instruments and instrumentality has left us in a situation in which those phenomena are not well-understood. With this in mind, I will also, in this section, draw a distinction between two different modes of instrumentality, which is not generally recognized from within the traditional conception of instrumentality. Further, this distinction is, in at least some cases, more philosophically useful than other methods of delineating different types of instrumentality, including the aesthetic-artistic distinction.

3.1.1 Aesthetic Anti-Instrumentalism in the Philosophy of Music: Acousmatic Listening

Perhaps the most common example of aesthetic anti-instrumentalism in the philosophy of music is the *acousmatic* account of musical listening. On that view, the experience of listening to music is characterized by its lack of interest in the sources of the sounds. Acousmatic listening, that is, is not concerned with things like the instruments, performers, or techniques that produce sounds, but only the sounds themselves. Such a view suggests a distinction between musical sounds, which are often in this connection called 'tones,' and mere noise or non-musical sound. Whereas in hearing ordinary sounds we often seek their source (What's that buzzing?, Whose phone is ringing?, Why is my chair squeaking all of a sudden?), our experience of musical sound is, according to the acousmatic account, is one that involves no interest in the sounds' sources.

The primary reason we seek the source of ordinary sounds is because attending to an ordinary sound conveys information about its source. As anyone who has driven a stick-shift car knows, the sounds an object makes can be informative and useful, since drivers can easily learn to discern when to shift, and in which direction, from the sound of the engine alone. Likewise, the sounds made by animals, including humans--even those that are not linguistic, conventional, or symbolic--can convey significant information about, for instance, how they are faring and what they might need or want. In such cases, the source of the sound matters a great deal, because the sound itself serves simply as a means of gathering information about it; the object of attention in these cases is not the sounds themselves, but the source of the sounds.

By contrast, according to Roger Scruton, perhaps the most eloquent defender of the acousmatic account of musical listening, "the acousmatic experience of sound is precisely what is exploited by the art of music." (1997: 3) For Scruton, then, the capacity to sustain and repay

acousmatic listening is central to music as an artistic medium. Such a view is common among philosophers who, like Scruton, adopt a structural or architectonic view of music, since from such a point of view, what matters in listening to a piece of music with understanding is not the specific cause of the sound, but rather the relation of a given sound (or tone) to the others that constitute the piece.[31] Tonal music, the centerpiece of Western musical culture and also a component of other musical cultures, is a ready example of the acousmatic view, since tonality is itself an organizing principle of music based on the relation between tones.[32]

In this way, the acousmatic view of listening is a way of thinking about music that is typically focused on the concept 'musical work,' as it is typically understood in the philosophy of music. By presenting an account that characterizes musical listening as concerned only with the internal relations of the individual tones that comprise the sound sequence that comprises the musical work, the acousmatic view is what might be called a "gestalt" account of musical listening. That is, it holds that the aesthetic value of a given stretch of music is determined by the relation of its parts to the whole.

Whereas for Scruton the acousmatic view of listening is the basis for a largely descriptive account of music, Nick Zangwill's statement of acousmaticism is a largely prescriptive account of what he--following many predecessors, but especially the Kantian music theorist Hanslick--regards as the proper way of listening to music. Zangwill writes,

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[31] Scruton (1997) holds that music is organized sound. Another prominent defender of this view is Kivy (1990).

[32] The tonal system at work in the tonal music of Western musical culture is based on the octave, which, in its most familiar variation (which became the dominant one in the 19th century) can be divided into 12 semitones (half-steps) to produce a chromatic scale, or into scales with 8 degrees, either major or minor, the two most commonly used "modes." Modes themselves are organizing principles that determine which notes appear, and in what order, in a scale. This, in turn, determines the boundaries of melodic and harmonic possibility. Earlier tonal music was based on one or another system of modes, each containing about 7 different modes (none of which include the now-ubiquitous major and minor modes). Other musical cultures have still other tonal systems that vary not only the intervals between the scale degrees, but also the number of notes in the scale.

Seeing music as a human product, as people playing instruments, achieving goals, and as historically and politically situated, is all a misunderstanding and devaluation of the awesome elevation that musical experience can be. (2012: 389)

Like Scruton's, Zangwill's account of musical listening demands that listeners focus only on internal musical properties, but, here, Zangwill makes clear that his brand of acousmaticism is very closely aligned with Kantian aesthetics. Zangwill thinks of the aesthetic experience of music as characteristically disinterested, and, following his interpretation of Kant, we can understand his list of experiences of music that devalue it as laden with the subject's desires.

The acousmatic account of musical listening is, in the end, a form of aesthetic anti-instrumentalism. Whereas Scruton puts the point in a general way, by saying that it is possible for listeners to attend to sounds without considering their source and that music as an artistic medium exploits this kind of attention, Zangwill marks out some specific ways of listening for skepticism. And where Scruton's acousmaticism is the basis for a descriptive account of the art of music, Zangwill's is a prescription that grows out of his largely Kantian conception of the most valuable way of experiencing music.

3.1.2 Artistic Anti-Instrumentalism in the Philosophy of Music: "Pure" Music

Many philosophical discussions of music begin by limiting the scope of the discourse to include only music that is meant to be appreciated without regard for any extra-musical content or associations. Such music is widely called 'pure' or 'absolute' music, or, somewhat less tendentiously, 'music alone.'[33] There are several advantages to adopting this constraint. For instance: because their extra-musical content and associations contribute to the qualities of instances of "impure" music, it will be difficult to distinguish which qualities issue from the

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[33] The last is Kivy's (1990) phrase.

music itself and which are in some way dependent on the extra-musical material. In considering some of the questions that have recently been of concern to philosophers of music, then, "impure" music will be a troublesome, rather than illuminating, case study. Such questions include 'How can music express emotion (i.e. sound sad)?' and 'Can music be representational?'. Since it is relatively plain how texts and stories express emotion and that they can be broadly representational, any expressive or representational qualities found in works of music that are associated with texts or stories may be the result of those texts or stories rather than the music itself. By taking "pure" music as the paradigm, such confusions are avoided.

There are at least two significant drawbacks to this philosophical focus on "pure" music: first, it offers only a constrained view of what counts, for philosophical purposes, as music, and, second, it assumes that "pure" music is ontologically prior to "impure" music, which assumption is neither insignificant not obviously true. I'll discuss each of these in turn.

Adopting "pure" music as the paradigm case is constraining along many dimensions. It, of course, confines discourse to Western music and thereby does not consider the many non-Western musics of the world.[34] But, importantly, it is also relatively constrained in its perspective on Western musical culture and its practices. One way of determining the "purity" of a given piece of music might be to consider how well it fits with the acousmatic account of musical listening, for they are both anti-instrumentalist and mutually supportive ideas. The greater a piece of music's capacity for sustaining and repaying acousmatic listening, the "purer" it is. This is yet another example of artistic and aesthetic anti-instrumentalism working together.

This overlap of anti-instrumentalist notions predicts--and philosophical practice bears out--that the philosophy of music will take most of its examples from and tailor their theories to fit Western music from what is sometimes called the long 19th century (roughly 1750-1910).

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[34] S. Davies (2001).

That was, to be sure, a very fertile period in Western musical culture: it includes the productive years of some of its greatest composers, including Mozart and Beethoven (to name but two very famous ones), spans the "Classical" and the "Romantic" periods in the history of Western music, and saw many developments in musical techniques and technology. Much of the music of the previous 150 years was centered around the Christian church, being composed for use in services, based on religious tunes and texts, or depicting Biblical scenes or themes. J.S. Bach famously appended the phrase "Soli Deo Gloria" (or its initials) at the end of the scores of much of his music, including both pieces expressly written for use in church and also some "secular" pieces. But by the middle of the 18th century, Western musical culture was, like most aspects of life in that time and place, centering less on the church and more on various secular venues. By the late 18th century, composers like Haydn, Mozart, and Beethoven were composing an impressive repertoire for the newly invented fortepiano, which soon replaced other keyboards (clavichord, harpsichord, and organ) as the instrument brought into homes, used by composers in aid of their composing, and learned by all serious musicians. By the early 19th century, Beethoven had shown the possibilities of using a very large orchestra, pushing that ensemble from a small band of string players into the massive and highly resourceful orchestras we know today.

It was developments like these that brought "pure" music to the forefront of Western musical culture. Decentering music from the church allowed composers to devise music free from constraints like liturgical usefulness and religious texts and themes. And technical resources like the fortepiano and the expanded orchestra made possible a much greater range of dynamics and tone color that allowed pieces of music to be much more varied. Further, as Lydia

Goehr (1992) argues, the 19th century is the period when the very concept of a musical work originated.

Earlier musicians and theorists, it seems, did not think of pieces of music as stable entities that subsist beyond the score and the performance. Rather, music-making was an activity tied to an occasion, often with at least one original piece composed specifically for it. Further, compositional principles were, to be sure, more rigid before the influence of Romanticism led composers to blaze new trails and flout old rules. Earlier compositions were not so much the novel work of a single individual as they were new settings of familiar tunes, variations (sometimes slight) on popular dance music, and rearrangements of common musical tropes. In this respect, composition was once much closer to improvisation than we are now accustomed to thinking of it. There is a kernel of truth to the old joke that Vivaldi was a prolific composer, but he wrote the same piece a thousand times. It is not that he lacked creativity, just that what composing largely consisted in was less heroic creation of lasting, novel works than clever application of musical tropes to suit a given occasion.

The common focus on "pure" music in the ontology, even when this focus is largely methodological, implies the ontological priority of "pure" music over "impure" music. That is, it is based on the assumption that music with extra-musical content is parasitic of music alone. It is not absolutely clear that this is the case, and the acousmatic account of listening helps us to see why. Music that is composed and performed so as to emphasize its acousmatic properties and to encourage and support acousmatic listening does indeed seem to make possible and even to invite the kind of musical experience described by acousmaticism. But many other sorts of music do not encourage nor do they sustain such attention.

Consider, for example, film music. Though it is possible to listen to some film music acousmatically when it is presented in isolation (e.g. on the soundtrack recording or in a standalone performance), such experience of it is neither invited nor appropriate to film music within the context of the film. Film viewers listen to the music, though sometimes without conscious attention to it, but they do not attend to it to the exclusion of the film. That would be to miss the point, for the music is a component of the film.

Similarly, many worship services across various religious traditions include musical components, and one type of worship music is congregational singing. In such music, members of the congregation are meant to participate. Of course, not all do--some regard themselves as musically illiterate or unskilled, but there is something quite powerful about singing together, which is also a secular activity. Congregational singing, then, is not a performance, for there are, in a sense, no spectators, but only participants--however active, inactive, skilled, or unskilled they may be. In this case, listening acousmatically would be inappropriate. But it would also likely be unsatisfying, for the product of congregational singing is not a polished performance. Instead, tempi are often slow and instrumental accompaniment is often designed less for musical interest and more for leading a large group through the song or chant. What matters in this case is participation in a musical group- activity.

Neither of these two cases, film music and congregational singing, are, in any obvious way, parasitic on art music that aims to provoke Zangwill's "awesome elevation" through disinterested contemplation of tonal relations. Film music does elevate films, and worship music does elevate liturgy, but certainly not through disinterested attention. This suggests that the ontological priority might very well be reversed, that "pure" music might be regarded as a

rarefied outlier, an offshoot of the music it regards as "impure," which is, by many measures, the more common and more popular form of music.[35]

3.1.3 Musical Instrumentalism: Instrumental Listening and Useful Music

Above, we considered two examples of anti-instrumentalism in the philosophy of music, one broadly aesthetic (the acousmatic view of musical listening) and one broadly artistic (the practice of taking "pure" music as paradigmatic). Let us now turn to considering what these anti-instrumentalist lines of thought suggest about the relation of musical instruments to music and how an instrument-centered approach to music would respond.

The acousmatic account of musical listening rather straightforwardly dismisses the notion that musical instruments contribute to the musical experience of listeners. Acousmaticism in general holds that musical listening is distinct from other modes of perceiving sound in that the source of the sound is irrelevant to its significance. As we shall briefly discuss below (3.2.1), Scruton's acousmatic ontology of music does not regard instrumentation as an essential feature of musical works, focusing instead on "purer" musical properties such as rhythm, melody, and harmony. This line of thought, together with Zangwill's claim that "seeing music as a human product, as people playing instruments…" contaminates the experience of it, demonstrates that the acousmatic account of musical listening sees little place for musical instruments to contribute to listeners' experiences of music.

Similarly, taking so-called "pure" music as paradigmatic--even if this stance is a methodological one--belies the assumptions that extra-musical content distorts or even undermines the musical content and that "pure" music is ontologically prior to "impure" music.

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[35] My point here owes something to Franco Moretti, who argues that literary studies should face the fact that most literature is not "high" and "great" (like, say, Tolstoy and Cervantes and Austen), but low-brow and popular like *Dashing Diamond Dick.* I'm grateful to Ruth Martin Curry for bringing this to my attention.

This means that music that originates as a component of some other activity or artform, such as music for worship and music for film, is, at least implicitly, regarded as deviant, since it does not aim to produce--and, in some cases, cannot sustain--acousmatic experience. Part of this deviance is such music's instrumentality, both its use value and the fact of its having been so used.

