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CONCEPTUAL AND NONCONCEPTUAL MODES OF MUSIC PERCEPTION

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> Understanding and enjoying a Bach fugue or a Brahms sonata does not involve knowing about—conceptualizing—cadences, contrapuntal devices, bridge passages, and the like….
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> —Leonard B. Meyer[1]

> To experience music with musical understanding a listener must perceive various kinds of musical processes, structures and relationships. But to perceive phrasing, cadences and harmonic progressions, for example, does not require the listener to conceptualise them in musical terms.
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> —Malcolm Budd[2]

What does it mean to say that music perception is *nonconceptual*? As the passages from Meyer and Budd illustrate, one frequently encounters claims of this kind: it is often suggested that there is a level of perceptual contact with, or understanding or enjoyment of, music—one in which listeners typically engage—that does not require conceptualization. But just what does a claim of this sort amount to, and what arguments may be adduced for it? And is all musical hearing nonconceptual, or are there ways of enjoying fugues and sonatas that *do* involve conceptualizing cadences and contrapuntal devices? If the latter, how are we to conceive of the relationship between conceptual and nonconceptual ways of hearing?

Questions such as these point to the possibility of a reciprocal relationship between music

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1 Meyer (1973), p. 16.

2 Budd (1985), p. 247.

theory and philosophy, where each contributes to and illuminates the other. The philosophical study of perception, language, concepts, and intentionality can help to refine and enrich our music-theoretical conceptions of hearing and our understanding of what music theory tells us about it. Conversely, an examination of musical phenomena can challenge received philosophical precepts about the nature of perception and its relation to concepts and language, and broaden our understanding. In this article, I shall approach such issues from within the analytic tradition rooted in the work of Frege, Russell, and Wittgenstein, and represented more recently by such writers as David Armstrong, Gilbert Harman, and Christopher Peacocke. What I shall do is, first, to sketch a certain widely-held view about the nature of perception, which I shall call the 'cognitivist' view, on which perception essentially involves beliefs and concepts; then I shall argue that a certain level of music perception—specifically, that described by the 'scale-degree hypothesis' in the cognitive psychology of music—is nonconceptual in two distinct senses, which I shall call *weak* and *strong*, respectively. Nonconceptuality in each of these senses forces departure from, or revision of, the cognitivist view as sketched here. I shall then, briefly, contrast nonconceptual hearing with conceptual.

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What is sense perception? In recent years many philosophers have taken the view that perceptual states—those of visual experiences, auditory experiences, and the like—are *beliefs*.[3] On this view, if I have, for example, a visual experience of the kind one normally has in seeing a red apple—or, as I shall put it, a visual experience *as of* a red apple—that visual experience is an instance of the belief *that a red apple is before me.* (More precisely, on the version I favor, the view is that perceptual states normally *function as* beliefs: though I may have a visual experience of the red-apple sort, I may not take my experience at face value because I think the light may be abnormal or because I know I am under the influence of hallucinogenic drugs. In cases like these my visual experience will not function as a belief; but such cases are to be

[3] For a classic statement of this view, see Armstrong (1968).

understood as deviations from the normal case.)[4] Of course, perceptual states are not just *any* old beliefs; not every belief that there is a red apple before me is a visual experience. Perceptual states are a *species* of beliefs, constituting a subclass within the larger genus. To have a perceptual belief that a red apple is before me is one way, though not the only way, of believing that a red apple is before me.

Beliefs have content, which is to say they involve a relation to a *proposition*: a belief is always a belief *that* such and such is the case. But in virtue of what does a perceptual belief—a state in someone's head—have the content that it has? The answer is provided by a functionalistic account. Perceptual beliefs are to be conceived of and individuated in terms of their causal role in certain sorts of behavior, the most important of which, for present purposes, is discrimination. I can have a perceptual belief that this rose is yellow only if I can reliably discriminate yellow from non-yellow things; a perceptual state of mine will count as a visual experience as of something *yellow* only if it is of a kind that plays an appropriate causal role in discriminative behavior.[5] By this I mean selective behavior, treating yellow things differently than non-yellow things: treating yellow things in one way, non-yellow things in another way.

