

**'In My Mind's Ear':
Misconstruing Sounds as Sights –
a Philosophical and Cinematical Caution**

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HAMLET:

My father! – methinks I see my father.

HORATIO:

Where, my lord?

HAMLET:

In my mind's eye, Horatio

Shakespeare, HAMLET, Act 1, Scene 2

Prologue

As Hamlet reminded Horatio, to 'imagine' is to 'visualise' – to 'see' in 'my mind's eye' how an unseen object or event might have 'looked' were it to have fallen within the range of my vision. How odd, then, to speak of 'musical imagery', the subject of this conference, for 'the sounds of music' have no 'looks' to visualise, and a speaker of English has in common parlance no 'mind's ear' within which to – to what? – to *entertain* them?

In the 18th-century, writers succeeded for a time in introducing readers to the phrase 'in my mind's ear'. Within a few years, however, the phrase vanished from learned discourse, never to return, and no one before or since, Shakespeare included, every coined a verb of common use to capture what I am doing with unheard sounds as I attend to them only 'in my mind's ear'.¹

¹ The unknown author of an entry on 'One's aural memory or imagination. What's the origin of the phrase 'In my mind's ear'?', as found on 24 March 2019 on the website <https://www.phrases.org.uk/meanings/minds-ear.html>, affirms that "The first person known to have given the sense a name was the English poet Matthew Green, using the pseudonym Peter Drake, in *The Grotto*, 1733: 'The thinking Sculpture helps to raise Deep thoughts, the Genii of the place: To the minds ear, and inward sight, There silence speaks.' The expression became as commonly used as the earlier 'mind's eye'. For example, this extract from the diary of Fanny Burney, 1775: 'My mind's ear was once more pleased.' These days, the mind's ear is not often used [having] effectively dropped out of the language."

How puzzling! for we both hear and see events of the world about us, recalling and rethinking them, and the sounds that we hear and of which we think are no less useful to us than the sights that we see, recall and imagine. Many of you, indeed, like me, have centred much of our lives upon the musical sounds that we have heard and of which we have thought. Yet we, like our forebearers, have no way to refer distinctively to how we think of sounds rather than sights. Regardless of the incoherence, we speak instead of 'imagining' them.

J. L. Austin once remarked that

... our common stock of words embodies all the distinctions men have found worth drawing, and the connexions they have found worth marking, in the lifetime of many generations: these surely are likely to be more numerous, more sound since they have stood up to the long test of the survival of the fittest, and more suitable, at least in all ordinary, and reasonably practical matters, than any that you or I are likely to think up in our arm-chairs of an afternoon – the most favoured alternative method.²

Is our commonplace manner of misspeaking of sounds as if they were sights of no consequence? By the record and Austin's warning, one might think so. We know by the record as well, however, that many of the habits of western civilisation encompass biases that, however deeply embedded, ought long ago to have been uprooted.

I do not intend in this talk to answer the question, but rather to encourage you to ponder the possibility that the bias of our western world toward speaking of events as if uniformly 'visual' may be an impediment toward sensing and working better with things 'musical'.

Let me begin, though, by drawing your attention to how pervasively the 'visual' bias has permeated philosophy, the discipline of our culture devoted to reflecting upon thinking itself, summarising how it shaped the conclusions of the most important work of its most justly celebrated performer, Immanuel Kant.

A Presumption of Kant's

In 1787 Kant issued the second (definitive) edition of the *Critique of Pure Reason*, his fascinating enquiry into how we are constrained when encountering things. Within it he

² John L. Austin, "A Plea for Excuses", reprinted from the *Proceedings of the Aristotelian Society*, 1956-57, as Chapter 6 of Austin's *Philosophical Papers* (Oxford: Clarendon Press, 1961), pages 123-52, at page 130.

gave an explanation, after Newton, of why our encounters are unexceptionally mathematical. Kant's account had three parts, the third interlinked with the others though often overlooked.

Part I: Our Pure Awareness of Space

To perceive anything as distinct from oneself is to encounter it as occupying a *place* within space, a subspace of it, and thereby to encounter space itself. Encountering space is therefore a *necessary* condition for perceiving anything as distinct from oneself.

To occupy a place within space is to have the *geometric form* of that place.

