

So, What is the State of the Art?

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Seems everywhere you go these days everyone's asking the same question: given the plurality of possibilities, which music philosophy should we sign on to and, once signed, what kind of music should we teach? You would think that by locking up forty or so of the best minds in the country in the same "think tank" for three days that someone would come up with something. Didn't happen though.

Think about it: forty professionals with an average of twenty-five years of experience equals 1000 years, an entire millennium of expertise. And still we wring our hands over a couple of assertions that frankly after fifteen or twenty years of debate have become rather worn out. Most of us have acquired five new computers and half a dozen cell phones during that time, yet we continue to play the same old tune repetitively: egalitarianism means everything is equally good and wonderful, everyone's opinion about just about anything is just as good as the next guy's, educated or not, experienced or not, knowledgeable or not. It's not that some music or some music philosophy is better than some other, it's just that they're different. So get over it.

But don't you have to wonder why we keep saying this over and over and over to ourselves? Maybe, just maybe, none of us really believes it. Maybe, just maybe, we know deep down in our musical hearts and minds that, by golly, some music *is* better than others, that some philosophies expressing the importance of music in the growth and development of humans do a better job of articulating that importance than others. But

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maybe we fear embarrassment and ridicule for being brazen enough to come right out and saying it: intense, concentrated musical training over a sustained period of time is necessary (but not sufficient) for producing music (composed or performed) that is excellent enough to gain permanent attraction by those musically trained and involved enough to recognize what is going on. And a similar kind of musical experience is necessary (but not sufficient) to show others, through some form of systematic music education, what in fact all the excitement is about. Anything less results in mediocrity, an experience that is not worth supporting philosophically, financially, politically, ethically, morally, or worth fighting for in order to attract support from boards of education.

But if that were the case then you would think that someone would have come up with a good argument by now for demonstrating that philosophy's validity. But as *everyone* knows there can be no such argument. After all, when every human expression is equally Good and Wonderful it is downright perverse to even think otherwise. We refuted the possibility that musical Goodness is absolute way back in the 1980s, back in the *last century* for heaven's sake. Time to move on.

Well wouldn't it be fun, just this once, to try to put together that argument anyway? Not just though opinion, but through good old fashion premises and logic. What's the worst that could happen? We might end up agreeing after all that everything in the world is equally Good and Wonderful, but now we can *prove* it! On the other hand, maybe we've twisted things up so much and scared everyone into thinking otherwise that we are causing ourselves greater difficulty by not facing up: some music *is* better than other music. Lots better. Here is a rough sketch of how we might go about it.

Musical comprehension is governed in part by one's realization and understanding of the progressive intention of sound: that is, cultural selection of sounds and the means by which those sounds are organized. At the risk of ruffling feathers, call this organization a Body of Rules. Now the thing that confounded aesthetic theory for so many centuries was the idea that since these rules derive from acoustical measures that they are "Natural". So, went the argument, if music is based on physical law, then Music is an attempt to approximate natural physical World Order. And if that is the case, then violating the rules is a violation of Nature. Violating Nature is a bad thing and can get you into all sorts of trouble.

To make matters worse, music theorists tried to show that the rules had what amounts to be a very limited number of choices when it comes to harmonic and (harmony-based) melodic progressions. Bodies of Rules tend to do that. Just the way things are. So, learning the rules about chord structure and harmonic progression became prerequisite to western music and thus aesthetics and thus the bane of every undergraduate's first year Theory class. Even though the limits on these rules have evolved and expanded for the past two thousand years the roots continue to lie in the original Pythagorean measures of sound wave ratios. Or so we liked to believe, even though their actual application has at least since J. S. Bach been many frequencies away from what Mother Nature usually prefers.

Musical genius in the western sense has always meant facility in managing tonal-rhythmic order such that something insightful, original and interesting results while staying well within the expectations governed by the ("natural") musical language, the music theory system (the Body of Rules) that conforms to natural acoustic order.

