

Tonality and Racism

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Tonality may be the single most important organizing concept in contemporary music theory. At my institution, Boston University, all the major theory requirements for graduate students in performance, composition, and theory, come in twos: one course for tonal music, and one for “post-tonal” music. This is typical of major North American conservatories and schools of music. The design of our music theory curricula and conference programs demonstrates that, structurally, the primary role of the concept of tonality is to segregate repertoire and analytical tools. Furthermore, there is a historical element to that segregation, isolating the first two decades of the twentieth century as a singular inflection point in the history of music. This practical function of the tonality concept, with its historical orientation, contrasts with the idea of tonality as a musical property, having to do with the perception of keys and tonics. This essay explains how the dual senses of tonality are incoherent and serve to perpetuate the racist origins of the term. I also argue that, despite its ubiquity, dropping the term from our theoretical lexicon would not cause problems, and there is little downside and many benefits to doing so.

Before there was a concept of atonal music, and hence of tonality as a means of sorting classical and modern music, Alexandre-Étienne Choron and François-Joseph Fétis introduced “tonalités” as a way of sorting and valuating ancient and modern music with an evolutionary lens.¹ This history is entangled with a major intellectual project of nineteenth-century Europe, the pseudo-scientific defense of colonialism and white supremacy. Fétis adopted one of the main explanatory formulas of white-supremacist thinkers, a teleological evolution narrative in which non-Europeans occupied the earlier stages in a process that culminated with contemporaneous white Europeans. Though largely forgotten by theorists for much of the twentieth century, Fétis’s racist ideas are perpetuated by the conceptual architecture of tonality and the institutional structures built upon it.

Fétis linked biological racism with his concept of tonality most explicitly in his last major project, the multivolume *Histoire générale de la musique* (Fétis 1869). This work of comparative musicology surveys music from all parts of the world, and from the history of European music going back to classical antiquity. The entire premise of the work is inspired by the biological racism then current in European intellectual circles. As Fétis himself asserts in the introduction,

I believe it necessary to make, from now on, a distinction which seems to me of great importance for the perfect understanding of the object of this history: namely, that among peoples of all races and all times, music is not only the primitive satisfaction of an instinctive, sentimental or traditional need; that it only becomes art when the system of its elements is complete; and that this condition being realized only in the music of modern Europeans, only this should be considered as art. This is the ultimate goal of my book. (Fétis 1869: 5, my translation)

¹ The term first appears in print in Choron and Fayelle 1810 and features prominently. Expositions of Fétis’s mature early theory of tonalité appear in Fétis 1840 (see also Fétis 1994) and Fétis 1844. The centrality of historical concerns in his initial development of the theory is evident in the former and third book of the latter.

In his introduction he draws links between musical concepts of scale and meter and current white supremacist thought, including references to the racist pseudoscience of phrenology and the racial determinism of Joseph Ernest Renan. He also refers repeatedly to his concept of *tonalité*, which is central to his assessment of each musical culture he surveys throughout the *Histoire*. Immediately after defining the term *tonalité* for a lay audience in the introduction, he lays out the white-supremacist agenda of the book highlighting the central role of tonality in it:

The inhabitants of Europe and those of the colonies founded by them have, in general, the necessary aptitude for grasping the tonal relations [*rappports de tonalité*] of certain series of sounds; an aptitude which develops by the habit of hearing music and which is perfected by study, because the law of progress is inherent in the nature of this race. It is through it that they possess the ability to sing in tonal accuracy and to vary the forms of their songs. Savage populations also have the physiological organization by which we perceive the sensation of sound and which allows us to grasp the relationships between sounds, so as not to confuse the intonations and to be aware of their differences, but these sentimental and intellectual operations take place in them within narrower limits, owing to the inferiority of their cerebral conformation. Like the peoples of other races, they also have the memory of sounds and the faculty of reproducing them by the singing voice as they do by the spoken voice, but always imperfectly. Hence it is that their songs are only composed of a small number of determined sounds, which rarely rise above four, and that the sterility of their imagination does not allow them to vary the successions; beyond, finally, the remarkable monotony of the songs of all the savage peoples of the earth, particularly those who are cannibals. There is no doubt that the primitive race whose remains have been found in the cave of Chauvaux, on the banks of the Meuse [. . .], and whose cerebral conformation was analogous to that of certain tribes of Oceania, has sung in the same formulas as these, and there is also no doubt that if, in a few centuries, there are still savage tribes that will not have been modified by contact with white people, their songs will still be what they are today; for, among these unfortunate races, there is no progress possible by intuition. (Fétis 1869: 12, my translation)

The white supremacist agenda of this passage is obvious, a kind of musical counterpart to his contemporaries' attempted use of physiology and language to demonstrate the racial superiority of white Europeans. The discursive methodology of the passage is typical of the genre: it promotes deliberate confusion between contemporaneous "savage" or "primitive" populations that Europeans were encountering amidst their colonialist projects and historical populations of early humans, claiming with no evidence—but still somehow insisting on "no doubt"—that their music is the same. Just as others had claimed that geographically foreign peoples resemble historically foreign ones in their physiology, Fétis claims they also resemble each other in their tonalities.

Thomas Christensen (2019: 183–208) observes that the explicit racist ideology expressed in the *Histoire générale* is a relatively late development in Fétis' writings.² Yet while we might like to think that this is a case of an otherwise innocent concept of tonality being seduced to the "dark side" of

² Christensen's chapter also goes into more depth into the writing of *Histoire générale* and the white supremacist ideas that inspired it, and some of the racist claims that Fétis levels against specific musical cultures.

white supremacy, the conceptual network of Fétis' writings on tonality suggests something closer to the reverse, that the epistemological architecture he built around tonality led to his enthusiasm for the white supremacist pseudoscience that inspired the *Historie générale*. This includes the idea that tonality is a product of human culture and psychology, not inherent in physics of sound, the historical and cultural relativism of tonality, and the Hegelian notion of a teleological evolution of tonality in European music history.³ It remained only to transfer the chauvinistic logic of difference-equals-inferiority from ancient music to foreign music.

While most music theorists know Fétis as the originator of the concept of tonality, his racism (unlike Heinrich Schenker's) is less discussed. In a blog post written after the publication of his book on Fétis, Christensen discusses his dismay at discovering the depth of the theorist's racist ideology and the implication of his central theoretical contribution, tonality, in it. He opines, nonetheless, that

It's surely unrealistic to say we should just jettison the term. If we didn't have the word "tonality" we'd have to invent something as a synonym to describe a tonal practice that covers a huge swath and timespan of Western music in which most of us intuit common salient features, even if we might disagree on the precise physiognomy of these features. No, we are probably stuck with the term.
(Christensen 2020)

His confidence that this point will be uncontroversial ("surely") is bolstered by the thoroughness with which the term pervades music-theoretic discourse. But what is the essential work that the term is doing in this discourse? Christensen identifies it: to describe "a timespan of Western music in which most of us intuit common salient features." But most contemporary discussions of tonality (e.g. Tymoczko 2011, 2023; Harrison 2016; Long 2020) actually struggle against this aspect of the term, identifying features of "tonal practice" that extend before and after the tonal era of Western music, and outside the confines of "the West." For such discussions, the signature feature of "tonality," its ethnic-historical box, becomes an obstacle to the central theoretical goals of finding continuity between historical eras and cultural practices. From this perspective, tonality is an albatross that we should be eager to be rid of.