To perceive anything distinct from oneself is therefore to encounter it *geometrically*.

One would be mistaken, however, to identify anything that one is perceiving with the place that it occupies, for were it to disappear from the place, one would continue to encounter the place within space, unoccupied by anything perceivable, as *empty*.

Unlike our encounters with the things that we perceive within them, therefore, our encounters with the places within space, and thus space itself, must be unempirical, for we must already be aware of the presence of space, and its places, to perceive anything within them. Our encounter with space, and the places within it, must therefore be *a priori* (that is, uncontaminated empirically, or *pure*).

Part II: the Non-objective Reality of the Self

To recognise anything *objectively*, one must conceive of it while encountering it, thus thinking of it while doing so. The judgment 'I am thinking that ... ' must therefore accompany my every act recognition. But to what could the 'I' within the judgment refer?

Were I to be *conceiving* of anything by means of it, the 'I' would be a predicate capable of being applied to other things as well, contravening the uniqueness of the subject to which it refers;

Were I on the other hand to be referring by it to something identifiable and distinct from others that I was *encountering*, I should have to be encountering it either purely (i.e., *a priori*) or empirically.

If purely (i.e., *a priori*), I should be encountering it *formally*, hence non-objectively, contrary to the supposition that my encounter is 'objective';

If empirically, I should be encountering it *contingently*, contrary to the requirement that 'I am thinking that ...' must [necessarily] accompany my every act of recognition.

However puzzling it may (and ought) to seem, therefore, the 'I' in 'I am thinking that ...', as Pastor Schultz affirmed acutely soon after Kant's text appeared, can refer to

... nothing more than bare consciousness which distinguishes no particular object but which must occupy all our presentations without distinction if they are to become thoughts or concepts. Therefore, since the I or self-consciousness must be presupposed in order to cognize an object at all, it is manifest from this that it cannot itself be cognized as [an] object but is a wholly simple presentation void of all content. Therefore, the absolute subject of our inner appearances is a something wholly unfamiliar to us of which we can know nothing.³

Part III: the Spatial Presupposition of Temporal Identity

To encounter anything distinct from ourselves, and thus *spatially*, is to perceive it by means of an 'outer sense' constrained formally, but only *mediately*, by *time*. To encounter anything at all, however, is to perceive it by means of an 'inner sense' constrained *immediately* by *time* alone. Our 'inner' encounters, therefore, are constrained only temporally, unlike our 'outer' encounters that are constrained both temporally and spatially;

We can identify and therewith discriminate among our temporal 'inner' encounters, however, and thus determine (arithmetically) which come before, after and by how much, only by coordinating them with our encounters with *objects* moving within space and thus distinct from ourselves.

To register the *transcendental unity of apperception*, therefore (the form of the consciousness of the 'I' in 'I am thinking that ...'), requires that we recognise *objects* moving in space and thus distinct from ourselves.

³ Schultz, Johann, *Exposition of Kant's Critique of Pure Reason*, translated with an Introduction (and with related reviews translated and appended) by James C. Morrison (Ottawa, Ontario: University of Ottawa Press, 1995 [1784]), pages 96 and 97.

The Lesson

Kant's account remains profound and especially so now that we can dispose of long prevalent misrepresentations of Part I.⁴ To my knowledge, however, no serious reader of it has ever noted that the very surface of his story fails to cohere, for Kant disregards unwittingly how differently we hear things from how we see them as if the distinction were of no consequence.

Kant's presumed unwittingly that 'to encounter', and thus 'to perceive', is 'to see' and hence, when imagining things, 'to visualise'. But that, strictly speaking, is *nonsense*!

To *hear* the opening bars of Wagner's *Tristan*, for example, is to encounter something commonly perceivable and having a spatial presence, yet other than an *object* occupying a place within space that is *geometrically* constrained.

The consequences of failing to account for the difference between hearing and seeing are broad and deep, philosophically and musically, for although we may assuredly extend the range of perceptual verbs to encompass uncommon events, as metaphorical expressions often do, we are in danger when doing so of contaminating unwittingly the new contexts with old connotations, preventing ourselves in the long run from distinguishing adequately among things as we work with them.