However, somewhere along the way things went awry. With, for example, fixation on serial techniques and the subsequent development of electronic sound generation faith in the Body of Rules became jeopardized. Suspicions about the Rules meant canceling subscription to the aesthetic theory that has been yoked to western musical development since at least 1750. Abandon all of this and judgments of quality are gone as well. Suddenly life seemed much simpler and easier. Give up musical Puritanism and *Blood, Sweat, and Tears* ends up appearing nearly as savvy as Beethoven. Throw out everything that was learned over two thousand years and Music for Sirens and Mad Cows is just as good as any string quartet by Schubert. Stands to reason, doesn't it? Sure, stylistically we can probably show they are different. But can we show that one is better than the other? On this point the think tank is decidedly dubious.

Why you should not try to fool Mother Nature

Rules taken to an extreme lead to determinism. Determinism at an extreme means that, given some tones and a rule by which to organize them, there can be but one melodic-rhythmic outcome, only one musical possibility. 12-tone theory is "heavily" deterministic in that, once you get a quarter or half way through the melody, it becomes loaded with inevitability. Like predestination the melody is practically forced to come out in one way and one way only. So, by extension, if all music theory were entirely deterministic there would only be one melody, one composition. There would be only a single correct solution to arranging any given set of tones. Any deviation from this compositional solution would be taken as an error that violated the rules of Nature.

If determinism were the case then musical egalitarianists might have a point after all: all sets of tones are equally good, destined to come out in their own singular way. But who wants to listen to just one melody all their life?

If there is one thing that appeals to egalitarianists it is democracy. So musical democracy, from the composer's point of view, means that given a set of tones they are free, absolutely free, to do anything they like with them. Write a symphony, a show tune, a pop song, something for the school band, or whatever they're in the mood for. That's why we like to live in the free world. In a free and truly democratic world we can write any damn music we want to and no one can say anything against it, such as the piece is really great or it is truly awful. I suppose what this means is that what you choose to listen to or include in your next lesson plan is protected by the Charter of Human Rights, though I doubt that's what Ottawa was thinking when it was all put together.

Fortunately, music theory holds a mixture of free (tonal-rhythmic) will as well as determinism. So we might say that a composition's development, what occurs tonally and rhythmically from the beginning through the middle through to the end, works on a continuum between determinism on the one hand and freewill on the other, where too much of one sacrifices order and satisfactory manipulation of expectations, while too much of the other leads to banality and guaranteed instant gratification of predictions.

All competent composers are guilty sometimes of straying too far in one direction or the other, but for the most part find a satisfying balance of both. The reason for this, we might say, is that they have a demonstrably thorough understanding of what they are doing. Some observers feel that this is enough. Keep a good balance between too little or

too much determinism and most music turns out to be just as good as any other. Any difference lies in personal preference and immunity to absolute measures of Goodness.

Personal Preference people tend to be intolerant of Absolute Measures people. So it would be helpful to know whether either absolute Determinism (no free musical will) or absolute Free Musical Will (no determinism) results in music that is always equally good or whether either results in pieces that are better or worse in some way to other pieces. The reason it is important to know this is that if we find a qualitative difference between, say, two absolute deterministic pieces or two freewill pieces, then the egalitarian view becomes jeopardized in a serious way.

Since any musical language necessarily entails some degree of determinism (otherwise music would be exclusively aleatoric) does determinism taken alone lead to musical results that are not equally good and wonderful. Can a case be made that some music is better than or inferior to some other music? If we find this to be the case, then no amount of musical freewill improves the situation. In fact, freewill only make matters worse since the added number of tonal choices becomes indefinitely large. So, let's test both the determinism and freewill premises.

Assume a composer establishes the following rules:

1. Pitches used in this piece are limited to the note C.
2. Durations used in this piece are limited to quarter notes.
3. Tempos applied to the performance of this piece are limited to a steady MM=60.

Music does not become more deterministic than that. Given the first tone, you know exactly what will happen—must happen—note to note throughout the duration of the piece. It is also sickly repetitive. Can anyone convincingly argue that the piece is not inferior to just about anything else you can imagine? If not, then we can claim that, at the very least, absolute determinism is qualitatively inferior to determinism + some measure of freewill. So far, so good.

