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SOME COMPARISONS BETWEEN INTUITIVE AND SCIENTIFIC

1 Introduction

Some comparisons are offered here between the kind of musical description occasioned by putatively scientific behavior, and the kind of description which I will argue to be more proximate to the modes of specifically musical logic. While thus immediately demonstrating a bias toward the latter, I would not suggest that the music theorist take up a permanent abode in either of these domains, if only because it's a good idea to know and understand what other people are doing. In the following pages, the more proximate awareness is called "intuitive", and the more approximate is called "scientific". "Intuitive" is not used here as a synonym for a mere hunch, nor does intuitive

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THOMAS CLIFTON

awareness necessarily reside on the level of first hearings or of mere sense impressions. Rather, the word is used to describe the way in which we distinguish a human being from a mannequin, or the way in which we know that someone else is seeing or hearing what we see or hear. The word "scientific", admittedly, is an uncomfortable euphemism covering such distinguishable but related ideologies as empiricism, positivism, Platonic realism, and rationalism. It is used, I presume, in the same sense as used by Babbitt in the following statements:

> . . . the notion of analysis, and . . . the requirements of linguistic formulation . . . provide the important reminder that there is but one kind of language, one kind of method

> for the verbal formulation of "concepts" and the verbal analysis of such formulations: "scientific" language and "scientific" method. Without even engaging oneself in disposing of that easily disposable, if persistent, dichotomy of "arts" and "sciences" . . . it only need be insisted here that our concern is not whether music has been, is, can be, will be, or should be a "science" . . . but simply that statements about music must conform to those verbal and methodological requirements which attend the possibility of meaningful discourse in any domain. *1

Since "domain" is left undefined (since if it were defined the passage would become circular), the possibility remains open that we can have a meaningful discourse about intuitive awareness which conforms to the necessary requirements. This, in turn, suggests that intuitive and scientific descriptions are merely different, but need not be opposed. Perhaps these differences can be illustrated by referring to the following analogy by Karl Popper:

> The empirical basis of objective science has . . . nothing 'absolute' about it. Science does not rest upon solid bedrock. The bold structure of its theories rises, as it were, above a swamp. It is like a building erected on piles. The piles are driven down from above into the swamp, but not down to any natural or 'given' base; and if we stop driving the piles deeper, it is not because we have reached firm ground. We simply stop when we are satisfied that the piles are firm enough to carry the structure, at least for the time being. *2

Well, intuitive description is the result of having taken careful notes while mucking around in that swamp, looking precisely for nothing less than firm ground. This would be an audacious undertaking except for the realization that both the swamp and the building erected over it are both located within us. And it follows that if there is firm ground, that, too, will be located within us.

2 The Common Ground: Intentional Acts

By the expression "within us", I mean that both intuitive and scientific descriptions are consequences of human acts. In listening to a particular complex of sounds, I perform a certain act by means of which these sounds assume musical significance. Or I can attend to this same sound-complex and,

once again acting on a decision, study its physical properties (wave forms, spectra, "real" durations, envelope, etc.). I can continue shifting my point of view toward the sound-complex to make an analysis of its indivisible units (e.g., specifiable pitches, if any), and I can analyze these units with specific intentions in mind. I may want to use them to devise a communication code, or to construct a linguistic or mathematical model. Furthermore I could think of this sound-complex as a kind of stimulus and measure the way it affects human metabolism. It could even be used in brainwashing techniques (as in Burgess's A CLOCKWORK ORANGE). The point is, all of these attitudes are what we call intentional acts, and a change from one act to another does not imply the existence of a plurality of mutually self-contradictory objects. What we have is not two or more different objects, each called sound-complexes, but rather, two or more different experiential gestalts, one of which is called music. However, because these gestalts are different in every case, it seems inconsistent to turn to a study of the physical properties of sound to explain what the sound-complex, intended as a musical object, is saying. Similarly, since linguistics, information theory, clinical behaviorism, and mathematics all bring their own intentional fields with them, it seems logically inappropriate to think that an intentional act in one field could explain the significance of the intended object in another. Whatever tendencies are set in motion, whatever results are yielded, are all directed and achieved within distinct areas of human activity. These areas are not self-cancelling since all share a common bond of intentionality. Accordingly, it is possible and often desirable to experience, explain, and describe a sound-complex from any number of points of view. But it is also possible to short-circuit one's thinking by elaborating a point of view in one intentional field to make inferences, draw conclusions, and set up methodological guidelines about another.

Since we have, then, to contend with these different intentional fields, it seems inadvisable that one kind of "objectivity", known as scientific objectivity, be held up as the model for all other fields to emulate. For one thing, as any true scientist will tell you, scientific objectivity is just as impure as intuitive objectivity. To be sure, it is a valuable ideal, but it is also a human invention, as fallible as it is seductive. Whatever motivates a person to choose either an intuitive or a scientific description must therefore be something other than the popular belief that only scientific descriptions are epistemologically valid. For example, if I choose to make an intuitively grounded description of a certain musical experience, it is not because

of any prejudices held against science, or because I have masochistic tendencies and enjoy sticking my neck out. I am interested in intuitive descriptions because I subscribe to the widely held belief that when music is experienced, it is experienced intuitively, that is to say, it appears as a meaning before being objectified or justified by scientific descriptions. The evidence for this belief was submitted in a previous article.*3 Should there still be some people around for whom music is a thing to be constructed logically from an atomic array of syllogistic major and minor premises, these people (whom I hope have some time on their hands) are referred to Merleau-Ponty's PHENOMENOLOGY OF PERCEPTION, Polanyi's PERSONAL KNOWLEDGE, two works by R.D. Laing called THE POLITICS OF EXPERIENCE and THE DIVIDED SELF, Volume 3 of Cassirer's PHILOSOPHY OF SYMBOLIC FORMS, Virgil Aldrich's PHILOSOPHY OF ART, Langer's MIND: AN ESSAY ON HUMAN FEELING, Popper's THE LOGIC OF SCIENTIFIC DISCOVERY, etc., etc. (This is a random sampling representing various fields of endeavor.)

If it is objected that intuitive descriptions tend to be a little messy, and do not serve up their conclusions in neat, quantified, biodegradable packages, then that is unfortunate. All that can be asked is that the person making the intuitive description do so under conditions of rigor which also preserve the integrity of the musical object. The question is not whether the description is subjective, objective, unbiased, or idiosyncratic, but very simply is whether or not the description says something significant about the intuited experience, so that the experience itself becomes something from which we can learn, and in so doing, learn about the object of that experience as well. Intuitive descriptions become idiosyncratic only when the describer confuses unfounded opinion with the essential presence of subjectivity itself. No one is saying that any particular intuitive description, taken as true, is the whole truth. Intuitive descriptions erect their structures very much in the same way that scientific descriptions do: slowly, methodically, with frequent erasures and backtracking. Both kinds of description are concerned with intersubjective confirmation. It is beginning to appear that it is actually more difficult to find differences between intuitive and scientific descriptions than similarities. Nevertheless, important differences exist, some of these are discussed in the following sections. (This section itself is the merest sliver from the dead-wood controversies of "outer" vs. "inner". Among the questions it leaves unanswered, consider these: Doesn't the ability to recognize idiosyncratic descriptions presuppose an intuitive awareness of

truth? Isn't scientific behavior itself idiosyncratic, or at least metaphysical, in presupposing that the objects it investigates actually exist?)

3 The Subjective Basis of Musical Objectivity

Scientific objectivity is a goal aimed at by a critical behavior which continuously distinguishes the essential from the accidental, the reality from the appearance, the constants from the variables, and the determinate from the arbitrary. There are two overriding motivations for this behavior: science's concern to establish unequivocally the mode of existence of its objects, and to re-work these objects into data which can be compared, coordinated, and quantified. Since scientific objectivity seeks the formal theory or model as a means of explanation, particulars have meaning only to the extent to which they can be subsumed under the general law expressible by such a theory or model. Without such subsumption, there could be no unequivocal determinations, no ordering, no sequence of cause and effect—in short, no objectivity. So the scientist turns away from the particularity of the falling apple to induce a theory of gravitation; but since the empirical concept of truth is contingent upon the slow advance of thought, it frequently happens that past theories become present premises, and sure enough, it turned out that Newton's laws of gravitation themselves became particulars subsumable under an even more comprehensive theory. Thus, scientific objectivity is marked by a dialectic which distinguishes the falling apple from the rising tide, while at the same time synthesizing the two phenomena as instances of a single determinate process. This dialectic tends to interrupt the presentation of so-called experiential data and to align them in new configurations, so that, from a certain point of view, the falling red apple is more akin to the heaving green sea than it is to the red brick wall bordering the garden. But that "certain point of view" is the ghost in the machine for scientific objectivity, and bears watching.

The results of attempts at scientific objectivity in music theory are well known. A large part of its history is taken up by the purely verbal activity of classification of intervals, modes, scales, chords, forms, pitch aggregates, combinatorial sets, etc., as well as by the application of analytic methods borrowed from elementary mathematics and theories of language and communication. Assuming familiarity with the results and implications of these classifications and analytic methods, I

turn now to the first explicit comparison between scientific and intuitive awareness.

It was mentioned that, in determining the mode of existence of an object, science engages in a dialectic of analysis and synthesis. Intuitive consciousness apparently feels no need to make such determinations. It is crucial to understand that for intuitive consciousness, the object of consciousness is simply accepted as real, and this acceptance is independent of the actual mode of existence of the object or of the psycho-physiological conditions attending the experience of the object. The hallucination is a real experience, the dream is also felt as real, and the Rite of Spring is a real celebration. Hamlet's vacillations are real, Haydn's wit is real, and the movement in a Pollock painting is likewise real. How the "reality" of all these things and activities differs from the reality of electrons is a question to which intuitive consciousness brings a certain amount of disinterest. Therefore it does not suffer from the strain of the dialectic of scientific consciousness because the need for the dialectic is removed. It does not actively analyze and synthesize the objects of the world into patterns of cognitions. For intuitive consciousness, music is not a symbol, a metaphor, a representation, or an imitation of reality. It is not an aesthetic object, a bundle of sensations, or even a system of sonic relations. Intuitive consciousness knows nothing of the acts of distinguishing, evaluating, and assigning various modes of existence to the object of a musical experience. The objectivity of intuitive consciousness lies not so much in positing a thing out there as in participating in an activity which blurs any distinction between "there" and "here"; in an activity whose denial would also involve the denial of the self. This should sound somewhat familiar, even though the process of dissolving barriers is quite complicated. But consider the following statements:

> In [Brahms' Wie Melodien zieht es mir] with the singularly abstract text, the warm flow of the melody gives me much happiness, and I sing it to myself very gladly. . . . But the concluding strain—it, too—gave me real difficulty; I have played it to myself so often now that I have accustomed myself to it, and inwardly become A major myself, which at first, in spite of all my efforts, I was unsuccessful in doing. *4

> To a child, for instance, or to a man who lives in a world more primitive than ours, music is primarily activity, something to do. To such a world, reality is organized in

> a syncretic manner: i.e., ideas, feelings, actions, objects are undifferentiated in a functional sense. The interaction between subject and world is more fused, more immediate. . . .
>
> In such a world, music, too, is embedded in the immediate, concrete, dynamic situation, deeply bound up with the activity of life. A free sound or a fragment of tune may be something to play with; a hypnotic chant or beat may be something to be used—to activate a magic connection between inner and outer, for instance, or to help sustain an effort. *5

> I recognize in the object . . . an affinity with myself. I intend the aesthetic object, but I intend it as consubstantial with myself. While penetrating into it, I allow it to penetrate into me, rather than keeping it at a distance. It does not cease being an object while it mingles with me. The distance which it has is not abolished because I am absorbed in it, since it remains a rule for me and imposes its meaning on me. Such is the paradox: I become the melody or the statue, and yet the melody and the statue remain external to me. I become them so that they can be themselves. *6

Commenting on the above remarks, we can learn from Herzogenberg's letter that the fusion between the self and tonality is not necessarily an initial response, but one which comes with "essential insight" into the composition. But if this kind of consciousness is not to be confused with the self-induced rapture of the teeny-bopper, neither is it to be attributed to the operations of deductive logic. And while it is recognizable, it may not be learnable and is certainly not teachable. "Becoming A major" for a song by Brahms does not guarantee that we become A major for Beethoven's Seventh Symphony, for the reason that the latter is a different A major.