A causal role in selective behavior is one determinant of the content of perceptual beliefs; other causal roles are relevant as well. Perceptual beliefs have a role in judgments of phenomenal similarity: what makes my visual experiences, of this rose and that, instances of the perceptual belief that there is something *yellow* here, is that the roses are apt to look the *same* to me in a certain salient respect, and that I am disposed to judge them to be the same in that respect.

With beliefs come concepts. Concepts are to be thought of as constituents of propositional contents, so, for example, the propositional content *There is a yellow lemon here* contains as constituent concepts *yellow* and *lemon*.[6] Possessing a concept is a matter of being able to enter into an appropriate range of beliefs or other attitudes containing that concept as a

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4 Harman (1973), p. 182.
5 Armstrong (1968), pp. 246-55.
6 Here I follow Peacocke (1992), p. 2.

constituent.[7] Hence, I have a perceptual concept of *yellow* only if I am able to acquire the perceptual belief that an object is yellow, for an appropriate range of objects, in appropriate circumstances such as having my eyes open, looking at the object in good light. To possess a perceptual concept is thus to possess an ability to enter appropriately into any of a certain repertoire of perceptual beliefs, as circumstances warrant. Someone who possesses a perceptual concept of yellow will normally be capable of sorting objects into two piles, yellow and non-yellow.[8] And he will be capable of recognizing repeated instances of the property over time: he will welcome a later instance *as the same* as an earlier instance.

This view of perception as belief, as the exercise of conceptual abilities, which I shall call the 'cognitivist' view of perception, is part of a larger attitude that construes perception not as passive receptivity but as always a matter of classifying, organizing, and theorizing. In the words of Nelson Goodman,

> [T]here is no innocent eye…. Not only how but what it sees is regulated by need and prejudice. It selects, rejects, organizes, discriminates, associates, classifies, analyzes, constructs. It does not so much mirror as take and make; and what it takes and makes it sees not bare … but as things, as food, as people, as enemies, as stars, as weapons. Nothing is seen nakedly or naked.[9]

Or, as Norwood Russell Hanson puts it, 'Seeing is a 'theory-laden' undertaking,'[10] which is in turn an updated version of Kant's dictum that 'intuitions without concepts are blind.'[11]

It is necessary at this point to state more precisely several important assumptions behind the cognitivist conception. The first is actually a *non*-assumption: it is *not* assumed that someone to whom a perceptual state is correctly ascribed need understand the language in which that ascription is couched, or indeed any language. It is entirely consistent with the cognitivist view that animals can have perceptual beliefs. For a creature to perceive something as food it is necessary that the creature have the appropriate discriminative capacities, and for it to be

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7 Peacocke (1992), p. 5.
8 Armstrong (1968), p. 246.
9 Goodman (1976), pp. 7-8.
10 Hanson (1958), p. 19.
11 Kant (1929), A 51/B 75.

disposed to treat the thing as food, i.e., to eat it, but it need not understand the word 'food' or indeed have any linguistic mastery at all.[12]

The second assumption is that propositions are individuated in such a way as to meet the following constraint: one cannot, if one is rational, simultaneously believe and doubt the same proposition. If one believes that *p* but doubts that *q*, then *p* and *q* must be different propositions, different objects of thought. Essentially, this constraint makes propositions out to be something very much like what Frege called Thoughts.[13] An equivalent way of putting this is to say that propositions are distinct if they have different information value: if I believe that *p*, and the thought that *q* is informative to me, then *p* and *q* must be different propositions. Suppose, to adapt a famous example from Frege, I believe that the Morning Star is a planet, and it is informative to me that the Evening Star is a planet. It follows that—even though 'The Evening Star' and 'The Morning Star' are names for the same object—the proposition that the Morning Star is a planet is distinct from the proposition that the Evening Star is a planet. A parallel point applies to concepts: 'The Evening Star' and 'The Morning Star' express different concepts, since substitution of one constituent for another can take one from a proposition that is informative to one that is not, or vice versa.[14]

The third assumption is that if someone holds a belief with a certain propositional content, then—*ceteris paribus*, and assuming he is rational and sincere—if a sentence *S* expresses the content of his belief, and if he understands *S*, then he will be disposed to assent to *S*.[15]

In order to state the fourth assumption, we need the notions of an *ascription sentence* and a *content sentence*. An ascription sentence is a sentence of a sort that is typically used to ascribe

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[12] Harman (1973), p. 62.