Though these two notions, the acousmatic account of musical listening and the "pure" music paradigm, are, in some respects, mutually supportive, they lead to somewhat divergent upshots regarding musical instruments and instrumentality. The former, which focuses on the aesthetic aspects of music, leads to the conclusion that attention to musical instruments and players' techniques is not properly musical experience. The latter, which focuses on the artistic aspects of music, leads to the conclusion that the instrumentality of a piece of music undermines its musicality. This opens two lines of response for the instrument-centered approach to music: one that seeks to valorize the practice of attending to music by attending to the instruments and techniques used to produce it, and one that seeks to expand on the traditional conception of instrumentality such that music with instrumental value and purpose need not be regarded as thereby "impure" or deviant.

The instrument-centered approach need not deny that acousmatic experience is an aspect of some musical listening, but it will certainly deny that it is the only or the best way of listening to all music. Indeed, 'acousmatic' is a useful concept for describing a certain sort of music-listening, but the instrument-centered approach denies that it can be the basis of either analyses of the concept 'music' or value judgments of particular pieces or performances of music. Some music, especially Western art music that cleaves closely to the principles of tonality, is especially well-suited for acousmatic listening, though it would be hard to say, without merely insisting, why every acousmatic experience of such music is in principle better than any non-acousmatic

experience of it. Other music, such as music that is atonal or that uses instruments or voices in ways that draw attention to their instrumental qualities, is not especially well-suited for acousmatic listening, and, again, it would be hard to say without simply insisting that it would be best to listen to it acousmatically or that it would be better as music if it were composed such that it better afforded acousmatic experience.[36]

Overall, the acousmatic account of music-listening recommends a highly focused, perhaps even a *constrained*, mode of attention to what can sometimes be a highly complex artistic event. Full-scale performances of large symphonies, such as Beethoven's ninth, require the coordination and concentration of hundreds of performing musicians playing difficult music for long periods of time. Occasional performances, such as Leonard Bernstein and the New York Philharmonic's performance of Mahler's *Resurrection* symphony after the assassination of John F. Kennedy, are weighted with significance. Pieces of useful music, such as those composed or adopted for use in worship or in film enriches the activities and objects in which they are embedded by, as it were, participating in the proceedings by reflecting and commenting on them. This strongly suggests that the musical significance of such pieces is bound up with their significance as components of worship or of film. The acousmatic account of listening denies that these apparent sources of significance are sources of *musical* significance, insisting as always that disinterested aesthetic attention is all that's required to fully appreciate such music.

By contrast, the instrument-centered approach to music focuses on the totality of the musical situation, and suggests that full understanding and appreciation requires broad rather

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[36] It is very tempting to think that there are many more examples of this sort of music than of the sort that is straightforwardly acousmatic, though it is hard to know what would count as sufficient evidence for the assertion of such a claim. Suffice it to say, for now, that Schoenberg's serial compositions are prototypical of a certain sort of atonality, John Cage's pieces for prepared piano are examples of music that uses an instrument in unexpected ways and thereby commends a kind of listening that is concerned with the source of the sounds, and Caroline Shaw's recent choral music does something similar with singers' voices.

than narrow attention.[37] Jerrold Levinson, a philosopher of music whose work is often

somewhere between the work-centered and the instrument-centered approaches, writes, "if

musical background knowledge about instruments, their capabilities and manners of

employment, falls below a certain threshold, grasp of a work's aesthetic complexion...is

seriously endangered." (1990a: 240) Contra Zangwill's notion that aesthetic appreciation of

music transcends interest, knowledge, and thought about instruments, Levinson claims that

without such interest, knowledge, and thought aesthetic appreciation diminishes. This is, to be

sure, an instrument-centered thought.

Relatedly, the instrument-centered approach to music also recommends an expanded

sense of musical instrumentality, specifically, the phenomena of using music to achieve some

end and creating music for a predetermined purpose. The discussion of anti-instrumentalism so

far has found it useful to distinguish between aesthetic and artistic instrumentality. But another

distinction is also worth minding, for the descriptor 'instrumental' has at least two different

senses when used to describe an object.

On the one hand, an object may be (said to be) instrumental because it has been made by

means of an end-directed process. Call this the *etiological* sense of instrumentality. Objects that

have explicit functions, things like forks, pencils, and screwdrivers, are all instrumental in the

etiological sense, since their capacity to perform their express function is the end to which their

manufacture is directed. The current prevalence of mass-produced consumer goods means that

objects that are instrumental in the etiological sense abound, and many spaces, both public and

private, are teeming with them. Some of these mass-produced objects are things like forks,

pencils, and screwdrivers, that have explicit functions attached to them, and which functions

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[37] The allusion here is to J.L. Austin's idea that "The total speech act in the total speech situation is the *only actual* phenomenon which, in the last resort, we are engaged in elucidating" (1962: 148).

define the end of the process by which they are made. Other such objects have functions that are more opaque, either because their functionality is so abstract (as in the case of "knick-knacks," whose functions are things like decorating, amusing, and memorializing) or so wide-ranging (as in the case of computers, smartphones, and other such devices, whose functions are many). In these cases, it is perhaps not the object's function, but its design that defines the end of the process of their manufacture. That is, if the end of the process of making a screwdriver is producing an object that can fulfill the function of that tool, the end of the process of mass-producing a figurine is producing an object that exhibits its designed features.

On the other hand, an object may be (said to be) instrumental because it is being, has been, or could be used by some agent in the service of some end. Call this the *relational* sense of instrumentality, since it centers on the relation between an object and an agent making use of it. Mass produced pencils, for example, are instrumental in the etiological sense, but also in the relational sense, since they can be and often are put to use in service of an agent's end.

In the realm of art, etiological instrumentality is the sort that Collingwood was concerned to exclude. If the process for an object's creation was directed toward a predetermined end, such that the end and the means of creation are distinct, that object is not a work of art, but one of craft according to Collingwood. His anti-instrumentalism, then, is artistic and etiological. Regarding the aesthetic, Kant's anti-instrumentalism is largely relational, since the disinterestedness thesis holds that aesthetic experience is unconcerned with agents' personal ends.

In this section, we have considered some examples of both etiological and relational instrumentality in music, especially concerning music that is composed for (etiological) or adopted for (relational) use in worship services and in films. But there are many other types of

musical instrumentality, including phenomena like using upbeat music to motivate a workout (relational), composing a tune for an advertisement (etiological), and playing orchestral music outside a gas station to prevent teenagers' loitering (relational). Such examples are rife. According to the instrument-centered approach, they should not be overlooked or denigrated because of their instrumentality. Instead, considering them should help us to see the phenomenon of music more clearly.

3.2 Musical Concepts in Philosophy and in Music

There are some musical concepts that are regularly used by both musical "insiders" and "outsiders" that are employed with different understandings and to different ends by each. Consider, for example, the concept 'song.' Outside the context of musical practice, 'song' is widely used to refer to the basic unit of music: "Penny Lane" is a song by the Beatles and the Toccata and Fugue in D minor (BWV 565) is a song by Bach. But within some contexts of musical practice, 'song' refers only to the specific genre of music that is written for a solo vocalist and which compliments and illustrates its text. From this perspective, Bach organ works are surely not songs, "Penny Lane" is a song, but the *Lieder* of Schubert are likely to be regarded as the highpoint of the genre.

What are we to make of this difference in usage and understanding? We could conclude that one or the other of these usages is correct (or otherwise right) while the other is incorrect (or otherwise wrong). Thus a pedant might insist that uses of the concept 'song' that refer to anything other than standard examples of the genre are improper, but it is difficult to see such an insistence as anything more than boorishness. Alternatively, one might conclude that the concepts used by pop music enthusiasts need not have any regard for the practices of scholars

and practitioners of classical music. After all, singer-songwriters need not idolize Schubert in the way that some classical music lovers do. In such cases of conceptual divergence, the philosophical tool of conceptual optometry is helpful. Recall, conceptual optometry considers concepts (e.g. the negative concept of liberty, the positive concept of liberty) and conceptions (e.g. the Kantian account of the aesthetic, the Everyday Aesthetics account of the aesthetic) to test them for acuity. This is a broadly pragmatist philosophical activity in that it is more concerned with precisely describing the differences between several lines of thought than it is with subjecting competing views to a trial to determine the overall winner. That is, the objective of engaging in this sort of conceptual optometry is to take stock of both what a given concept or conception helps us to think clearly about and also where that concept or conception befuddles.

Owing mainly to recent work by Julian Dodd, the concept 'timbre' has become central to some conversations in the philosophy of music. Before Dodd's intervention, musical work ontologists were divided into two camps, the *sonicists* and the *instrumentalists*. Sonicists hold that music is just sound. Musical works are identified by their sound. Music-listening is attending to sounds. And musical performance is producing sounds. Sonicists invite us to be amazed by the fact that one and the same musical work can be performed in a wide variety of ways. I could, for example, play the *William Tell* overture on a kazoo such that you would be able to recognize the work I was performing. The reason that is possible, according to sonicists, is that, though they differ in sound *quality*, both my kazoo performance and a standard orchestral one present the same sound pattern.

Instrumentalists, on the other hand, hold that the means of performing a musical work is partially constitutive of its identity. From this perspective, my kazoo version of the *William Tell* overture is not an instance of the work, but an adaptation or transcription of it. Such deviant

performances fail to be properly-formed instances of their works because the means by which they are produced are not those specified by the composer. Instrumentalists thus invite us to notice that the aesthetic qualities of, for example, the sounds produced by a pipe organ and those produced by a digitally simulated pipe organ are not the same. Neither, of course, are the aesthetic qualities of an orchestra and a kazoo. This suggests that performances that do not use the performance means specified will not have the aesthetic qualities required of performances of the work in question, and will therefore be faulty.

Dodd seeks something of a middle ground between sonicism and instrumentalism, though one much closer to the former than the latter. He argues that proper instances of a musical work must present the specific sound--the timbre--of the instrument(s) for which the work is scored, but are not required to make use of any particular device or technique to generate that particular sound. That is, he rejects the instrumentalist notion that performance means is a work-identifying feature, but he also rejects sonicism's permissiveness with regard to sound quality.

This section will first examine Dodd's timbral sonicism with particular attention to its conception of 'timbre.' Then, it will consider Levinson's instrumentalism as a more instrument-centered alternative to timbral sonicism. Though instrumentalism is notable for its rejection of the indispensability of musical instruments, it nevertheless prioritizes musical works over musical instruments and practices. The section concludes with a sketch of a truly instrument-centered conception of timbre by considering some of the disadvantages of the sonicist conception.

3.2.1 Timbral Sonicism and the Sonicist Conception of Timbre

Julian Dodd defends *timbral sonicism*, an account of musical-work ontology that holds (1) that all of the normative properties of musical works are sonic properties and (2) that timbre is one such sonic, work-normative property (2010). According to timbral sonicism, properly formed performances of a given musical work need not make use of the instrument-types specified in the score, but they must present the timbre of those instruments. When the score calls for a piano, a proper performance must produce piano-sounds; when the score calls for a string section, a proper performance must produce violin-, viola-, cello-, and contrabass-sounds.

The conception of timbre that underwrites this view, call it the sonicist conception, has three main aspects:

First, it locates timbre as a property of sound, a sonic property. Stephen Davies, contrasting music with painting, writes,

> In music, the equivalent to colour is timbre--that is, the sonic characteristics that distinguish various instruments or voices even as they play or sing the same note. (2008: 364)

These two notions, that timbre is an aspect of a sound and that it is analogous with color in painting, are common lines of thought, evident in many conversations about timbre. Indeed, phrases like "sound color" or "tone color" are often used as synonyms for 'timbre.'

Second, the sonicist conception further regards timbre as, in a certain sense, an *object*. In this vein, Dodd exemplifies timbre by referring to such things as "the sound of a middle C played on an oboe," (2007: 214) and "the timbre of piano-sounds" (2010: 34). What's more, timbral sonicism turns on the claim that proper instances of musical works must present the timbre indicated in the score. More specifically, Dodd writes this about a piece that is a perennial example for musical-work ontologists, Beethoven's *Hammerklavier* sonata:

"The fact that Beethoven specified that a piano be used, whilst not entailing that *being produced by a piano* is normative within the work, *does* serve to characterize the qualitative nature of the sounds that must constitute a proper instance. Such sounds should have the timbral quality typical of sounds produced by such an instrument." (2007: 216, italics in original)

Dodd thus uses the concept 'timbre' primarily as a way of capturing relatively stable sonic profiles that are identified by reference to a traditional musical instrument. On the sonicist conception, then, a timbre is an object, namely, the characteristic sound of a given instrument-type.

Third, as a consequence of this objective view of timbre, the sonicist conception employs the concept of timbre as a coarse-grained descriptor. In Dodd's work, pianos have one timbre and Hammond organs have another, and what matters most is the difference between the two. A well-formed performance of the *Hammerklavier* sonata, he claims, must use the former rather than the latter--or any other instrument's sonic profile.

On the one hand, the sonicist conception of timbre has several qualities that recommend it. First, it is intuitively plausible, since it is in accord with one common way of using the concept. In many ordinary situations, 'timbre' is used to refer, in a coarse-grained way, to the characteristic sound of this or that instrument or this or that voice. Second, this conception of timbre is pedagogically useful in educating both listeners and performers. One way to prompt someone to listen to music in a more nuanced way is to ask them to reflect on instruments' characteristic sounds: What is the difference between the sound of a cello and that of a trombone? What would change if that passage were scored for trumpets instead of clarinets? How would you describe the sound of that singer's voice? Similarly, music-performance teachers often prompt their students to change their approach to a piece by instructing them to think of the characteristic sound of another instrument. The cello is commonly used in this

metaphorical way. Finally, the sonicist conception of timbre is suited to underwriting the kind of permissive approach to work ontology that Dodd is after. He regards his view as more parsimonious and less cumbersome than views that, for example, find that transcriptions are always new musical works. For Dodd, transcriptions are simply instances of a work that are non-standard with respect to timbre, and this deviation from the norm can be weighed against the instance's other features in the same way that a performance with non-standard tempo or articulation might be. This approach surely benefits from the capacity to use timbre as a coarse way of dividing sounds into categories such as 'piano-sounds,' 'Hammond organ-sounds,' 'violin-sounds' and so on.