Carpenter contrasts the intuitive, prehensive engagement in musical activity with the more typical Western attitude which tends to objectify music, so that, for certain methodological purposes, there is not so much difference between a tone and a stone. This kind of objectification tends to put a certain distance between the music and the self, one extreme result of which is the lack of coordination between the activity of analyzing the score and that of analyzing the experience of the music in the score.

Dufrenne, however, also intimates that the act of interpretation between the self and the musical object is one which still preserves the identity of both. I do not literally bring the piece into existence, and if I turn away from it, it does not suddenly cease to exist. Nor do I impose significance of any sort upon it. Quite the contrary. The piece demands something of me, so that to listen [hören] means to attend to [horchen] and to obey [gehorchen]. The word "demand" means the following: We are free to accept the piece or not, but within the act of acceptance, our freedom to let the piece mean anything at all is constrained by what the piece tells us. Which is a way of saying that in music, "objectivity" refers to a feature of the musical object itself, a feature which imposes its character on us. Thus, for intuitive consciousness, objectivity is reflexive, in being given by the object, while for scientific consciousness, which confers objectivity by the imposition of laws on disparate particulars, we can say that objectivity is transitive, being directed from the subject to the object. Furthermore, the demand made by the musical object implies that there must be someone to whom the piece makes demands: when this symbiotic circle embracing the self and the piece is closed, the reality of the piece is affirmed. The music is present to me because I am present to it.

4 The Non-Ideality of Music

Analysis of the intuitive awareness of music reveals two fundamental emphases or directions: toward singularity and toward substantiation. This direction is quite different from that of scientific consciousness, which moves, in the first instance, from the singular thing or event to its general causal conditions, and in the second instance, from thinghood to pure functional relations. This section, then, describes what is meant by singularity and substantiation, and points toward the possibility, at least in music, of a theory of the singular.

(a) Singularity

A large part of the job of recovering the singularity of music has already been accomplished in recent aesthetic writing. For the most part, there exists a discernible agreement that music is not transmitted through a wall of symbols, metaphors, or representations, but that we confront it face to face. But what does this mean? A simple example is required. Consider what most people regard as one of the fundamental properties of (at least Western) music: the notion of interval.

For centuries, theorists have been distinguishing the kinds of intervals according to such preconceptions as distance between boundary tones, varying degrees of dissonance and consonance, etc. Ultimately, this led to the idea of the interval class. I readily grant the sheer convenience which this idea makes available to musical discussions. But when we move from the class to "this interval", or even further, simply to "this event", we find strange things happening, such that any conclusions to a discussion which remains on the level of the IC seem somehow inadequate. We know that the same interval will sound differently in different contexts (such as the consonant-dissonant nature of the perfect fourth), or—different intervals can sound as if they present a single significance. The same fifth, A-E, opens Ockeghem's Missa Mi-Mi and Beethoven's Ninth Symphony, but in a more important sense, it is not the same fifth, because, as musical objects, these compositions present different significations. In the Mass, the fifth is experienced analytically (in the Cubist, not the Kantian sense): that is, the first two tones in the bass, E-A, form two distinguishable lines in musical space. In contrast, the opening of the Ninth Symphony presents its fifth as a single spatial event, more like a surface than as two lines. (See Examples 1 and 2.) Moreover, in terms of the total context, we find that the descending fifth in the Mass, while distinguishable, blends into and of course helps to create the homogenous sonority of the movement. With the Symphony, the situation is reversed: the homogeneity of the fifth-as-surface distinguishes itself from the thematic fragments which soon make their entrance. And if we grant that mood is also constitutive of the sense of the sounds, the fifths in these compositions are further singularized by the way they present their respective moods: in the Mass, contemplative and suspended, in the Symphony, anticipative, more nervous, more assertive. In short, these fifths are different because one is part of a Mass by Ockeghem, and the other is part of a Symphony by Beethoven. It is precisely because each of these fifths is singular that they possess an identity; and the search for identity, rather than the identical, can make for some interesting problems in music theory.

It was mentioned that the converse of the above situation arises when different intervals present a single signification. An obvious example would be a typical tonal answer in a fugue. Here, despite the intervallic changes, we tend to hear the subject and answer as the continuation of a single idea, e.g., the filling out of an octave space. As the subject and answer unfold, a concretized shape is formed, and a more complex identity, involving two elements (the subject and answer), is born. But

EXAMPLE

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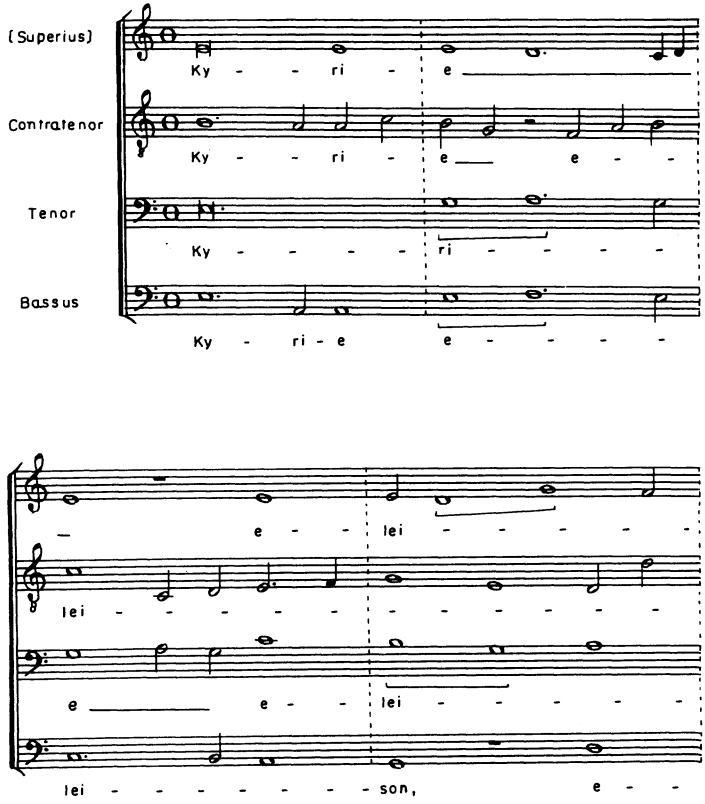
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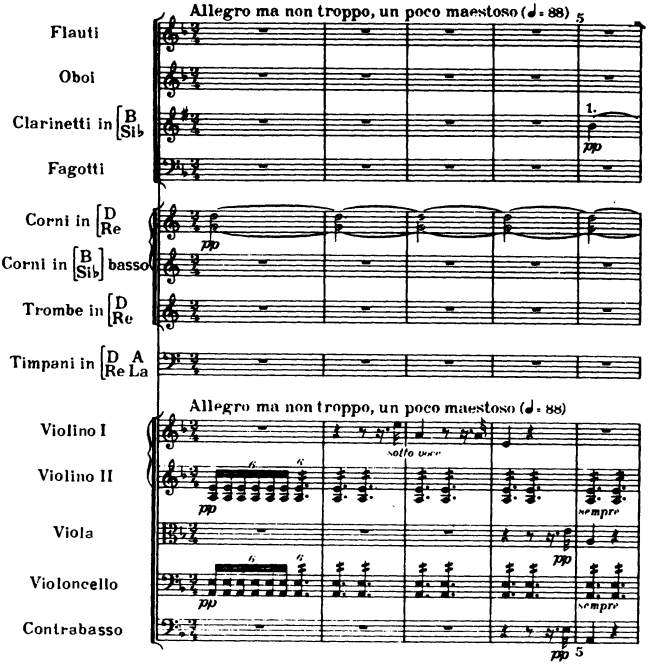
Allegro ma non troppo, un poco maestoso (♩= 88)
Flauti
Oboi
Clarinetti in [B Sib]
Fagotti
Corni in [D Re]
Corni in [B Sib] basso
Trombe in [D Re]
Timpani in [D Re A La]
Allegro ma non troppo, un poco maestoso (♩= 88)
Violino I
Violino II
Viola
Violoncello
Contrabasso
sempre

with this identity also comes a little problem. Does this mean that the singularity of the resulting shape is more general than either the subject or the answer because it seems to embrace both? Isn't the notion of shape-as-idea representative of an ideal category?

The deliberate play on words here only serves to eliminate one source of confusion between the idea and the ideal. The latter is not to be found in the world, but only in the minds of people, who can imagine or stipulate such ideals as weightless gasses and frictionless surfaces. But the shape which we hear in the fugue is not a substitute for actual conditions on earth, nor is it something which is purely in one's head. And if the subject and answer speak to us about a specific musical shape, we come upon the rather curious notion that this shape was chosen to incarnate the general idea of shape. Thus the general idea of shape is contained within the specific presentation; for this reason, it would be a mistake to subordinate the specific shape of a subject and answer to an empty category. It would be a mistake for two important reasons. First, the generality of shape does not function as an "Ursatz", a fundamental principle or rule. There is nothing about the nature of shape which permits us to confer upon it a role of efficient cause. The experience of the space-creating motion of a subject and its answer does not include an experience of space as the cause of its own creation. In other words, the same shape, or similar shapes, may or may not continue the thread of the same idea. This brings us to the second reason. The idea of shape as such is not only general, it is existential. The perception of shape presupposes a human being for whom such perception is a meaningful experience. The unfolding of an octave-space is not caused by the general notion of space itself, but is constituted by the person present to the unfolding. And being so constituted, it assumes an aspect of the human. This is one reason why the octave space seems worthy of attention. Perhaps an excerpt from a poem by Richard Howard can more efficiently exemplify the way in which human elements are presented in musical objects:

> "Richard, What Do You Mean When You Say You're Writing Two-Part Inventions?"
>
> The sense of invention is a coming-upon,
> A matter of finding matter more than of fact,
> So that the finding matters.
> And if invention is finding, all finding is
> Finally choosing, and a choice is something made.

Hence the sense of our saying
We "make" each other: because we choose that body
Over and above this one (ours), coming-upon
Becomes more than just coming.
Becomes rather a coming-to, and to. . .ourselves.
Now in a two-part invention, the choosing works
Both ways, we exchange our parts
So we can be found by each other, and coming
Together, coming apart, not even coming,
We shall have been invented. *7

(b) Substantiation

Substantiation here refers to the hypothesis that we tend to hear music as a thing, as an embodiment, and thus as an object, rather than as a system of relations or functions. Please note that I am neither affirming nor denying the existence of musical relations and functions, but am simply suggesting that, within the mode of intuitive consciousness, even relations and functions tend to be experienced as embodied.