The evolutionary narrative that began with Fétis was the principal motivation for the adoption of atonal styles in the twentieth century, which were routinely characterized in evolutionary terms, as the logical next stage in the process of the development of music. Fétis himself anticipated the concept of atonality with his *ordre omnitonique*, as the ultimate stage in the evolution of tonality. This is not because he had a gift for prophecy but because his work had a profound effect on this history, first through his theories' influence on Franz Liszt (Berry 2004, Christensen 2019: 256–259). After Liszt, the figurehead of the movement to abandon tonality was Arnold Schoenberg, who also viewed the change in musical style in distinctly teleological terms and with a close eye on the Austro-German canon and his own potential place in it. His *Harmonielehre* (Schoenberg 2011, 1978) describes his atonal music as the logical goal of the evolution of tonality. Much like Fétis, he takes great pains to ground this teleological narrative of tonality in natural laws, an argument whose many obvious holes have been well documented by Markus Böttgeman (2012). Schoenberg's commitment to the common source of tonal and atonal harmony in nature led him to seek out a system of organization for atonal harmony, a role that would eventually be fulfilled by his twelve-

³ All of these ideas are detailed effectively by Christensen (2019).

tone technique. In the well-known essay that first made that method public, “Composition with Twelve Tones,” he prefaces the description of it with a lengthy historical justification, beginning with a thumbnail history that proceeds from tonality to extended tonality to “emancipation of the dissonance”:

In the last hundred years, the concept of harmony has changed tremendously through the development of chromaticism. The idea that one basic tone, the root, dominated the construction of chords and regulated their succession—the concept of *tonality*—had to develop first into the concept of *extended tonality*. Very soon it became doubtful whether such a root still remained the center to which every harmony and harmonic succession must be referred. (Schoenberg 1950: 103–104, original emphasis)

The conspicuous placement of this account in an essay whose main purpose was to advertise his twelve-tone technique illustrates to what extent portraying this compositional method as the logical outcome of a historical process was essential, in Schoenberg’s mind, to the goal of justifying it.⁴ This historical narrative was alive and well into the post-war period. Pierre Boulez, for instance, the pre-eminent spokesperson for post-war modernism, continues to echo Fétis, even into the 21st century, when he says, “the tonal system has gone through a kind of historical evolution, and you cannot go back. That’s impossible.” (Boulez 2010)

This inheritance guides the curricular and professional organization of music theory. The term “post-tonal” itself is a primary indicator of the lack of structural integrity in our institutionalized sorting of music and music theory. This term, enshrined in the title of the most widely used textbook on the subject, Joseph Straus’s *Introduction to Post-Tonal Theory* (4th ed. 2016), substitutes for the term “atonal,” and now serves as the term of choice for the theory devised for music of Schoenberg, Webern, their contemporaries, and later followers of the modernist tradition they represent. The substitution partially redresses the marginalization of twentieth-century music with tonal elements (Benjamin Britten, Ralph Vaughn Williams, Phillip Glass, etc.) resulting from the division of theory into tonal and atonal, but it does nothing for the music outside of this history altogether.

The Eurocentric historicism that created the modernist movement, and that Fétis played a key role in creating, thus continues to delegitimize non-white music in our institutions. Perhaps to most of us this has seemed like an unfortunate accident, but that is because we buried a key piece of the history of the concept of tonality. When we see the full story, from the creation of the concept of tonality to the invention of atonality and its institutionalization, I believe it becomes clear that delegitimizing non-white music has been the agenda all along, even if those of us carrying out this agenda have in most cases not been fully aware of it.

When you ask music theorists to define tonality, they will typically focus on technical features of the music rather than its history. In July of 2020 I asked a discussion group of the Society for Music

⁴ Perry (2000) goes into more detail to explain how Schoenberg’s thought is heavily informed by a “Ladder of Progress” evolutionary narrative of music. Perry also makes the important point that the “Ladder of Progress” is an incorrect, though ubiquitous, way of understanding biological evolution, and that therefore an evolutionary model of music without the problematic teleological element is possible.

Theory for their preferred definitions of tonality.⁵ This should not be seen as a proper survey—people who do not believe they have a sufficiently interesting or original definition would probably not be motivated to post—but the comments are enlightening if we keep this response bias in mind. While well-known published definitions of tonality highlight musical materials such as diatonic scales and triads and the concept of harmonic function,⁶ respondents to the discussion thread generally avoided these specifics in favor of perceptual language (presenting tonality as a way of hearing as opposed to a set of musical features), and abstract concepts of expectation, attraction, and pitch centricity. Many of the comments used these more abstract definitions for the expressed purpose of ensuring that the concept of tonality would apply broadly to musical styles and not privilege the eighteenth-century European music that typically anchors the concept.

The problem is that the term “tonality” binds these perceptual constructs of music theory with its ethnic-historical frame. It ties phenomena like tonal expectation and centricity to the conventions of European concert music circa 1780 in a way that would seem absurd in the absence of such a term. By appealing to nature in the form of psychology or physics, we risk recapitulating the kind of teleological narratives that convinced the likes of Fétis and Schoenberg of the logical necessity of their music. This is as much a barrier to the progress of music theory as it is to antiracism. Each time that we turn to Mozart or Bach in search of a perceptual account of tonal expectation under the hypnotic sway of “tonality,” we lose a chance to disentangle the biological and cultural substrates of this perceptual phenomenon. This is not to say that studying the music of Bach or Mozart cannot help lead to insights about music perception, nor certainly that this music is not a topic of inherent interest to music theory, but that doing so through the lens of “tonality” is deleterious to these goals.

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As a case study in the racist associations of tonality, consider Joseph Yasser’s *A Theory of Evolving Tonality* (1932), a brilliant work of speculative theory and deeply influential in the areas of scale theory and tuning theory. Most scholars hold it at arm’s length (I admit to a long hesitation just now in typing the word “brilliant”). Norman Carey and David Clampitt (1989, 1996) do not cite Yasser, although they each discuss his theories at length in their dissertations (Clampitt 1997, Carey 1998—especially Carey, who also refers to Yasser as “brilliant” but adds “eccentric”). Both writers recognized the close relationship of Yasser’s theory to their own concept of the well-formed scale. The influence of the racist origins of “tonality” is inscribed directly into Yasser’s title with its reference to *evolving* tonality. If there were any doubt, it is not hard to find the logical conclusions of this idea in Yasser’s text, which associates Chinese music with the simpler, more “primitive,” 5+2 tonal system and makes the implications of this clear with comments like,

We may acknowledge that the harmonic formations of the Chinese are still primitive and that they possess nothing resembling our Occidental harmony. (Yasser 1932: 66)

This quotation is especially indicative of the temporal aspect of “evolving,” in that he refers to Chinese harmony as not just “primitive” but “*still* primitive,” as if it were destined as some point to adopt the European harmonic system. This temporality is also evident in his equation of Chinese

⁵ <https://discuss.societymusictheory.org/discussion/524/a-poll-your-definition-of-tonality>. To be clear, I had nothing like the present essay in mind when starting this thread, and to a large extent it was thinking about these responses, and a terse and provocative comment from Nathan Martin in particular, that inspired it.

⁶ Straus 2005 (Straus removed his definition of tonality in the fourth edition of this book, Straus 2016), Tymoczko 2011.

harmony with medieval organum on the basis of flimsy evidence (69–71). In addition, it leads him to predict the future of European music in a system of chromatic scales in a 19-tone gamut, a prediction that has singularly failed to materialize.

It is not my purpose here, however, to cast aspersions upon Yasser for writing a book with a racist premise. Indeed, it would be unfair of me to do so, writing in 2022 with access to a century of thought and scholarship providing historical and theoretical perspective on the racist ideologies that were taken for granted in the early twentieth century when Yasser was writing. And, when I *read* the book (rather than mine it for damning quotes), a genuine love for Chinese music rings through the text quite clearly. It would be silly, in other words, to focus Yasser's *personal* failing in promoting a racist idea. At the same time, it is important to recognize that racism is indeed integral to his text and to see that as a moral failing of his theory, and one that is not unique to Yasser but endemic to theories of tonality, beginning with Fétis. It is simultaneously a moral and a scholarly failing, the latter clear in Yasser's implausible and ultimately false prediction about the future of Western music, and in other details such as a stylistically absurd harmonization of “an ancient Celtic melody” (“The Lay of Diarmad”) in fourths (Yasser 1932: 95–97). All of this is easy to see in Yasser's book with the benefit of a lot of historical perspective. It is harder to see in our own theories, and the most important reason not to sweep *A Theory of Evolving Tonality* under the rug is that it might help us do just that.

I also want to recognize the beauty and importance of Yasser's theory without ignoring its racist premise. It is a significant influence on my own thinking about scale systems, and I therefore have an important responsibility to identify how and why it is entangled with racist ideology, so that I do not perpetuate that racism.⁷ It is especially easy to see in Yasser's book that the source of racism is the concept of tonality, which historicizes features of musical practice (in this case tunings and scale systems) and injects a value system into these historicized theoretical concepts through a teleological concept of evolution. Indeed, in one of the articles upon which the book is based, reprinted in it as an appendix, Yasser explicitly offers a Hegelian gloss on his theory (329–330). It is telling that precisely this band of German idealist philosophy was a crucial inspiration for Fétis to adopt the influential theory that tonality evolves in a particular direction by logical necessity, instead of simply reflecting cultural differences. (Christensen 2019: 13–28, 97)

Why, for instance, did Yasser's prediction of evolution towards a 19-tone system prove false? I think he is correct that his 12+7 “supradiatonic” is in some sense a natural extension of the 12-tone diatonic system and has plenty of artistic potential. Yet there is an implicit premise that equates more complex with greater value, and later in time. There is no reason to think that this is true, that more complex systems do in fact always make better music, or that musical cultures always develop in the direction of more complex music. Euro-diasporic music of the twentieth century has seemingly worked very hard to prove this, with so many frustrated attempts to base music on more complex systems (e.g., integral serialism) followed by reactions in the direction of greater simplicity (e.g., minimalism). When cognitive scientists, such as David Hargreaves (1984), have considered the question, the most plausible hypotheses involve some optimal Goldilocks level of complexity, which may vary from listener to listener. It is not the place here to debate the details of music history or

⁷ It is perhaps unnecessary to point out that the same logic applies to theories indebted to Heinrich Schenker. Indeed, the concept of tonality is also implicated in his case. Phillip Ewell's (2019) pointed critique of the reception history of Schenker's work and the extensive efforts theorists took to whitewash it has made Schenker's racism the focus of much attention recently.

cognition, only to observe that when we articulate Yasser's implicit premise and consider it, it is far from self-evident. It is by invoking the concept of tonality that he is able to convince himself and his reader of its veracity without ever having to state it outright.

