ABSTRACT

Electronium Music is a simple tape composition made with a Yamaha DT-1 synthesizer. My objective in this work was, by means of reduction of the role of other parameters (excepting rhythm), to allow listener to occupy the primary focus of the listener's rational and intuitive mental processes. The work is very much concerned with the role of expectation operating at very limited local levels. It is further concerned with the concatenation and integration of these levels to produce a vast, many-tiered system of possibilities for the listener to engage in mental interaction with the processes of the place. This approach requires many assumptions about the nature of the generalized listener as well as the individual listener. The approach also requires some serious thoughts about the relationship of the composer's own response in relation to that of listeners, and to that of any particular listener. The paper outlines specific aspects of repetition, pattern, and progression and illustrates the application of these principles. The potentialities of the DT-1 for precise timbral control and flexibility, reliable, real-time, manual operation were major determinants in the construction of Electronium Music. (While the verbal presentation of this paper is primarily concerned with illustration of salient issues in the piece, the presentation here concerns the philosophical/psychological underpinnings of the work.)

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A recording of the work discussed in this paper, Electronium Music, is available on the disc David Bruner Aurora [Cambridge Street Records 8502]. The disc may be purchased ($1.00 U.S., postpaid or $1.50 Canadian, postpaid) by writing to any office of the Electronic Music Centre Distribution Services:

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process. A piece of music is doing at any particular moment in its performance is very much a product of not only the physical qualities of the sound, but also the contribution of each listener. The "working" of a piece of music, therefore, is really an assessment of what the music does, or may do, to each listener. Listening is a cross-section of all listeners and what the music does in response. The following is merely a modest attempt to understand a ponderous piece of our world, but I am determined to try to penetrate the dark fog of musical arcana, if only a few inches at a time, rather than stumble blindly ahead, as I otherwise must do.

It is very much by bias that the way the general public listens and responds to music is incorrect, I would, however, qualify "general public" to refer to that portion which actually attends to some type of music. Those individuals who have learned to use music around them as an ascetic noble mask to quell the noise variety of the world may be beyond the potential for any music to register upon their consciousness. Nevertheless, the quest for successful means of attracting and engaging the mental processes of these individuals who still have the potential has the highest priority in my work as a composer.

2. OTHER LISTENERS

When I speak, I have done so in my last sentence of listeners and how I think their mental processes behave or might behave. I am occasionally criticized: "you dare I presume to know anything about how people listen to music? That is, people other than myself." There seems to be a common view that it is acceptable, even desirable, for a composer to be concerned with his/hers own musical responses, but there is something a little tacky about considerations for other listeners. I am compelled to respond to that view before I proceed, because what I have to say in this paper is predicated upon my right to think about those people who will listen to my music. If suppression is to be avoided, it must be established that the only listener whose thinking a composer can know about is himself/herself. Out of some important qualifications, I would agree that of course it is extremely difficult to understand just how anyone else listens in response to music, but would I urge that overt or inferred attitudes of my "audience" pertain to music, and not to a composer's aesthetic judgments. On the other hand, I would observe that a composer of a piece of music is quite different from any other possible listener to that particular piece of music, and that he knows 1) how the piece was assembled and 2) what his/hers own construction for the piece was, for him, an essential aspect of listening to a piece of music is the art of gathering a memory of what it is doing where it is going. That source begins only with the piece itself. It is what the piece tells me and my act of listening to what it tells me that is important, and not what is important is what the composer actually did or what the composer was actually trying to do. If the piece does not tell us, then things are of no consequence—except perhaps to a musicologist for purely historical reasons. Consequently, what the composer knows is posterior, not only composer what the music might have to say to him/herself, but may completely obscure it with the

staff of dissemination appended. [1] Thus, what the composer, prejudicially marked by expectations and burdened with extensive experience of the fragment in isolation as well as the whole, thinks he/she comprehends from one hearing of the piece is not as far removed from what some other may have as it is conceivable. Yet I would urge that the composer try to overcome these visible obstacles. [2]

Moreover, I would hasten to point out that I am not here concerned with what might be called "taste." That is something that, for the composer, is exercised at more elementary levels of the making process, deciding what to do. The decisions made at that level are that evaluated from higher perspective as a listener: deciding how to make it work. The work is to apply the experience of hearing the music of others to listening to one's own work. As difficult as this may sound, it seems to me better than making no attempt at all to assess how others may respond.