While the scientific interpretation of substance is of a stream of energy observed without the proper kind of magnifying glass, a musical action or process is experienced as a transformation from one substance to another. Musical meter is a typical example of a relation between foreground and middleground events, yet this relation is not just an abstract construct, but something felt, something which, touching us, motivates our bodies to respond to it. A graceful melody is experienced as etching out a particular shape, and we speak of melodic forms as curved or angular, etc. Textures are described as opaque or transparent, thick or thin, delicate or massive. Varèse has likened his music to the solidity of Romanesque architecture, while Webern's textures are more like networks of fine wires. Even the experiences of tension and force are felt as substances. Thus the tension of a Debussy dissonance is less rough-edged and gritty than that of a Schoenberg dissonance. (Schoenberg's statements about the emancipation of the dissonance are not accurate. Interval dissonances may have become immunized against traditional rules of counterpoint, but dissonance itself survived to thrive in other musical parameters.) Such experiences of embodiment, being pre-linguistic, also precede a purely cognitive distinction between attribute and substance. It is for this reason that the receptive musical consciousness makes no distinction of status between a pitch and its intensity, register, timbre, and duration. The pitch does not "have" intensity as its attribute, it is intensity

as a feature of its own identity. Even the element of silence can be experienced as having solidity. In Schubert's C major Symphony (1828), the move from the end of the exposition of the first movement to the beginning of the development is effected in such a way that we not only experience the semitonal shift from G to A♭, but also feel that the tonal space above this shift—the space created and quitted by the previous cadential gesture of the winds—has also moved, such that a G major space has become an A♭ space. It is this sort of embodied silence—obviously different from mere nothingness—which is as much a part of the spaciousness and solidity of the symphony as are its sounding elements. (See Example 3.) In all this, we find a difference in direction between intuitive and scientific consciousness: musical processes, if experienced at all, tend toward embodiment, which is felt as something real, sometimes even more real than physical, touchable objects. Scientific consciousness, on the other hand, moves toward de-materialization into a world of pure functions and laws, so that the real is interpreted in terms of these, while the substances to which these functions and laws refer—the world of persons and of natural or man-made objects—are regarded with a certain neutrality.

5 Outline of a Theory of the Particular

Faced with this incorrigible tendency of musical events toward singularity and substantiation, the theorist nevertheless feels some residual sense of responsibility about interpreting these events in some other way than in a badly defined ad hoc manner. The few suggestions made so far can contribute toward transforming such interpretations into a theory of the particular, or, barring that strange quest, a theory which stresses the particular. These suggestions are reviewed and summarized below:

(a) It was mentioned, for example, that objectivity in musical discourse is effected by making the object of discourse the complementary acts of attending and accepting. Implicit here is the notion that a theory of the particular will stress the self-evident uniqueness of musical experience rather than the uniqueness of the musical object. (In a sense, tapes and phonograph records have long since made musical objects far from unique.) By deciding on the uniqueness of experience, we are relieved of having to answer such forlorn questions about whether or not the piece we're listening to is really by Beethoven. But by stressing experience, it may seem that such a theory

EXAMPLE

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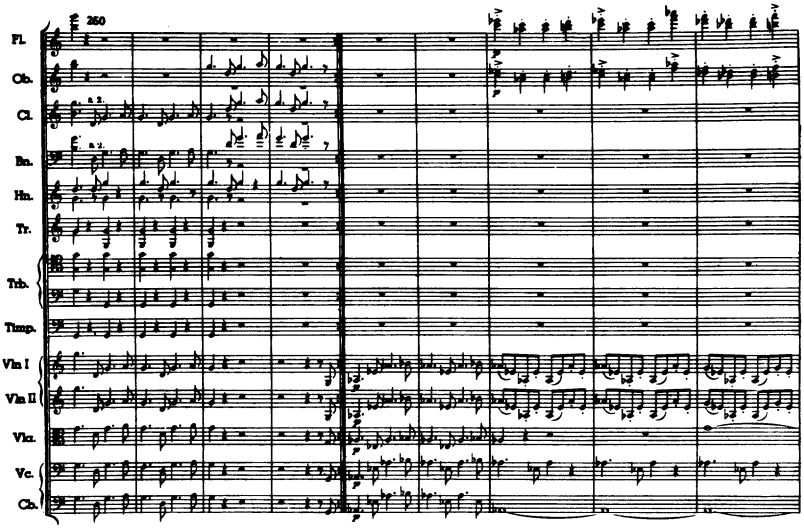


runs the risk of being confused with aesthetics or music criticism. It may be that all three fields regard "musical understanding" as a shared goal; nevertheless, occasional points of intersection do not seem to be able to cause this occupational confusion. A slightly more substantial criticism is aimed at making experience the primary agent of validations. But this is to confine the notion of experience to a narrow interpretation, and to regard its description as an exercise in solipsism. That such description is not the case, and indeed can never be the case, becomes self-evident once one acknowledges the obvious but important fact that experience, by definition, is a dialogue between the self and the world. There is no escape from this dialogue, not even for the simulations and idealizations of science. If there is a difference in the way intuitive consciousness and scientific consciousness regard experience, it is that the former strives for validation by describing experience, while the latter strives for validation by anticipating it. We understand that neither effort has a monopoly on intellectual rigor.

The emphasis on experience by no means excludes focusing on the object of experience as well. But it must be remembered that such an object may or may not have an empirically validated existence. The fifths described before were objects of my experience, but the way in which they were significant, their meaning-for-me, is not to be explained by referring to their acoustical sameness. Pitches and intervals have a way of being swallowed up in the ebb and flow of musical processes, so that the objects of experience are things which are not to be found strewn among the empirically given notes: such things as energy, force, mass, tension, transparency, density, grace, ugliness—in short, the whole upsurge of experiences of which we have carnal knowledge because we happen to be situated in this particular world. The concreteness and substantiality of these experiences are quite distinct from the givenness, as a matter of fact, of the rectangular mass called the score and of the acoustical jostling of air molecules.

(b) In following through from the stress on musical experience and the non-empirical character of the musical object, a theory of the particular will refrain from entering the sphere of the ideal. There are several ways in which an appeal to the ideal can surface. The first is the old Platonic notion that the music we hear is only an imperfect copy of the music which is not heard. Surprisingly, this notion is still around, forming the basis of the criticism that consciousness is poverty-stricken, that perception is a prison, and that therefore to talk about how one is conscious of the music being heard is needlessly limiting and even unfair. Implicit in this criticism is the

judgment made by the critic that there is indeed more to the piece than meets the ears, while at the same time the evidence for this judgment is not, and cannot be, forthcoming.

Another form of idealism is the consideration of the piece from an interpretation which makes the score the sum of all possible performance of it. In this way the score functions as the preserver of the piece's identity: such is Nelson Goodman's description of the primary function of the score (in LANGUAGES OF ART). But this description is inadequate for a number of reasons. First, it offers too little, in equating "this piece" with "this score," thus failing to distinguish between the finishedness of the piece and its completeness. When a composer finishes a piece, it has actually only been launched into the world. But it is not complete. In addition to the multitude of conditions under which it is performed, the work itself is open-ended, its sense will never be completely disclosed, and it requires the participating presence of other people for whom any part of its sense can be disclosed. Secondly, the description offers too much, in apparently requiring musical compositions to have some kind of preservable score. This leaves a significant corpus of music out in the cold. Finally, it offers nothing at all toward the intentionality of a situation in which titles are given to works whose scores include directions, frequently in the form of notation, of an imprecise or indeterminate nature, so that, upon hearing such a work, we are liable to say, "Oh yes, that's Zyklus," or, "That's a string ensemble playing the Art of the Fugue." In other words, we are conscious of this piece as being Zyklus or whatever, even though we may never have heard it played this way before. Thus, the notion that scores preserve the identity of the work presupposes that identification is first of all a human act, requiring motivation, judgment, and a context which makes it possible for a score to function the way Goodman says it does. Of course, Goodman describes only the logical requirements of a score; but this is why the description sounds "out of this world."

But the most common occurrence of idealism is found attached to the notion of musical structure. The reason for this is that the term "structure" is meant in two ways. A composition has a factual structure, just as it has a certain instrumentation. But it also has an experienced structure. Frequently enough, as in a large proportion of eighteenth- and nineteenth-century tonal music, these two structures merge. Nevertheless, it remains fundamentally true that the factual structure does not necessarily cause or correspond to the experienced structure.

The fact that Till Eulenspiegel has a rondo structure does not prevent one from hearing this composition as essentially episodic. The fact that the first movement of Webern's Symphony is rather rigorously laid out, in terms of overall design and foreground details, may or may not tell us very much about how this movement is actually experienced.

This double application of the term "structure" is yet another manifestation of the twofold way in which we can experience anything. Philosophers of various schools have brought this double aspect of experience to our attention by means of the following word-pairs:

Erlebnis	Erfahrung (Edmund Husserl)
knowledge by acquaintance	knowledge by description (Bertrand Russell)
knowing how	knowing that (Gilbert Ryle)
prehension	observation (Virgil Aldrich)
pre-analytic	reflective (John Dewey)
non-thetic	thetic (Merleau-Ponty)
indwelling	manipulating (Michael Polanyi)
un-speakable	semantic reaction (Alfred Korzybski)
immediate	mediate (Mikel Dufrenne)
concrete	abstract (Alfred N. Whitehead)

These pairings are mutually exclusive, but not opposed. Indeed, a theory of the particular will urge that any abstracting or formalizing processes, which reflect the activities described in the right-hand column, be grounded on the activities in the left-hand column. Dichotomies and oppositions occur only when one attempts to devise a structure of deducible knowledge while forgetting the intuitive origins of such knowledge. Karl Jaspers has likened this attempt to constructing a castle while living next door in a shanty. Such a person "does not himself live within what he thinks; but the thought of a man must be the house in which he lives or it will become perverted."*8 In musical terms, this happens when analysis deduces structures which are not included in the way we participate in the composition. That such a situation is possible, especially today, was recognized by one of the men who got us into this predicament: Arnold Schoenberg. He responded in the following manner to Rudolf Kolisch who had made a row analysis of the Third String Quartet:

> You have gone to a great deal of trouble, and I don't think I'd have had the patience to do it. But do you think anyone's better off for knowing it? I can't quite see it that way. My firm belief is that for a composer who doesn't yet quite know his way about with the use of series it may give some idea of how to set about it—a purely technical indication of the possibilities of getting something out of the series. But this isn't where the aesthetic qualities reveal themselves, or, if so, only incidentally. I can't utter too many warnings against overrating these analyses, since after all they only lead to what I have always been dead against: seeing how it is done; whereas I have always helped people to see: what it is.*9

In other words, Schoenberg calls for an approach which stresses the ontological over the methodological, and intimates that systematic analysis is possible without it coming out of a System.

(c) We can view a theory of particulars from another, related aspect. This has to do with the notion, mentioned earlier, that the general is embedded in the particular. This is no philosophical fantasy, if one considers that even in saying "this piece" or "a single experience," one brings in the general category of number. It seems that the whole argument about whether or not there are such things as categories, generalities, universals, or concepts can be short-circuited (for present purposes anyway) by the further consideration that direct intuition—self-evident givenness—would not be possible without assistance from general notions. Even ignorance is possible only because the general allows for comparison, however subliminal, between the known and the unknown, the familiar and the strange. This piece of music which I am hearing for the first time is still recognizable as music. It need not be necessary for me to be told that this is a piece of music, nor is it even necessary for it to actually be a piece of music. But the hearing of even an unfamiliar composition involves one in the general patterns of movement, thrust, shapes, cessations, and feelings, and it is these experiences which assist the interpretation that they seem to be emanating from this piece which I never heard before. It is as yet too soon to apply criteria of truth or falsity to this interpretation, yet it is precisely this interpretation which makes such criteria possible.