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I expect that music theorists will balk at the suggestion that we expunge the concept of tonality from our discourse effectively overnight. Indeed, in the quote above, Christensen makes much the same observation: "it's surely *unrealistic* to say we should just jettison the term." After all, it is truly ubiquitous in music theory and deeply embedded in the foundations of our institutional infrastructure. Yet the word tonality is used to refer to many different features of music, all of which have other names, and there is little downside in using more precise terms. If the term "tonality" doesn't make our discourse more clear or accurate, then why are we so fond of it? I suspect that we use it because it provides our theories with a patina of universality and far-reaching significance. What we would lose by dropping the terms tonality and tonal music is mostly the association of some musical feature or set of musical features with a historical narrative, tonality as something that was "born" and "died." It's a story we tell about white music, and universalizing it is a simple act of holding up white music as a standard for all music. Non-white music has only to find its place in that history as more or less primitive. Therefore, we can expect any attempts to bring Hindustani, African, Arabic, etc. music under the umbrella of tonality to be awkward and unproductive.

The concepts of centrality, implication, and attraction favored by respondents to my SMT discuss post try to avoid these problems of generalizability by shifting the concept away from concrete musical features to an interaction between the music and listener. Music cannot have implications by itself, but only with the participation of a listener who perceives those implications. Underlying all these definitions is the necessary understanding of music as communicative. This seems like a positive development. Debates about whether a piece is tonal or what key it is in need not threaten the concept of tonality, because tonality is defined as a subjective property. It is possible, without contradiction, for two different people to have tonal and non-tonal experiences of the same piece. Any music can potentially be described as tonal, and the burden of explaining tonality shifts from music theory to psychology.

However, another consequence of this turn in defining tonality is cultural relativism. Tonality becomes a cultural competency. Imagine a listener steeped in Bach, with little experience in American folk and popular music, listening to the Eagles' "Seven Bridges Road," which is based on a repeating chord loop of major triads, D–C–G–D. This listener might plausibly experience the progression as V–IV–I–V in G major. Although it might seem unreasonable to expect that the progression will ever resolve differently after hearing it repeat multiple times, this listener might nonetheless have an experience of an ending that never feels fully resolved, one half-cadence after another. The veridical expectation that the progression will keep looping may be accompanied by a schematic expectation that it would eventually resolve to G, to use David Huron's (2006) distinction. A listener with more extensive experience in the musical tradition that produced "Seven Bridges Road," however, might not assign this normative status to the Ionian mode, and therefore readily experience the piece in D, and the ending of the progression as fully resolved. While both experiences are valid, there is a sense in which the latter hearing is more correct. It reflects cultural competence, whereas the first hearing mismatches the mode of listening to the style of the music.

We might therefore say that we have regressed from “tonality” to Fétis and Choron’s original “tonalities.” Christensen (2019, 67–74) has observed that, when Fétis asserts that modern tonality begins with a specific unresolved dissonance in a specific Monteverdi madrigal, it is essential to his claim not only that Monteverdi’s score contains a certain vertical sonority resolved in a certain manner, but also that the necessary cultural conditions existed for that sonority to be *heard* in the prescribed way, as a dominant chord. From the beginning, then, tonality has been a concept that requires the context of a community of listeners. The concept is communicative, and thereby predicated on a shared cultural code between producer and receiver of music. This implies that each distinct musical culture must have its own way for music to be tonal.

Unfortunately we can see in Fétis’s writings that the cultural relativity of his concept of tonality did not prevent him from putting it in service of white supremacy. Indeed, it seems to have encouraged it; the idea that tonality inheres in psychology rather than physical properties of sound and reflects cultural competency was the key ingredient in his development of a racist theory of tonality. If we hope that redefining terms would lead us out of this morass, the term “tonality” resists the possibility by holding up a European system based on harmony and relationships between tones as a standard for all music.

Kofi Agawu (2016), for example, points out that tonality was imposed on Sub-Saharan Africans as an instrument of cultural violence during the colonial period. Seeking out “tonal thinking” in precolonial African music leads largely to descriptions of what the music is not; for example, in polyphonic vocal music of the Bibayak pigmies of Gabon “there are no long-term trajectories [. . .], no phrase-generated expectations, no authentic cadences, no archetypical urges of managed desire and its fulfillment” (Agawu 2016, 343). In search of a Bibayak tonality we are able to say little more about the music than it uses a pentatonic scale. The systems at work in this music have to do with rhythmic cycles and repetition of melodic cells. Similarly in another of Agawu’s examples, the *dùndún* (“talking drums”) of the Yoruba, involves a complex system relating to the pitch contours of language. In both cases, pitch relationships participate in a system, but neither can be meaningfully called a tonality. We can perhaps sympathize with Fétis, who, in seeking tonalities outside of Europe, found only deficient ones—scales missing notes, harmonies without functions. Agawu’s metaphor of tonality as a European language, one that colonized Africans were forced to speak, helps us to appreciate the parallels between the linguistic and musical violence of colonialism, but it is perhaps too strong. Languages differ in their arbitrary conventions while sharing basic functions of communication. Bibayak polyphony and Yoruba *dùndún*, by contrast, do not share the functions of European tonality, to manipulate feelings of tension and expectation and sustain the attention of a passive listener in an opera house or concert hall. Therefore it would be a mistake to look for anything like an African tonality (analogous to an African language) in them. From that perspective they appear inadequate, and the beauty and value in them eludes us.

The move to relocate tonality to the experience of the listener acts to reinforce what otherwise would be a rather unstable Jenga tower of intellectual scaffolding for music theory. Tonality is culturally circumscribed, which seems fine so long as we ignore the historical entanglement of the concept with racist and white supremacist thought of the modern era. By returning the concept of tonality to its roots in Fétis, without reforming the way we use the word (instead of reverting to the usage “tonalities”) or how it structures the field of music theory, we have essentially dressed up the original racism of the concept in an elaborate disguise rather than deal with it. This is a version of “whitewashing” as defined by Feagin (2013) and applied to music theory by Ewell (2019). While we

culturally relativize tonality, we maintain a universalist usage of the term that implicitly holds up whiteness as an absolute and standard against which non-white music must be judged.

It might sound at this point as though I am ready to discard all the music theory that has been done in the name of tonality (including my own), but that is not at all the case. The important question is not how deeply this or that theoretical project is tarnished by structural racism encoded in the concept of tonality, but whether the concept of tonality plays an essential role in each theoretical project and, if so, what role does it play?

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With that in mind, then, let us examine some of the musical features that get assimilated by the concept of tonality. This is an exercise that has been rehearsed before, notably by Straus (2005) and Tymoczko (2011),⁸ to demonstrate the ambiguity and manifold nature of the term. I reprise it once more here with a somewhat more ambitious goal in mind, not just to show the independence of different meanings of the term, but also to show how their association with the term tonality impedes us from developing them as fully realized theoretical concepts. Here is a provisional list:

- (1) Key
- (2) Tonic or tonal center
- (3) Scales and macroharmony
- (4) Scale degree
- (5) Triadic harmony and consonance
- (6) Functional harmony

Many of the terms associated with these concepts are common parlance for musicians, not just theorists or musicologists: identifying keys and tonics, scale degrees, harmonic functions, and so on, are part of the ordinary practice of performers and composers. I have no desire to censure any of this language. On the other hand, I do not believe that the terms “tonality” and “tonal music” are as important to ordinary musicians as they are to music theorists. It is these terms I suggest we are better off without.