[13] Frege (1956).

[14] Peacocke (1992), p. 2.

[15] Recall that no *necessity* inheres in the condition that the subject understand *S*: someone can hold the belief that it's raining without understanding the Russian sentence that expresses that proposition, and in such a case, of course, he will not be disposed to assent to that sentence. The claim is that *if* someone understands a sentence which expresses a proposition he believes, then (*ceteris paribus*) he will be disposed to assent to it. The third assumption depends partly on the second. Were the subject not disposed to assent to *S*, he would have an attitude of doubt toward the proposition it expresses; but then he would be entertaining contradictory attitudes toward the same content, in violation of the second assumption.

a belief to someone, for example,

He believes that snow is white.

Now *within* this ascription sentence there lies the content sentence

Snow is white

which specifies the content of the belief we wish to ascribe.

The fourth assumption, now, is that where a belief attribution is true, the content sentence occurring within that ascription expresses the content of that belief: it expresses the proposition which that belief has for its content. Hence, if I say of someone, 'He believes that a red apple is on the table', and if what I say is true, then he will have a belief which is expressed by the sentence 'A red apple is on the table'. And it follows from this that if he understands the sentence 'A red apple is on the table', he will be disposed to assent to it. In a parallel way, if he is correctly described as having a visual experience as of a red apple, then, if he understands the sentence 'A red apple is before me', and if he takes his experience at face value, he will be disposed to assent to that sentence.

To put this perhaps more intuitively, the assumption is that the concepts used in the ascription of a belief—that is, the concepts used to specify the content of the belief—*themselves belong to* that content; they are concepts the subject necessarily must employ if he or she is to have that belief. If someone is correctly described as having a visual experience as of a red Maserati, then the content of that perceptual belief, the proposition to which the believer is related, must contain the concept expressed by the word 'red', *viz*., the concept *red*. Now, again, we do not assume that in order to possess the concept *red* the subject must have a word for it in his language, much less the word *we* use for that color in ascribing an experience of it to him; but *if* he has the relevant linguistic mastery, *if* he understands 'There is a red Maserati there', then he will be disposed to assent to that sentence.

The fifth assumption is that perceptual states fall into *types*, as distinguished from tokens or

instances of the type; it is at the level of types (not merely tokens) that perceptual states are to be taxonomized as beliefs. This means that for each perceptual state type there is a corresponding belief (type) such that any token of the former is a token of the latter.[16] The condition is that each of the various tokens of the visual experience as of a red apple must be tokens of the *same* belief; it would not be sufficient if each were a token of some belief or other, albeit different beliefs in each case. The claim is that *type* identity holds between perceptual states and beliefs, not just token identity.

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Cognitive psychology has amassed considerable evidence for the hypothesis that ordinary listeners mentally represent tonal melodies as sequences of scale degrees, that is, as elements of a tonal scale built upon a tonic pitch.[17] On this hypothesis, the melody 'Twinkle Twinkle Little Star,' for example, is encoded as ^1, ^1, ^5, ^5, ^6, ^6, ^5, where ^1 represents the first degree of the (major) scale, ^2 the second degree, and so on. For the sake of argument, I shall assume that the scale-degree hypothesis is true.

The question which will concern us is whether the mental representations thus postulated, which I shall call 'scale-degree representations,' receive a correct characterization on the cognitivist view.[18] What I shall argue is that they do not, in two respects (the first fairly interesting, the second even more so). The first will correspond to Budd's suggestion that the perception of musical events 'does not require the listener to conceptualise them in musical terms.' Now if by 'musical terms' Budd means *music-theoretical* terms, or ones special to the musicologist or formal analyst (as I think is clear from the context), what he describes will constitute one kind of divergence from the cognitivist conception, as I shall go on to explain.

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[16] This is not completely right as it stands, because perceptual states do not always function as beliefs in the normal way-someone might not take his experience at face value—but I shall ignore this complication.