The word "emanating" was used. This means that we experience motion, etc., as coming from the piece itself. We do not experience motion as something that we put into the piece. If motion is something we discover in a piece of music only

because we put it there to begin with, then it seems that we could put into the piece of music anything at all, and that analysis courses would simply become officially sanctioned exercises in anthropomorphism. But a theory of the particular will not start with objectively given stimuli and qualia from which so-called anthropomorphic language is excluded. It starts with the question: "How is it possible that joy is predicable of this piece, but not of that piece?" The problem is not whether or not intuitive consciousness is anthropomorphic in its descriptions, but whether or not such descriptions assist in the understanding of the piece so described. The point to be made here is that simply to say, "This piece is joyful," is just as obviously inadequate as it is to say, "This piece is tonal." Evidence for both statements must be provided to validate them. *10

However, it is important to note that the evidence submitted is constitutive, not causal. We cannot point to aspects a, b, or c about the piece and say that they cause the joyfulness or the tonality, since, if we use terms like cause and effect in strict objectivity, then these aspects would cause the joy and the tonality for everyone, the way appropriate conditions of pressure, volume, and temperature cause water to boil for everyone. But that certain isolable aspects do not cause joy or tonality for everyone is a matter of cultural history. Constitutive evidence means that joy or tonality is given as a matter of self-evident experience rather than as the terminus of a chain of reasoning. Such evidence is a matter for thought rather than a product of thought. But there is nothing determinative about constitutive evidence, nor does the self-evident as experienced imply the autonomous existence of the object of that experience. If the evidence for "ascending", "growth", "emerging", "absorbing", "overlapping", "adjacency", or "invariance" is the product of a self-evident intuition for one person but not for another, this conflict need not be pointed to as a fatal shortcoming for intuitive description. (In any case, the scientific community has its own problems.) Someone else can disagree with your description of "emerging" only if he himself knows, intuitively, what "emerging" means. Frequently enough, the fault is not with the principle of intuitive description, but with the practical problems of selecting adequate descriptive terms, removing terminological ambiguities, choosing clear examples and counter-examples, considering alternative descriptions, recognizing and subduing wishful thinking and, if possible, one's own neuroses, sorting out the specific and generic levels of the argument, and identifying the level of common, rather than conflicting, discourse. Furthermore, there is no reason to assume that all conflicts of description

are not capable of solution, at least in principle, even if one particular conflict is not. This is why constitutive evidence is a process, not a static goal from which laws can be generated, and why the perception of the self-evident requires time, effort, and intersubjective dialogue (otherwise known as analysis). Therefore, the seeming paradox of constitutive evidence is that while joy or tonality are in the piece—that is, they help to constitute its significance—they are not there for everyone.

All this is partly what is meant by saying that the general notion (of "emerging", for example) is located within the particular manifestation. This idea precludes constructing a taxonomic scheme which might enable us to deduce a specific type of joy or tonality from their more general forms. We do not, ordinarily, learn what joy is by first studying its behavioral determinants, case history statistics, and the like. Nor do we express the idea of joy, joy-in-general. The joy we experience is always a particular joy—but not, on that account, an isolated joy. Whatever significations a composition presents, and joy may be one of them, are connected to significations presented by other situations. This is one reason why it is possible not only to understand music by accumulating a repertory of world experiences, but also to learn about the world, about how to perceive the world, by means of our comprehension of a musical repertoire. And since we are talking about significations and not empirical data, we can permit outselves to make these connections among empirically discrete objects. A painting and a musical composition are two such discrete objects, but in terms of their significance, we can apply such expressions as rhythm, color, texture, depth, and even duration to both with equal relevance. The person is caught up, then, in something like the following process: significations emanate from the object to the person, who makes the connections from one signification to another. This process is quite different for the scientific observer. There, the significations come from the person who attaches them to the object being studied, and discovers connections inhering in the natural order of things, resulting in such structures as taxonomic procedures and periodic tables of the elements.

An example of the way in which we both receive and connect significations is easily supplied. In the first movement of Mahler's Ninth Symphony, there is a section marked "schattenhaft" (mm. 254 ff.)(Example 4). Now this word has both inner- and outer-directed significance. Its inner-directedness applies not only to a manner of performance—"shadowlike"—but also to a mode of listening and understanding what we are listening

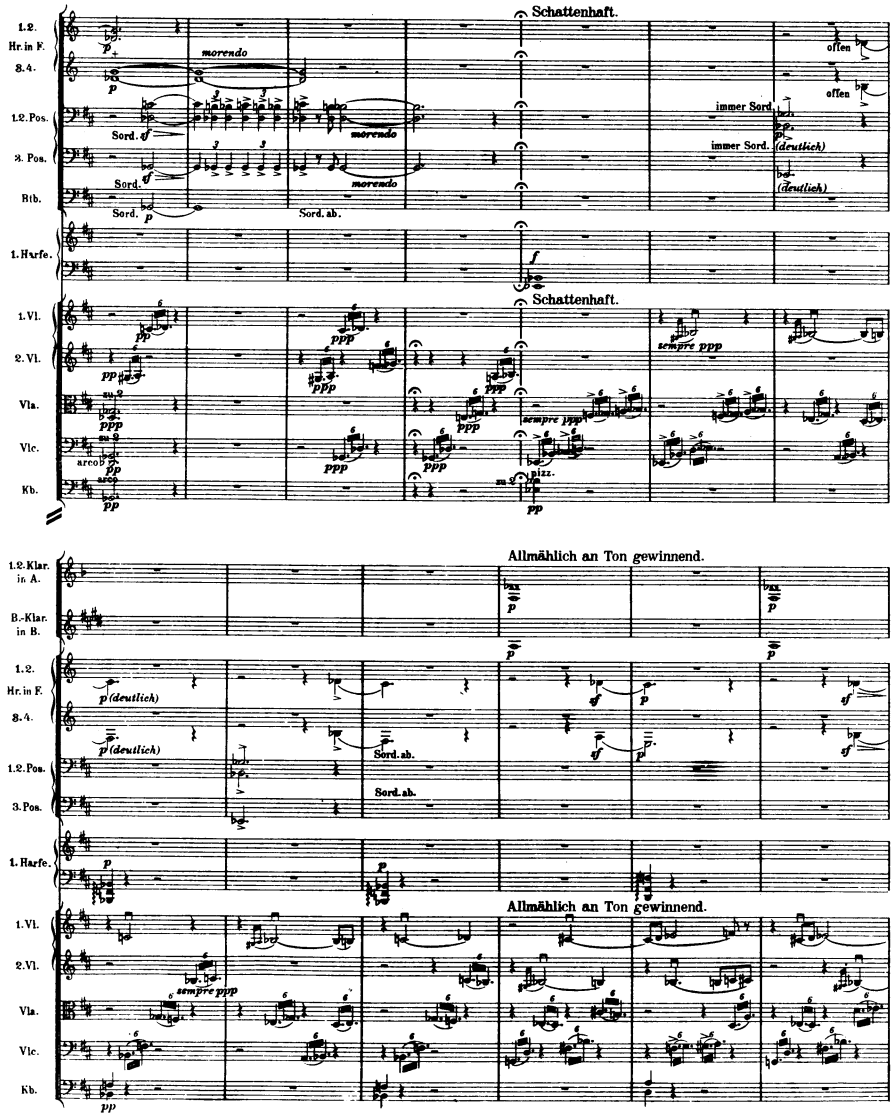
to. The term applies equally well to the hushed dynamics, the quivering string texture, and the slow but persistent movement toward F♯ at Tempo I. It is this movement which suggests the outer-directed sense of "shadowlike". That is, the section adumbrates (foreshadows, prefigures, discloses in partial outline) the main theme at Tempo I, which seems to emerge at this point, to come out from concealment. In addition, it recalls the similar section starting at m. 136, which is, incidentally, not marked "schattenhaft" and which shows a much stronger pulse via the harp part (Example 5). The recollection, then, is itself enshadowed; harmonically and rhythmically, it has lost some of the clarity and focus of its first presentation. So far, so good; but what if one never took a look at the score. Would it have occurred to him that this section could be experienced as "shadowlike"? But this is not a troublesome question, not even a very interesting one. The stress, in this article, on intuitive awareness does not imply a move toward irresponsibility or toward a misinterpreted romanticism which accuses the score-reader of not "surrendering" to the music. The only point that need be made is that, like the notes themselves, the expression "Schattenhaft" functions as a guide to possible experience. It is a useful term to anyone who knows what shadows are, and who has felt their presence. To experience "shadowlike" in music is not to experience the symbol or metaphor of a shadow, but rather the essence of shadow. And, finally, since "Schattenhaft" is still only an aspect of the section's appearance—no claim is made that the passage has been exhaustively described—there is no reason why the description as "shadowy" has to conflict with the experience of the listener for whom no score is available, and whose own experiences and descriptions may be perfectly valid. This is so because we live among the living; no experience is isolated from other experiences, of mine or of other people, nor would any collection of experiences exhaust the reality of the symphony. All these experiences aim at this reality; it is not a reality, defined and frozen into a formal scheme, which itself determines the validity of this or that experience.

The foregoing remarks are now summarized below, so that the profile of a theory of intuitive consciousness can be more sharply drawn. Its foundational characteristics include the following points:

(1) The positing of a musical object is made neither by an inductive nor a deductive argument but by an active-receptive participatory act.

EXAMPLE 89

4


Schattenhaft.
morendo
Sord.
Sord. ab.
offen
immer Sord.
(deutlich)
1.2. Hr. in F.
3.4.
1.2. Pos.
3. Pos.
Btb.
1. Harfe.
1. Vl.
2. Vl.
Vla.
Vlc.
Kb.
sempre ppp
arco
pizz.
Allmählich an Ton gewinnend.
1.2. Klar. in A.
B.-Klar. in B.

(2) The central problem for this participatory act is to correlate the uniqueness of experience with the identity of the object. Such correlation dwells in the quality, sensuousness, immediacy, and contextuality of experience.

(3) Despite the stress on uniqueness, a theory of intuitive awareness which compares, distinguishes, refines, and connects is possible because of the inherence of general notions in singular experiences. This same inherence also prevents the theory from becoming a preconceived ideal structure into whose mold particulars are adjusted.

(4) A theory of intuitive consciousness is non-empirical (or at least not exclusively empirical), since it enlarges the domain of experience to include more than "sense data", and since it concentrates on the sense or significance of objects, events, or occurrences rather than their raw givenness—and such significance transcends any particular form of givenness.