Now test the determinism condition by discarding it entirely and replacing it with a pure freewill condition. Musical Freewill thereby defines the rules for the piece.

1. Pitches are limited to the twelve chromatic notes but may occur in any order (any intervallic distance).
2. Durations are limited to those between thirty-second notes and whole notes but may occur without being confined to metric order.
3. Tempos are limited to the whim of the performer and may vary at will.

Freewill is, well, freewheeling. Take N number of performers playing this piece and we end up with N number of different interpretations or even compositions. Virtually absolute freewill conditions impose no particular restraints. So, in fact, there is no single piece that results. I claim that (at least) some of these freewill results will be qualitatively better than others composed under the same freewill rules; more importantly, however, I claim that any of these results will be qualitatively better than the piece composed under the absolute determinism condition. I expect too that these claims will find general agreement.

What we have shown so far is that there are in fact at least two pieces where one by necessity must be better than the other. I will bet any money that the freewheeling piece, whatever the resulting interpretive outcome, will be unanimously found to be a better piece than the deterministic one. Quality-wise, freewheeling will win hands down over determinism. And this choice is not merely the result of preference; it is the case that brains always find variety more interesting, holding greater musical integrity, than extreme repetition. And showing that there is at least one piece that is necessarily better than at least one other piece does considerable damage to the assertion that quality does not obtain, that personal choice reigns.

Note that “better than” does not mean having a “greater liking for,” although frequently this will be the case. In principle, we can acknowledge that a piece has greater quality than some other piece but saying that does not mean that we necessarily like it. Quality and preference are two different expressive judgments.

Now the more argumentative might want to claim that neither the deterministic nor the freewill piece is preferable, good or bad, or they might want to claim that in fact there are pieces that approach these extremes and frankly one is as good as another. Ravel’s *Bolero* certainly entails an impressive degree of determinism as does, for example, Supertramp’s *Gone Hollywood*. But how do either of these compare quality-wise to Igor Stravinsky’s *Rite of Spring* or Dave Brubeck’s *Take Five*, both at least reflecting a greater amount of free-wheeling content? I think if we are honest about it that we would be inclined to expect the freewheeling to, in general, be judged more interesting than the deterministic, where “interesting” entails qualitative superiority but not necessarily enhanced enjoyment or preference. (Claiming that “interesting” somehow

equates with “quality” is not an equivocation slipup. See the reference to Crozier below.) So the claim is not that Brubeck should be preferred over Supertramp in general or that Stravinsky should be preferred over Ravel in general, only that *Rite of Spring* and *Take Five* will both be judged to be more interesting, and thus of higher quality, than *Bolero* and *Gone Hollywood*, despite possible contrary preference assessments, owing to the relative differences in freewheeling musical activity and determinism. If this is true, then the Brubeck piece and Stravinsky’s piece win out over the Ravel piece and the Supertramp piece.

The question of quality in this comparison centers on determinism as a class versus freewill as a class. Determinism versus freewill reduces to found tonal-rhythmic structure. While structural considerations go a long ways toward defining genre it is difficult to show that genre *per se* defines quality. What we can say, however, is that to the extent that differences in genre entail structural considerations and in turn quality assessments, then where a particular genre lays on the determinism-freewill continuum in comparison with some other genre will affect quality assessment as well. This being the case, we can claim that some genres are qualitatively superior to others. And here we enter tricky territory.

Much of the last century was about challenging the system, musical or otherwise. In an attempt to show that tonality was too binding and limiting as a means of human expression, 12-tone theory turned out to be even more deterministic to the point of incomprehension. And closer to home, music education philosophers asserted their democratic right to denigrate suggestions of aesthetic content, embrace any (“multicultural”) music system whether they understood it or not, and find gender,

economics, politics, age-needs and other “issues” to be more relevant and worthy routes to explaining Music than actually explaining Music itself.

While there is nothing inherently perverse in finding fault with a music rule system based on non-musical principles (in the case of western music, mathematical ratios as a formula for constructing an Absolute system of modes), there is something very strange about assuming that this actually says something incontestable about the egalitarian value and quality of different musical outcomes based on those rules. Different musical languages are different due to particular understandings about the sounds that underlie them.