[17] Dowling and Harwood (1986), pp. 128, 142; Bharucha (1991), pp. 92-93; Idson and Massaro (1978); Kallman and Massaro (1979). As Dowling and Harwood explain, the notion of scale degree (steps in a moveable-do system) is more or less equivalent to the cognitive psychologist's notion of (relative) chroma.

[18] Clearly they are perceptual states in *some* sense. Whether they are, or are related to, auditory *experiences* is an interesting question, but one I will not try to answer here.

But note that as claims about nonconceptuality go, this is a fairly weak form of it. Even if the perception of a certain type of musical event or property, such as scale degree, does not consist in the employment of a *music-theoretical* concept, it may still consist in the employment of *some concept or other*: the listener may have a perceptual concept of scale degree (or cadences or harmonic progressions) distinct from the music-theoretical concepts of such things, but a concept all the same. So, though in any event it will be interesting to flesh this claim out, we will not be all that far down the road to nonconceptuality in any robust sense.

But a stronger claim would be that not only does an ordinary listener fail to conceptualize certain kinds of musical events in music-theoretical terms, he fails to conceptualize those types of events *in any way at all*; he has no concepts, music-theoretical or otherwise, of those types of events (though he nevertheless perceives or mentally represents events of that type on some level). (That, I think, is a plausible reading of the passage from Meyer. Note that the claim will be formulated with relation to *certain types* of musical events, where what is claimed is that the listener has no concepts *of those types of events*; this is to be distinguished from the still stronger, and much less plausible, claim that ordinary listeners employ no concepts whatever in their hearing.) If the mental representation of scale degree is like this, it is 'strongly' nonconceptual (in contradistinction to the 'weak' sense just discussed). I shall sketch two senses, then, in which music perception can usefully be said to be nonconceptual—of which the ordinary listener's mental representation of scale degree is a salient example. Now to flesh all of this out.

First, weak nonconceptuality. Consider the following case. Karl is an undergraduate music theory student enrolled in Ear Training I. He is at least at the level of an ordinary listener, so the scale-degree hypothesis will apply to him if it applies to anyone. (I call Karl an 'intermediate' listener since he knows some theory, though, as will immediately be clear, he is hardly an 'expert' listener.) Let us suppose that Karl's ears are dragging a bit behind his theory knowledge, so that, as he takes down a melody for dictation during an ear-training exam, he is not always sure of the pitches' scale degrees. 'Was that the fifth scale degree,' he wonders, 'or the fourth?' (I am assuming that the melody is tonal and unambiguous.)

Now, by hypothesis, as Karl listens to the melody he has mental representations of the

pitches' scale degrees. But those representations cannot be perceptual beliefs about scale degree, as the cognitivist conception would have it. For suppose they were. Then it would be correct to ascribe to Karl, when he hears a ^5 (a pitch of scale degree 5), a perceptual belief expressible by the content sentence

> That pitch (sounding now) is a ^5.

But Karl has no disposition whatever to assent to that sentence (contrary to what the cognitivist view would imply). He is genuinely in doubt as to whether the pitch he hears *is* a ^5; and hence the proposition he doubts cannot be the same as the proposition of which he putatively has a perceptual belief—for if it were then he would have contradictory attitudes toward the same proposition. But whatever Karl's faults as a musician may be—and they may be considerable—he is not *irrational*: the problem is with his ears, not his ability to avoid logical inconsistency.

Hence the ordinary listener's scale-degree representation does not fall within the ambitus of the cognitivist conception of perception as belief. The cognitivist view, as stated here, requires that one have a perceptual belief with the *same* content as that expressed by the relevant content sentence; but this is not true in Karl's case. Whatever Karl's scale-degree representation may be, it is not a belief in the proposition that the pitch he hears is a ^5—which proposition, after all, he doubts; it is not an employment of the music-theoretical concept of ^5. This result is, by the way, quite salutary from a certain standpoint: it is one facet of the beginning of a philosophical account of what ear training consists in. Patently, people who come out of an ear training course different from when they went in have *changed* in an important mental respect, and it is worthwhile to have a clear philosophical picture of what that change consists in. I do not claim to be presenting such an account here, but it is something that would be valuable to have; and the observation that ordinary listeners' representations of scale degrees are distinct, by Fregean criteria, from music-theoretical beliefs about them is, I think, a start in the right direction.