(1) Key

Key is a central music-theoretic component of the concept of tonality and the etymological source of the term. “Tonalité” derives from the French word for key, “ton.” The concept of key is

⁸ Tymoczko’s (2011) suggestion of defining the term tonal as simply “not atonal” might seem to be one way to preserve the term while avoiding the problems I identify in this essay. If “atonal” refers to a specific tradition of modernist concert music, and “tonal music” is everything else, then the term has a historical-stylistic definition that does not necessarily involve any specific musical features. Indeed, the term atonal lacks many of the problems I find with the word tonal because it retains an essential historical and cultural component to its meaning. (Even someone who believes that Machaut’s music is not tonal would not call it “atonal.”) However, according to this definition of “tonal” it would make little sense to talk about features of tonality as Tymoczko does, implying that they are common to all non-atonal music. For example, traditional music consisting entirely of percussion instruments of indefinite pitch, such as Taiko drumming, would be considered “tonal” music by this standard. Therefore the word “tonal” according to this definition would not be very useful, and “tonality” would be essentially meaningless.

stylistically specific to European music of the seventeenth, eighteenth, and nineteenth centuries. Choron's "tonalité" can therefore be understood as an attempt to generalize the concept of key in the major-minor system to chant, and Fétis' later writings an attempt to extend elements of it to non-European musics (Christensen 2019: 17–18, 165–173).

The modern concept of tonality is best understood as deriving from Fétis's *tonalité moderne*, which refers to the major-minor key system of European music from the seventeenth through the nineteenth century. It is therefore a culturally circumscribed concept. Uses of the major-minor system outside of this geographic-temporal window are historically connected to it in some way. *Tonalité moderne* is understood as an overarching system. Some later conceptualizations of tonality retain this notion of a logical system governing composition and generalize it to any system (Hyer 2008). Hence George Perle (1977) can speak of "twelve-tone tonality" meaning simply that twelve-tone composition is a system governing pitch relations, like the major-minor key system.

Other conceptualizations of tonality attempt to generalize features of the major-minor key system, and here theories part ways. The most common feature to generalize is the presence of a tonic pitch-class. Other definitions might require the use of scales or scalar macroharmony, undoubtedly also a defining feature of the major-minor system, and/or the use of triadic harmony. Triads and functional harmony, at minimum in the form of the tonic triad treated as a fundamental consonance, are certainly features of the musical practice in the historical-geographic window of *tonalité moderne*, but could be considered independent and separable from the key system.

Replacing the term tonality with major-minor key system clarifies the way we might speak about how it applies to music outside of Fétis's historical-geographic window and shows how talking about tonality in a way that attempts to generalize away from the major-minor system coerces us into treating European music of the eighteenth century as a Platonic ideal against which to measure all other music. The term "major-minor system" is more honest about being a culturally and stylistically circumscribed concept. It also focuses our attention on theoretical questions that really are meaningful and pressing: is triadic harmony an essential component of the major-minor key system? What about harmonic function? What features of the major-minor key system are generalizable and not culturally contingent? We could no longer tell stories about the death of tonality, but I doubt serious scholars would miss those stories very much. In their place, we might consider more historically accurate stories about the dissolution of the major-minor key system and functional harmony. Consider, for instance, Tymoczko's (2011) narrative of a scale-based compositional method emerging out of the major-minor system in the early twentieth century, which sidelines atonal styles as a historical aberration, or Harrison's (2016) account of the academic institutionalization of functional harmonic practice precipitating a crisis to which European and American composers responded in multiple ways. These histories are clearly specific to the social and cultural contexts of the *fin de siècle* European and American elite. The major-minor key system might play a very different role in other stories, such as that of American jazz and popular music.

(2) Tonic, tonal center, centricity

The more abstract concept most closely associated with tonality is that of tonal center. If you ask an average musician a question like "is music X tonal?" without additional context, they will usually assume that you are asking whether X has a tonal center. Imagine a universe in which we have only

the word “tonic” and not the words “tonal” or “tonality.” Instead of asking for classifications of music (“is this music tonal?”) we would tend to ask perceptual questions like “do you hear a tonic in this music?” Someone might answer “I don’t, but I think other people might,” or, “I hear a tonic at this moment, but not in this other passage.” These are perfectly plausible answers, but the requirement to categorize the music (“is this music tonal?”) prohibits these kinds of answers. It takes the agency away from the listener and gives it to the music, which leads to unproductive debates about whether this or that piece is inherently tonal. Talking about tonal centers directs us towards questions of perception without conflating these with questions of musical style or classification.

One might suppose that such a useful and meaningful perceptual concept of tonal center could lead to an unproblematic definition of tonal music (e.g. as “music in which most culturally competent listeners spontaneously hear a tonic”). But classifying music this way remains a fraught endeavor. Does the listener have to experience a tonic at certain times in the music (such as endings), or for a certain length of time? Does the identified tonic have to remain consistent over certain spans of music? What about music in which different competent listeners hear different notes as tonic? We find such disagreement, for example, on the recently notorious example “Get Lucky” by Daft Punk. Competent listeners report hearing at least three tonics in the song’s chord loop, B^{m7}-D-F^{#m7}-E: B, F[#], or A.⁹ Mark Spicer (2017) discusses this and many other rock music examples in which competent listeners can hear different tonics, and Mark Richards (2017) identifies a specific chord loop (the “axis progression”) that gives rise to many similarly ambiguous examples. The phenomenon is clearly relatively common in recent popular music, which implies that hearing a specific note as tonic, at least for some kinds of popular songs, is not a part of competency in the style. Indeed it is hard to point to any meaningful consequences for choosing the “wrong” tonic in listening to a loop-based song like “Get Lucky.” The listener never needs to identify the tonic to know what chord to expect next, and the song ends on a fade-out, so there is no real ending to be heard as resolved or unresolved.

Defining “tonic” is, by itself, not trivial. Steven Rings (2022: 5) observes that there is good reason to define a tonic not only as a “focal pitch class” but one that can be perceived “even in its acoustic absence.” This part of the definition specifically calls out those musical moments where the absence of tonic spontaneously engenders an image of the tonic pitch class as a desired goal, a phenomenon that is undoubtedly crucial to European music of the eighteenth and nineteenth centuries and central to Fétis’s idea of *tonalité moderne*, which highlights the appellative property of leading tones. It also challenges the idea that a tonic can be established through mere repetition, an implication of the prevailing cognitive science approach to key-finding based on pitch-class histograms, which I discuss further below. Rings points out, though, that if one were to take “even in its acoustic absence” seriously it might imply that drones are not fully tonics, since there is no opportunity for a drone to assert its centrality in its acoustic absence. In contrast, Daniel Harrison (2016) cites drones as one of the *most basic* experiences of tone centrality. Certainly, in Hindustani classical music for instance, in which the drone is ever-present as a matter of principle, melodic departures from and returns to the tonic engender similar feelings of desire and resolution.

⁹ See, for example,

https://www.reddit.com/r/musictheory/comments/8335ny/is_get_lucky_actually_tonally_ambiguous/

Multiple other reddit threads ask essentially the same question and receive the same kind of divergent yet unyielding answers. Rings (2022) discusses similar comment threads to an analysis published in Slate.com (Pallet 2014).

While some discourse may thus problematize the concept of tonic, in so doing it underlines the fact that centricity describes real musical experiences that are common across cultural and stylistic divides. Asking questions about tonics or tonal centers directs us to important questions about the nature of these perceptions, while questions about what music counts as tonal distracts from these more meaningful discussions. A particularly interesting, if quotidian, example is raised by Christopher Doll (2022) in a Society for Music Theory Podcast: the familiar rendering of “Happy Birthday” where multiple singers haphazardly start in different keys and never agree upon one by the end. (We may additionally assume that individual singers’ keys are also vague or inconsistent.) The odd thing about this situation is that identifying the tonic is in some sense unproblematic. The listener can securely identify tonic with a specific melodic event (the last note), but not with a specific pitch or pitch-class. The experience of tonic seems to be real because we can experience the ending as having the usual feeling of resolution, which is the signal feature of a tonic. Perhaps we could claim that the listener chooses a specific singer to focus on and that singer’s ending note becomes the listener’s tonic. But what if the listener chooses a singer with inconsistent intonation? Then the implied ending note might differ from the actualized one by as much as a semitone, and yet the listener may still feel a sense of resolution at the end. Doll’s simple example seems to falsify most extant theories about the perception of a tonal center, since they tend to depend heavily on scale structure and harmony. It suggests that maybe tonal center has more to do with such features as phrase structure, rhythm, or melodic contour than theorists tend to allow, something that resonates with Megan Long’s (2020) claims about tonality in the early seventeenth century, and with similar claims that Harrison (2016) makes about popular song.