On the other hand, as we shall see in greater detail below, both timbral sonicism and the sonicist conception of timbre also have several significant drawbacks. In particular, they both participate in at least two elements of the philosophical disenfranchisement of instruments. By conceiving of timbre as a sonic object, they focus on products rather to the detriment of processes. And in concluding that the sonic quality of timbre, rather than the specified instruments, is all that's required for a proper performance of a musical work, timbral sonicism regards musical instruments as dispensable for music.

3.2.2 Instrumentalism in Musical Work Ontology

As we have seen, sonicism in its various forms holds that proper performances of a given musical work need not make use of the very instruments specified in the score, but they must present the sounds so specified. In this way, sonicism regards musical instruments as dispensable for music. One way of rejecting this dispensability thesis is by concluding that properly formed performances of a musical work must not only present the sounds specified in

the score, but further that they must do so by means of the very instrument-type specified by the composer. The most prominent defender of this sort of instrumentalism is Jerrold Levinson, who raises it both in his account of the ontology of musical works (1980, 1990a) and also in his statement of his view of authentic performance of musical works (1990b).

Instrumentalism holds that a work of music is partially constituted by its *instrumentation*, the composers' instructions about which instrument or instruments should play which part of the piece of music. For example, Levinson's view, in its slogan form, is that musical works are performed-sound structures (PSS).[38] Though some philosophers have sought to maintain a distinction between a work's sound structure and its performance-means, Levinson regards these features as two aspects of a whole.[39] In this way, he understands composers' scored instrumentation instructions to specify the means which must be used to make a performance. He further holds that instrumentation is a normative property of works, such that candidate instances fail to be performances of a given work insofar as they fail to use the specified performance-means.

In introducing his primary support for this conclusion, Levinson writes,

> Part of the expressive character of a piece of music *as heard* derives from our sense of how it is *being made* in performance [...] and its expressive character *tout court* is partly a function of how it properly sounds taken in conjunction with how that sound is *meant* to be produced in performance. (1990b: 395, italics in original)

Here Levinson makes several important points. Contra the acousmatic account of listening, Levinson plausibly maintains that our perception of musical sounds depends on their apparent source. In Stephen Davies's words, "listeners typically hear through music to the actions that go

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[38] (1990a). This is a slightly adjusted version of the view presented in his (1980).

[39] In "Orchestrating Platonism," Kivy (1993) maintains a sharp distinction between sound structure and performance means.

into its production" (2008: 363). But, for Levinson, this transparency is not merely a curious fact, but an important component in a piece of music's expressiveness. Listeners surely can imagine the movements of a cellist's bow or a cymbal player's arms, but, more importantly, they can also hear sweeping cello lines, and fanfares punctuated by crashing cymbals. These, according to Levinson, are not just sweeping sounds and crashing sounds, but musical gestures that sweep and crash just so because of the means by which they are performed. This line of thought suggests that part of the art of musical composition is harnessing these expressive powers of instruments to further musical aims. In this way, it regards instruments themselves as the medium out of which composers make music. This, in turn, suggests that the use of non-standard performance means violates the piece in crucial respects. If physical gestures with instruments impart an expressive character to the sounds they produce, then using different physical gestures with a different instrument will impart a different expressive character than the composer called for.

Instrumentalism thus regards the range of authentic performances as relatively narrow. It suggests that only those performances made using an instrument that would be recognizable to the composer as an example of that instrument are authentic. As we shall see below (3.3), instruments evolve over time, and some even face obsolescence. For example, the clavichord and harpsichord fell precipitously out of favor as the pianoforte and its successor the modern piano, came to prominence. This means that since the early 19th century, J.S. Bach's keyboard music has been played primarily on the piano, an instrument that did not exist in his lifetime. Are such performances authentic? A strict instrumentalist, it seems, would have to say no. But the argument is sometimes made that the piano is an obvious improvement on the clavichord and

harpsichord, one that Bach himself would surely recognize, and so its use is not deviant, but refined.

Instrumentalism thus conceived of the range of proper performances to be quite narrow-- more narrow than musical practices suggest is necessary. Indeed, Bach's keyboard music continues to be played on pianos, and it is generally considered, at least by pianists, to be part of the piano repertoire. The instrument-centered approach, then, can be in sympathy with Dodd's desire for a more permissive account of the relation between instruments and works.

3.2.3 An Instrument-Centered Response

To be sure, Levinson's instrumentalism is a step toward an instrument-centered approach to music, since it explicitly rejects the dispensability of musical instruments. But it ultimately prioritizes musical works over instruments and practices with them. What's more, both Levinson's and Dodd's accounts of work ontology largely abstract away from actual musical practices rather than considering them directly. By contrast, the instrument-centered approach to music commends philosophical attention to the details of musical practice.

To see how this detailed approach works, consider again the musical concept 'timbre.' According to the sonicist conception of timbre that is at work in timbral sonicism, timbre is a property of sounds that is object-like in that there are distinct sonic profiles associated with each musical instrument. As we saw above, this conception has its advantages, but it also has significant drawbacks.

It is not clear, for example, that ordinary language use supports the idea that timbre is a property of sounds. The sonicist conception implies that timbre is a property of all sounds, such that creaking floors, roaring motorcycles, and flushing toilets should each be seen as having its

timbre. But this is not the way we ordinarily talk. In general, 'timbre' is a concept mainly used with reference to music. Indeed, it would be odd for me to say to my mechanic, 'There has been a worrying change in the timbre of my car's engine,' though not because discussing sounds is irrelevant to the situation. It would be appropriate and useful for me to say, 'My car is making a knocking sound.' What's more, two musicians might well discuss the 'timbre' of an alarm clock or a squeaking door, but it is plausible to think that this is the result of their treating those sounds as if they were musical.

Further, there are applications for which the sonicist conception is too coarse-grained. Within the practice of music, the concept of timbre is commonly used to pick out something narrower than just 'the characteristic sound of a given instrument-type.' For instance, accomplished performers pay close attention to subtle variations in the timbre of their instrument or voice, and they use techniques, which are often developed across years of dedicated practice, to manipulate various aspects of tone quality. Further, musicological and music-historical study aids performers in choosing a timbre to suit a given piece of music. Together, these form a core component of what's sometimes called musicianship, the art of applying technique, training, and study to a piece of music to produce a compelling performance of it.

Let's consider these phenomena by attending to the details of musical practices.

I once attended a concert of Corelli's music by the violinist Rachel Barton Pine, who specializes in using historical techniques to perform early music.[40] She explained that rather than holding the violin under her chin, as is the standard technique for playing modern music, she was using the early technique of balancing it against her shoulder. Because in this position the violin is in less physical contact with the performer's body, it vibrates more freely and has a significantly richer tone quality. Several in the audience, many of whom were music educators,

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[40] With Trio Settecento at the Music Institute of Chicago, February 18, 2018.

gasped when she demonstrated the difference, which was pronounced. This example shows that the interaction between the performer's body and her instrument can have a profound effect on the quality of its sound.

Philip Alperson (2008) calls this phenomenon *embodiment*, and he regards it as a characteristic of musical instruments that militates against the view of them as mere physical objects. Instead, he suggests, we should regard instruments as, in a sense, incomplete without contact and interaction with a player. For Alperson, this embodiment is an important part of the explanation of why performers are sometimes so finicky about finding and then maintaining a particular instrument-individual. Some instruments "fit" a player better than others. This means, among other things, that there is no one standard that determines the quality of an instrument, since an instrument's performance is determined, in part, by its physical interaction with a performer. It also shows one of the ways in which the sonic profile of an instrument varies depending on the player's body and techniques.

Returning to Dodd's discussion of the Hammerklavier sonata (see 3.2.1 above), recall that he claims (1) that Beethoven understood himself to be specifying that a piano be used to perform the sonata, but (2) that Beethoven actually specified only that piano-timbre be so used. Each of these claims is objectionable.

It is not precisely correct to say that Beethoven specified that the sonata be performed using a piano if 'piano' here implies, as it generally does, the modern form of the instrument. *Hammerklavier* is the German name of the fortepiano, a precursor to the now ubiquitous modern piano. In Beethoven's day, both harpsichords and fortepianos were generally available and widely used, so his title, "*Große Sonate für das Hammerklavier*" ("great sonata for fortepiano") is an indication that it should be played on a fortepiano rather than a harpsichord. What's more,

the earliest modern pianos were not developed until the 1850's, well after Beethoven's death in 1827.

Though this may seem like a pedantic point, it is directly relevant to Dodd's claim that instrumentation instructions are really timbral specifications. The timbre of the fortepiano is distinct from that of the modern piano, and, indeed, the quest to "improve" the timbre of the earlier instrument was a major factor in the development of the modern piano. Unlike the best modern pianos, the fortepiano does not have a consistent timbre across its range. In the bass, the timbre is brighter, somewhat nasal and reedy, akin to a bassoon, and in the treble, the timbre is warmer and more like a clarinet or flute. Further, the timbre of the fortepiano is different when it is played forte (loudly) than when it is played piano (softly). The ideal modern piano, still sought by progressive piano builders who seek to further develop piano technology, is an instrument that has a consistent timbre throughout its entire range and across all dynamics from pianissimo to fortissimo.

By the lights of the sonicist conception of timbre, Beethoven's timbral instructions begin and end with his instrumentation, that phrase "für das Hammerklavier." But the systematic inconsistency in timbre in the fortepiano suggests that Beethoven gives more timbral instructions: in writing low notes, he calls for a reedy sound, in high notes, a fluty one; and in indicating dynamics, he varies not just the loudness, but also the timbre of the instrument. These are effects that cannot be achieved on a modern piano. Thus Beethoven did not understand himself to be specifying the piano; he understood himself to be specifying the fortepiano. Nor did he specify the characteristic sound of either the piano or the fortepiano: he gave detailed instructions for achieving subtle variations in timbre across the piece using the resources afforded by the fortepiano.

Alperson (2008) notes that musical instruments are not the exclusive domain of performers. Musicians in other musical roles also use and interact with instruments. In particular, composers use instruments in the course of writing pieces of music. One of the most common composers' instruments is the piano, which can produce a range of pitches roughly as wide as that of an orchestra, can be used both melodically and harmonically, and can be played by one person.[41] In this respect, the piano is very useful to composers, since it allows them to hear not only individual parts, but also multiple parts together. Without the aid of composition computer programs, the piano is an invaluable instrument for composers.[42] Beethoven, an accomplished pianist, was known to compose and improvise at the fortepiano. It is unlikely, then, that he was unaware of the timbral profile of the instrument, and also unlikely that he would have failed to take advantage of its properties in his compositions.[43]

The pipe organ presents an even starker example of the variability of timbre within a given instrument-type. The design and construction of organs is not standardized in the way that it is for most other instruments. Accomplished players of instruments like violins, pianos, or trumpets are generally in a position to use any particular violin, piano, or trumpet with only minimal adjustment. Organists, however, generally spend considerable time familiarizing themselves with a particular instrument ahead of a public performance. The relevant difference between pianos on the one hand and organs on the other is *standardization*. Whereas all pianos

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[41] In music, the adjective "melodic" refers to a melody or tune, a diachronic series of notes, sometimes called the "horizontal" aspect of music because of how it is represented in scores. "Harmonic" refers to chords, a synchronic set of notes, sometimes called the "vertical" aspect of music. Though many musical instruments are capable of both melody and harmony, most have either a mainly melodic function or a mainly harmonic one. Because of the interface with the player, keyboard instruments afford the (synchronic) playing of much more complex harmony and counterpoint by a single player than any other instrument.

[42] e.g. Sibelius, Finale, Garage Band.

[43] On Beethoven's use of his fortepiano, see DeSouza (2017), Chapter 1, "Beethoven's Prosthesis."

have roughly the same mechanism[44], there are several different types of mechanism in pipe

organs,[45] and they all respond differently to players' inputs. Further, whereas all pianos have

roughly the same tonal resources, an organ's tonal makeup is determined by various factors,

including the style in which the instrument is built, the size and acoustical properties of the room

in which it is installed, and practical considerations about the purposes for which the instrument

is mainly used. Because of these mechanical and tonal differences, organists must adjust their

technique and familiarize themselves with each different instrument they play.[46]

A major portion of this familiarization period is spent on registration, the process of

choosing which stops, or registers, will be used for which stretch of music. A stop is a set of

pipes, one for each key of a keyboard, that all produce a roughly similar sound color. Organs of

the sort typically found in churches and concert halls generally have from 20 to 100 different

stops, each with a different sound quality. No two organs are exactly alike in their tonal

resources, for different builders and different styles of organbuilding provide different stops.