But although there is a lack of fit here with the cognitivist conception, it is not drastic. And in fact it can be argued that the cognitivist view was initially formulated more strongly than it

needed to be. There is room in our conception of belief ascription (and that of other attitudes) for attributions couched in terms other than those in which the believer himself represents things. For example, if Wally sees the department chairman across the room and remarks to me that he is tall, I may report to someone else, 'Wally believes that the department chairman is tall.' Now there is an entirely natural way of taking my words on which it is not necessary, for what I say to be true, that Wally have any idea that that person is the department chairman; my report can be taken in a way that does not imply that Wally thinks of him *under that description*. This is known as a *transparent* belief ascription (or a transparent reading of the ascription), in contradistinction to the *opaque*, which does carry the implication that Wally thinks of him under that description.[19] Essentially, certain assumptions stated earlier—to the effect that the believer must be disposed to assent to a sentence that expresses his belief, if he understands the sentence, and that a rational thinker cannot simultaneously believe and doubt the same proposition—artificially limit belief attribution to *opaque* attribution, and carry with them a too-monolithic notion of proposition that supports that limitation. But our notions of belief attribution and proposition need not be so limited.[20]

It appears open, then—for all that has been said so far—to hold that scale-degree representations are perceptual beliefs, ones ascribed *transparently* in music-theoretical terms. For in transparent attribution we may *use* music-theoretic concepts to specify a belief which does not itself involve the employment of those concepts. It appears open, then, to hold that Karl's representation of the melody involves the employment of perceptual concepts of scale degrees, so long as those concepts are distinct from music-theoretical concepts of those scale degrees. (What we must suppose here is that there can be different concepts of the same

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[19] On transparency and opacity see Quine (1960), pp. 141-46. For extensive treatment of the topic of belief ascription and related issues, see Woodfield (1982); see esp. p. 265 on the notion of a description which occurs opaquely.

[20] For further discussion, see my (1995), pp. 50-55. Although it would take us too far afield to work out the details here, let us observe this: if we allow for (at least) two levels of propositions or contents-where one level obeys Fregean constraints and the other does not-we will be able, hopefully, to have our cake and eat it too, capturing cognitive phenomena in terms of the former level while providing a satisfactory account of attribution via the latter. In what follows, I will continue to use 'proposition' in the former sense. In my book, the idea that hearing ascriptions are transparent receives significant qualification: they are finer-grained than one might expect.

property, or event-type, ^5; there can be perceptual concepts of it, and music-theoretical concepts of it.) So while it perhaps does not stretch things *too* far to use the word 'nonconceptual' for this, it is nonconceptuality of a rather weak sort—perhaps better called 'conceived differently.'[21]

But it would be a mistake to hold the view sketched in the previous paragraph. For scale-degree representation in ordinary listeners is nonconceptual in a stronger sense than the one just adumbrated. In order to see this, it is necessary first to recall the last of the cognitivist assumptions stated earlier: that *qua types*, perceptual states are beliefs. This means that if, for example, the scale-degree representation of ^5 is a belief in this sense, then the various tokens of that representation must fulfill a certain common role in discriminative behavior: they must enable a certain selective response to occurrences of ^5. (This means, in turn, that there is a particular sort of response that occurs to instances of ^5 but not to instances of other pitches.) What is more, if one's scale-degree representation of ^5 were a perceptual belief, then one would be apt to perceive ^5s as possessing a salient phenomenological similarity: one would be apt to hear those pitches *as* the same. Having heard one instance of ^5 in a melody, one will be apt to welcome its later occurrences *as* the same as the earlier one.