I would not want to pursue this provocative idea further without introducing additional evidence, so let us leave it aside for the moment. The important point here is that separating the valuable concept of tonic from the dubious idea of tonality makes us much more clear-eyed and open-minded about what kind of perceptual phenomena might anchor the concept of tonic and leads to conclusions that are hard to square with the associations of tonality with a specific style of music and harmonic system. We are reluctant to admit such features as rhythm and phrase structure into our theories of tonal center not because such theories are musically implausible—quite the opposite—but because of the idea that tonality is a system.

(3) Scales and macroharmony

Scales are central to Fétis’s concept of tonality, and they accordingly played a central role in the kind of comparative musicology represented by his *Histoire générale de la musique*. When describing non-European music, in the absence of such features as functional harmony and appellative leading tones, Fétis can hardly account for them as “tonalities” at all, beyond describing the pitch collections they use as scales. For instance, he was disturbed by the Chinese use of pentatonic scales, since the lack of semitones precluded the possibility of harmonic function or leading tones (Christensen 2019: 201–202). For most musical traditions, it is possible to describe the pitch materials as scales, but to the extent that scale is a distinctly European concept, the distorting effect of this practice can be subtle but pernicious.

Arabic *maqam*-based music is an instructive example. Farraj and Shumays (2019) point out that Arabic *maqamat* are organized into smaller melodic units, called *ajnas* (singular *jins*) of three to five

pitches spanning a fourth or fifth. Many Arabic theorists nonetheless use octave scales to characterize *maqamat* (Marcus 1989, 397–413, 448–457). The practice, however, is clearly a twentieth-century one and can be attributed to European influence. The difference between a scale with designated focal tones and a collection of *ajnas* containing the same notes might at first seem insignificant, but there are consequential differences because of the underlying assumptions built into the European concept of scale. A scale is made up of pitch classes, whereas a *jins* does not admit of octave transpositions of individual notes (although octave transposition of the entire *jins* does preserve its identity). European-trained theorists and music psychologists often think of octave equivalence as a musical universal, although recent research suggests that this may not be the case (Jackoby et al. 2019). Even for Western listeners, however, octave equivalence only operates in certain circumstances, particularly in the classification of harmonic objects. In melodic situations octave equivalence is more dubious: a melody can be made virtually unrecognizable by octave transposition of individual notes (Dowling and Hollombe 1977). A *maqam* is primarily a melodic entity, and representing it as a scale treats it, surreptitiously, as a harmonic one because of the pitch-class basis of the scale concept, leading to the kinds of errors of reasoning that Farraj and Shumays identify.

A European influence is also evident in the establishment of a 24-tone equal-tempered standard for Arabic tuning. A standard gamut with a fixed tuning was a necessity that developed in nineteenth-century Europe with the use of fixed-pitch instruments and the increasing size of orchestras. The idea of a gamut did not play a significant role in Arabic music before the twentieth century. The 1932 Congress of Arab Music in Egypt convened a “scale commission” to establish a standardized scale for Arabic music (Racy 1991, Vigreux 1992). Although the group failed to arrive at a consensus, the debate was over whether the scale should be tempered or non-tempered (with Arabs mostly favoring tempered and Europeans non-tempered), not about the efficacy of a standardized 24-tone gamut itself. Arabic musicians, many of them trained in European conservatories, saw the standardization of a tuning system as a step towards “civilizing” Arabic music, with this word clearly standing in for the idea of legitimizing Arabic culture within a European framework. As one commentator, Egyptian singer Muhammad ‘Abd al-Wahhâb, wrote at the time, “the essential condition for the elevation of music of all styles [. . .] rests solely on the fixing of this scale. [. . .] With the fixing of the scale we would take a big step towards ‘harmony’ and settle the question of whether a scale thus defined is suitable or not for the establishment of an appropriate harmony.”¹⁰ The most concrete realization of this was the proposal to develop a quartertone piano, emulating the instrument perhaps most symbolic of European culture (Racy 1991, Vigreux 1992). The perceived necessity of a standardized gamut is precisely the one that drove Fétis in his attempt to characterize the tonalities of diverse musical traditions of the world; it is not a musical necessity arising from those traditions, but a theoretical necessity originating in the colonialist project of assimilating them to a European concept of tonality.

A major problem with the term “scale,” even in a context restricted to European music, is that it has multiple meanings, and it allows slippage between them. When doing theory we usually think of a scale as a kind of pitch-class set, but when playing music a scale can also be a specific kind of strictly ascending or descending melody, or a rubric for connecting notes in the context of a particular key or mode. For Tymoczko (2011) the term denotes a means of measuring distances. He coins a different term, *macroharmony*, defined as the total pitch-class usage over moderately long spans of

¹⁰ ‘Abd al-Wahhâb 1992, my translation from the French.

music, describing the pitch-class content of something like a key. A macroharmony need not be a simple pitch-class set, however: it can also indicate the relative frequency of each pitch class. That is, we can represent macroharmony with a *pitch-class vector*, a twelve-place vector that assigns one number, a weight (which can be zero), to each pitch class. This representation, also sometimes called a *chroma vector*, is common in much music information retrieval and corpus analysis research. We may use weights to show how often the pitch class is used in a given passage, either in number of onsets, total duration, or some other such measurement, or the likelihood of a particular pitch class being used.

Most germane to the present discussion, pitch-class vectors are a common tool for automatically detecting the key of a piece of music. Much empirical research, including well-known and influential work of Krumhansl (1990), Temperley (2001), Aarden (2003), and Sapp (2011), treats macroharmony as the essential defining feature of keys, and by extension tonality. The expressed goal of these researchers is to better understand music cognition, however, not to theorize tonality. The method is a common artificial intelligence paradigm, computationally automating a human behavior, the determination of key from a musical passage. There is some potential slippage here in the tendency to equate tasks that might be performed by non-expert music listeners, such as identifying a tonic note or rating tones by stability given some context, and a task properly described as expert music analysis, identifying a key. This research is predicated on the assumption that the music used as stimuli is tonal, and more specifically, in a key. It therefore cannot properly address questions about what constitutes tonality.

To the extent that distributional key-finding algorithms work, they demonstrate that macroharmonic features are at least a necessary condition of being in a key, for the repertoire under study. Researchers observed early on, however, that it could not plausibly be considered a sufficient condition, since it is not hard to construct passages in which the exact same set of notes could imply different keys based on how the notes are ordered (Butler 1989, Brown, Butler, and Jones 1994). A study by Matsunaga and Abe (2005) shows that changes of ordering and registration of the same pitch set can systematically affect key judgments. This study also shows that non-musicians' key judgments are much more variable and less determined by pitch set. For a diatonic set, musicians reliably chose one of three tonal centers corresponding to Ionian, Mixolydian, or Aeolian modes, whereas non-musicians chose Mixolydian more often than Ionian, and Dorian and Phrygian as often as Aeolian. This is significant because the perception of "non-musicians" (which essentially means those unbiased by music theory) is less often studied directly in music psychology, even though, insofar as it is reflective of human perception generally, it is the object of primary interest. The most direct way to test the efficacy of macroharmony for key implication is to construct random sequences of tones with the pitch-class profile of a given key and see whether listeners infer the intended key. Temperley and Marvin (2008) studied this task and found that only about 52% of melodies were correctly identified, well above chance but leaving a lot of explanatory room left unfilled by macroharmonic properties.¹¹

¹¹ I could also cite a stronger result for tonal hierarchy by Smith and Schmuckler (2004), but measured in correlation of probe tone profile to pitch-class profile rather than accuracy of key identification. A possible explanation for the difference is that the two tasks are not equivalent, as a simple version of the theory of tonal hierarchy posits. Another explanation could be the difference between durational and frequency-of-occurrence as weighting methods, which Smith and Schmuckler specifically address.

Macroharmonic profile is therefore a significant feature of keys, though it at best only partially defines them. These macroharmonic profiles, whether obtained through probe-tone data or pitch-class counts of musical scores, are often characterized as “tonal hierarchies” in the sense that they assign pitch-classes to three or four categories: non-scale tones, scale tones not in the tonic triad, and members of the tonic triad, possibly further separated into root-fifth and third (Lerdahl 2001, Krumhansl and Cuddy 2010).¹² This leads to a way of representing keys in a two-dimensional space, with one dimension determined by position on the circle of fifths, which distinguishes scale tones from non-scale tones, and another roughly corresponding to a circle of thirds, distinguishing the tonic triad from non-tonic-triad notes within the scale (Krumhansl 1990, Yust 2017).