Some stops are designed to imitate other musical instruments, including those found in modern

orchestras (trumpets, clarinets, violins) and also instruments that long ago fell into disuse

(krummhorns, schalmeis, racketts). Others produce sound colors that are typical only of the

organ. Still others are pitched higher or lower than standard pitch, which allows organists to

selectively reinforce upper or lower harmonics and, thereby, to "brighten" or "darken" the tone

quality.

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[44] Broadly, the keys operate a series of levers that launch a hammer that strikes a string; as long as a key is held, the damper is away from the string allowing it to vibrate; as soon as the key is released the damper contacts the string, stopping its vibration; the sostenuto (right) pedal raises all of the dampers, allowing all of the strings to vibrate freely, both from being struck and from sympathetic vibration.

[45] Some, like pianos, are purely mechanical and highly responsive to players' impulse. Others involve electric or electro-pneumatic mechanisms, which afford far less subtlety of touch.

[46] Merleau-Ponty (2013) discusses this aspect of organ playing in *The Phenomenology of Perception*, pp. 146-147.

Registration is the art of mixing stops to produce various musical effects, and organs afford many such choices and combinations. Indeed, organists and organbuilders often think of organs as, in the phrase of the organbuilder Bruce Fowkes, "color machines," instruments designed to produce a wide array of timbres. In this way, the pipe organ is essentially a synthesizer, albeit one that uses acoustic rather than electronic or digital tone generators. Just as players of modern synthesizers can manipulate the quality of the sound they produce, organists have at their disposal a whole panoply of different stops to use alone or in various combinations.

But, importantly, registration is not just a boon for organists, but is a prerequisite of making music on an organ. Without engaging at least one stop, an organ cannot make music. This means that organists must always choose a timbre before playing anything at all. And many organ scores, particularly those from before about 1850, do not specify the exact stops that are to be used. Even those stop specifications that do occur in scores are not generally treated as work-normative, because not every organ has the precise stops called for. The art of registration, then, often puts organists in the position of making significant timbral choices with minimal input from the composer, because there is no work-normative timbral specification.

These considerations about fortepianos and pipe organs suggest that the sonicist conception of timbre is limited in its usefulness within the practice of music. For example, its coarseness obscures the fact that all instruments are capable of producing a range of timbres. Indeed, listeners need not even be especially astute to recognize that clarinets and violins and saxophones can all produce many different sounds: they can be brighter, darker, warmer, richer, thinner, more nasal, and so on. This is part of the reason why a novice clarinetist playing a clarinet manufactured for beginners can sound so different from an expert clarinetist playing a finely crafted instrument, and also why the music of composers like Bach, Haydn, and Mozart

played on period instruments sounds so different from the same music played on modern ones. It is these fine-grained differences in timbre that are relevant when, for example, a conductor is communicating with performers. In such a case, the conductor might ask the clarinet players to produce a "more open" tone, which would communicate something quite specific to the players. An instruction from a conductor to produce the timbre of a clarinet would be so lacking in specificity as to be unintelligible.

Interestingly, that same conductor might usefully ask a clarinetist to make a sound more like that of a cello or a trumpet. Similarly, many music teachers prompt their students to think about the sound of another instrument or a genre of music closely associated with the sonic qualities of a given instrument (e.g. a fanfare, a roiling string quartet). In this case, it seems as though the coarse-grained conception of timbre is quite useful, and quite regularly used by musicians in the course of music-making. That may be so, but it is also plausible to think that these are cases of *totum pro parte* synecdoche. That is, these apparent references to the coarse-grained sonic profile of a given instrument can also be plausibly understood as referring to a specific part of an instrument's timbre, rather than to the whole of it.

One way of breaking timbre down into constituent parts, common since the advent of the analog synthesizer, is to focus on four elements: attack, decay, sustain, and release. The ADSR module of analog synthesizers affords control of the length of the attack, decay and release of the tone and the loudness of the tone as it is sustained. By controlling only these four parameters, synthesists can achieve a wide array of tone color, producing sounds that are akin to a whole panoply of traditional instruments (from xylophones to trumpets to violins and so on) and also sounds that are quite unlike those of any other musical instrument.

With this in mind, let's return to those cases of musicians communicating about the quality of sound of one instrument by referring to the characteristic sound of another instrument. It is plausible to think, in at least some such cases, that the reference to, say, a trumpet is not meant to refer coarsely to the entire sonic profile characteristic of trumpets, but rather to some specific element of that sonic profile. Specifically, trumpets are closely associated with fanfares and marches, in which they are called upon to produce clear, staccato tone. That is, trumpets are associated with short, crisp attacks. Similarly, cellos, which have a warm, round tone and are capable of producing long, flowing sustained notes, and composers often call upon cellists to do precisely that. With these associations in mind, it seems less likely that musicians analogizing the sound of one instrument with that of another is best understood in terms of a coarse-grained conception of timbre. After all, it would be neither possible nor desirable for an orchestra's clarinet section to reproduce the sonic profile of trumpets *in every respect*. Rather, an exhortation to "think of a cello" or "play it like a trumpet fanfare" use analogy to pick out specific timbral properties, such as the smooth, legato attack and long sustain of a cello playing long tones or the sharp, staccato attack and short sustain of a trumpet playing a fanfare.

These considerations from musical practice--about how violin technique influences the timbre of the instrument, about the differences between a fortepiano and a modern piano, about pipe organ registration, and about analogizing the sound of one instrument with that of another-suggest that the sonicist conception of timbre is not a particularly useful "lens" for thinking about many musical practices. They also suggest an instrument-centered alternative. Rather than conceiving of timbre as the object-like, characteristic sound quality of a given instrument-type, an instrument-conception sees timbre as deeply rooted in musical cultures or subcultures.

These cultures give rise to instruments themselves, but also the techniques used to play them, and the genres of music with which they are associated.

The debate between Levinson's instrumentalism and Dodd's sonicism is a rare example in the philosophy of music, for it is concerned with various aspects of musical instruments. Dodd makes extensive use of the concept 'timbre,' which is, in obvious ways, associated with musical instruments and relevant to musical practices with them. Levinson's instrumentalism opens the door to thoughts about historically-informed performance, suggesting that faithful performance requires adherence to relatively narrow constraints imposed by composers' instrumentation instructions. Dodd advances a more permissive account of faithful performance by embracing the thesis that musical instruments are dispensable for music. Levinson, of course, rejects that thesis, and so the debate between instrumentalism and sonicism is, at least in part, one about the relation of musical instruments to music. But, in the end, the relation under discussion is not so broad. Rather instrumentalism and sonicism are ultimately concerned with the relation of musical instruments and musical works. As we have seen, the instrument-centered approach invites us to think more broadly, regarding musical instruments and musical practices as embedded in a musical culture, continuously shaping and being shaped by one another.

3.3 Musical Instrument Technology

Above (3.2.3), we saw that Beethoven composed, improvised, and performed on the fortepiano, and we considered some of the ways in which the instrument might have influenced his composition. We also saw that the pipe organ is an instrument that has a relatively low level of standardization, meaning that pipe organ individuals may be quite different from one another

in both their tonal resources and their mechanical aspects, and that an important element of the art of organ playing is registration, choosing combinations of stops appropriate to the music. In both cases, the material attributes of these musical instruments have a profound impact on the music they produce. These are but two examples among many that suggest that the material and technical aspects of musical instruments exert important influence on musicians and the music they create. Unsurprisingly, work-centered philosophy of music has paid little attention to this aspect of musical practice. This section will discuss some basic issues in instrument technology, with particular attention the dominant keyboard instruments in Western musical culture: the clavichord, the harpsichord, the fortepiano, the modern piano, and, of course, the pipe organ.

Further, we discussed above the genius-model of creativity (1.6), the notion that creativity is the exclusive realm of singular geniuses largely impervious to influence. This extends not only to creativity in the arts, but also in science and technology. Copernicus, Gutenberg, Einstein, and Steve Jobs have all been regarded as visionaries who stood outside of history to change humans' understanding of the world and also some of the basic circumstances of their lives. This way of thinking about creativity and technological development is both pervasive and, increasingly, tendentious, since it both exaggerates the contributions of those with social and other forms of privilege and overlooks the contributions of subjects of structural disadvantage. An alternative conception of creativity and technological change takes craftsmanship rather than genius as the model, and it is the craftsmanship-model of creativity that underwrites the instrument-centered approach to music. This will be our guide for understanding the development of two different types of keyboard instruments in Western musical culture, the stringed keyboard instruments (e.g. clavichord, harpsichord, fortepiano, and piano) and the large class of instruments that are pipe organs.

Finally, we will consider the musical contribution of instrument builders and technicians. Though the work-centered approach to music often centers on the musical activities of composing and performing, there are many other musical roles and associated activities that make crucial contributions to the phenomenon of music. To illustrate this point, we will discuss some basic aspects of organbuilding.

3.3.1 Two Models of Technological Change

The historian of technology George Basalla writes,

> A large segment of the modern public believes that technological change is discontinuous and depends on the heroic labors of individual geniuses, such as Eli Whitney, Thomas A. Edison, Henry Ford, and Wilbur and Orville Wright, who single-handedly invent the unique machines and devices that constitute modern technology. According to this view inventions are the products of superior persons who owe little or nothing to the past. (1988: 26)

According to Basalla, then, it is common to think of technological development in terms of the genius-model of creativity. Against this account that emphasizes the discontinuity of technological change, Basalla defends an evolutionary account of technological development, which emphasizes the continuity between supposedly novel inventions and extant artifacts. According to this alternative view, inventions that are often thought of as revolutionary are actually the result of a long process of mutation and selection that is analogous with the Darwinian evolution of organisms. To see the difference between these two accounts, let's consider two different ways of telling the story of Eli Whitney's cotton gin.

Consider, first, the commonly told story of the invention of the cotton gin: Eli Whitney, its inventor, is generally portrayed as a clever and entrepreneurial young man who, on a visit to a plantation in Georgia in 1793, witnessed the labor-intensive means by which enslaved people

were made to clean cotton. The seeds of the short-staple cotton that flourished as a cash-crop in the southern United States are difficult to separate from the fibers, and Whitney recognized the need for a device to do this work and thereby save labor, time, and money. Whitney, so the story goes, invented the cotton gin out of thin air and he thus met the very need he had recognized.

This telling of the story participates in several pervasive assumptions. First, it assumes that invention--or creativity--begins with a recognition of a relatively basic need, in this case, to make more efficient use of the labor of enslaved people. Second, it assumes that inventors do their work focused solely on the specific need they have identified and with no reference to other artifacts. In the story of the cotton gin, Whitney is simply guided by his recognition of the need for increased efficiency in cotton production to the device he patented without a second thought about other devices that may have guided his work. Third, the story thus implies that Whitney was a *genius*, an heroic individual capable of single-handedly revolutionizing the cotton industry.

This familiar story of the cotton gin emphasizes *discontinuity*: the cotton gin is a device with no precursors, Eli Whitney was a genius with no obvious influences, and, together, inventor and invention meet a basic need by effecting a revolutionary break with the past.

The historian of technology George Basalla tells the story of the cotton gin differently: Whitney may have come to see for himself the need for a labor-saving cotton-processing device by travelling to a Georgia plantation, but that need was already well-known in advance of his arrival there. There even existed devices--cotton gins--for performing the task in question. These devices were present in the southern U.S. at the time of Whitney's visit, and, though they were developed in India, they had been known in Europe since at least the 12th century. The problem with these devices was that they only worked with long-staple cotton, not the short-staple cotton grown in the U.S. Whitney's gin works on exactly the same mechanical principles

as its Indian predecessor: crank-operated rollers that lift cotton fiber away from the seeds. His innovation was to add one part, a perforated metal breastwork for holding the seeds below, and to modify one part, adding a wire comb to one of the rollers to pull the cotton fibers up and away from the seeds.

This is a way of telling the story of the cotton gin in a way that emphasizes *continuity*: the problem Whitney set out to address was widely understood, and devices that solve the problem had been in use for centuries. Whitney's gin was heavily based upon these earlier devices, which he modified to better suit a particular set of circumstances beyond the purview of the original.

The major difference between the traditional story and the more carefully contextualized one is in how they understand Whitney and his device to be related to the devices and device builders that preceded them. In the traditional version, Whitney is characterized as a genius, and his cotton gin is seen as a revolutionary work of genius. In the evolutionary version, Whitney's work and his device are examples of craftsmanship.[47] That is, Whitney modified an existing device to suit a new purpose. This does not diminish his accomplishment, but neither does it exaggerate it.

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[47] I acknowledge that the term 'craftsman' is problematically exclusive of people who do not identify as male, and that the vocation has also (historically and likely also in the present day) been similarly exclusive. What I am interested in is craftsman*ship*, roughly, the skillful practice of a traditional practice through its set of techniques. This is, at least theoretically, available to any person regardless of gender. I choose to use the work 'craftsmanship' in spite of its association with exclusivity because I mean to call on its familiar connotations. On the nature of craftsmanship, with special attention to sociological concerns, see Sennett (2009).

3.3.2 Keyboard Instrument Technology

In the history of Western classical musical culture, there are two dominant types of keyboard instruments.[48] One class, the stringed keyboard instruments (such as the clavichord, harpsichord, fortepiano, and modern piano) have one or more courses of strings under tension and produce their characteristic sounds by means of a mechanism that percusses (by striking and holding, plucking, or striking and escaping) those strings. The other class, those keyboard instruments that produce sound by blowing pipes, has only one member: the pipe organ. Pipe organs have one or more ranks of pipes and produce their characteristic sounds by means of a mechanism that admits pressurized air (called 'wind') into the toes of the pipes, causing them to "speak." It is instructive to compare the standard history of these stringed keyboard instruments with the standard history of the organ.