One of the more important realizations by music philosophers in the past hundred years is that there is nothing that makes a music theory rule system both necessarily and sufficiently dependent upon natural vibration ratios (as defines, for example, western music). That it is possible to ignore the rules of nature and still produce some interesting sounds that are potentially musically meaningful and expressive, that we can even declare to be musical, is one of the most important advances in musical science ever. Finding multiple musical rule systems (or music theories) says nothing about musical quality. On that point everyone agrees. Instead, the question of quality depends on the tonal-rhythmic activity that takes place *within* some particular piece that assumes a particular music theory system. Essentially, this is what the determinism versus freewill test demonstrates. And if that is the case, then tests of musical quality lie somewhere within cognitive processing routines of musical events *qua* musical events. Quality does not lie within music itself or within a musical system. Quality assessment depends instead on what the mind understands is going on in the musical event.

Overwhelmingly, research in brain science—cognition, psychology, developmental—demonstrates that the brain is born with certain organizing capabilities. Not learned or acquired by experience. Born with. One of these capabilities is the need to construct patterns from incoming stimuli. Construct, not copy. This is not merely an assertion or an opinion. It is a fact. The reason the brain is designed this way is that it allows for extremely fast information processing. In short, the brain is governed by an inborn survival principle. Fast processing means quick pattern detection means rapid realization of action alternatives means increased probability of surviving. It is not a coincidence that music too is processed as patterns. The brain processes all incoming information this way.

So music cognition is about pattern detection, identification, comparison, and evaluation. The resulting patterns are judged for inherent interest, originality or novelty. Repetitive patterns lead to boredom, boredom leads to inattention, and inattention leads to distraction. Absolute determinism is absolutely boring. While neither *Bolero* nor *Gone Hollywood* is totally deterministic both hold far less free musical will and thus interest than either the *Rite of Spring* or *Take Five*. The latter two are more apt to be judged of better quality than the first two simply because there is more going on. I contend that the reason this is correct is owed to genetic brain design rather than assumed politically correct (“soft”) philosophical opinion.

Now, from this you might expect that the freewheeling-ness premise entails relatively greater attraction, appeal, stimulation, and longer-living music. Not so. Because another thing brains are born with is a ceiling effect where too much stimulus content

interferes with pattern construction, resulting in hyperactivity, confusion, chaos, and a sense of disorder. So, not surprisingly, the brain is designed to search for a balance between absolute predictability and absolute novelty, or absolute determinism and total freewheeling-ness.

So now I claim the following:

1. Perceived musical patterns are constructed by cognitive mechanisms; patterns do not exist in space—melodies are not mental copies of time-independent sound structures.
2. Successful music making requires a balance between rule-bound determinism and freewheeling uncertainty. Too much of one means too little of the other.

I doubt whether it will ever be possible to find a formula that defines a perfect balance between expectations that are fulfilled and those that are not since the interaction between different musical variables makes formulaic qualitative and preference judgments impossible. The closest attempt to find such a formula is found in a study by John Crozier.

Using information theoretic measures of the quantity of redundancy in a piece of music Crozier (1974) found two operating functions: the more uncertainty there is in a pattern the more interesting listeners find it to be; and increased uncertainty holds an inverted U-shaped function for emotional arousal. In other words, the more complex the pattern the more interesting it is judged to be; the more complex the signal the greater the emotional arousal until the pattern becomes “too complex” and emotional response

wanes. When the two different functions cross (i.e., when interest continues to climb and arousal falls off) listeners say in effect, that “the pattern is interesting, but I don’t like it.” Listeners often react similarly to contemporary experimental music: “it’s interesting-but-I-don’t-like-it.”

While the same two functions were found for both musically skilled and unskilled, Crozier found that skilled listeners require a greater level of uncertainty than unskilled listeners. This is important because it reflects differences in cognitive ability acquired through listening experience. This difference may relate to the ability of skilled listeners in identifying inter-pattern tonal-rhythmic relationships.