The assessment of whether or not the structure "works" (that is does something useful toward some endpoint) is the evaluative process with which I am concerned. Taste poses what to do and, once tried in some way, the second kind of evaluation determines whether to keep it or throw it out. The two assessments get terribly tangled in reality because the composer makes frequently back and forth from the one to the other in the making process. However, one can separate the two in analysis of the process. I would illustrate this by pointing out that someone else's music may not be to our tastes, but that does not necessarily prevent him from appreciating, or even enjoying, the music if it appears to "work." I maintain that the most practical of objectives that a composer might choose to embrace is to understand to the extent possible what other listeners might engage in a dialogue with the music. This may seem to imply that the composer card to the listener, but, please, do not understand me to be suggesting that the composer pander to the "market" to the taste of others. What I do propose is that the composer know the essential elements of the human mind as best the composer can comprehend them to provide where "look" for the first time back, and second time forward, for the second time listener (although the listener will be increasingly critical) for the subsequent listening. If continued to do those listenings).

3. WHAT A WORKING WORK OF ART OFFERS

I sincerely believe that the most effective form of art are those which are self-explanatory. That is, they require no preparation for understanding the elements and forces of the artwork so specific respect for the world than what can be assumed to be experienced by an average or typical member of the culture. Within itself, such a work contains fundamental principles of what and why it was made.

An architectural instance of this is a pyramid. An observer may look at a single block, overconceiving its shape and position in space—first relative to the observer, then relative to the blocks around it, and eventually relative to the structure as a whole—understanding but the nature of the single
Block round the pyramid to be what it is. The pyramid is a reasonable, if not compellingly apro-
priate, consequence of the single block being placed in a particular juxtaposition with another, and these two with a third, and so on. Further consideration of this part of one person may be a way to compare the sense of proportion, symmetry, and reconciliation of triangle and square. Another person may have an involvement in the sense of the massive weight of the blocks and the enormous en-
ergetic calls for in moving and gathering the elements of the pyramid, while another person may become concerned with the effects of time and the elements which have impeded individual to blocks that were made to be essentially uniform. But these considerations, and many more others are nevertheless founded upon the essence of the pyramid. All these musings spring from an appreciation of the internal relationships of the structure. Each person may view sooner or later upon these consid-
erations molded by the others, to some degree, at some point. But fundamental to all these senses of the pyramid is the action of the mind pondering nature, suggested by the sensations simulated by the pyramid.

Of course, thoughts need not begin with physical blocks. One may well observe the pyramids from a distance and obtain a sense of the structure as a whole, without particular awareness of its parts. Should one begin with the whole and work down to the single block, the sense of the relationship remains as compelling. In such case, how the ap-
ture of the pyramid "caused" the single block to be in what it is. [3]

It is not at all important where one begins—it is the action of the mind moving between and among concepts in the parts that defines aesthetic experience its quality. While the whole is defined, the presence of the constituent parts (e.g., sentences, phrases, words, numbers) of the whole is only part of the pyramid, and having a prior sense of the whole, Ulrich maintains, is not that apparent until they become the "sacred circle" in the "hermetic circle" is not a virtual circle, in that we can achieve a valid interpretation by a recognition, mentally constructing an interplay between the progressive sense of the whole and our retardation of the component parts. [Abrahm, p. 84] This is true of language alone.

4. FUNDAMENTAL CONCEPTION OF ELECTRODEVS AURID

I need not go into the elaboration of parts and wholes of the significance of the electromagnetic, which is in keeping with the strategy for the deployment of the DE-7. I had ordered the synchro-
net with the comission for MAFILM in mind as its first use, but by the time I had received the instrument, it was too late to condemn for the completion of the work. Thus, I looked for an approach that used the basic aspects of some of the elementary notions of the SE-7.