While applying the ambiguously defined concept of scales to non-European music has a distorting effect that could fuel the kind of racist ideas espoused by Fétis in the *Histoire générale*, we could use a clearly defined concept like macroharmony across musical contexts without this danger. It may be potentially interesting to consider the macroharmonies projected by different *maqamat*. Since macroharmonies are obviously harmonic entities, we would be less likely to think that *maqamat* are defined by them, the way keys may be. It would also put the relevance of the quartertone scale to Arabic music in better perspective. As Arabic, Turkish, and Persian musicians are usually quick to point out, no *maqam*, *makam*, or *dastgah* actually uses a quartertone as a melodic interval. And even a lengthy and expansively modulatory piece of music would not come close to using twenty-four distinct notes per octave, the way a European piece can easily use all twelve pitch-classes over a moderate span of music.

(4) Scale degrees

Huron (2006) proposed another way to think about the psychology of keys, macroharmony, and tonal centers through the idea of *scale-degree qualia*. Claire Arthur (2018) has extended this idea as a framework for studying perception, and Rings (2011) has expanded upon it in the areas of music theory and analysis. The idea is that the establishment of a tonal context endows any sounding tone with a distinctive, immediately perceptible, quality, determined by its relationship to the context. These qualities are typically rich with metaphorical associations, a point emphasized in the experiments conducted by Huron and Arthur. Such metaphors recapitulate a feature central to Fétis’s foundational distinction between *tonalité moderne* and *tonalité ancienne*: the *note sensible* or leading-tone effect. The essential role of the implicative effect of leading tones in Fétis’s conception of *tonalité moderne* is apparent in his explanation of why he regards an unprepared dissonance in Monteverdi’s “Cruda Amarilla” as marking the beginning of *tonalité moderne*. Christensen (2019: 11–13) emphasizes the role of the listener in Fétis’s early theory of tonality, and this feature is especially evident in the importance of the leading-tone effect, which is not purely a property of the music itself but how the listener engages with it.

Crucially, scale degree identity requires only the identification of a tonic. Scale-degree qualia are determined by interval from the tonic; membership in a scale or macroharmony is not a necessary feature. The description of scale degree qualities by means of intervallic features is also efficient: closeness to the tonic lends notes a feeling of instability and anticipation. As intervals proceed

¹² The term gets out ahead of the actual construction, however, since hierarchy implies dependency relationships between objects at different levels, but differences of weighting alone do not entail any specific such dependencies.

sharpwise on the circle of fifths, they go from the bright major quality of major $\hat{6}$ and $\hat{3}$ to the more intense piercing quality of $\hat{7}$ and applied leading tones like $\sharp 4$. As they go flatward on the circle of fifths, they have increasingly dark qualities. Intervals can also be characterized as sums of major and minor thirds: closeness in thirds is associated with harmoniousness, with ascending thirds leading to stability and descending thirds to instability.

These descriptions of scale-degree qualia apply to music in the European major-minor system, and it is not entirely clear to what extent they are culturally contingent. It is likely that they respond in many ways to musical universals. For instance, the association of closeness in pitch with the potential for resolution, and therefore with stepwise neighbors of the tonic with anticipation, seems likely to hold across different kinds of music. The importance of circle-of-fifths distance may hold more broadly for the many traditions that employ diatonic macroharmony, but whether the associations with brightness and darkness apply more generally is less certain.

No doubt, however, the concept of scale degree is more generally applicable than those of key or harmonic function. The theory of Hindustani raga assigns functions and qualities to scale degrees (Bor 1999). Arabic *maqam* and Persian *dastgah* systems, for which scale-based descriptions are a poor fit, assign functions to focal tones within a mode and classify notes by intervallic relations to them (Farhat 1990, Farraj and Shumays 2019). Javanese musicians describe the *pathet* (modes) of their traditional music in terms of the functions of scale degrees (Martopangrawit 1984, 61–63). Similar observations could be made about many other musical traditions. None of the traditions I mention involve harmonic polyphony, and so we might infer that scale-degree functions are conceptually prior to harmonic functions as they operate in eighteenth- and nineteenth-century European music. For instance, the function of dominant derives from scale-degree functions of $\hat{7}$, $\hat{2}$, and $\hat{5}$, the function of subdominant from $\hat{4}$ and $\hat{6}$, and so forth. The concept of scale, fundamental to Fétis's conception of tonality, operates more clumsily in the context of modal systems like *maqam*, *dastgah*, and *raga* than a more versatile concept of scale degree. A similar point could be made of highly chromatic music in European styles of the nineteenth-century. Harrison (1994), for example, proposes a theory of harmonic function for late chromatic music grounded in the scale-degree qualities of individual tones.

(5) Triadic harmony and consonance

Consonance is perhaps the most easily perceptible property of music that we call tonal. While it is certainly highly correlated with tonality, however, no theorists, to my knowledge, consider it either a necessary or sufficient property of tonal music. It is easy to think of relatively dissonant tonal music (say, Schoenberg's *Verklärte Nacht*) and non-tonal music made entirely out of consonant triads, such as Ligeti's *Hungarian Rock*.

One might wonder, then, why consonance even deserves a spot on the list. Yet there is another sense in which we may understand consonance as the heart of the concept of tonality. All other concepts that make some claim to being part of the definition of tonality refer to it in some way. Tonal scales promote relative consonance overall, scale degrees depend primarily on their consonant or dissonant relationships to the tonic and other scale degrees for their qualities, the sense of tonal center conversely depends upon the deployment of consonant and dissonant intervals with respect

to the tonic, and concepts of harmonic function are built upon a triadic scaffolding. Also, crucially, consonance is a vital link between the two essential senses of tonality, the internal and the external. By “internal” I mean all the properties considered in this section of the essay, through which we can imagine determining a piece of music to be tonal without reference to the way in which it was composed: by whom, where, when, and for what purpose. The “external” properties of a music are these kinds of historical contexts for its creation. The principal claim of this essay is that the term tonality is problematic—racist, colonialist, and a hindrance to scholarly progress—because of the way it conflates these internal and external meanings. Consonance is central here as an internal concept that is also pervasive in organizing our understanding of European musical history as a centuries-long progression from consonance to dissonance, from monody to organum to triadic harmony to tertian extensions to chromaticism to free atonality (reaching an apotheosis, perhaps, in the dense cluster-based textures of Ligeti, or in microtonal systems that introduce kinds of dissonance not available in the 12-tone scale, or in the introduction of more noise and non-pitched timbres by composers like Varèse, Cage, and Antheil). Tonality is clearly identified with the midpoint of that continuum between triads and tertian extensions, and a fuzzy-boundaried historical band around that midpoint.

Were there any truth to this picture, then tonality would be a neatly defined concept with consonance at its core. It is, however, false in multiple ways, and that becomes most glaringly evident when we try to realize the promise of consonance-based definition of tonality. While the teleological view of music history I just sketched seems compelling when we tailor a canon to it, there is no lack of consonant non-tonal twentieth-century music (later music of Ligeti not least among it) that has systematically falsified any link between tonality and consonance. This music, insofar as it is new, contemporary, and relevant, simultaneously challenges the historical narrative of dissonance as progress. The idea of consonance as an organizing concept spectacularly fails in the face of non-European music as well. For instance, Balinese Kebyar music is essentially monodic or “heterophonic” (or at least not harmonic or contrapuntal in the European sense) and based on a very limited gamut of five tones, and yet rivals much of European nineteenth-century music in its use of dissonance and noise. When we look at music globally, monodic music that defines tonal centers without harmony is common and widespread, as is drone-based music which does not fit neatly into the texture categories of European theory (polyphony, homophony, etc.); percussion music with no or minimal pitch-based elements is also not uncommon. All of these defy consonance-based description as well as categorization as tonal or non-tonal. What is unusual from this global perspective are the contrapuntal textures that developed in Europe that substantiate the consonance-tonality connection. For all these reasons, it is hard to seriously maintain any idea of tonality defined by consonance, even though the conceptual architecture around tonality continues to point us in that direction.

(6) Harmonic function

Functional harmony becomes attractive as way of defining tonality when one recognizes that neither consonance, triadic harmony, or diatonic scales are sufficient in themselves to establish music as tonal, and that the identification of tonal centers is subjective. If we are to believe that at least some

music is objectively tonal, what then makes it so? A possible response is that harmonic function defines some rules for harmonic succession, and that music conforming to these rules is tonal.