When Wittgenstein admonished philosophers to avoid the game played properly by scientists of generalising (or theorising), striving instead to 'teach differences' by describing particulars more precisely, he was summing-up the lesson to be learned, and few examples are as philosophically enlightening as the common yet misbegotten presumption that the verb *to imagine* could be used safely as if synonymous, more or less, with *to think of*, regardless of how distinctly the things of which we think might, if and when encountered, be sensed.

Let's return with caution, then, to the notion of 'musical imagery' – the supposed subject of this conference.

⁴ In 1902, for example, Henri Poincaré showed that any space specifiable within any of the alternative exhaustive geometries can be specified as accurately within any other, confirming that Kant's lack of awareness in the late 18th-century of non-Euclidean alternatives to the geometry that he presupposed is of only minor philosophical significance, though philosophers insufficiently acquainted with the history of mathematics continue to this day to misconstrue it as a fatal weakness of his account. See Chapter III ('Non-Euclidean Geometries') of Part II ('Space') of Poincaré's *Science and Hypothesis* (New York: Dover Publications: 1952), pages 35-50 [a reprint of the original 1905 translation into English by J. Larmor]].

'Imagining' Music?

To suppose that we could ever without danger presume to 'imagine' music ought to give us pause, recalling again that the root connotations of to 'imagine' cluster about to 'see' in the 'mind's eye', that is, to 'visualise'.

When hearing a musical event, we may well be provoked to imagine things, and seeing (or visualising) things may cause us to think of hearing musical events, as when accomplished musicians, by perusing a score, think of how they might hear were they to be listening to sounds compliant with it. Regardless of common practice, however, to speak as if we could somehow *visualise* how we are hearing when *hearing* musically portends confusion, for to do so is to misconstrue audible things as if they were visible, courting the danger of failing to register workably how differently we hear from how we see.

A composers, if doing so, would be in especial danger of constructing *visual* tools for performers (scores) whose structures, intended to guide the creation of *audible* events, that have unwittingly been constrained by forms and structures that are endemically *visual* (notations for sets, for example, or other 'mathematical' templates).

Mathematicians must struggle to train themselves to think independently of their visual notation (with only a very few, like Gödel or Robinson, succeeding in thinking mathematically of the notation itself). Small wonder that composers oft-misconstrue their task, for their visual tools remain unseen during subsequent hearings of the sounds, foreclosing ready comparison.⁵

As we shall see, musically sensitive filmmakers, having to choose when making their movies what ought to be heard and seen by means of them, have often rebelled against using music. But first we must register how differently we hear from how we see, and what it means.

Hearing versus Seeing

In 1802 Thomas Young put forward what we now refer to as the tri-receptor theory of colour vision. The opening sentences of the pertinent paragraph are frequently

⁵ Close attention to the achievements of Schoenberg and Berg can blunt the temptation, for the initiators of serialism refused steadfastly to confuse their visual tools with the aural product: if the resulting sounds were awkward, incoherent or unenlightening, they were corrected regardless of the divergence from the structural imperatives of the tone rows.)

reproduced, accompanied often by the sentences of his lecture of 1845 refining the theory.⁶

Now, as it is almost impossible to conceive each sensitive point of the retina to contain an infinite number of particles, each capable of vibrating in perfect unison with every possible undulation, it becomes necessary to suppose the number limited, for instance, to the three principal colours, red, yellow, and blue, of which the undulations are related in magnitude nearly as the numbers 8, 7 and 6; and that each of the particles is capable of being put in motion less or more forcibly, by undulations differing less or more from a perfect unison; for instance, the undulations of green light being nearly in the ratio of $6\frac{1}{2}$, will affect equally the particles in unison with yellow and blue, and produce the same effect as light composed of those two species: and each sensitive filament of the nerve may consist of three portions, one for each principal colour.⁷

The succeeding sentences of the 1802 paragraph, however, added by Young as a contextual afterthought and hence easily overlooked by specialists concerned only with visual perception, are remarkable, for within them Young stated succinctly the fundamental fact distinguishing visual from auditory perception (and therewith our perception of colours from music), regardless of the wavelike commonality, mathematically speaking, of the stimuli that cause them.