In Western musical culture, likely the earliest and certainly the simplest stringed keyboard instrument is the clavichord, which dates from the early 14th century. A diminutive and quiet instrument, most clavichords have a fairly small compass of about four octaves, about 49 keys. As such, they are best suited to solitary practicing, and, until the late 18th century, many musicians kept them in their homes for that purpose, sometimes stacking one on top of another to simulate an organ.[49] Their soft sound is produced by striking the strings with a thin brass blade called a 'tangent'. Clavichord players must strike the string and hold down the key for as long as sound is desired. This is because the tangent does not just strike the string, but also acts as the 'nut,' the endpoint of the vibrating portion of the string, and thereby determines the

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[48] There are, of course, other kinds of keyboard instruments, e.g. percussion instruments, such as xylophones, marimbas, and vibraphones, which are played with mallets instead of fingers, and electronic keyboards, such as digital pianos, synthesizers, and MIDI controllers, which produce sounds by electronic means.
[49] These stacks could include two clavichords with manual keyboards and one with a pedal keyboard, so that even the most complex organ pieces could be played on them. Some organists today still use clavichords in this arrangement for practice and other music-making at home.

speaking length of the string, and therefore its pitch. This means that clavichords can be 'fretted.' Such instruments use one string to produce more than one pitch, much as a guitarist can use the technique of 'hammering' a single string at different points along the fretboard, thereby producing different pitches. The practice of fretting clavichords reinforces the idea that the clavichord is an instrument best suited to private rehearsal: it allows builders to make clavichords cheaper and more compact, but it sacrifices some usability--particularly the capacity to play certain chords.[50] The design of the clavichord is such that it can only support relatively little tension, and that is one reason why they have a limited compass, and why their sound is so soft. Another limitation of the clavichord is its timbre, which is generally quite thin and "tinny." What's more, there is relatively little timbral range; players have relatively little control over the quality of tone the instrument produces.

The harpsichord, then, is often seen as an improvement on the clavichord. It is certainly more elaborate and larger, since most harpsichords have more strings and a compass about an octave greater. Rather than striking its strings, the harpsichord plucks them--historically with bird quills, today, most often, with plastic. Further, the design of the harpsichord affords somewhat more resonance than that of the clavichord, allowing its tones to linger a bit longer, and it also sustains more tension on the strings, allowing for the longer compass and the production of louder sounds, though its loudest sounds are still softer than those of a modern piano. Finally, the harpsichord adopts some of the qualities of the pipe organ, which predates both the clavichord and the harpsichord. In particular, some harpsichords have two keyboards, called 'manuals' in this case, because they are played by the hands, each of which controls a

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[50] Because fretted clavichords use one string to produce several different pitches (say, C, C#, and D), those notes cannot sound simultaneously. One clavichord string can only produce one pitch at a time. The sharing of strings is arranged to minimize this issue by sharing strings among notes that are unlikely to be played together, at least in early music.

different set of strings.[51] Having two manuals affords two important musical techniques: (1) it allows the player to bring out a solo line by playing it on one keyboard with a louder sound and playing the accompaniment on the other keyboard with a softer sound and (2) it allows for shifting dynamics, since the player can alternate between the two manuals to effect changes in loudness and timbre. Another feature of pipe organs that some harpsichord builders adopted is the variable reinforcement of harmonics, a topic we will discuss in detail below. Though the harpsichord has many musical possibilities that the clavichord does not--not the least of which is the possibility for public performances in much larger venues--there are aspects of it that some musicians find lacking.[52] In particular, the harpsichord has a limited dynamic range. It is sometimes said that the harpsichord player can do nothing to control the loudness of its sounds. But that is not quite true, since harpsichordists can, on some harpsichords, use different courses of strings to achieve differences in loudness, and there is a degree to which players can affect the loudness of a harpsichord by touch. These dynamic changes, however, tend to be quite subtle.

One of the primary differences, then, between the harpsichord and the fortepiano is in the dynamic range. Fortepianos, so called because their strings (usually two courses, or two strings per note) can be played loudly or softly, are the earliest keyboard instruments to have touch-sensitive loudness. That is, the instrument is designed such that the more quickly and forcefully a player presses a key, the louder the sound the instrument will produce. Thus, the fortepiano is capable of some effects that are impossible on the earlier stringed keyboards--in particular, a gradual crescendo. The earliest fortepianos have mechanisms that are similar to those of the harpsichord, and fortepianos were built in roughly the same sizes and shapes of harpsichords.

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[51] Both clavichords and harpsichords are sometimes fitted with pedal keyboards, as are commonly found on organs (a practice that developed in northern Europe in about the 15th century). There have also been pedal pianos.

[52] Of course, some musicians simply do not like the sound of the harpsichord. The British conductor Sir Thomas Beecham (1879-1961) once described their sound as that of "two skeletons copulating on a tin roof." Notably, however, the harpsichord was almost entirely out of favor during his musical life.

The fortepiano, though, is universally a one manual instrument with no variable harmonic reinforcement. Fortepianos of the sort known by Haydn and Mozart, two prominent and prolific composers of the "Classical period of Western music (roughly 1750-1800) included a sustain pedal analogous to the one found in the modern piano, though in most cases it is operated with the knee rather than the foot. And the tone of the fortepiano is somewhat "brighter" than that of most modern pianos, so while the fortepiano cannot be nearly as loud as a modern concert grand, its tone is generally clear and prominent.

The modern piano reached its current form in the mid 19th century, when the Steinway company introduced a full cast iron plate. Other piano builders had earlier experimented with various metal parts, but the full plate remains a standard feature of high quality pianos. The modern piano is much larger than the fortepiano, which is itself roughly the same size as most harpsichords. And the modern piano is capable of sustaining much more string tension, about 30 tons in large concert grands. This greater tension allows the modern piano to have a greater compass, standardly 88 keys, as opposed to about 49 on most clavichords and about 56 on most harpsichords, and it makes the piano capable of playing much louder and with a much more consistent tone quality than is possible on fortepianos. Whereas the earlier stringed keyboard instruments used wooden frames to support the string tension, the modern piano's large cast iron plate is the single innovation that allowed the instrument to achieve its current form.

Technological developments caused the stringed musical instruments to speciate: clavichords mutated into harpsichords, which led to fortepianos, which led to modern pianos. Though the musical differences between these instruments are legion, the technological differences point to a gradual evolutionary development, rather than one punctuated by sudden revolutionary upheavals. Indeed, even those musicians who think of the modern piano as the

apotheosis of a long struggle for a truly musical keyboard instrument nevertheless adopt the

music of J.S. Bach as part of the piano repertoire. Bach, of course, died a full century before the

advent of the modern piano, and so could only have imagined his music on earlier instruments.

Indeed, recordings and performances of Bach's works on all four stringed keyboards exist,

suggesting that there is a strong continuity between these different instruments.

The pipe organ predates all of the stringed keyboard instruments, having been invented in

Alexandria in the 8th century BCE. The Romans used an organ for signaling purposes and also

possibly for entertainment during gladiatorial games in the Colosseum. And, in the 15th century,

the organ became the primary instrument of the Christian church, securing its most prominent

role in Western musical culture. This means that the organ has a larger repertoire than any other

instrument in the Western tradition: organists today can--and regularly do--present recitals that

include music from as many as 6 different centuries. Further, organs and the practices of organ

playing and organbuilding took on national characteristics across Europe. Across this long time

span and within these diverse musical subcultures, organ technology underwent many variations.

The end result of this history is that the class 'pipe organ' is large and heterogeneous.[53]

Technologically, the history of organbuilding can be divided into three periods. The

"early" period lasted roughly from 1450 to 1850, during which time advances in organbuilding

were incremental.[54] In the main, organs built in the first half of the 19th century use 15th century

technology. The "modern" period lasted from about 1850 to 1950, during which time many

large and consequential technological developments occurred. Since about 1950, the most

notable trend in organbuilding has been eclecticism. During that period, there has been evidence

of a lively revival of early organbuilding designs and techniques, the active preservation and

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[53] The standard history of the pipe organ is Williams (1980).

[54] For a detailed history of the pipe organ in this period, see Williams (1978).

restoration of important organs from the modern period, and many clever meldings of tonal and mechanical aspects of early and modern organs.

The primary difference between organs of the early period and those of the modern period is in one important mechanical aspect: the key action. Briefly, the key action is the mechanism by which impulses from an organist's fingers cause one or several pipes to play. In the early period, only one sort of key action was used, a purely mechanical one that uses a series of levers to translate the pressing of a key into the opening of a value (called a "pallet") that admits compressed air (called "wind") into a pipe, causing it to sound. This style of key action is called "mechanical" or "tracker" action.[55] Mechanical key action is prized for its responsiveness, for organists can affect the timbre of the pipes--particularly their attack--by adjusting how quickly and how completely they open the pallets. This responsiveness is a major reason why, during the present period of eclecticism, many builders have returned to this 15th century technology. The major disadvantage of mechanical key action is that it can be very heavy under the organist's fingers. Because players must use the force of their fingers not only to pull on a series of levers, but also to overcome the force of the wind pushing the pallet closed, mechanical action organs can be difficult to play. And their size is strictly limited, since this heaviness only gets worse as the size of the instrument increases.

In the modern period, organbuilders began experimenting with a variety of devices that could open the pallets without overtaxing the player. This would result not only in organs that were easier to play, but also extremely large instruments, ones with a "detached" console that could be moved around the room, and ones with pipes placed in distant chambers. The earliest devices were purely pneumatic, using compressed air (which the organ was already generating)

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[55] This use of "tracker" is a bit of *pars pro toto* synecdoche. Trackers are thin strips of wood used in mechanical key actions to transmit a pulling force vertically.

to assist the organist in opening the pallets. This gave way to various kinds of electro-pneumatic actions, which use compressed air and also electro-magnets to play the pipes. And those inspired so-called "direct electric" actions that simply use a solenoid.[56]

Musically, the organs of the early period (or built in the early style) function as choirs. Each pipe is voiced to be roughly the same loudness as a human voice, though, like voices, some are louder and others softer, some lower and others higher, some crystal clear and others more throaty.[57] The stops of early organs, then, are meant to be mixed together in various combinations in roughly the way that a composer or choirmaster arranges for the mixing of voices. The organs of the modern period, with their great size potential and changing musical tastes, are more like orchestras. Indeed, many of the new stops invented in that period are imitative of orchestral instruments, such as violins and cellos; clarinets, oboes, and flutes; and trumpets and trombones. These are different families of stops that sound best when played amongst themselves, rather than all mixed together. So whereas the early organ is an instrument of one or two complete ensembles, the modern organ has a panoply of orchestral color without always having a strong ensemble.

Like the other stories of technological development we have considered, the story of the pipe organ could certainly be told so as to emphasize the discontinuity between early and modern organs. But, in this case again, that would be to miss the profound continuity between the two, which is, if anything, even more obvious in this case than it is with the stringed keyboard instruments. Indeed, the development of the organ is best understood as highly eclectic. Though, as we shall see below, the differences between early and modern organs from the perspective of organists can be quite pronounced, technologically, those differences are

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[56] On technology in modern organbuilding, see Owen (2002).
[57] Brombaugh (2018).

relatively minor. Both use pipes blown by compressed air; and both use roughly the same interface of one or more keyboards, a pedalboard, and stop controls.[58] Early organs have stops that are imitative of early musical instruments, and modern organs have stops that are imitative of modern instruments. But most modern organs also have some stops that are functionally identical to those found in early organs. Across its long development the organ has gotten larger, and its mechanism has gotten more complex, but, by and large, its most modern examples are straightforwardly continuous with its earliest examples.

3.3.3 Technology and Music

One upshot of the work-centered approach to music is the implication that the most important or most musical of musical activities are those that pertain directly to musical works. Indeed, the two musical roles most discussed by adherents of the work-centered approach to music are that of composer and performer. These two roles slot into work-centered understandings of music straightforwardly: composers devise musical works, and performers instantiate them. In discussing these two roles, work-centered philosophy of music has concentrated on such questions as 'Do composers create or merely discover musical works?'[59] and 'What is required for a performance to be an authentic performance of the work in question?'[60] These, of course, are questions that can be worthily explored by philosophers of music. But they are also quite coarse-grained in scope. The questions imply that the activity of

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[58] On this point it is worth noting that the size and layout of keyboards has been stable since the 15th century. In one of the earliest works of organology, Praetorius (2014) details other keyboard layouts, including some with keys so wide each note would have to be played with the whole hand. This, of course, would make most of the musical effects for which keyboard instruments are widely used impossible.

[59] There is widespread debate about this. Two philosophers whose work has been under discussion here: Dodd (2007) argues that musical works are something like Platonic entities and are therefore discovered rather than created; Levinson (1980, 1990a) argues that they are created against a music-historical background.

[60] Sonicism and instrumentalism imply something about what an answer might look like, but, in general, the debate about authentic performance has, as Dodd (2015) astutely points out, focused on score-compliance, rather than any other sort of authenticity.

composing music can be described as making or discovering a musical work and that the activity

of performing can be described as compliantly presenting a musical work. From a great

distance, such descriptions seem accurate, if imprecise. But careful consideration reveals how

coarse they are.