But ordinary listeners cannot do this. They do not have the ability to sort the incoming pitches of a melody into ^5s and non-^5s; they do not have a general ability to tell when earlier and later pitches are instances of the same scale degree (except in certain contexts, such as immediate repetition). This is proved beyond a doubt, I think, by the fact that ear training is not a null operation: the abilities just cited are precisely those normally *acquired* in Ear Training I (and beyond), and hence are ones the student did not possess beforehand. (And yet on embarking on such a course the student is already an ordinary listener, so that the scale-degree hypothesis applies to him.) Ear training is first and foremost the acquisition of a certain repertoire of perceptual concepts for musical events and properties, where one initially has no

[21] This is essentially my qualm about Tim Crane's notion of 'nonconceptual content,' in his (1992), p. 143. It seems to me that what he (following Adrian Cussins) calls canonical characterization of a property is not all that different from transparent attribution, nor is his notion of nonconceptual content materially different from that of a *referent* (as opposed to a sense).

perceptual concepts of them. It is emphatically *not* merely the association of verbal labels with perceptual concepts already in place: if it were, ear training would be as easy as learning to typewrite.[22]

Thus, scale-degree representations are not perceptual beliefs; they do not consist in the employment of perceptual concepts. They are 'strongly' nonconceptual.[23] This, then, is a second sense in which the ordinary listener's perception of music may usefully be described as nonconceptual.

It does not follow from this, of course, that the ordinary listener's hearing is *entirely* nonconceptual, that it involves the employment of no concepts whatever. The claim is merely that the ordinary listener's representation of *some* musical events and properties, of which scale degree is a salient example, fails to be conceptual. As functionalism elucidates, one's perceptual concepts are a function of what the person can recognize and discriminate. If Karl can recognize the opening melody of Brahms's E-minor cello sonata, then he has a perceptual concept of that melody. Most people have robust perceptual concepts of familiar songs and themes, as well as stylistic and generic properties of works. People can easily tell polkas from reggae, which is to say their repertoire of perceptual concepts extends to these categories. It is only at certain levels, with respect to certain properties, that the mental representation of music is nonconceptual in the present sense. Moreover, musical events might receive nonconceptual representation at one level and conceptual representation at a less specific level: a particular deceptive cadence might be represented as V-VI at (something close to) the scale-degree representation level, yet conceptualized by the listener only as a progression that 'takes a detour' (a characterization which will apply to many progressions other than V-VI).

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[22] Psychological experiments demonstrate that listeners tend to rate certain pitches as more closely related than others; such experiments form the basis of multidimensional scaling models of musical space. See Krumhansl and Shepard (1979). I would argue, however, that the ordinary listener's ability to rate pitches in this way does not rise to the level of scale-degree *concepts*.

[23] It is worth reiterating here that the point applies at the level of representation *types*; it is open to suppose that some or all of the tokens of the scale-degree representation ^5 are, taken individually, beliefs, though not all tokens of the *same* belief.

In the remainder of this article I should like to focus on conceptual, as opposed to nonconceptual, hearing. I have already suggested that where the ordinary listener has a nonconceptual representation of certain musical properties, such as scale degree, others—more highly trained, 'expert' listeners—have conceptual representations of—perceptual beliefs about—those features. Ear training consists, at least in some cases, in the acquisition of such concepts, I suggest. Of course, an expert listener's perceptual-concept repertoire may extend more widely than this; there is no need to assume that *all* of an expert listener's perceptual concepts have nonconceptual counterparts. Perhaps Schenkerian analysts learn to hear large-scale structures that fail to be represented by ordinary listeners even nonconceptually.

But there is still the question: what is the relation between a trained listener's perceptual concepts and the music-theoretical concepts in terms of which he reports his hearing (or in terms of which we ascribe a hearing to him)? And is there an important contrast between the expert listener and Karl the intermediate listener in this respect? It is suggestive here to bring in a famous hypothetical example posed in the seventeenth century by William Molyneux. As John Locke recounted it,

> Suppose a Man born blind, and now adult, and taught by his touch to distinguish between a Cube, and a Sphere of the same metal, and nighly of the same bigness, so as to tell, when he felt one and t'other, which is the Cube, which the Sphere. Suppose then the Cube and Sphere placed on a Table, and the Blind Man to be made to see. Quaere, Whether by his sight, before he touch'd them, he could now distinguish, and tell, which is the Globe, which the Cube.