That thinking began to frame a fundamental objective for the work. The finished range of the SE-7 is impressively vast and yet may be precisely con-
trolled with a minimum of programming. Thus, I determined to allow similarities and differences of time, the primary focus of the bistable display, the analytically and relational mental processes and the form principal activity of the piece within that realm. On analogy frequently made in refer-
ence to musical themes is "color." In this point I could see common bases between, on the one hand, the small regularly placed stones of the mosaic and my about regularly placed durations; and, on the other hand— the colors of the stones and the timbres of the points of sound, I could quite readily see that what could work for the mosaic could as easily work for a "musical mosaic." I stress the commonalities. Mosaics are not the rationalized the common features of perceivers inter-
action provide the rational.

I chose to manually operate the instrument by means of the keyboard and, because I had no time to determine whether I could easily develop instrument descriptions which were any more interesting or flexible than the canned ones, I chose to use the factory supplied ROM cartridge instrumetns. I frequ-
ently intended to suit my immediate purposes. In that these were indeed the elementary functions of the instrument, the question was: what could I, with my distinctly inarticulate keyboard technique, offer that the average fifteen-year-old visiting the local music store to play a few licks on the SE-7 could not? The answer was restraint.

By means of an intensive use of a limited feature, rather than an exhaustive use of the range of the instrument's possibilities, I hoped to put the raw resources of the personal and much less pristine, or combina-

cious, application. This approach was strongly reinforced by my past experience, working occasion-

ally in situations. Only when one is in a position to pull together the many resources of a situation and cannot use all the available resources in a virtu-

alistic way, one can isolate a severely limited range of possibilities, one that I am not in position to give to its reasonable limits, and of the reality of the situation and its boundaries, which I believe that the interaction that takes place on a virtual instrument.

5. HOW THE MUSICAL WORKS

An essential aspect of the virtual mosaic is that the artist has no attempt to deny the nature of the raw materials from which the work is fashioned. The mosaic is comprised in the "whole" world of stones which are of equal length, that and at the same time that of arrangement of these elements configured in geometrical patterns or representa-
tional scenes. The individual identity of the smallest element of the work revolves, to a discern-
ible degree, being subordinated to the larger form, yet the larger form need not have palpability yet it were not for that stone and the others like it. For that very reason, we can engage in moving our mental attentions from the level of the individual element, to the whole, and to the staging between these extremes, much as I have illustrated in the example of the pyramid.

The Russian formalists, Victor Shklovsky, has said, that the object of art is to surprise or defamiliar-
ize that is, by disrupting the ordinary modes of perception, an object, or a situation, to allow the everyday perception and renew the perceiver's lost
capacity for fresh sensation. [Horace, 166]
Shakespeare has also said that the point of art is "to make the stone singer," [Shakespeare, 83]
The mosaic does just that. By taking the stone out of its usual context and placing it in one which not only calls attention to the stone itself, but uses the stone in a completely "new" way our ex-
perience of the stone is heightened, I would argue that the point is to elevate to greater awareness not stones, not experience itself, an important distinction between a visual mosaic and a piece of music is that the former holds still while the experience of it is structured by the movement of the eyes of the observer over the mosaic's surface. With the other hand, speeds by in time essentially in the manner determined by the composer. The implications for this are consider-
able.

6. THE WORKINGS OF ELECTRONIC NOISE
It is these implications that I sought to exploit in Electronic Noise. I have already indicated my wish to focus the listener's attention on timbre by means of considerable rearrangement of the role of the other parameters. The most important restriction was the limitation of sound objects to - at least for the most part, only one approximate dura-
tional value. By gradually lessening rhythmic activ-
ity to similar envelopes with equal durations I hoped to direct the listener's attention to similarities and contrasts of timbre. I felt that the simplicity of the sound sensations would facilitate immediate identification and comparison in the present as well as in the future that these sounds which were fol-
lowed by silence would be conducive to reflection upon what had been heard [in the recent past].
The principal constraint, from the standpoint of the third and final section, was to limit myself to striking the keyboard with the briefest possible stroke and to using instruments with rela-
tively short attack and decay times. The careful selection and control of spectrum, attack, and decay of individual points of sound is not unlike the selection and control of the points of stone that will be filled in the mosaic. The linear and simultaneous juxtaposition of the resultant musical colour and patterns results to the mosaic setting itself.