The claim of functional harmony is in some ways one about music cognition. Through exposure to music regulated by harmonic function, listeners passively learn the rules, which produces expectations. These expectations give rise to phenomena we associate with tonality, such as tonic resolution and the appellative leading tone. There is certainly some force behind this cognitive claim. We can cite a large repertoire of music that conforms to basic functional norms, and the expectations associated with harmonic functions are the bread and butter of tonal music analysis.

Is there anything to be gained, though, from using the word “tonal” to designate music that draws upon a particular set of eighteenth-century harmonic conventions? Defining tonality is essentially a game of border disputes and the best way to understand a definition of tonality is usually to consider what it tries to wall out, what music becomes *non*-tonal according to that standard. If functional harmony is a defining feature of tonality, then a good test case would be music that is triadic and diatonic without conforming to these norms of harmonic succession. An example is ready at hand: rock music.

Earlier I cited the example of the Eagles’ “Seven Bridges Road,” which is based on a single repeating progression of major triads, D-C-G-D. This is pure “retrogression,” with one progression (I–VII or V–IV in G major) violating the most basic law of functional harmony, and no progressions that can be construed as expressing the central functional successions of S–D or D–T (indeed, no proper “D” at all). But it would seem absurd to designate this music as non-tonal. Perhaps we could say it is in a different tonality, a rock-music tonality, regressing once again to Fétis’s plural tonalities. This would imply that rock music has rules of harmonic succession which simply differ from those of classical music. But it is hard to identify any such rules. Some authors, such as Tymoczko (2023), claim that rock harmony has a retrogressive norm, whereas others, such as Nobile (2020), claim essentially the opposite, that rock harmony has the same basic functional norms as classical music with some added focus on the subdominant and flexibility about what chords can be used as dominants.¹³ Both can support their claims simply by selecting examples that illustrate them. Notably, Tymoczko’s examples tend to be songs based on short chord loops like “Seven Bridges Road” whereas Nobile’s most convincing examples tend to involve larger formal units such as antecedent–consequent structures that require half cadences.

Temperley’s (2018, 46–49) transition data for root progressions in a large corpus of rock music underlines the point: statistically speaking, the only rule about harmonic succession in rock music is that one chord is more likely to follow another if it is closer on the circle of fifths.¹⁴ Whether it is sharpward or flatward on the circle of fifths does not seem to matter. Therefore it is easy to find songs based on retrogressive (sharpward) progressions and songs based on authentic (flatward) progressions. The fifths-distance norm is essentially equivalent to saying that rock progressions are

¹³ Temperley (2018, 46) makes a similar observation about some older theories of rock harmony. Nobile’s (2020) theory of function is in one sense so radical that we might say that function for him becomes a formal feature, an indicator of phrase position, having nothing in principle to do with pitch content. In his analytical practice, however, function labels usually do correspond to the kinds of chords traditionally assigned to them. The author that Temperley cites, Everett (2008), might therefore be a better example of a theory of rock harmony that treats descending fifths and other “authentic” progressions as normative.

¹⁴ See also Temperley and DeClercq 2013.

relatively diatonic,¹⁵ so we are left with music that is reliably triadic and diatonic with no further rules of harmonic succession.

It is not hard to find musical reasons for this difference between rock music and classical music. Rock music is overwhelmingly a repertoire of songs, and is dominated by chord loops—relatively short repeating harmonic progressions. Lyrics provide clear regular phrase organization, making harmonic phrase-ending conventions unnecessary. Chord loops automatically generate harmonic expectations, making universal laws of harmonic succession unnecessary for that purpose. Overall, these features lead to harmonic freedom: composers can use whatever harmonic progressions suit other goals, such as supporting a melodic line or differentiating one song from another using harmony. Clear phrasing is enough to define tonal centers—for instance, making it clear that “Seven Bridges Road” is in D major—without the need for functional harmony. Long (2020) makes a similar point about sixteenth-century European music: that lyrics, rhythm, and phrase structure can be more essential to generating expectation and sense of resolution than modes and harmonies.

Harmonic function is therefore peculiar to certain styles of music, what is sometimes called music of the “common practice” (roughly eighteenth- and nineteenth-century European concert music) and later music that draws upon its harmonic practice. It is a tool that evolved in eighteenth-century Europe to make long-form dramatic instrumental music possible. For musical traditions unconcerned with these kinds of forms, functional norms would serve no purpose and simply be an unnecessary constraint. Again, we find that trying to entangle the concept of tonality with harmonic function serves neither our understanding of how harmonic function works, nor does it help nail down what “tonality” might be. The machinery of harmonic function is certainly an important and interesting avenue of inquiry for music theorists, but the issues at stake there become clearer and more direct as soon as we remove the ill-formed concept of tonality from the picture.

* * *

When we hesitate to acknowledge racism at the root of music-theoretical concepts, the fear is that we might be obliged to eradicate them and thereby lose something valuable. This seems to have been the reaction of some theorists to Ewell’s (2019, 2021) challenge that the music theory community’s reverence for Schenker is evidence of its racism. Few have defended or denied Schenker’s racism, but many have maintained that the theory was separable from the person, and thereby insulated from charges of racism. Many of the nuanced arguments Ewell makes about the racism implicated in Schenkerian theory—drawing, for example, on Schenker’s analogies between tones in music and persons in society—are debatable. But we need not accept such claims to see how Schenkerian analysis supports white supremacy. One obvious way is through the valorization of the “masterwork,” where the designation “master” is limited to a handful of white male composers (and whiteness is clearly encoded in the term itself). One can point to plenty of Schenkerian analysis that goes outside of Schenker’s narrow canon. Yet the problem here is that the mere act of analyzing composers within that canon helps to reinforce the white-supremacist claims historically invested in this analytical method and its attendant concept of masterwork, even when the analyst does not

¹⁵ This is true if one measures the distance from major triad to minor triad by equating relative triads. Temperley (2018) instead associates them with the positions of their roots, equating parallel triads. Since a relatively small proportion of triads in the repertoire are minor, this difference is unlikely to make a meaningful difference.

quote those ideas or personally believe in them. And despite some exceptions, publications in Schenkerian analysis are overwhelmingly weighted towards Schenker's "masters."

Music theorists have also not done a great job of separating Schenkerian theory from the person, as evidenced by the simple fact that we continue to do (and especially, to teach) "Schenkerian analysis" as opposed to some more general practice of reductive analysis, or contrapuntal-structural analysis. Doing "Schenkerian analysis" gives authority to Schenker over the means of analysis and the underlying theory, absolving the analyst of responsibility for their theoretical premises. There are problems with this having nothing to do with racism. But one problem is that when we hand over intellectual authority it is hard to put limits on it. All analysis makes implicit claims about what is valuable in music, and analytical method sets the terms for such claims. Ceding authority to Schenker to define an analytical method hands that power over to him, and racism was central to how he arbitrated what is valuable in music.

The model that leads us to fear the unveiling of racism seems to be one of theory as architecture: if we find that the theory is built on poor foundations and its right angles are starting to look not right, then the only way to lay new foundations is to demolish everything, so that a lot of construction work will have been in vain. But when I look at tonality, I don't see shelter. What I do find are lots of other buildings—tonal center, major-minor key system, functional harmony—which are themselves of sound construction, and a slap-dash fence of historicism and parochialism around them. Inside the nice houses, people express a bizarre reverence for the dilapidated fence. They refuse to build an otherwise logical extension to the building if it might cross the fence. Their windows always face inward, away from the fence, so as not to be bothered by interesting things that may be happening on the other side. The fence serves no purpose. It was built by someone long ago to designate certain homes as being of high status, but there no longer is any real difference in status, and now the fence has just been left there. Nothing is lost by simply kicking it aside.¹⁶

The fear of calling out Schenker's racism is similar. Some theorists seem to be worried that whole careers built doing Schenkerian analysis would thereby be lost. To the extent that this work consists of "Schenkerian analysis" that hands the responsibility for theorizing off to Schenker, it was never of much value in the first place. We might as well go straight to the source and read Schenker. To the extent that this work consisted of original ideas about musical structure, harmony, melody, and analysis, freeing these from the box of "Schenkerian theory" just allows us to see and evaluate them more clearly, and extend them in ways that need not be burdened by concerns about whether or not they are "orthodox" Schenkerian.¹⁷

¹⁶ In the final stages of editing this essay Patrick McCreless kindly alerted me to the then-forthcoming article by Stephen Lett (2023) about the Society of Music Theory, which uses an uncannily similar extended metaphor to mine here. Although Lett's article is on a different subject than this one, we share a critical attitude towards the institutional home that we have inherited from the founders of the North American music theory establishment. More specifically, we both identify elements of colonialist thought embedded in the structure of the institution—elements that, while they were hard to see as such in the 1970s, continue to affect the discipline in real ways today.