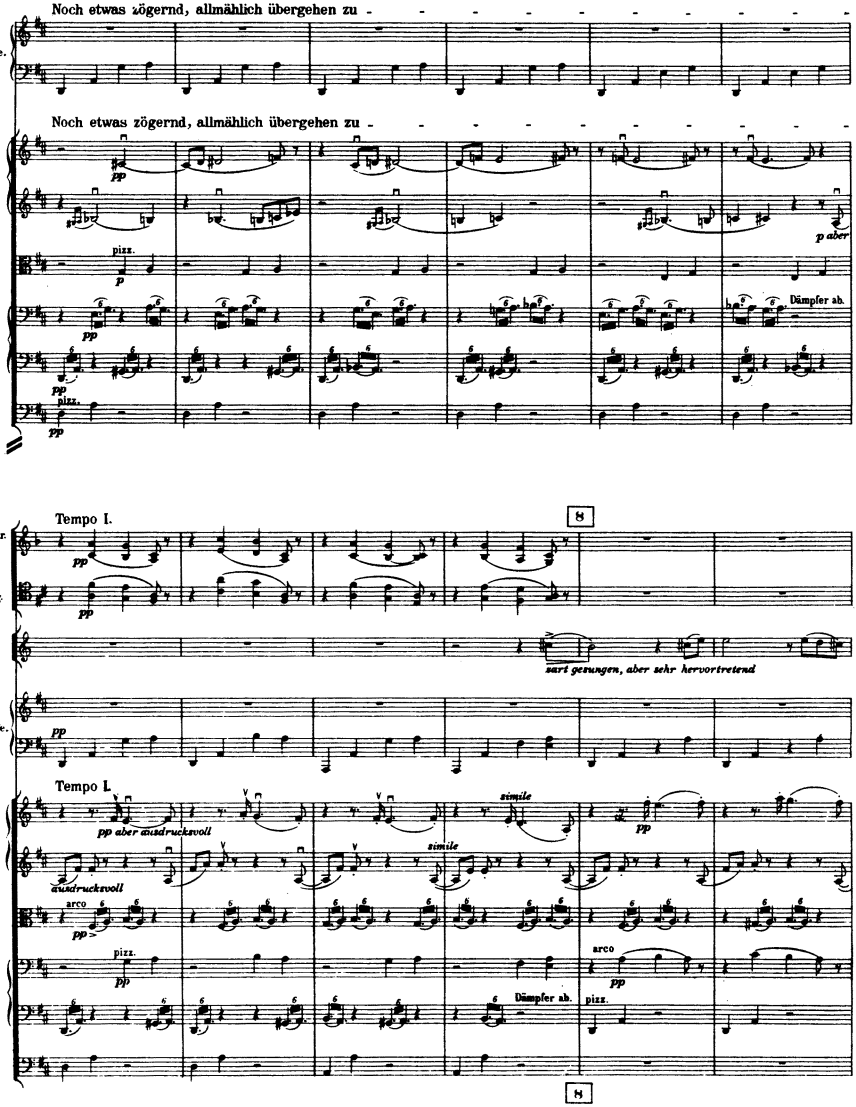
(5) It is independent of cause-effect theories. Many scientists (even post-Heisenberg scientists) still feel that, at the very least, they should not give up their attempts at causal explanation. An intuitive theory, on the other hand, frames descriptive statements (e.g., about the experience of tonality) which are not reducible to technical statements relating to operations performed on pitch- and interval-sets, or to psychophysiological statements relating to the behavior of nerve tissue.

(6) Since intuitively founded descriptive statements transcend (are independent of) the codification of any specific compositional practice, the theory can attain a high degree of consistency and comprehensibility. There are qualities which transcend the fact that a specific composition may be tonal, atonal, twelve-tone, etc., but a theory of composition must necessarily restrict its statements to the particular domain which its premises have established. A theory of intuitive consciousness, however, is not a theory of why or how to . . . but a theory of what and wherefrom.

(7) Since it eschews formalism, a theory of intuitive consciousness is not aesthetically or practically simple. Nevertheless, it is methodologically simple since it provides a rigorous test for accepting or rejecting descriptive statements, which is that epistemic claims are more justifiable if they result from a direct encounter with the musical object as given to immediate consciousness. This means that statements are verifiable by consulting the object as experienced rather than consulting

EXAMPLE 91

5


Noch etwas zögernd, allmählich übergehen zu
1. Harfe.
Noch etwas zögernd, allmählich übergehen zu
1. Vl.
2. Vl.
Vla.
Vlc. (get.)
Kb.
pizz.
p aber
Dämpfer ab.
Tempo I.
1.2. Klar. in A.
1.2. Fag.
1. Hr. in F.
zart gesungen, aber sehr hervortretend
Tempo I.
pp aber ausdrucksvoll
ausdrucksvoll
simile
arco
Dämpfer ab.

a mediational theory set up in advance of the direct encounter. Mediational statements—those which see the music "as through a glass, darkly"—have a less justifiable claim to epistemic validity. At best they can grow out of the originally intuited experience, but they cannot precede it.

As to the possibility of achieving a direct encounter in the first place, it must be repeated that this does not necessarily mean a "first" encounter, nor does it require that we turn to a more naive, innocent, or primitive state of mind. It does mean that we leave behind, as much as possible, the sedimentation of preconceptions which might very well inhibit our desire for a deeper acquaintance. Our direct encounter with OTHELLO means a willingness to suspend our preconceptions that we are witnessing "only" a play, that the man up there on the stage is not Othello but Sir Lawrence Olivier . . . . Some of our musical preconceptions include the notion that pitches are mappable into a numerical series, that intervals are generalizeable into classes, that tones in one register are "equivalent" to their octaves in other registers, that "collections" of pitches can be regarded as sets, that the efficient cause of tonality is the grammatical usage of certain implicitly or explicitly given harmonies, and that the efficient cause of unity is the "masterly handling" of themes, key areas, set transformations, empathic improvisation, etc. I am not saying that these preconceptions are impossible or undesirable, but simply that it is unwise to stipulate them in advance, since they have a way of telling us what we are supposed to experience, and this is often different from what we do experience. However, any prolonged concern about the possibility of achieving such a direct encounter reveals a person who has tried radical scepticism and failed (otherwise he would not be concerned) or who attributes absolute existence to objects of perception (otherwise he would not assume that the object as it is meant in perception is equivalent to the object in itself, whatever that is).

6 Some Final Examples and Peculiarities

A few brief examples of the way we intuit the significance of music have already been given. A more solid contribution can be made if it can be shown that an intuitively grounded theory can handle descriptive statements of a problematical and (from an empirical standpoint) paradoxical nature. This last section begins, then, with a comparison between intuitive and objective ways of interpreting musical space and time.

(a) The Intuition of Musical Space

The spaces of mathematics are defined, constructed spaces, composed of points held together by a system of relations functioning in a homogeneous field. The mathematical notion of symmetry is grounded in this conception of space. For two imaginary sentient beings, x and y, located at the acute angles of the figure below, their respective worlds (consisting of nothing but a planar surface defined by lines and angles) appear as being absolutely equivalent:

Y does not feel that he occupies a position "to the right of" x, or that his world is the mirror image of, is behind, or on the other side of x's world. Instead, y sees whatever x sees, exactly the way x sees it. This is what is meant by a purely relational space, and it is this sort of space which underlies the theory of twelve-tone composition. But of course there is no need to point out that this system of functional relations, which is available to the composer and the analyst who wishes to retrace the possible path taken by the composer, is of limited value for the listener, or for anyone interested in what the composition is, rather than how it is made. *11 Musical space is permeated with qualities which a purely technical theory seems unable to account for. These qualities are neither accidental nor arbitrary, but inextricably bind the significance of motive and gesture to register, textural appearance, and particular spatial activity (e.g., receding, emerging, covering, expanding, contracting, etc.). Thus, as distinct from an abstract notion of space which tends toward de-materialization, intuited space is felt as substantial and particular. A comparison of the results of pursuing these two interpretations of space is made below, using a brief excerpt from the Passacaglia in Pierrot Lunaire as an example (Example 6).

Viewed in terms of pure relations, the texture is, of course, permeated with the IC set [1,3,4]. Now, this set can be abstracted quite without regard to whether its intervals are "filled in" (Example 7a), transformed by operations of inversion and rotation (Example 7b), or partially complemented (Example 7c); in addition, members of this set remain logically equivalent despite changes in instrumentation, register, tempo, dynamics, phrasing, and, finally, despite the spatio-temporal givenness of simultaneity and succession (Example 7d). In

short, it has been demonstrated that any three-note gesture in this example is identical to any other three-note gesture, the only criterion of demonstration being the equivalence of number and size of the intervals making up the gesture.

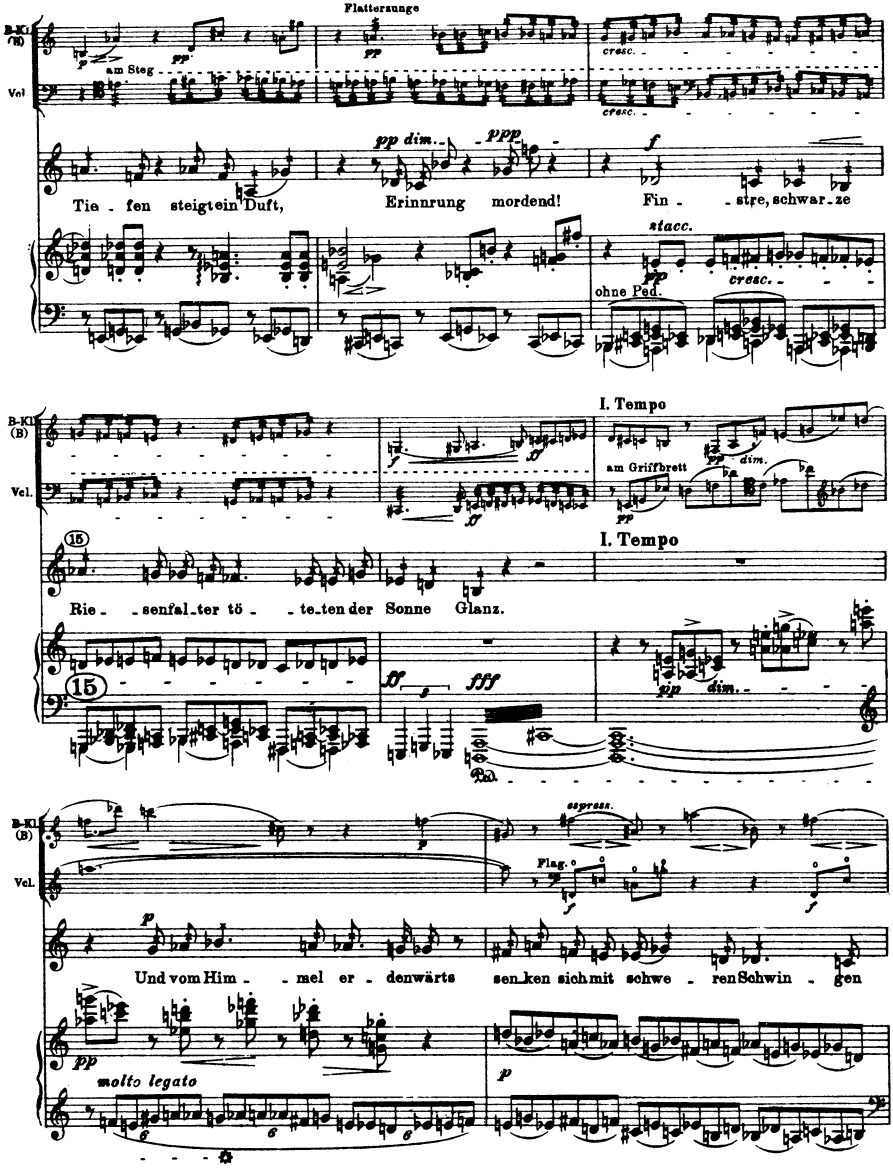
But viewed in terms of a spatial embodiment, it is immediately grasped that different gestures display a different sort of space and reveal a different spatial identity. It is also immediately grasped that a precise description of these identities is extremely difficult. There seem to be two main spatial events taking place: the prolongation of an opaque, blurred-edged surface, sustained in the bass depths of the piano, and the ascending gestures of the bass clarinet, cello, and piano. Of course, the sonority sustained in the bass is slowly fading. But we experience more than just "fading" and "ascending" (although the description has already left the empiricists behind). The gestures of the bass clarinet, cello, and piano can be heard as emanating from the deep, sustained surface, indeed, as escaping from this surface. Furthermore, "emanating" and "fading" can be linked as part of the same process by considering that the activity of emanating draws off some of the energy of the sustained surface—hence the fading. As for the emanating gestures themselves, they are heard as two continuous strands (bass clarinet and cello) underneath a series of discontinuous, self-enclosed planes (piano, r.h.). Because of the shape of the strands (the basic motive is straightened out a bit by using IC8s instead of IC4s), the ascending gestures also have a stretched, reaching quality, which no doubt can be linked to their chain-like continuity. On the other hand, the piano presents the motive as turning in upon itself, so that its form is less linear and more like separate surfaces with continuous boundaries. In both cases (the strands of the bass clarinet and cello, and the surfaces of the piano) the identity of the motive as such gives way to the identity of the gestures just described. The whole event seems clearly related to the opening lines of the second stanza:

> Aus dem Qualm verlorner Tiefen
> Steight ein Duft, Erinnrung mordend.
>
> (From the mist of lost abysses
> Rises a fragrance, killing remembrance.)