Consider, for example, the many different issues composers must face in composing a

piece of music: How many and what kind of instrumentalists and vocalists will be needed for a

performance? If there are vocalists, what text will they sing? Will the ensemble of

instrumentalists be large or small? What musical texture(s) will the piece use?[61] What melody

or melodies will be present? What harmonic structures will be used? How will these musical

elements be distributed among the performing musicians? These questions arise against

background factors: Is the piece written for specific performers, for an occasion, or for a

particular venue? These are but some of the many different activities and concerns that musical

composition involves.

Similarly, musical performance involves many different skills. Performers must, of

course, learn how to play their part in the piece. It is easy to overlook--especially for spectator-

centered philosophy of music--the fact that practicing is an extremely important skill for

performers, and it also takes up a much greater share of their time spent on music-making than

performing publicly does. In addition to developing performance techniques, performing

musicians must also develop a toolkit of practicing techniques. Through practice, performing

musicians develop an approach to the piece, an interpretation of it and the techniques by which

they will play it in performance. Such interpretations and techniques are also influenced by

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[61] In general, Western music uses three different textures: monophonic, in which a soloist or an ensemble produces one melodic line in unison; polyphonic (or contrapuntal), in which multiple melodic lines are woven together to create a whole coherent piece; and homophonic (or harmonic), in which one melodic line is supported by accompanying harmony.

research and training. And performers must also consider background factors: What is the occasion of the performance? What are the acoustic properties of the venue? Further, every performance is, to some degree, shaped by the instrument with which it is performed. Though performers develop technique so as to be able to meet a wide range of musical needs, their instrument or their voice has limits. This is especially true of pipe organs. In most cases, the organ's position in a room is fixed, and therefore its sound in relation to the room acoustics is fixed. The organ's tonal resources are also fixed; an organist can only use those stops that actually exist on the organ she is playing. And the organ's design is fixed--it is either in the early style or the modern style. Performing, then, involves much more than just complying with the score.

If the activities of composing and performing are addressed only in a general, coarse-grained way in work-centered philosophy of music, activities associated with instrument technology are not addressed at all. Indeed, it is doubtful that many philosophers of music would regard the activities of instrument builders and technicians as musical activities at all. To demonstrate the musical contribution that such activities make, let's consider some of the basic elements of organbuilding.

Pipe organs have two major components: mechanical and tonal. An organ's mechanism is the means by which pipes are played. As we saw above, the most major difference between early organs and modern ones is in the mechanism. Whereas early organs use a purely mechanical key action, modern organs use pneumatic and electric devices for playing the pipes. These mechanical differences translate into tonal differences. Organs in the early style require relatively low wind pressure and are limited in size, but modern organs can use much higher pressures and can sustain extremely large instruments.

An organ's pipes make up the bulk of an organ's tonal character. The material, construction techniques, and design of organ pipes all contribute to their tone quality, and even the most eccentric organbuilders use methods developed over many centuries. The most rarefied aspect of organbuilding is *voicing*, the process by which an organbuilder precisely adjusts the speech of each individual pipe. Each organ pipe produces only one pitch with one tone color, and its loudness is fixed. Voicers, then, make minute adjustments in the size and shape of each pipe so that it fits in with the other pipes in the stop and suits the acoustics of the room in which the organ is placed.

One of the main activities of organbuilders is the designing and building of new organs. Since, in most cases, organs are permanently installed in one room, organbuilders must take its acoustical properties and also its purpose (e.g. church, concert hall, movie theatre) into account. These considerations lead to a tonal and mechanical design. Some builders maintain flexibility in their designs, building some instruments in the early style and others in the modern mode. This allows a builder to please many clients, and to have a wide range of options for how to proceed with each new project. Most builders, however, specialize: some focus on early-style instruments, others on modern-style ones, and still others on hybrids that contain elements of each.

Other major activities of organbuilders are maintenance, revision, and restoration. Maintenance is, of course, basic upkeep. Organs that are used for frequent recitals may be serviced as much as once a month for tuning and mechanical regulation, but even heavily used church instruments receive maintenance only once or twice a year.

Revision is the process of changing some major mechanical or tonal element of an existing organ. This can involve modifying the key action (usually converting a mechanical

action organ into an electric action one, not the other way around) or modifying the tonal design by revoicing, adding, or removing stops. Most often, such revision is done in order to correct for mistakes or oversights in an instrument's construction or to make an organ more suitable for its primary purpose. This activity is fraught, since it often involves one builder modifying the work of another. It is, of course, possible to undertake a careful revision that maintains the original style and design. But, often, revisions are made to suit a particular fashion or predilection. Many of the organs of the important 20th century American organbuilder Ernest M. Skinner were revised, some quite carelessly, when his orchestral style fell out of favor. As a result, much of his best work was destroyed.

In the organ community, restoration is increasingly preferred over revision. Restoration is the process of preserving an organ and returning it to something like its original state. All organs, but modern ones in particular, have parts that simply wear out and must be replaced. Organ restorers replace these parts with ones as close to the original specifications as they can find. And, of course, some parts of organs become damaged or broken through years of use. This presents something of a dilemma: should the part be repaired, rebuilt in the style of the original, or reengineered so that the new part will perform better? Organ restorers, then, must balance the considerations of preservation and functionality.

This leads to what John R. Watson (2010) calls "the paradox of restoration." One the one hand, pipe organs are useful objects, and maintenance, revision, and restoration are undertaken to ensure their continued usefulness. On the other hand, pipe organs (and other musical instruments) are historical artifacts, akin to documents, that contain valuable information about musical practices. Teachers of organ performance generally agree that students need first-hand experience of both early and modern style instruments because they present different technical

demands.[62] Further, pipe organs themselves are important documents in the study of the history

of organbuilding. In recent years, for example, researchers have performed tests to determine

which metals (and in what ratio) were used to make the pipes of historic organs in Europe. And

mechanical designs are frequently studied and discussed among organbuilders. These insights

into past practices have influenced contemporary organbuilding.[63] It is possible that, in the name

of preserving the usefulness of a given organ, restorers will destroy or obscure some of this

documentary evidence, so restoration must be undertaken with great care.

Organbuilding, then is both an activity founded on craftsmanship and a profoundly

musical one. Organbuilders participate in a tradition that has lasted more than 6 centuries, and

the organbuilding techniques of today were developed across that long span of time. And the

tonal and mechanical aspects of pipe organs shape the music that they produce. In this respect,

organbuilders have a hand in their instruments' music-making.

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[62] Alain (1986)

[63] Brombaugh (1986, 2018), Fisk (1969).

4. THE INSTRUMENT-CENTERED APPROACH TO MUSIC

Let's return one last time to the quotation from Alperson with which we began:

> The picture of a musician playing his or her musical instrument seems to be at the foundation of what we mean by the practice of music; and the idea of the musical instrument seems central to our understanding of the musical art. Of course we know that music may include other kinds of practices such as dance, narration, verse, theatrical action, surtitles, and subtitles. But it is the musician playing the musical instrument that is at the core of [musical] practice. All other thoughts of music are parasitically or metaphorically based on this idea. (2008: 37)

A major impetus for this project was following out this observation that musical instruments are central to experiences and ideas of music and musical practice to the logical conclusion that musical instruments ought to have a place within the philosophy of music. Nevertheless, a survey of the philosophy of music reveals very few sustained discussions of musical instruments themselves and almost no investigation of the contributions instruments make to music.

For this reason, the case I have made has been mainly negative. In Chapter 2, I focused on motivating the claim that many basic philosophical assumptions, widely made by aestheticians and philosophers of art, amount to a disenfranchisement of instruments. Among other things, this habit of mind militates against the possibilities (1) that musical instruments play a substantive role in determining what music, after all, is and (2) that instruments are reliable sources of information about the nature of music. In Chapter 3, I turned to the philosophy of music, especially that which exemplifies what I have called the 'work-centered approach to music,' to demonstrate some of the ways that the disenfranchisement of instruments is evident there. Thus we considered assumptions, such as the acousmatic account of musical listening, and methodologies, such as the practice of regarding "pure" music as paradigmatic, that participate in various aspects of the disenfranchisement of instruments. I argued that an important source of this disenfranchisement of musical instruments in the philosophy of music

was the work-centered approach itself, and I suggested that an instrument-centered approach to music would yield insights about music otherwise unavailable.

In this concluding Chapter 4, I will make a positive case for the claim that the instrument-centered approach to music is a valuable alternative to the work-centered approach. This positive case has two strands. In 4.1, I will pursue a general outline of some major elements of the instrument-centered approach to music as I conceive of it, so as to explicate its perspective on music in general terms. In 4.2 I will turn to specific philosophical questions in order to demonstrate the philosophical usefulness of the instrument-centered approach to music. First, I will discuss a well-known, oft-discussed philosophical question about music--'What is the nature of musical experience?'--to show that the instrument-centered approach offers new resources for developing answers to this question. Second, I will demonstrate the generative capacity of the instrument-centered approach by considering the philosophical value of pursuing a question raised by it--'What is the nature of music-making?'--that has not been widely considered in the philosophy of music.

4.1 Outline of an Instrument-Centered Approach to Music

In Chapter 3, I recommended an instrument-centered approach to music as an alternative to the widely-adopted work-centered approach. Prima facie, this seems like a call to substitute one kind musical object (instruments) for another kind of musical object (works), which had heretofore dominated philosophical attention. But, above, I also suggested that, whereas the work-centered approach is object- or product-oriented, the instrument-centered approach I had in mind would be activity- or process-oriented. These are, of course, in conflict with one another.

The instrument-centered approach, as I conceive of it is indeed an activity-based approach to music because it is interested in instruments, not as objects, but as *participants in the activity of music-making*. That is, the instrument-centered approach does not necessarily recommend that philosophers of music attend to all of the qualities of musical instruments, but rather it commends their attention to certain of those qualities--namely those by and with which instruments contribute to or participate in the activity of music-making. In this vein, in 3.2.3 above, I discussed registration, the practice by which organists choose which stops to use and thereby shape certain aspects of the sonic character of the performance. By affording players a wide range of timbral profiles, pipe organs make it possible for a single musician to present music that makes use of an array of tone colors. Other electronic and digital instruments afford a similarly wide range of sonic and timbral profiles. And though most traditional acoustic musical instruments offer a narrower range of sonic resources, all instruments are capable of subtle shifts in timbral character. Indeed, the manipulation of such subtleties is central to the art of the performing musician. Of course, this is not something that a person can achieve alone; rather, both the player and her instrument contribute to the shape of the sound produced.[64] Thus one way in which instruments participate in music-making is by affording the production of various qualities of sound.

But if, as I have suggested, the instrument-centered approach is oriented toward musical activities and processes rather than musical objects, then in what sense is it centered on instruments? That is, wouldn't a truly activity-centered approach to music focus on musical activity in general or on one or more obviously musical activity (e.g. performing, composing) or

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[64] On this point, see Alperson's (2008) discussion of the phenomenon he calls the "embodiment" of musical instruments, the close relation between a player's body and her instrument, which often means that the line between instrument and player is difficult to draw. Alperson discusses, e.g., classical guitarists' fingernails and the facial structures (teeth, jaw, lips) of players of woodwind (saxophones) and brass (trumpets) instruments.

on a more basic activity (e.g. the production of sound) that could then be regarded as essential to the phenomenon of music?

These questions depend on assumptions about the distinction between that which is *musical* and that which is not. Performing and composing seem like obvious examples of musical activities, but why is that? From the work-centered approach to music, they are musical insofar as they result in the production or the making-audible of a musical work. Musical activity is understood in terms of musical works. Composing is a musical activity in that it aims for or results in the creation (or discovery) of a musical work, and performing is a musical activity in that it aims for or results in the dissemination of a musical work. In this respect music mirrors other artforms: painting is the activity that results in there being a new painting, writing is the activity that results in a work of literature, and so on. Artistic activity is thus understood derivatively from a work-centered approach: activities are musical only insofar as they directly contribute to the life cycle of a musical work.

An activity-oriented approach reverses this order of priority. Rather than understanding musical activity as the creation or propagation of musical objects, it understands musical objects as the inputs and outputs of musical activities. As the activity-oriented musicologist Christopher Small writes, "performance does not exist in order to present musical works, but rather, musical works exist in order to give performers something to perform" (1998, 51). Thus, performing is a straightforwardly musical activity on the activity-oriented approach broadly construed, but that is because 'performing', rather than 'work', is a basic musical term. This conclusion, however, is somewhat unsatisfying, for it is not clear that such a broadly construed activity-oriented approach to music can say much more about what makes these quintessentially musical activities *musical*.

The instrument-centered approach to music as I conceive of it, understands music as a cultural phenomenon. That is, it locates the source of the distinction between that which is musical and that which is not in musical cultures and subcultures. Broadly, a musical culture is an informal institution that underwrites musical practices. The instrument-centered approach to music that I have in mind understands this in roughly the way that the tradition of Ordinary Language Philosophy understands the phenomenon of language.[65] Musicians participate in musical cultures by learning and disseminating musical practices (such as techniques) and repertory through such activities as performing, composing, teaching, and editing and publishing scores. In this way, musical cultures are repositories of musical norms, which themselves develop through the practices of musicians.

But musicians also participate by resisting, transgressing, and innovating upon the traditions and norms of the musical cultures in which they operate. Musical cultures, then, are not static, but continually evolving through a kind of ongoing negotiation.[66] Musicians participate in this negotiation through various musical activities. Composers write new pieces of music, many of the most highly regarded of which both make use of prior "rules" or techniques (e.g. specific principles of counterpoint, voice leading, or harmony) but also "break" some of those rules in creative ways. In some cases, these transgressive innovations are also pursued by other musicians, and through such a process musical cultures (and subcultures) take shape.