More importantly, however, the interesting-but-I-don’t-like-it reaction reflects our second principle: within some range of brain stimulation a balance between determinism and freewheeling-ness finds the highest approval levels from music listeners. Now, there is no composer or musical genre holding absolute claim on this second principle. To be successful any music written by anyone at anytime in history remains bound to the principles of brain design.¹ This being the case there is no way of demonstrating that certain genres or certain composers are better than other composers in capitalizing on the principle. Competent composers in any genre mostly keep a balance somewhere on the continuum between determinism and total redundancy. While particular genres are not exclusively defined by their place on the continuum it is safe to say that top-40 pop music holds a greater amount of redundancy than do Bartok string quartets (the first genre being “liked,” note, by a larger number of listeners than Bartok).

¹ I develop twenty-one of these principles in my *Selected Theories of Music Perception*, (1996, Edwin Mellen Press), and have since discovered three more that I will elaborate on some day. Fiske, H. (2007). So, what *is* the state of the art? In K. Veblen & C. Beynon (Eds. with S. Horsley, U. DeAlwiss, & A. Heywood), *From sea to sea: Perspectives on music education in Canada*. Retrieved from <http://ir.lib.uwo.ca/musiceducationE-books/1/>

Note too that so far neither the two principles nor measures of redundancy or determinism say anything about musical quality or preference.

I can't imagine that anything I've said to this point would upset think tank delegates. But there is more.

Principle one, I said, establishes that musical patterns do not exist in sound signals, they are instead constructed by active cognitive brain mechanisms. "Copy" theory is so mid-20th century. It went out over thirty years ago along with behaviorism (although neo-behaviorism appeared in the 1990s copy theory did not). No one today accepts the premise that musical structures are passive perceptual copies of performer-generated acoustic objects. Let me emphasize this point in the strongest terms: *music listening requires alert, active, focused, and involved minds; humans appear to be the only species that has the mental ability to accept auditory material and realize complex successive and non-successive inter-pattern relationships both within a single composition and between previously learned compositions. Musical understanding is now accepted by Philosophy and Psychology as ability equivalent intelligence-wise to other activities such as mathematics or chess.* This is simply an outcome of genetic brain design. The conclusion should send music educators into rapture since in effect it both explains musical learning and demonstrates its importance as a human experience. It baffles me that it does not so rapture.

I want next to develop another angle that also hinges on the two principles. Let's grant one point right off: the relative listening demands of one piece versus another do not define the relative quality of either. Bartok string quartets require a lot of mental energy and work on the part of the listener compared to anything Madonna ever asked

for. Some folks really do like Bartok string quartets and would go miles out of their way to avoid anything by Madonna. Others really like Madonna and would not give Bartok a second of their time. Further, Bartok aficionados would be the first to agree that some of Bartok's music is downright awful; same goes for Madonna's devotees. So it looks at first glance that any cross-comparison between musical genres on the basis of *inherent* quality is a no-go.

You might think that the reason for this is that the amount of mental concentration and involvement that a composer demands or doesn't demand is unrelated to the judged quality or preference for one over another. Bartok certainly requires greater attention to tonal-rhythmic activity than Madonna does. And yet it can be shown that the cognitive demands of individual compositions *are* a factor in quality assessment. Following is a quick guide to why this is the case.

It is likely that the first feature noticed of any music is its timbre. Offer seductive sounds and listeners will follow you anywhere. The impact of sound alone, whether it is a rock group, a full symphony orchestra, a 150-voice chorus, or a Gamelan, can eclipse all other stimuli of the moment. Its effect can be corporeal. Concentrating. Overwhelming and all-important. Music is not conveyed by means of sound, it *is* sound. So the bottom layer of *any* musical experience is timbre (which engages phenomenal consciousness, see Block, 1994). Compelling timbre is necessary for perceived musical quality. (Note too that compelling timbre also depends on quality performance. Kudos to advocates for "doing music" on that score at least.) Sound alone, however, is not sufficient for acceptance as music by a community of music makers.