Some brief reminders about this description: it is not meant to be either complete or to act as a substitute for the music itself; it would demand corroboration, correction, and refinement by intersubjective dialogue; finally, it is to be hoped that

EXAMPLE 95

6


Flatterzunge
am Steg
Tie - fen steigt ein Duft,
Erinnrung mordend!
Fin - stre, schwar - ze
ohne Ped.
I. Tempo
am Griffbrett
I. Tempo
Rie - senfal - ter tö - - te - ten der Sonne Glanz.
Und vom Him - - mel er - denwärts sen - ken sich mit schwe - ren Schwin - gen
molto legato

an intuitively based description such as this will not be confused with a first-hearing or first-impression account. But the open-endedness of this description is not as problematical as the very decision to talk about musical space at all. For the radical empiricist or the rationalist, the notion of musical space is an intellectual affront. The empiricist has to deny musical space because he removes the possibility that the givenness of the musical event contains within itself the general notion of space, while the rationalist has to deny it because the particularity of the event is reduced to a purely conceptual form (e.g., the diatonic scale or the notion of "normal order"). We can sympathize with empiricists and rationalists who also happen to be musicians.

(b) The Intuition of Musical Time

The concerns of the empiricist for pure factuality, and of the rationalist for pure absolutes, also come to grief in the notion of musical time, since discrete facts and pure absolutes remove the person (however covertly) from the scene. And once the person is removed, time ceases to exist. But any discussion of time, be it subjective or objective, relative or absolute, necessarily inserts an observer for whom a natural phenomenon becomes an event. As Merleau-Ponty writes:

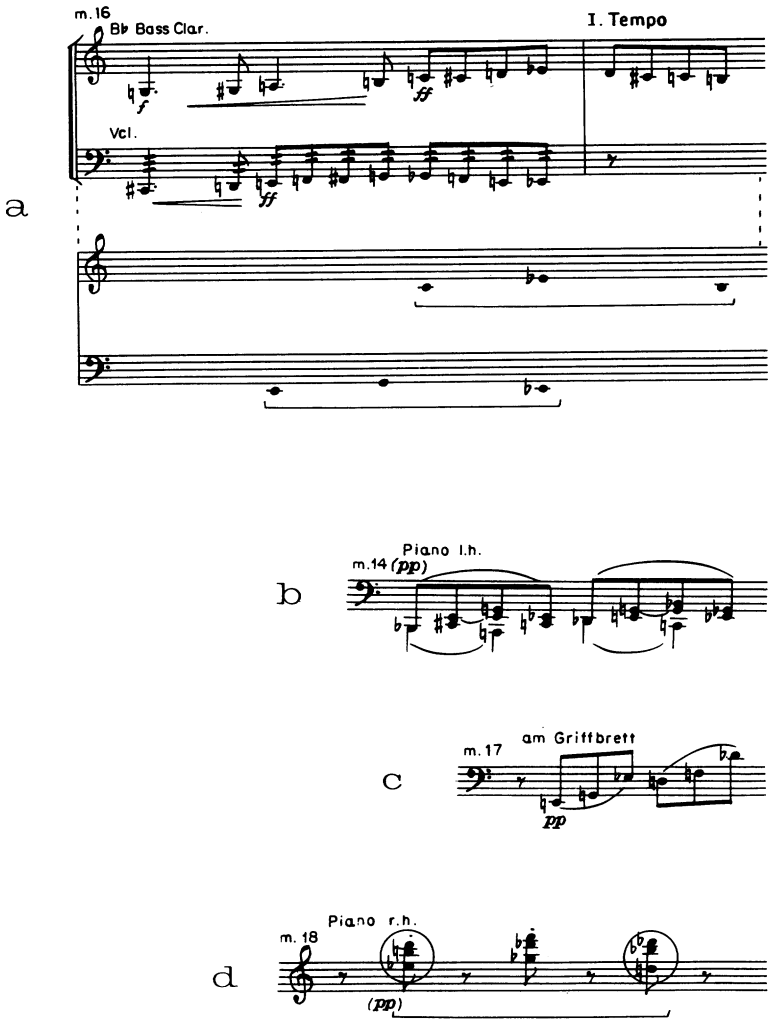
> If we separate the objective world from the finite perspectives which open upon it, and posit it in itself, we find everywhere in it only so many instances of 'now'. These instances of 'now', moreover, not being present to anybody, have no temporal character and could not occur in sequence. The definition of time which is implicit in the comparisons undertaken by common sense, and which might be formulated as 'a succession of instances of now' has not even the disadvantage of treating past and future as presents: it is inconsistent, since it destroys the very notion of 'now', and that of succession. *12

You will say that this was written long ago, and that we all know better now. But the notion of an absolute time dies hard, even for composers, apparently. Charles Wuorinen has written the following about his electronic piece, Time's Encomium:

> Time's Encomium is the title because in this work everything depends on the absolute, not the seeming, length of events and sections. . . . By composing with a view to the proportions among absolute lengths of events . . . one's attitude toward the meaning of musical events alters and

EXAMPLE

7


a
m.16
B♭ Bass Clar.
I. Tempo
Vcl.
b
Piano l.h.
m.14 (pp)
c
am Griffbrett
m.17
pp
d
Piano r.h.
m. 18
(pp)

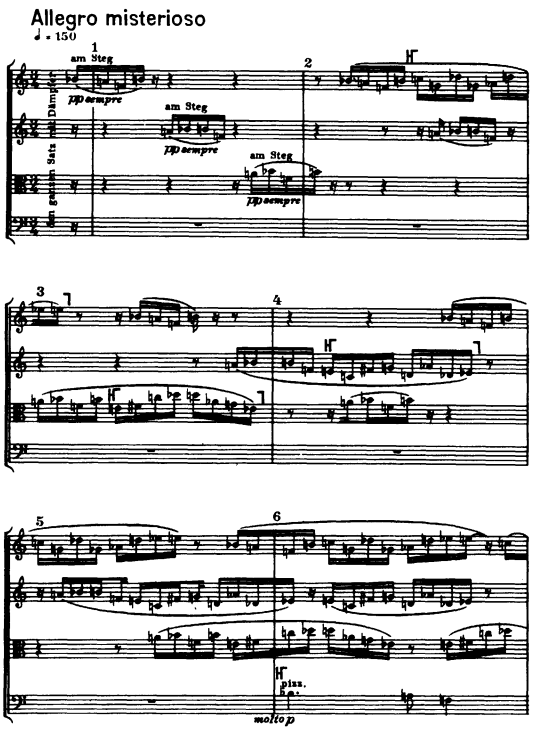
> (I believe) begins to conform to the basic nature of a medium in which sound is always reproduced, never performed. This is what I mean by the "absolute, not the seeming, length of events." *13

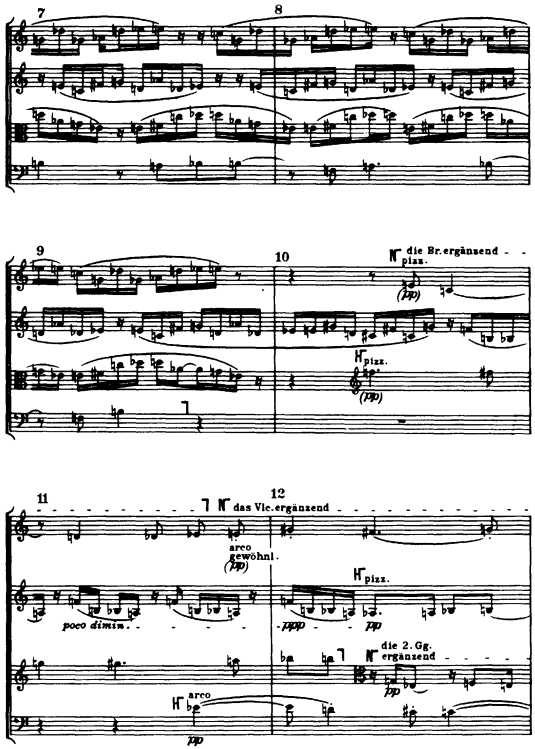
One problem arises, of course, when one tries to measure time in terms of time: so-and-so many seconds per what? In any event, what has been clarified for some time now is that the "flow" of time is an illusion, that the notion of the present is not that of a fixed quantity, like "five seconds," but is a matter of intention, and that the reason why it is possible to talk with perfect sense about time-spans within other time-spans, or about temporal intercuts, or about multi-leveled time spans, etc., is because time is the correlate of a conscious act. It is the person who constitutes time by the relations which he necessarily forms between himself, other people, and objects in the world. *14

Two peculiar experiences of musical time may be succinctly, if somewhat paradoxically, described as "moving durations" and "static succession". Both terms describe duration and succession in ways which are quite different from their merely objective measurements. The idea of moving duration includes, but is more comprehensive than, Schenker's notion of prolongation as "motion within . . ." These two notions share at least two common properties: (1) both terms refer to the duration of the significance of a musical event, rather than the acoustical duration indicated by note-values; (2) both invoke the experience of two or more rhythmic levels. But whereas prolongation has a syntactical reference, moving duration is correlated, at least in Example 8 given here, with a certain spatial gesture, and, in any case, is independent of specific compositional grammars. In this excerpt from Berg's Lyric Suite, narrow, enduring shapes are created whose edges serve to confine the fluttering sixteenth-notes which, of course, created the shapes themselves. This kind of circularity or inner-directedness is an important factor in the recognition of moving durations. The sense of duration is felt by the presence of the shapes, and it is when they move, as single units, that they are experienced simultaneously as both enduring and changing location. The scurrying sixteenth-notes can be heard as one sound, or as a variation on one (prolonged) sound. This would be similar to writing a pianissimo passage, rather than a block of rests, to create a sense of quietude.