Ultimately, this understanding of music as a cultural phenomenon provides a way of putting Alperson's observation about the centrality of musical instruments in musical practice to work. For the instrument-centered approach as I conceive of it thinks of musical instruments as, in two main ways, elements of musical cultures.

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[65] See the discussion of OLP in the Introduction (1.2).
[66] One helpful model for thinking about this kind of ongoing negotiation is Anthony Simon Laden's (2014) "social picture" of reasoning.

First, and perhaps most obviously, musical instruments are shaped by their musical cultures. Much of the development of the pipe organ, for example, can be traced to its history of use as the principal instrument in the Christian church. Similarly, the evolution of the fortepiano into modern piano (described above 3.3.2) was driven by elements of musical culture, in this case, the quest of composers and instrument-builders for an instrument with a louder, richer tone, greater capacity for dynamic control, and a consistent timbre throughout the whole compass. What's more, *how* an instrument is used is also shaped by musical culture, as is evident in examples in which instruments of the same type or with substantially similar material properties are used in more than one musical subculture. For example, the piano has a long, rich history in the musical cultures of both Western art music and jazz, but the instrument is used and understood differently in each. Similarly, there is no material or physical difference between a violin and a fiddle: the difference between the two is a product of the distinct musical subcultures in which they participate.

Second, and more importantly for the instrument-centered approach to music as I conceive of it, instruments also shape their musical cultures. The pipe organ, for example, is especially well-suited to playing music that is polyphonic, that is, music that consists of the blending of multiple "voices" or melodic lines (e.g. fugue, canon). This is because the organ affords the player the capacity to produce the long, sustained tones in various registers that the music requires, and, because such music does not characteristically include subtle shifts in dynamics (e.g. crescendo, diminuendo), the organ's limitations in this respect do not hamper the playing of the music. The piano, on the other hand, is especially well-suited to playing music that is homophonic, music in which one melody dominates and other musical material serves as accompaniment. Such music characteristically calls for subtle dynamic shifts, the emphasizing

of the dominant melodic line against a rich background, and a uniform timbre across the range of the instrument, all of which the piano affords.

It is no surprise, then, that the musical subcultures that prize polyphonic music also prize the organ and that subcultures that prize homophonic music also prize the piano. But, again, this cuts both ways. That is, we should also say that the musical subcultures that prize the organ also prize polyphonic music and those that prize the piano also prize homophonic music. That is, instruments--with the various musicians who interact with them--in some sense participate in the ongoing, open-ended process of negotiation that occurs within musical cultures. Indeed, instruments, instrumental techniques, and activities with instruments are, as Alperson suggests, at the heart of musical practice.

4.2 The Impact of the Instrument-Centered Approach to Music

With this general outline of the instrument-centered approach to music as I conceive of it, let's now consider two applications of it in the philosophy of music: first, with respect to questions about the nature of musical experience, and, second, with respect to questions about the nature of the activity of music-making.

4.2.1 Experiencing Music

Above, we considered this quotation from Zangwill:
> Seeing music as a human product, as people playing instruments, achieving goals, and as historically and politically situated, is all a misunderstanding and devaluation of the awesome elevation that musical experience can be. (2012: 389)

This is a straightforward statement of Kantian aesthetics applied to music, and it exemplifies both aesthetic anti-instrumentalism and spectator-centered aesthetics. It holds that the best way of experiencing music--the mode of experience that the art of music essentially aspires to

produce in its listeners--is one that is characterized by its being divorced from everyday experiences and "elevating" the listener.

Against this notion, Brandon Polite (2014) has argued that musical experience is not singular, but various. According to Polite, the Kantian account of musical experience takes the "silent, motionless listener" as its model. But, there are many ways of experiencing music that are neither silent, nor motionless. In particular, listeners sometimes dance or sing along with music as they listen. For Kantians like Zangwill, these experiences of music fail to live up to the full potential of musical experience because they are not sufficiently attentive to the music's formal qualities to become "enchanted" or "transported" by it. Such experiences are, according to Zangwill's prescriptive account, not true musical experiences.

Polite argues that by focusing on the silent, motionless listener, the Kantian account misrepresents actual musical experience. In particular, he thinks that imposing the ideal of the silent, motionless listener, the Kantian account fails to see that the experience of music is conditioned by musical culture. While some musical subcultures do both prize and even demand silent, motionless attention to music (at, for example, concerts of symphony orchestras), other musical cultures prize different sorts of experience. Polite discusses the practice of slam dancing at punk shows, and finds not only that aggressive movement is encouraged among punk listeners but also that it is possible to differentiate between musical and non-musical ways of slam dancing. "To slam dance musically, rather than unmusically,[...] requires responsiveness to what is actually happening in the music--just as to sing along musically to a pop song on the radio requires one to stay mostly on key and in time with the music" (96).

Thus Polite argues against the Kantian notion that the boundary between musical and non-musical experience is determined by the ideal experience of the silent, motionless listener.

Instead, he is concerned to show not only that it is possible for listeners to experience music in a variety of ways, but also that different musical cultures actively cultivate different sorts of musical experience. By focusing on only one mode of musical experience, pursued by one musical culture, Polite argues, the Kantian account of musical experience forecloses on the possibility that other ways of experiencing music are truly musical.

Like the instrument-centered approach to music as I conceive of it, Polite's pragmatism sees the boundary between what is musical and what is not as rooted in musical cultures. He further makes room for the possibility that players can have musical experiences of the music they are playing while playing it. The Kantian account of musical experience does not make room for this possibility. Consider another quotation from Zangwill:

> There is the phenomenon of artistic understanding destroying the appreciation of beauty, as when one learns how an effect was produced. For example, I can remember hearing a certain musical phrase that intrigued me. It seemed to have a distinctive magical effect. What was it? How was it done? I sat down and worked it out. Thereafter, that music never sounded magical to me in the same way. The music was thereafter disenchanted for me. I knew how the trick was done. Being a musician had damaged my musical experience in this case. (2013: 79)

This is the familiar notion that knowing too much about or getting too close to the processes by which a work of art is made will vitiate the possibility of experiencing that work aesthetically. Zangwill offers it as a consideration in favor of spectator-centered aesthetics, and, one step further, for a kind of anti-intellectualism that holds that the best or the truest aesthetic experience is possible only under the conditions of a certain sort of ignorance. Together with the disinterestedness thesis, this anti-intellectualism suggests that it is not possible for a player to have a genuine aesthetic experience of music she is currently playing. Players are simply too close and too invested in their music to experience it aesthetically.

Zangwill is surely right that, in some cases, players experience disenchantment after learning to play a piece of music they have enjoyed as listeners. But it also happens, in other cases, that players have a heightened aesthetic experience of a piece after learning to play it. One piece of evidence for this is the phenomenon of performers in the tradition of Western art music being associated with a signature piece of music. Yo Yo Ma, for example, has played Bach's suites for unaccompanied cello throughout his long career, and has made three different recordings of them, yet, he continues to discuss them in ways that suggest continuing aesthetic engagement with them despite--or, indeed, because of--extensive study.[67]

What's more, it is also possible to have a distinctive aesthetic experience of a piece of music while playing it. The most obvious example of this for me is the experience of playing pieces that might be largely classified as "etudes." From the French word for "study," etudes in the tradition of Western art music are generally pieces for a solo instrument that are designed to exploit certain skills and thereby "teach" them to players who learn the piece.[68] Another feature of many etudes is that the experience of the music derived from listening to it diverges from the experience of the music that occurs while playing (or trying to play) it. One of the most straightforward sources of these differences is the fact that etudes often operate essentially as puzzles for players to "solve."

For example, César Franck's (1822-1890) *Grand Pièce Symphonique* includes an Andante movement that consists of a relatively simple, tuneful melody with a richly textured accompaniment.[69] It presents the player with two main difficulties, which compound one another. First, the piece, like all of Franck's music and like much of the music of the French

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[67] See, for example, <https://www.classicfm.com/artists/yo-yo-ma/bach-cello-suites-video/>.

[68] In this respect, 'etude' as I am using it here, is related to but distinct from Thomas Carson Mark's (1980) 'works of virtuosity.'

[69] The entire (lengthy) *Grand Pièce Symphonique*: <https://www.youtube.com/watch?v=dkxY3lk3qLQ>. The Andante section under discussion here runs from 11:25 to 15:10.

Romantic subculture in which he was an important participant, is highly chromatic. That is, it moves freely across different keys through the use of accidentals. The second, compounding difficulty is that the piece is written in the key of B major (5 sharps in the key signature). For many musicians, reading a score in such a "distant" key is much more difficult than reading one in one of the "nearer" keys (with fewer accidentals in the key signature). What's more, highly chromatic music in a distant key is especially difficult to read because it uses not only standard accidentals but also double-sharps and double-flats. These factors mean that a relatively simple piece is difficult to play. Indeed, transposed a half-step up, into C major, much of the difficulty would disappear, and it might even lose its claim to being an etude. Playing the piece, however, requires grappling with Franck's chromaticism in B major. In a good performance, the piece sounds lyrical and sweet, but the player's experience of it while playing is likely colored by the difficulty of reading the score. Such an experience brings out the triumphant character at the climax of the piece, which might otherwise be less obvious. This aspect of the piece--that the biggest challenge in playing it lies in its chromaticism and the awkwardness of reading a score in a distant key--is not evident to listeners who have not attempted to play it.

Players also experience music in a tactile way. Playing a piece of music, after all, requires engaging in physical activity with an instrument that provides tactile feedback. Consider, for example, another French Romantic organ piece, Eugene Gigout's (1844-1925) Toccata in B minor.[70] Like other French toccatas from the late 18th century, this piece is one of perpetual motion; there is an unbroken string of 16th notes from the beginning to the end of the piece. This constant, regular motion means the piece resembles a locomotive or other machine. Players must, to some extent, embody this machine-like motion, which affords them a kinesthetic experience of the piece. Further, this embodied experience is importantly conditioned by the

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[70] A recording is available here: <https://www.youtube.com/watch?v=S2lPZbcZoCE>.

instrument itself. Much of the piece follows a strict pattern such that the player must play a series of four 16th notes that rise in pitch with her left hand followed by a series of four 16th notes that fall in pitch with her right hand. This means that the player's bodily motion in playing the piece mirrors the reciprocating motion of a piston or other machine component. And this owes to the layout of the organ keyboard, which is arranged such that the pitch rises from left to right.

By contrast, *Le Banquet Céleste* by the French Modernist composer Olivier Messiaen (1908-1992) unfolds extremely slowly, and includes many long notes.[71] The first chord of the piece, for example, is a dotted half-note, which at the prescribed tempo of 52 eighth notes per minute lasts almost seven full seconds. The entire piece is only 25 measures long, but it takes more than seven minutes to play. This makes it a physically and mentally demanding piece to play. Like much of Messiaen's music, *Le Banquet Céleste* is both mysterious and mystical. Its title and the score's epigraph ("Whoever eats my flesh and drinks my blood remains in me, and I in them." John 6:56) signal that it is a piece about the Christian Eucharist and the story of the Last Supper on which that ritual is based. For this reason, it is often used in services during the administration of the Eucharist (communion) and on Maundy Thursday, which memorialize the Last Supper. These--the Eucharist and Maundy Thursday--are two of the most solemn occasions in the Christian liturgy. The mood of the piece is meditative, and, given its extreme slowness, playing it can induce the organist into such a state, in which each movement is slow and deliberate. The score of the piece also presents some challenges--it too is written in a distant key (F-sharp major, 6 sharps). It is also harmonically unusual. That is, the chords Messiaen writes do not follow typical patterns, and some of the challenge of playing the piece is that of becoming comfortable playing unfamiliar chords. Another challenge of the piece is its pedal line. Most of

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[71] A recording is available here: <https://www.youtube.com/watch?v=8jkAyDea7UE>.

the time, composers instruct players to use the pedals to play a bass line, the lowest notes of a piece. In this case, Messiaen instructs the player to use the pedals to play a long string of high staccato notes "*à la goutte d'eau*"--like drops of water, symbolizing the blood of Christ. The piece, then, is particularly suited for the organ and cannot be easily transcribed for another instrument.[72] And it affords the organist an experience of the music that is consonant with the aesthetic experience it affords listeners.

Both the perpetual motion of the Gigout and the sustained slowness of the Messiaen place demands on the organist's attention, but they do so differently. The former requires precise control of regular movements, and the latter requires precise control of the slow progression of irregular movements. In both cases, the performer's physical movements must embody, and therefore reinforce, the aesthetic qualities of the piece. In this way, players' experiences of playing a piece can be seen as enhancing rather than diminishing their aesthetic experiences of the music. Similarly, the difficulties presented by the scores of the Franck and the Messiaen can also enhance players' aesthetic experiences of the pieces. Both promise a feeling of accomplishment in overcoming that difficulty. In the Franck, this sense of triumph is mirrored in the aesthetic qualities of the music itself. In the Messiaen, the accomplishment is more like that of achieving a state of meditative stillness, the very feeling that the piece invites in its listeners and for which it is often used in a liturgical setting. These experiences of players are importantly conditioned by the instruments they play.