Locke reported that Molyneux answered his own question in the negative, a verdict with which Locke himself agreed.[24]

There has been much controversy over what is actually at stake in Molyneux's Question, and what either a positive or a negative outcome would prove. The philosopher Gareth Evans has argued that the real issue is whether or not sight and touch are parts of a 'unitary conceptual

[24] Locke (1975 [1700]), II.ix.8, p. 145, italics omitted.

ability.'[25] In our terminology, this is to ask whether the propositions that serve as the objects of visual and tactile beliefs are ever the same, i.e., whether sight and touch ever issue in the same information. In the outcome envisioned by Locke and Molyneux, the information the newly sighted man gains by sight is different from the information he gains by touch. He cannot identify the shapes because it is possible to believe the 'visual' proposition that a cube is present without believing its 'tactile' counterpart.

If we let hearing be the analogue to touch, and scale-degree identification the analogue to sight, then Karl the intermediate listener is like the newly sighted man in the negative outcome predicted by Locke and Molyneux. In both situations, there is a conceptual divide between two faculties: between sight and touch in the Molyneux case, and between hearing and theoretic knowledge in Karl's.

But for most of us things are *not* as they are for Molyneux's newly sighted man. Arguably, visual and tactile shape perception, whatever they are for Molyneux's man, are for most of us aspects of a unitary conceptual ability. That is, in fact, what the cognitivist conception holds, that there is a common coin of spatial information accessible through sight as well as touch, information which we can equally well put into words. If we see a red apple, and take our experience at face value, we cannot rationally doubt that there is a red apple before us; the proposition that serves as the content of our visual experience is one to which we are related via other sensory modalities, as well as thought.

The parallel claim for music, now, is that expert (as opposed to ordinary or intermediate) listeners enjoy a similar sort of unitary conceptual ability, encompassing both hearing and theoretic knowledge. What ear training does, on this view, is to enable one to engage in a way of perceiving and thinking about music on which the two are conceptually integrated with one another. One advances, from a state not unlike that of Molyneux's man, to a state of conceptual integration similar to that which most of us enjoy in spatial perception. What is a commonplace in one domain is something that is much rarer, and often involves special training, in another.

But is this parallel claim for music in fact correct? Is a trained musical listener's hearing

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[25] Evans (1985), p. 373.

conceptually integrated with theory in this way? Well, perhaps in *some* cases we may want to concede that it is, say in the case of scale degree. But it will not follow that a trained listener's hearing is *wholly* integrated with theoretical concepts, obviating all informational distinctions between perception and theory. There is reason, in particular, to think that there is a certain level at which the music analyst mentally represents events such that this representation leads to and supports judgments about musical structure without being equivalent to such judgments in propositional (i.e., informational) content. For there are many cases we will want to characterize as ones in which a musical analyst hears a passage as having a certain structure, where at the same time *the thought that the passage has that structure is a thought that the analyst finds informative.* That such thoughts—e.g., the thought that a passage has the Schenkerian structure ^3-^2-^1—are informative is shown by the fact that analysis is *discovery*: one learns something new in the process of doing musical analysis, something which one can then communicate to others and which constitutes new knowledge to them as well. (If it did not, then the analytical insights expressed in music theory journals would strike readers as obvious, and there would be no demand for such journals. A transcendental argument from the existence of journals.) At the same time, analysis is validated through hearing: one's judgment that a passage is a ^3-^2-^1 is supported by one's hearing of the passage in that way. So in such a case the analyst hears a passage as a ^3-^2-^1 at the relevant level, and at the same time finds it informative that the passage is a ^3-^2-^1. Such cases are, I maintain, absolutely central in music theory and analysis; but in any such case there will be an informational distinction between the level of hearing supporting the judgment and the judgment itself, by the Fregean informativeness criterion. And to that extent the music analyst's hearing resists a thoroughgoing conceptual integration with theory.[26]

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Music provides fertile ground for the investigation of the relationship between perception and

[26] I expand on this in my (1999).

concepts. The ordinary listener's perception of scale degree is nonconceptual in two distinct senses: it entails neither the employment of the *music-theoretic* concept of scale degree, nor of *any* perceptual concept of scale degree. The trained, expert listener, on the other hand, does have a mastery of music-theoretic concepts: but even in that case, I have argued, there is a distinction to be made, at the level of information content, between the content of the trained listener's perception and the music-theoretic concepts used to report it. The reason is that analysis consists in discovery: and the character of that discovery, and of the knowledge upon which it is based, is, I suggest, a worthwhile topic for further investigation.

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