Allowing this statement, it appears that any attempt to produce a musical effect from colours, must be unsuccessful, or at least that nothing more than a very simple melody could be imitated by them; for the period [read: octave], which in fact constitutes the harmony of any concord, being a multiple of the periods of the single undulations, would in this case be wholly without the limits of sympathy of the retina, and would lose its effect; in the same manner as the harmony of a third or a fourth is destroyed, by depressing it to the lowest notes of the audible scale.⁸

To hear, Young was implying, we must distinguish among overtones; to hear musically, regardless of our enculturated preferences for the diverse effects, we must register the complex relations holding between them, for, as Helmholtz was soon to confirm, they constitute the various timbres, relative consonances or dissonances, beats, etc., of the

⁶ Young corrected his account in 1845: the three principal sensations of colour are red, green, and violet rather than red, yellow and blue.

⁷ From page 20 of "On the Theory of Light and Colours", *Philosophical Transactions of the Royal Society of London* (London: 1802) [as reproduced on page 112 of *Readings in the History of Psychology*, compiled and edited by Wayne Dennis (New York: Appleton-Century-Crofts, Incorporated, 1948)].

⁸ Ibid.

music we hear. The electromagnetic spectrum from within which the stimuli for colour perception must be generated, however, is too short to encompass even an octave (much less multiples of it: overtones). We can therefore, as Young insisted, make only *ad hoc* correlations between how we hear musically and how we see things, for to see things we must discriminate how they are coloured.

Two hundred years after Young, the work of Edwin Land and his associates confirmed unequivocally the distinction that he had drawn between hearing and seeing. To see anything, Land affirmed, is to distinguish its *colour* from that of other things registered within the visual field; and, as Young had conjectured, we have three kinds of receptors (cones) responsible primarily for registering the colours we see objects to have, each responsive to a range of contiguous frequencies of stimuli impinging upon them and together exhausting the frequency limits of the visible spectrum.

The function of the three kinds of cones in seeing, however, differs markedly from that of our eardrums when hearing. Our eardrums vibrate *as a whole* in sympathy with the pulsating mass of air impinging upon them; our brains then measure how the *ear* is vibrating, thereafter breaking down the complex waveform into its constituent frequencies.

As Land demonstrated, however (to the amazement of many accustomed to investigating how we perceive colour under artificial laboratory conditions), the ratio of the frequencies received by the cones from a point on an object in its natural surroundings fails to determine the colour we see it to have(!), for seeing, unlike hearing, requires us to register the presence of stable objects as being *constantly coloured*, even when the ratio of the frequencies coming from them, as is usually the case, vary widely over time. To accomplish this goal, the brain, following upon the firing of cones (achieved individually within 10^{12} seconds of being stimulated), registers *independently* the relative rate and extent of the firing of each of the three similar kinds of cones *over the entire visual field(!)* and only then, after comparing the three records, assigns the colour we see the points on the object to have.

Roughly put, we see things when the brain itself, protruding through holes in the skull, registers visual stimuli without becoming *like* them in any way (e.g., we see a chair as brown without any part of our eyes becoming brown). Our ears, however, unlike our eyes, are sense *organs*, distinct from yet connected to the brain, that become *like* the world impinging rhythmically upon them: the brain registers how *they* have become, inferring how the world must then be to be *like* them. When hearing, therefore, unlike when seeing, we may distinguish how we hear from the objects causing it (e.g., we may attend to the *sound* of a trumpet without attending to any trumpet); to see a colour, however, is to see *something* coloured (i.e., to see how *it* is coloured).

Identifying the Self

The above distinction has a notable consequence. Kant, after Leibniz and Hume, concluded that whatever the *self* may be, it is beyond encountering. He, after they, had looked for it and found only objects encounterable through the *outer sense* and thus distinct from the self, accompanied by fragmentary images encounterable through the *inner sense* unified formally in apperception (consciousness). Kant went *looking* for the self and missed it!

Kant's account, however, like those of Leibniz and Hume before him, was *visually* biased. The objects that we encounter *visually* are, indeed, distinct from ourselves, for, when registering their presence, our eyes become in no way like them. When registering the vibrating mass of air impinging upon us, however, our ears vibrate as does the air!

Precisely put, we become *identical* formally to the stimuli impinging upon us, and the identity persists throughout our encounter without interruption.