A somewhat opposite case is presented by the notion of static succession. A moving duration is very likely to tilt the middle-ground of a piece toward the listener; in other words, the

EXAMPLE 8

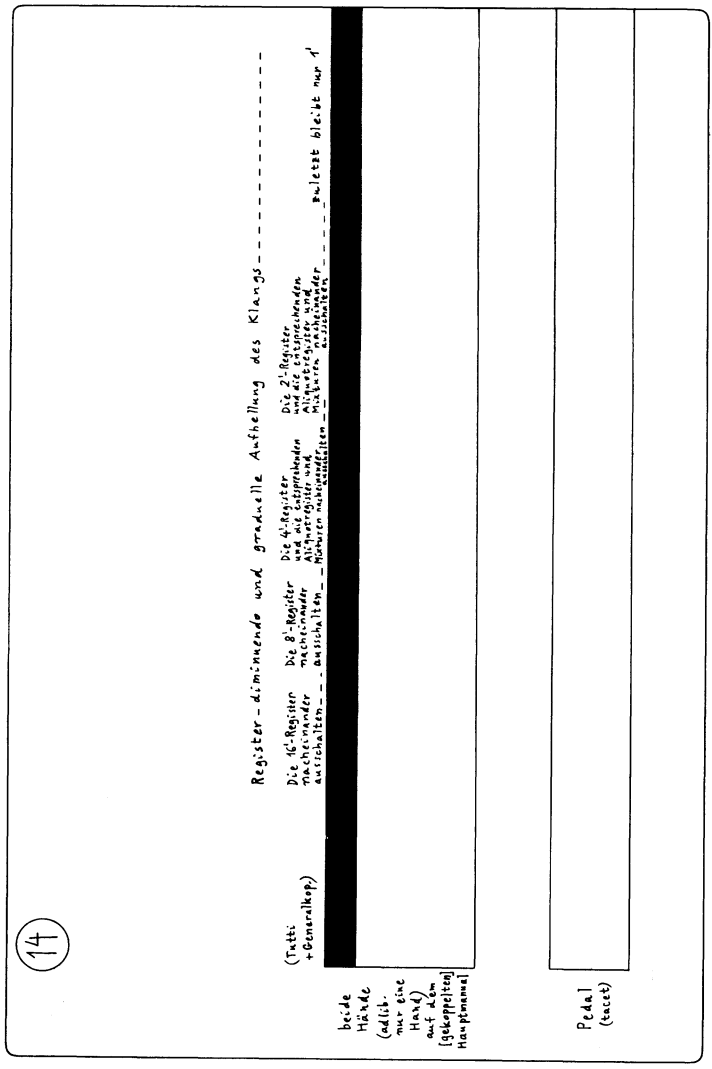

Allegro misterioso
♩ = 150
1
am Steg
pp sempre
Dämpfer
Satz
gewöhnlich
2
am Steg
pp sempre
am Steg
pp sempre
3
4
5
6
pizz.
molto p


7
8
9
10
die Br. ergänzend
pizz.
(pp)
pizz.
(pp)
11
12
das Vlc. ergänzend
arco
gewöhnl.
(pp)
pizz.
poco dimin.
ppp
pp
die 2. Gg. ergänzend
pp
arco
pp

middleground will tend to absorb the foreground, as was the case with the excerpt from the Lyric Suite. However, a static succession will tend to obliterate not only the distinction but the very idea of rhythmic levels. Instead, what is offered is a simple "presence", a state of sound which does not seem to move but which is rather passively content to be replaced by another sonority. "Static" should probably be interpreted as a limit case, since even a simple sustained sound does not behave analogously to the color of a wall, but is always in a state of becoming. Perhaps you can think of static succession as a time experience lying somewhere between duration and rhythm. A number of effective contemporary works succeed in presenting this sort of experience quite well. Typical examples of static succession are abundantly encountered in Ligeti's organ piece, Volumina, especially between (3) and (8), (9) and (12), and (14) and (16) of the score (Example 9 shows the score at (14)). The notation, of course, does not consist merely of the solid band but also of the directions to reduce the volume of tonal space in discrete steps until it becomes an intense sliver of sound. The actual aural sensation is more like the sketch shown as Example 10. According to the instructions accompanying the score, it is not mandatory to begin immediately with a solid wall of sound. But once the wall is fully achieved, the condition of static succession asserts itself. The piece then goes on to present varied images of textures, surfaces, and volumes. In Ligeti's words, "the composition consists of stationary and variously changing clusters . . . . The stationary tonal spaces and their gradual, continuous modification should be so realized by the performer that the sonorous states and events arouse the sensation of great calm." As I mentioned, the condition of complete stasis in music does not seem a viable possibility, for two reasons: (1) the static succession heard here is still a "state" of becoming, and is constantly renewing itself; (2) many of the textures in Volumina are so broad that it is not difficult to wander around in them and hear all sorts of mini-events and tiny motions within them. This is because the activities involved in attending to the work also constitute a motion. After all, the only listener is a live one. Still, static succession is distinguishable from pure duration because something happens to the quality of staticness itself; it doesn't really move, it doesn't really change, since these words are applicable only to the moment when one state becomes another state. I suppose, then, that both the staticness and the change from state to state are necessary to distinguish static succession from duration. And it is distinguishable from moving durations since the staticness itself is not a result of the merging of foreground events into middleground events.

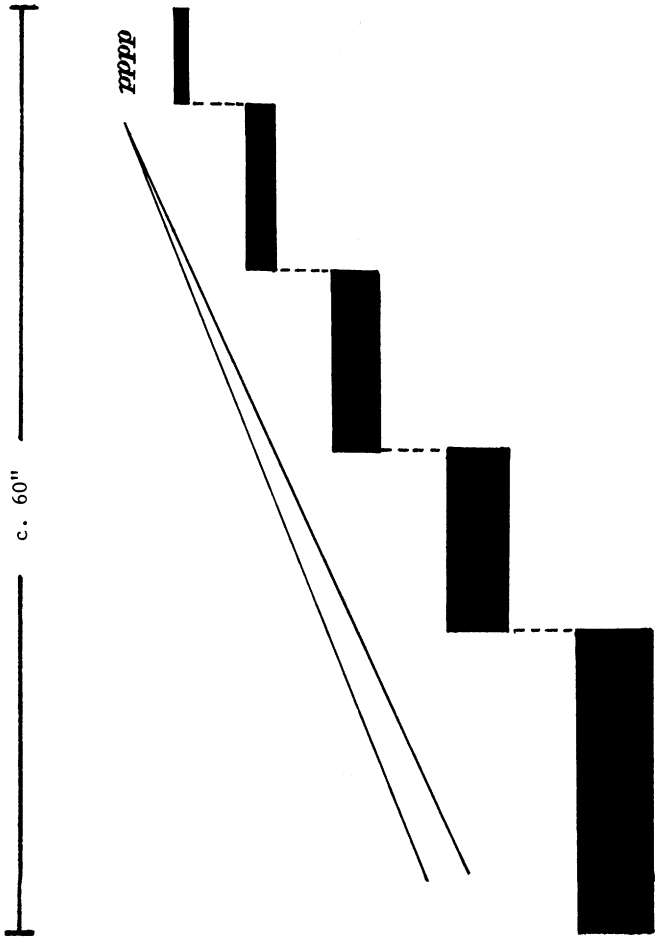
EXAMPLE

9


14
Register - diminuendo und graduelle Anhellung des Klangs
(Tutti: +Generalkop.)
Die 16'-Register nacheinander ausschalten
Die 8'-Register nacheinander ausschalten
Die 4'-Register und die entsprechenden Aliquoten nacheinander ausschalten
Die 2'-Register und die entsprechenden Aliquoten nacheinander ausschalten
Pedett bleibt nur 4'
beide Hände (adlib. nur eine Hand) auf dem [gekoppelten] Hauptmanual
Pedal (tacet)

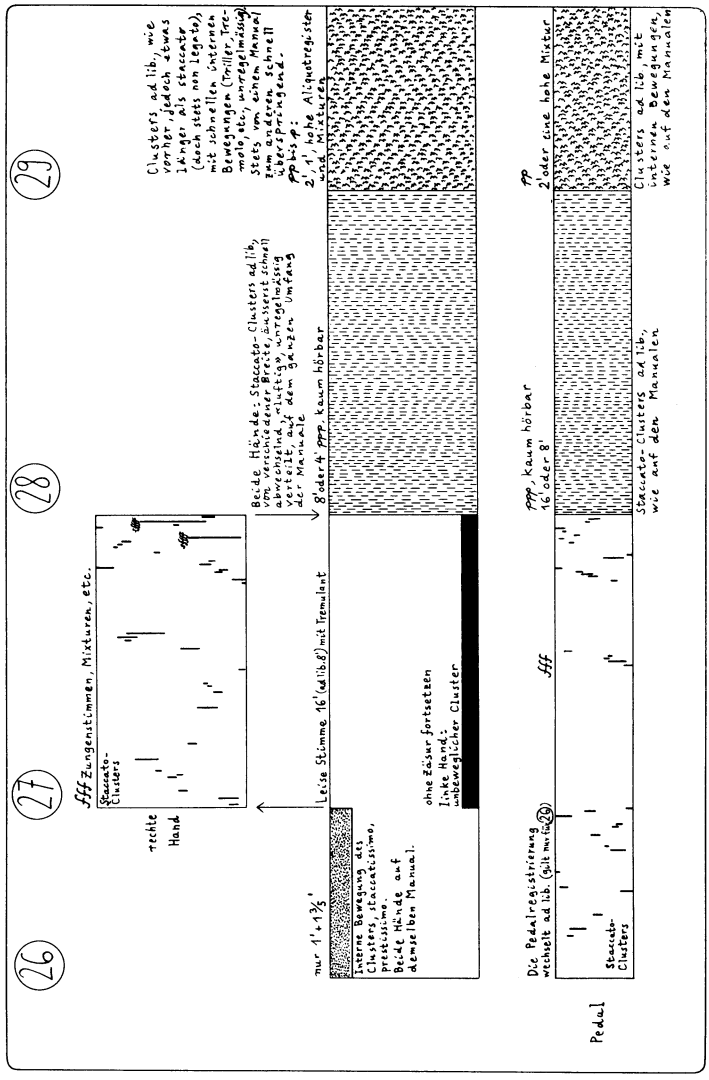
EXAMPLE

10



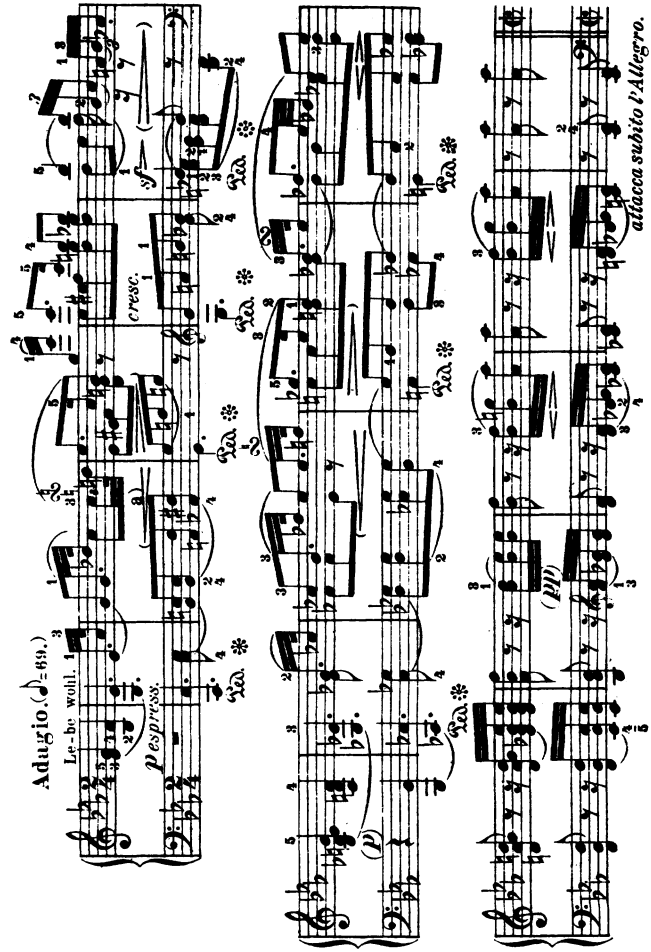
EXAMPLE

11


26
27
28
29
fff Zungenstimmen, Mixturen, etc.
Staccato-Clusters
rechte Hand
nur 1'+1 1/3'
Leise Stimme 16' (ad lib. 8') mit Tremulant
Beide Hände: Staccato-Clusters ad lib, vom, verschiedener Breite, äusserst schnell abwechselnd, pluftig, unregelmässig verteilt, auf dem ganzen Umfang der Manuale
8' oder 4' ppp, kaum hörbar
Clusters ad lib, wie vorher, jedoch etwas länger als staccato (doch stets non legato), mit schnellen internen Bewegungen (Triller, Tremolo, etc, unregelmässig)
Stets von einem Manual zum anderen schnell überspringend.
pp bis p:
2', 1', hohe Aliquotregister und Mixturen
Interne Bewegung des Clusters, staccatissimo, unregelmässig
Beide Hände auf demselben Manual.
ohne Zäsur fortsetzen
Linke Hand: unbewegl. Cluster
Die Pedalregistrierung wechselt ad lib. (gilt nur für 26)
fff
ppp, kaum hörbar
16' oder 8'
pp
2' oder eine hohe Mixtur
Pedal
Staccato-Clusters
Staccato-Clusters ad lib, wie auf den Manualen
Clusters ad lib, mit internen Bewegungen, wie auf den Manualen