Many overlook that last point. If timbre were both necessary and sufficient for an emotionally and intellectually satisfying musical experience composers would not bother in their attempts to produce logical sonic designs. Bathing in timbre alone misses the point. It is the organization of this sound that distinguishes sound *qua* sound from sound-intended music (which engages access consciousness, again see Block, 1994). Besides, the brain searches for organization in the sound signal whether organization of some kind is intended or not.

Now you might think that abandoning emphasis on musical structure, which many in the think tank believe is the “philosophically” right thing to do, would allow music education to proceed on a more productive course, one that fulfills today’s egalitarian virtues. What we have abandoned (or what we should assume has been abandoned), however, is – quite rightly – musical structure analysis as an end in itself rather than the means by which musical values are communicated. Find-the-fugue games are always a meaningless and unproductive exercise. But saying this does not negate the communicative function of fugues (or any other structure). In short, what everyone missed in the old find-the-fugue days was that finding the fugue misses the point. No one understands music better as a result of structure identification *per se*. Instead, structural realizations enable discriminating sonic order from disorder. Sonic order communicates. Disorder communicates nothing.

A second point missed by advocates of find-the-fugue games (are there really any such advocates left?) is that music is not a structure. It is instead an experience in Time where realized structures are listener-devised inventions, tonal-rhythmic shapes constructed from previously heard material plus realized relationships between these and

imagined expectations of what is likely to happen next in the musical event. Sound does not stand still; it is not a static organization left in tact by performers for observation and “appreciation” by the audience. Sound exists *in* Time, sound *is* Time.

Music is understood only by active brain-constructing activity. Therefore, musical structures are illusions brought about by normal brain activity – the inborn, genetic need to make sense out of incoming stimuli by means of constructing patterns and inter-comparing these patterns in the search for relevant interrelationships (principle one *re dux*). This is not carried out superfluously; it is instead a genetic *need*. Indeed, so dependent is the process on the individual listener’s musical experience and knowledge that pattern construction activity may very well result in *different* pattern realizations between listeners, especially between age groups, levels of listening skill, or between natives of different cultures (see Walker, 1990). (Some might also claim between gender. However, I know of no reliable research other than speculation to support the assertion that gender-defined brain structures generate different tonal-rhythmic patterns or the realization of different inter-pattern relationships. Saying this is, of course, not the same as claiming different gender-based interpretations of these patterns or relationships.)

So, if timbre is the first rung of a hierarchy of musical understanding the next several rungs are, by biological necessity, concerned with pattern detection, identification, and inter-comparison. What rungs might these be?

Back when I taught in high school music programs, students tended to insist that the “beat” was an all-important determinant of musical quality, though they tended to take a far narrower view of what beats were and how one goes about locating them than I did. They also said it differently. (It was the ’60s. Huge and heavy beats were just being

discovered.) For these students loudness had a lot to do with identifying beats. If you couldn't hear them they didn't exist. And when you could, it was what the music was, man, and the best music had a whole lot of them coming one right after another. No beat, no music.

I'm tempted to claim that the next rung of the hierarchy might very well be rhythmic patterns, which for western music is precipitated by clear basic beat-defined metric order controlled by volume (accent types). For some non-western music beat and meter may not be the deciding determinants. Instead, the upper rungs may be predicated on increasingly refined and intricate time (or rhythm)-based timbre contrasts. But the point remains the same: a hierarchy of cognitive processing activity is the framework by which listeners gain musical understanding; the further along the hierarchy the greater the musical understanding. Identify sonic changes and you are well on the way to determining some rudimentary structure serving as an important organization principle for the sound ("music") at hand. And – so goes the assumption – as added value we get a quality assessment as well: the more attractive the timbre and the more interesting the structure, the better the music (where "better" may or may not imply preference).

Taken together the first two rungs of the cognitive hierarchy seem to represent an initial musical response reflecting the beginnings of a search for order in a musical event. And, by entailment, the same goes for the hierarchy as a whole. Ignore this search, pretending it is not a general mechanism basic to all musical understanding, and you sacrifice any chance of explaining how humans interact with music. Ignore the brain's search for increasingly intricate and significant inter-pattern realizations and you are in

effect attempting to describe how brains operate in terms other than those that represent how brains are really in fact designed.