However irreducibly fragmentary and distinct from ourselves the *visual* things that we encounter may be, our auditory encounters with sounds, contributing to our unified tactile experience of the world, are unified, unceasing and undifferentiated from it.

To see things, as Kant noted, is to *objectify* them, locating them distinguishably from ourselves and each other within the space and time of the *visual outer sense*. What Kant failed to note, however, is that we can do so only by having identified the space and time of our visual encounters, populated with objects and events, with the unified time-space that we have encountered already by means of our integrated tactile senses (kinaesthetic, aural, etc.) – senses that refuse to be distinguished as either *inner* or *outer*.

Kant's account, as such, remains accurate, but only because he remained largely unconcerned with things encountered otherwise than as 'distinct from ourselves'. To be encountered as irreducibly 'distinct from oneself' is to be encountered *visually*.

Kant went *looking* for the self and missed it. Had he instead *listened* for it, he might have realised that it had never been lost.

Conclusion

How we hear differs from how we see. Yet the presumption that the things that we see must have priority over the things that we hear, both ontological and epistemological, is so embedded within our languages and expectations that to contest it seems as absurd as it seemed to many physicists early this century to contest the presumptions of our language about length, duration, simultaneity, uniqueness of spatial position and temporal direction, etc.. To presume that the world of things that we hear must be fitted within the world of things that we see, rather than the reverse, seems so natural that the corollary that access to it can be made without contamination by using tools of visualisation (verbs like *to imagine*, for example) seems equally so.

Early this century, however, physicists began to realise that new tools had compelled them to encounter things of unprecedented oddity - so odd, in fact, that the language of physics would crumble under the shock; and, almost coincidentally, filmmakers began to realise that their new tools were compelling them to construct worlds of sights and sounds for simultaneous and unprecedented encounter, thus compelling them to decide, for the first time in human history, which if either the worlds (sight or sound) took precedence over the other. The answer, unequivocal in practice, was that we measure the things that we see against the sounds that we hear. We encompass the worlds of things that we see within the unified tactile, kinaesthetic and auditory world that we inhabit and that constitutes our own identities.

Within the metaphysical research laboratories of filmmaking, filmmakers attuned to the subtler aspects of things heard, among them Bergman, Bresson and Tarkovsky, have recurrently condemned the use of *music* to accompany the things seen by means of their films. Speech, an attribute of things seen, proved useful and often essential to them, even when narrated, as were sound effects. Background music, however, overwhelmed the visuals, rendering them somehow *out of control*. As Robert Bresson reminded himself late in life,⁹

The eye (in general) superficial, the ear profound and inventive. A locomotive's whistle imprints on us a whole railroad station. ... [page 39]

When a sound can replace an image, cut the image or neutralize it. The ear goes more towards the within, the eye towards the outer. ...[page 28]

A flood of words does a film no harm. A matter of kind, not quantity. ... [page 14]

⁹ All quotations from Robert Bresson, *Notes on Cinematography*, as translated by Jonathan Griffith (New York: Urizen Books, 1975).

[But] Music takes up all the room and gives no increased value to the image to which it is added. ... [page 21]

Generality of music which does not correspond to a film's generality. Exaltation that hinders other exaltations. ... [page 22]

Music. It isolates your film from the life of your film (musical delectation). It is a powerful modifier and even destroyer of the real, like alcohol or dope. ... [page 86]

No music as accompaniment, support or reinforcement. No music at all. [page 10]

Why? The things that we see by means of a film *objectify* (that is, are seen to be objects within) a space and time other than our own. Music, however, comes to us, tactilely and kinaesthetically, within our own time and space, and it is within that time and space that we place the distinct things that we see. When listening to music, we become *as* the music *is*, and hence, even sometimes against our will, we measure what we see against the feelings and thoughts provoked by the music.

We are unified beings, constrained perceptually when encountering things as we are constrained when encountering things by means of the films that we make.

Hearing differs from seeing, however, being both epistemologically and ontologically prior to it.

Consequently, we must learn to think and to speak differently of aural versus visual things, distinguishing in word and deed, and in particular, how we think when 'conceiving' of things heard from our 'imagining' of things seen; or we shall assuredly blunt whatever skills we acquire for constructing things of worth to be encountered by hearing or seeing or doing both at once – the making of music at its centre.