Whereas the Kantian picture of aesthetics draws a sharp distinction between the spectator and the aesthetic object, the instrument-centered approach to aesthetics rejects this spectator-centeredness, anti-instrumentalism, and anti-intellectualism. Instead, like Polite's pragmatism, it

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[72] Except, perhaps, for an orchestra or other large ensemble. Indeed, an earlier version of the piece was written for orchestra.

admits of a variety of musical experiences, including explicitly acknowledging that it is possible

for a player to have an aesthetic experience of a piece of music while engaged in playing it.

Further, it sees these players' musical experiences as crucially shaped by the instruments they

play. As we have seen, these experiences do not occur in a vacuum, but are conditioned by

various properties of instruments--including the material and the technological.

4.2.2 Making Music

In the last section (4.2.1), we considered some of the ways that the instrument-centered

approach can offer new perspectives on the nature of musical experience. Let's now consider

some ways that the instrument-centered approach can contribute to the philosophy of music by

raising questions and bringing issues to light--in particular, those that are related to the activity of

music-making.

In general, the work-centered approach to music adopts what might be called a "modular"

account of the activity of music-making.[73] That is, to the extent that it considers the activity of

music-making at all, it does so atomistically, by investigating objects and phenomena that are

related to (or are, indeed, components of) music-making without engaging in a sustained

investigation of the activity itself. Philosophers operating from the work-centered approach have

investigated such things as the normativity of scores (Rohrbaugh 2020), score compliance (S.

Davies 2001), the emotional impact of musical works (Kivy 1989), and the nature of

compositional creativity (Dodd 2007, Levinson 1980). These are all, in some sense, elements of

the activity of music-making, and they have all received a good deal of individual attention from

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[73] There is some broad overlap between my use of the term here and the notion of the modularity of mind, particularly the idea that a large and complicated phenomenon (mind, music-making) can be understood by examining its parts, which are themselves identified by their function. See Fodor (1983), Robbins (2017).

philosophers of music. But it is doubtful that atomistic investigation of these diverse "modules" actually amounts to a substantial treatment of the larger phenomenon of music-making.

Indeed, there are important elements of music-making that are largely overlooked or dismissed in work-centered philosophy of music. For example, the modular account of music-making generally proceeds as if performances are the primary way of realizing (that is, making perceptible) musical works. But simple reflection shows that *performing* is but one way (among many) of playing a musical work. In addition to performing, musicians also rehearse. This, too, makes a work perceptible; indeed--importantly, given the notion that players can have musical experiences of music they are playing discussed above--chapter 4of the point of rehearsing a piece is making it perceptible to the player. Similarly, musicians sometimes play a piece alone in order to study it. This is not quite the same as rehearsing, for the latter is preparation for a public performance, whereas score study may not aim at that purpose. Players also sight read pieces in order to improve their skill at playing from an unfamiliar score, and this practice, too, has no direct relation to any particular performance. What's more, players also sometimes play for fun, alone or in groups with little thought of publicity at all. This variety of ways of playing a piece shows that performing is not the only way of playing.[74]

Further, there is variation among performances. Many organists, for example, work as church musicians in addition to their other musical roles, such as teaching and concertizing. Playing for a church service, like playing a concert, involves the public presentation of music. Audiences behave differently. At concerts, spectators often strive to be the silent, motionless listener that the Kantian account of musical experience idolizes, but in church, the music is often regarded as background accompaniment. In some cases, this is because the music is meant to

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[74] It is worth noting that Julian Dodd (2007) draws a different distinction between playing and performing. For Dodd, a performance involves an active agent, as when Yo Yo Ma performs the Bach suites at Chicago's Millennium Park, but a playing occurs when, e.g., an iPod makes audible a recording by Yo Yo Ma.

serve some liturgical purpose like leading the congregation in hymn singing, focusing the

congregation's attention on the liturgical activity, or evoking a particular feeling. Other times,

this is simply because members of the congregation ignore the music that precedes and follows a

service or even talk over it. Playing for a church service, then, is importantly distinct from

playing a recital: the repertoire, rehearsal plan, and the standards of performance are all

different.[75] This suggests that there is variety even among performances themselves.

Whereas the work-centered approach's modular treatment of the activity of music-

making focuses mainly on composing and performing, two of the most public-facing aspects of

music-making, the instrument-centered approach commends attention to the great variety of

music-making activities. Many of these are more private than composing and performing, such

as the various sorts of rehearsing discussed above. And some examples of making music overlap

with cases of experiencing music. One might, for example, move along with music in a way that

contributes a percussive element, by, for example, stomping feet, clapping hands, snapping

fingers. Similarly, Polite's example of singing along with a recording or at a concert is both a

way of making music and experiencing it. The Kantian account of musical experience seeks a

bright line between these two activities and assumes that engaging in one requires eschewing the

other. But the instrument-centered approach as I conceive of it regards the two activities as

deeply interrelated.

One particular element of music-making that is central to the work of performing

musicians, but is to my knowledge never discussed in the philosophy of music is *programming*.[76]

Programming is the practice of designing a concert, recital, "set", or other public presentation of

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[75] This is not to say that church musicians slack on their duties. The best among them maintain high standards of performance and choose from the best of the organ repertoire. The point is that the *situations* are different.
[76] Two major philosophical studies of musical performance, Godlovich (1998) and S. Davies (2001) do not mention programming.

music. Some degree of design occurs--either consciously or by neglect--with any musical program that presents more than one piece of music, since each one will precede or follow another. Of course, most concerts include more than one piece of music, and thereby include some degree of programming.

Programming is an element of performance that is subject to evaluation. Critics and audiences often consider the variety and the flow of a concert. The traditional programming of symphony concerts begins with an overture, followed by a concerto, followed by an intermission, followed by a symphony. There is a certain logic to this structure. The first piece is one designed to set a mood, and they are generally relatively short. A concerto, a piece for a soloist or a small ensemble accompanied by an orchestra, is a chance to feature one or a few musicians and allow them to show off their virtuosity. The audience's appetite thus whetted, the concert can continue with a symphony, the longest work on the program, which will showcase the orchestra as a whole. This pattern of programming makes for a concert that rewards audience attention by presenting music in a variety of genres and structuring the program in a way that builds interest.

Other considerations factor into the art of programming as well. For example, many concerts are organized around a particular theme, and pieces are chosen that fit that theme. Similarly, concerts are sometimes used to mark anniversaries, such as that of the birth or death of a composer, the establishment of an ensemble, or writing of a particular piece.

Similarly, newly built, restored, or relocated pipe organs are customarily celebrated with dedication (or rededication) concerts. One aim of such concerts is showing off as much as possible of what the instrument is capable of. This means choosing a program of pieces with a wide stylistic range, so that the concert can serve as a demonstration of the organ's potential.

This programming consideration is not limited to dedication recitals, but is a common way of thinking about organ recital programs. This is in chapter 4because of several factors discussed above: organs have a low level of standardization, which means that what an organ can do is largely determined by the builder's work; they are situated, which means that what an organ can do is also determined by the room's acoustics; and organs are designed to produce a wide array of tonal "colors" through the organist's art of registration. Showing off a particular organ's capacities, then, is a factor in the programming of most organ recitals.

Another programming consideration that is similarly driven by an instrument is that of presenting the instrument's repertoire. Within a musical culture, instrument-types come to be associated with some of the uses to which they have historically been put. In some cases, this is mainly because one player's techniques are adopted or emulated by others. In other cases, it is because a composer's technique of instrumentation (the art of assigning musical lines to instruments) is adopted or emulated. In this way, uses of instruments aggregate, and they are also aggregated in studies of instrumentation and of an instrument's literature.[77] In general, repertoire influences programming in two main ways. On the one hand, some concerts and recitals are designed to present selections from across an instrument's repertoire. For example, because the organ's repertoire spans six centuries, some recitalists choose one piece from each century. On the other hand, other concerts and recitals are designed to showcase a particular chapter 4of an instrument's repertoire by featuring the work of a single composer, a single school or other subculture, or various composers' forays into a particular genre. In these ways, both instrument-types and instrument-individuals influence the art of programming.

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[77] One of the most influential treatises on instrumentation is Berlioz (1853), which is primarily concerned with instruments and instrumentation of orchestras. The standard reference on the literature of the pipe organ is Arnold (1995).

Instrument-individuals also influence players' techniques. A story told by the renowned organist and pedagogue Janette Fishell illustrates this point well.[78] Fishell had been booked to play a recital at the Methuen Memorial Music Hall outside of Boston. The organ there is large and symphonic. It is most well-suited to playing music in the style of the Romantic subculture. Nevertheless, Fishell had programmed a piece by Bach, music from a subculture that is not only stylistically distinct from that of the organ, but one the style and practices of which Romanticism disavowed. In rehearsal, Fishell found that the organ was simply not capable of producing an historically accurate performance of the piece, and that the results of her attempts to do so were unacceptably unmusical. She thus decided to abandon historical accuracy and to instead utilize the (historically inaccurate) techniques used within the Romantic subculture to play Bach. At this, the organ excelled, and her performance was an interesting presentation of the techniques of an historical subculture, however inaccurate they now seem.

Another renowned organist and pedagogue, Marie-Claire Alain (1986), further argues that instruments play an important pedagogical role, teaching organists how to play. This is especially true in the case of playing the music of an historically distant subculture. As we saw above (2.3.2), the technology of early organs (and recent organs built in the early style) differs significantly from that of modern organs. This difference extends to both the tonal makeup and the mechanism of these organs. This means that early organs require different techniques of both playing and registration than modern organs do. Because early organ music was written with early organs in mind (since they were the only organs that existed at the time), learning early techniques is crucial to playing early music in a way that is historically authentic.[79] And one

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[78] Fishell told this story at a masterclass sponsored by the North Shore Chapter of the American Guild of Organists at Alice Millar Chapel of Northwestern University, November, 11, 2017.

[79] A leading organ method book, (Ritchie and Stauffer 2000), teaches two different techniques, early and modern.

important source of information about early organ techniques is the feedback a player receives from playing on an early (or early-style) organ.

These considerations suggest that, in at least some cases, the accomplishment of playing a piece is not solely creditable to the player, but is best understood as an achievement of the collaboration between instrument and player. This notion clearly challenges the individualism of the genius-model of creativity, the widespread assumption that creative accomplishments are, by their nature, the province of individuals working largely alone. But the instrument-centered approach to music as I conceive of it regards musical instruments as true participants in the activity of music-making, even to the extent of seeing instruments as sharing in the accomplishments that are often seen as belonging to the player alone.

4.3 Conclusion

The main thrust of this dissertation has been to follow the observation that musical instruments are central to our experiences and thoughts about musical practice and music itself to the conclusion that instruments ought to occupy a place of prominence in the philosophy of music. Parts 1 and 2 primarily address the question of why it is that instruments are not generally regarded as a fruitful avenue of inquiry or as a reliable source of information about the art of music. To that end, Chapter 2 outlined the philosophical disenfranchisement of instruments, a widespread phenomenon, especially in aesthetics and the philosophy of art, that militates against the idea that instruments themselves can serve as sources of information about the ends and activities for which they are used. Chapter 3 focused on the philosophy of music by outlining the work-centered approach to music, an application of the disenfranchisement of

instruments. It further suggested that an instrument-centered approach to music is a viable alternative.

In Chapter 4, I began making a positive case for an instrument-centered approach based on the ideas that (1) music is an essentially cultural phenomenon and (2) that musical instruments are central participants in musical cultures. This does not preclude, but rather embraces, the possibility that musical instruments and musical cultures shape one another. Indeed, the recognition of this phenomenon--that instruments and musical cultures are mutually shaping--is an important component of what makes the instrument-centered approach as I conceive of it instrument-centered, for it amounts to the recognition that instruments are central participants in musical cultures.

I also discussed two broad questions about music to which the instrument-centered approach to music can contribute. First: the long-standing philosophical question of the nature of musical experience. Whereas traditional (Kantian) accounts of musical experience think of them as anti-instrumental, spectator-centered, and anti-intellectual, the instrument-centered approach recommends a different account. Following Polite, it acknowledges that not all musical experience must fit the model of the silent, motionless listener, for, indeed, truly musical experiences can involve bopping, dancing, or singing along. Further, it is possible for musicians to have true musical experiences of both pieces that they have studied intensively and that they are in the process of playing.

Second: the relatively undiscussed philosophical question of the nature of music-making. Just as the instrument-centered approach acknowledged the variety of musical experience, so it acknowledges variety in the modes of playing music. There is, in other words, much more to making music than performing. For example, players also play for fun, rehearse, sight-read, and

study scores. These activities are as much a chapter 4of the life of a musician as performing.

What's more, performing itself is not a singular phenomenon, for different performance

situations place different demands upon performers. The instrument-centered approach also

brings to light an element of musical artistry that has not been recognized in the philosophy of

music, the art of programming. In exercising this art, musicians face questions of when and

where and how and why to perform pieces of music. Of course, some of these decisions receive

practical (or, indeed, mercenary) answers rather than artistic ones, but even this fact is of

philosophical interest, if only because it shows just how idealistic traditional aesthetics tends to

be. So whereas the work-centered approach to music suggests that performing a piece of music

is mainly (or entirely) a matter of negotiating the score, the instrument-centered approach

reminds us that it also includes collaborating with an instrument. Finally, the instrument-

centered approach suggests that common assumptions about the nature of musical creativity and

achievement need some adjustment, for instruments should, in at least some cases, be viewed as

collaborators.

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                  Honorable Mention, Essay Award, St. John's College, 2007