¹⁷ In fact, despite all the institutional attention placed on Schenker in the 1980s and 1990s, theorists were surprisingly ineffective at accurately identifying what "orthodox" Schenkerian analysis ought to look like. In Yust 2015, I show that basic features of a concept fundamental to Schenker's analytical practice, voice-leading level, went unrecognized in decades of Schenkerian analysis. Lerdahl and Jackendoff 1983 and Yust 2018 demonstrate that one can immediately identify improvements in the theory of tonal structure just by casting off the presumption of doing "Schenkerian" theory.

To conclude, then, let us consider once again some of the areas of research that might benefit from no longer being about “tonality,” and the productive directions for development that this change might help point them.

The first area to consider is the history of musical style, where the boundaries of the “tonal era” have been fundamental to how we organize curricula and scholarly careers. I do not intend to propose that these boundaries are misplaced, but rather ask for better clarity about what they mark: not the birth and death of tonality, but the coalescence and abandonment of the major-minor key system and functional harmony. Two recent books, Long 2020 and Tymoczko 2023, take fresh looks at the earlier of these boundaries. Tymoczko’s statistics clearly address independent questions about the development of harmonic function and the major-minor key system, showing that the two-mode system and the eighteenth-century norms of harmonic succession develop gradually over many centuries and independently. Long, on the other hand, is interested in expectation as the defining feature of tonality. This certainly overlaps with Tymoczko’s study of norms of harmonic succession, since these are an important factor in establishing harmonic expectancy once they are in place, but Long’s point is that harmonic expectancy is also established by rhythm and text well before European composers could rely upon norms of harmonic succession. If we imagine removing the word “tonality” from both monographs, the claims of each, and the relationship between Long’s and Tymoczko’s findings, become clearer and more precise.¹⁸

We have more of a mess at the other stylistic boundary: the death of tonality, which was supposed to have happened somewhere around the turn of the twentieth century, but appears to have sustained its death-throes clear through to the present day. Theorists, with notable exceptions such as Harrison (1994), have tended to avoid the late-tonal repertoire, especially in pedagogical contexts where a tonal theory course may peter out somewhere around Wagner, and a post-tonal one, if it exists, will pick up immediately with the Second Viennese School. But all the features we might use to define tonality—tonal center, macroharmony, consonance—continue to operate in twentieth-century music in ways that were less regulated by musical conventions and more variable from composer to composer. Therefore, late chromatic and early atonal music, perhaps more than any other, requires careful theorization of all these properties, something which is continually inhibited by the concept of tonality.

The second area is music cognition research. This area is not as strongly affected by terminological vagaries, since all claims must be operationalized such that it is always immediately evident whether some claim about “tonality” applies to the perception of tonal center or key, macroharmonic properties of musical corpora, harmonic function, or something else. However, ideas about tonality still influence how we design experiments. For instance, behavioral experiments in music perception typically use eighteenth-century European musical norms as a framework for thinking about issues such as tonal center, macroharmony, and scale degree function. We have a good sense in music theory of how these concepts operate in this context, but less so for other contexts, such as jazz or

¹⁸ More specifically, Long’s central goal, “a model of tonality—and of tonality’s history—that centers not pitch, but rhythm and meter” (2020, 3), is ambiguous. Does it mean that rhythm and meter contribute to determining a tonic note? Or does it mean that historical changes in rhythm and meter contribute to the rise of functional harmony? Both questions are interesting and plausible, but they are quite different claims. We have a much better sense of how to evaluate each of them if they are not conflated with one another.

popular music. While it is perfectly legitimate to limit the scope of inquiry in an individual study to a single style of music, for perceptual experiments a subject pool whose music-listening experience is exclusively—even primarily—limited to Bach and Mozart does not exist. Therefore, it is difficult to interpret experiments without addressing questions about how musical style is perceived and how it affects judgments. Are participants able to compartmentalize music to make stylistically appropriate judgments? If so, what factors—timbre, texture, context—cue the style? To make matters worse, most perceptual studies segregate subject pools into “musician” and “non-musician” categories, which confound several factors. Because studies with musician populations are usually conducted in educational institutions, “musician” typically functions effectively as shorthand for training in European classical music. This training also typically involves classroom theory and ear training, and implies music literacy. Therefore, familiarity with a particular musical style, experience in performing music-based tasks, experience in visualizing music along pitch-time axes, and training in performing on an instrument are all confounded. The results of Matsunaga and Abe (2005) quoted above are a case in point. Participants categorized as “musicians” clearly favored Ionian and Aeolian tonics, while “non-musicians” distributed their responses fairly evenly over five modes, while also being less consistent in general. Is the difference because the first group has learned music theory that recognizes only two modes, or has extensive experience in music based on two modes, or because they are simply better at the task? It is hard to disambiguate competing hypotheses such as these.

When psychologists study something like the perception of major and minor keys, they are studying an ability specific to competence in a particular musical tradition. However, that ability also draws upon some universal human musical and auditory capacities. Therefore we would expect to find commonalities across musical cultures in the treatment of pitch based on shared biology. But identifying these commonalities where the knowledge base of researchers and research participants is highly determined by a single cultural practice is perilous (Stevens and Byron 2018). For instance, the perception of octaves has a robust explanation based on the physics of sound and the mechanics of the auditory mechanism, but the concept of octave equivalence, as observed in the discussion of the concept of scale above, is highly culture-specific, and certainly not universal (where some form of “perception of octaves” probably is). When our knowledge base contains culturally determined concepts that can masquerade as cognitive capacities, like tonality, it is harder to sort out such distinctions in how we design and interpret psychological experiments.

Finally, we have music theory and analysis. This is perhaps where shaking off “tonality” might be the most beneficial. The most pernicious effect of tonality is to merge concepts that are independent, possibly not even very closely related. These include tonal center, key, scale, scale degree, macroharmony, functional harmony, and eighteenth-century European harmonic practice. I suspect forswearing the word tonality will be well worth the incisiveness with which we will be able to theorize each of these individual concepts as well as perhaps new ones. In analysis, we can get past questions of whether a piece of music is tonal, and go straight to ones that directly concern the composer’s craft and the listener’s experience. If we choose to use some variant of Schenkerian analysis, it will be because of what it can tell us about the music, not just because we chose to classify the music as tonal.

Furthermore, retiring the concept of tonality to the history-of-theory shelf may help us resolve music theory’s problematic relationship with what we think of as the Western/non-Western divide. The urgency of this is underscored by the reaction to Philip’s Ewell’s 2019 plenary talk and the articles that came out of it (Ewell 2019, 2021), a rare moment in which an internal debate within scholarly music theory became national news (see, e.g., Powell 2021)—not because of Ewell’s talk or

article themselves, but because of the way some Schenkerian theorists reacted to them. The reaction was not simply to Ewell's presentation, which I would characterize more as a spark that lit the fire, but to a reorganization in music theory institutions like the Society for Music Theory that was well underway before 2019 and the racial reckonings in the broader society in 2020–2021. This reorganization is a response to persistent institutional contradictions, a community that purports to speak for music theory—a supposedly universal property of humanity—but largely concerned itself and demanded expertise in a specific (and peculiar!) musical tradition, that of the eighteenth- and nineteenth-century European elite. The “colorblind racism” that Ewell observed in this arrangement was barely concealed to begin with. But reorganization was also bound to be a painful, and unfortunately slow, process.

The points I have made in this essay imply that the concept of tonality is an important piece in this puzzle. It's not far-fetched to think of it as the poison pill that Fétis delivered in his influential theories, one that we have yet to flush from the system. Universal principles of music existing across many far-flung musical traditions are there waiting for us to see them. The concept of tonality is a significant factor obscuring a clear view of them. Perhaps our training in European musical traditions convinces us of a kind of cultural relativism, that what there is to know about music is siloed in a multitude of independent traditions. There is a bit of truth to this: some minutiae of musical practice are certainly tradition-specific, and the rarified modern notion of musical expertise is one of specialization. I am convinced though, from my varied experience with different kinds of music, that music theory is much more promiscuous than we tend to think. The ethnic and political boundaries that we use to segregate musical styles mean nothing to music theory, which blithely ignores them as it freely flows from one musical practice to another. The conventions of specific musical styles seem much less interesting and consequential than the principles of human music making that bind them. Many properties associated with tonality—tonal center, consonance, scale-degree qualia, expectation—are probably foremost among those principles, but only by freeing them from the prison of tonality and its colonialist baggage, can we really learn how they work.

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