The hierarchy, providing we ever identify the remaining rungs, is a reflection of how brains actually work, not how philosophers would rather think they work, and how humans initially engage in worthwhile musical experiences.² And the greater extent to which listeners are able to penetrate this cognitive hierarchy, the less importance that gets attached to the lower rungs – loudness and beat matter less and less – and the more importance that gets attached to the higher ones – complex connections within and between different compositions. Just the way the brain (really) works, that’s all.

So what might the other rungs of the hierarchy represent processing-wise? Whatever the answer, they likely involve increasingly refined pattern detail and cross-connections. My own recent research (Fiske, 2005) finds three significant pattern categories: “pattern P is like pattern K,” “pattern P is similar to pattern K,” and “pattern P is distinctly different from pattern K.” (I show in my latest book why cognition is limited to just these three kinds.) But the most interesting of these is the second category – pattern P is similar to pattern K – because it is this category that breaks down into a very large array of inter-pattern relationships. Music listening activity is so dependent upon this category that I’m willing to bet that it in fact defines skill in music making, which in turn defines levels of musical interest, attention, and tonal-rhythmic understanding.

² “Hierarchy” of course is a metaphor. But there is research available demonstrating the brain’s natural inclination to search for order and to satisfy increasing demands of organizational difficulty – marked as increases in time and effort.

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Conclusion

Just as the quality of one culture's music cannot be directly compared with another culture's music, so too for genre. Genre is an artificial distinction derived for the convenience of musicologists. So, one genre cannot be inherently better than another. However, if our two principles are right (and researchers from all fields seem to think that they are) and if musical interest reflects the determinism-freewill continuum (no reason to think that it doesn't), then we can say that some music is more interesting than other music, where "interest" entails quality judgments as well. Viewed as a cognitive processing problem determinism-freewill interest assessment easily leads back to cultural and genre comparisons where, quite naturally, some music is deemed to be better than other music. In this way quality assessment, as an outcome of the determinism-freewill continuum, transcends both genre and culture: piece M of culture C or genre G can be universally judged to be a better piece than piece K of the same culture or same genre or of a different culture or different genre.

Some like to argue that finding pattern relationships is immaterial to the importance of the musical experience and that importance is instead found in cultural affairs such as performance, dance, social-cultural understanding, and so forth. I would be the last to suggest that cultural affairs are irrelevant to musical understanding. But it is patently obvious that responding to music emotionally or culturally cannot possibly take place until music cognitive processes (which in fact define musical understanding) are accomplished first. The problem is that we tend to take musical understanding for granted. I think this happens because most assume that copy theory explains music perception. While introspectively it seems like a copy process, it isn't. All music

researchers, psychologists and *Philosophers* now realize that the primary descriptor of brain functions occurs as a pattern construction process. Musically speaking, there is nothing “out there” to copy. Sound waves do not contain timbre, beat, melody and anything else, even though nothing happens perceptually without sound waves. Instead, once again, the only thing that matters is what listeners construct out of these sound waves. Nothing happens understanding-wise without active, attentive, listener-generated pattern construction. This is not merely a belief or opinion, and it certainly is not a choice any of us has. (“Enough copying for today. Now I’ll turn on my construction device.”) It is a biological and thus psychological fact about how Nature designed brains.

While we fall over backwards in rationalizing our acceptance of all musical systems and all music emanating from those systems, while we wring our hands and shout on high that everything is equally Good and Beautiful, we wonder at the same time why we can’t find a non-circular “philosophy” of music education and why everyone else does not agree with us. (They don’t, by the way, and for good reason.) Because to assert that all music everywhere is equally good and wonderful, that the only difference between any of it is that it is different from anything but itself, merely begs the question of what musical experiences are most beneficial in the development of humans. Saying that they all are Good for us explains nothing about any music.

Our insistence on promoting musical equality, rather than dealing with how music is understood in the first place, is the reason we find ourselves in so much trouble. Our think tank, in short, has become a rusty old hulk.

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