EXAMPLE

12



In static succession it is impossible to hear anything going on "within" (except the subliminal points mentioned above). It seems to me that "withinness" presupposes a more open texture, one which suggests the possibility for tones themselves (and not just listeners) to get inside it. Volumina itself provides many such textures. The span from (26) to (29), shown in Example 11, comprises three different variants of moving durations (at (26), (28), and (29)); Ligeti's term for this is "internal movement of clusters." At (27), a brief duration (not a static succession.) is reasserted (it is marked as a "motionless cluster"). Because of all this activity, and because of the kind of activity, a rhythmic perspective begins to unfold here, so that, for the moment, one hears coordinated levels of activities and the sort of confined motion associated with moving durations.

(c) Post hoc, ergo propter hoc

The final comparison to be made here is between the way intuitive and objective thought treat a certain logical fallacy, namely, "after this, therefore because of this." Actually, this is a fallacy only for objective thought, which, according to its lights, rejects the notion that it is the robin who brings the spring. But it need not be a fallacy for intuitive thought. In music, we have on hand some simple examples of the validity of this expression, one of which is the function of the "introduction". Now, whether or not the introduction is actually written first or later, its aural impression is that it not only introduces the main body of the work but brings it into existence, it engenders it. Once again, I am not talking about the purely technical device whereby introductions are said to carry the "germ" of later motivic development. Nothing of the sort need occur in order for introductions to function this way, precisely because the antiseptically-minded analyst could never talk about his germs if introductions did not inherently possess this prior function.

Other examples include the operations of modulation and harmonic extension in tonal music. Objectively considered, it is the tonicized region which is the reason for the modulatory progression itself, but the sense of movement and purpose in a modulatory progression would be lost if we did not intuitively hear it as bringing the new region into being. Similarly, we can analyze certain harmonies as chromatic substitutes which unfold a new and unexpected tonal space. Within the introduction to Beethoven's Sonata Op. 81a, it would be quite unmusical not to hear mm. 9-11 as an extension, a reverberation, of the

♭VI harmony in measure 8 (Example 12). Yet, since this span has an important melodic function, namely, the re-positioning of the d-f pair in measure 7 so it can be placed precisely at d1 and F1 in measure 12, objective reasoning might tend to regard the span as the condition which necessitated ♭VI in measure 8. I think it is musically, if not logically, consistent to get the best of both worlds by considering that, indeed, it is the span which, coming after ♭VI, is the effect of that harmony rather than its reason, while at the same time hearing the effect as lending an individualizing accent to the ♭VI harmony itself—giving it a firmer sense of purpose—which is probably the way most of us would analyze this moment.

Musicians are the last persons in the world to have to be told that there are many kinds of logic, and that the intuition of musical processes is logical in a way which analytic philosophy does not seem to comprehend. The vast majority of sensitive musical analyses are, indeed, intuitively grounded, yet there still lacks a comprehensive exploration of the way in which musical processes are intuitively logical, of the possibilities of description which this logic opens up, and of the complex relations between intuitive experience and its objects. Even this article has not completely formulated the terms of a treaty of peaceful coexistence between intuitive and scientific description, yet such a treaty, after all, is needed. Anyone who has, with a feeling of responsibility, carried out a reasonably complete description based on his direct awareness of the music knows of the difficulties which seem to multiply just when he thinks he is getting somewhere. If, after having survived the initiation rites, the descriptive theorist chooses to use a hard-won generalization to render a more scientific account in his next analysis, if only to get on with it, who would be boorish enough to deny his intuitive faculties? No intrinsic antagonism exists between description and explanation. The intuitively grounded music theorist and his colleagues in science have this much in common: they both try to avoid subjectivism and scientism, they are motivated to understand, through sheer intellectual curiosity, themselves and other things and people, and they are driven to communicate this bit of understanding because they realize that nothing is completely true if kept secret.

ACKNOWLEDGMENT

I wish to acknowledge that the ideas in this paper frequently crossed paths with those expressed in Volume 2 of Ernst Cassirer's PHILOSOPHY OF SYMBOLIC FORMS: MYTHICAL THOUGHT. The fact that this volume does not appear in the text or references should not be allowed to hide my appreciation of its content.

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1 Milton Babbitt, "Past and Present Concepts of the Nature and Limits of Music," PERSPECTIVES ON CONTEMPORARY MUSIC THEORY (New York: Norton, 1972), p. 3.

2 Karl Popper, THE LOGIC OF SCIENTIFIC DISCOVERY, author's trans. (London: Hutchinson, 1968; first published in Vienna in 1934), p. 111.

3 Thomas Clifton, "Music and the A Priori," JOURNAL OF MUSIC THEORY 17 (1973):66-85.

4 Edward Laufer, "Analysis Symposium: Brahms Op. 105/1," JOURNAL OF MUSIC THEORY 15 (1971):56.

5 Patricia Carpenter, "The Musical Object," CURRENT MUSICOLOGY 5 (1967): 67.

6 Mikel Dufrenne, THE PHENOMENOLOGY OF AESTHETIC EXPERIENCE, trans. Edward Casey (Northwestern University Press, 1972), pp. 231-232.

7 Richard Howard, "Compulsive Qualifications," POETRY 122/3 (1973):154-55.

8 Karl Jaspers, "Existenzphilosophie," EXISTENTIALISM FROM DOSTOYEVSKY TO SARTRE, ed. Walter Kaufmann (New York: World Publishing, 1956), p. 164.

9 Erwin Stein, ed., ARNOLD SCHOENBERG LETTERS, trans. Eithne Wilkins and Ernst Kaiser (London: Faber and Faber, 1964), p. 164.

10 If it strikes me that a discussion of feeling within an article on music theory is off the beaten path, it is probably due to the lingering reverberations of the putatively "scientific" outlook and vocabulary of many of the articles on theory and analysis written in the sixties. But the omission of such discussions has served to confine unnecessarily the limits of music theory and to inject an atmosphere of reductionism into serious attempts at analysing feeling and, more generally, consciousness itself. That feeling is decidedly not "nothing but" a personal response and hence outside the realm of analytic discourse has been demonstrated over and over again, and not just recently. The following excerpts are not intended, of course, to prove this point, since the positivists among us can provide counter excerpts; they are offered here simply to provoke thought about the content, direction, and ultimate relevance of music theory.

"The quick rhythm and the bright sounds of a Mozart rondo are definitely not discouraged or solemn. They may even verge on the gay and irresponsible, the overt disregard of the insistent wretchedness and difficulty of living. And this disregard sharpens and brightens their loveliness, making it for Mozart himself, if we are to believe the quoted statements, the expression of actual anguish, the pain with which our sincerest laughter is fraught. The slow, heavy movement of a funeral march (literal slowness and literal heaviness or dullness in low-pitched, thick chords) is not gay, and may be extremely solemn. If we ask what degree of the grave or solemn, the despairingly sad, it expresses, we shall of course have to give specifications of feeling. But what could these possibly be but specifications of tempo, loudness, timbre, rhythm, pitch sequence, and so on? These terms, applicable literally to the music, precisely specify the feeling." D.W. Prall, AESTHETIC ANALYSIS (Apollo Edition, 1967; first published in 1936), pp.152-153.

"Now, for empiricism, 'cultural' objects and faces own their distinctive form, their magic power, to transference and projection of memory, so that only by accident has the human world any meaning. There is nothing in the appearance of a landscape, an object or a body whereby it is predestined to look 'gay' or 'sad', 'lively' or 'dreary', 'elegant' or 'coarse'. Once more seeking a definition of what we perceive through the physical and chemical properties of the stimuli which may act upon our sensory apparatus, empiricism excludes from perception the anger or the pain which I nevertheless read in a face, the religion whose essence I seize in some hesitation or reticence, the city whose temper I recognize in the attitude of a policeman or the style of a public building. There can no longer be any objective spirit: mental life withdraws into isolated consciousnesses devoted solely to introspection, instead of extending, as it apparently does in fact, over human space which is made up by those with whom I argue or live, filling my place of work or the abode of my happiness. Joy and sadness, vivacity and obtuseness are data of introspection, and when we invest landscapes or other people with these states, it is because we have observed in ourselves the coincidence between these internal perceptions and the external signs associated with them by the accidents of our constitution. Perception thus impoverished becomes purely a matter of knowledge, a progressive noting down of qualities and of their most habitual distribution, and the perceiving subject approaches the world as the scientist approaches his experiments. If on the other hand we admit that all these 'projections', all these 'associations', all these 'transferences' are based on some intrinsic characteristic of the object, the 'human world' ceases to be a metaphor and becomes once more what it really is, the seat and as it were the homeland of our thoughts. The perceiving subject ceases to be an 'acosmic' thinking subject, and action, feeling and will remain to be explored as original ways of positing an object . . ." Maurice Merleau-Ponty, PHENOMENOLOGY OF PERCEPTION (Humanities Press, 1967; first published in 1945), pp.23-24.

". . . I believe that music 'expresses' something very definite, and that it expresses it in the most precise way. In embodying movement, in the most subtle and delicate manner possible, it communicates the attitudes inherent in, and implied by, that movement; its speed, its energy, its élan or impulse, its tenseness or relaxation, its agitation or its tranquility, its decisiveness or its hesitation. . . . When, according to a well-known and possibly true anecdote, Beethoven in answer to a query as to the 'meaning' of his Eroica Symphony turned to the piano and played the first bars of the work, he was, in effect, not only implying that its message could not be conveyed in any other way; he was also, and at least as clearly, implying that that message was something quite exact and precise, embodied in the tones, rhythms, harmonies, and dynamics of the passage." Roger Sessions, THE MUSICAL EXPERIENCE (Atheneum Press, 1962; first published in 1950), pp. 22 and 24.

11 Cf. the author's article on "Types of Symmetrical Relations in Stravinsky's A Sermon, A Narrative, and A Prayer," PERSPECTIVES OF NEW MUSIC 9/1 (1970). The intent here was to reveal some possible compositional and "pre-compositional" procedures, very little of which is audible precisely as symmetrical constructs.

12 Maurice Merleau-Ponty, PHENOMENOLOGY OF PERCEPTION, p. 412.

13 Nonesuch Records, H-71225.

14 For a discussion of a specific musical constitution of time, cf. Jonathan Kramer's article, "Multiple and Non-Linear Time in Beethoven's Opus 135," PERSPECTIVES OF NEW MUSIC 11/2 (1973).