Although Electronic Noise might have been con-
cieved as a music analog of a visual mosaic, it is significant for the thrust of this paper to point out that the title is meant strictly to be a tool for the listener, rather than an accurate account-
ing of the provenance of the piece. The title offers the listener guidance for the appropriate placement of the focus of the mind's ear at the outset of the piece. By the same token, the model of the mosaic may help to illuminate the processes in music that may be somewhat more readily identi-
fied in examining the parallel visual domain. I present the discussion in the context of both media in the hope that what I am saying may be entirely clear in reference to music. It may be so in reference to visual art and that the reader's reflection upon the latter will itself illum-
inate the musical issues where I have failed to convey successfully the idea directly. This might be sharpened to read: in order to offer the name with which discussions of acoustic issues may go greatly amiss I approach those issues by means of "triangulation" in the hope of gaining greater precision.

Electronic Noise is very much concerned with the role of expectation operating at very limited local levels as well as the concatenation and integration of these levels to produce many kinds of potential mental interactions (on the part of the listener) with the processes of the piece. The initial stage of placing the component points of sound in their setting, and a further means of deferring the obvious "fresh out of the box" quality of my mate-
rial, was implemented by the use of multitracking. Caution dictated avoidance of focus on obvious harmonic or orchestralal lyres. Attention was given instead to simple rhythmic/spatial distribu-

Because the attention, or focus, of the ear (as well as the eye) is drawn by those elements which are most active it is important that those ele-
ments not of primary importance be subdued by making their activity constant or highly repeti-
tive. To highlight or, more precisely, to isolate the intended qualities as the principle focus of my material, I attempted to limit the amount of atten-
tion drawn to other parameters by means of the following experiments:

Rhythmic structure is limited to simple regular subdivision of the pulse, producing a steady stream of eight notes throughout the piece. Only slight violations of this appear in the piece and these are limited to the second section of 6 appearing in one voice only.

Harmonic activity is limited solely to octave and fifth relationships, with the exception of some-
tones briefly used approaching the end of the second section. [Frequency range, however, is employed in a dominant way to define and shape sections of the work.]

Melodic activity would be considered to be com-
pletely absent with that same exception, one voice of the second section. [1]

The harmonic and melodic restrictions had the added advantage of reducing the characteristic stack-
instrument quality by using long form cues or, as in particularly the case with electroacoustic Instruments, the lack of rich formants. The brief durations also aid a bit in camouflaging the stock qualities since awareness-state conditions are essen-
tially maintained and only the active processes of attack and decay are preserved.

7. AESTHETIC AND RELATIONAL MENTAL PROCESSES
To this point, my discussion has largely comprised what the music does, or does not do. But, as I have indicated, I am also very much concerned about what the listener does in relation to the music. Earlier, I said that I wanted to address my music to the "primary focus of the listener's analytic and relational mental processes." Allow me to explain why I feel that it is important to describe mental processes in this way. In the writings of many philosophers, psychologists, and others who would try to understand the workings of the human mind, there is an overwhelming sense of the dichot-

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on that I have represented with the words "analyt-
ic" and "relational," David Covey presents a table of 12 pairs of terms attributed to nearly as many authors describing what he calls the "two kinds of consciousness." I have selected those dichotomies which especially reflect my own sense of how this division functions (although I find those pairs that I do not mention are also supported by A. B. 

- Observed by
- left brain-related—right brain
- intellectual—intuitive
- logical—imaginative
- rational—metaphoric
- analytic—relational
- active—receptive
- directed—free
- creative—the receptive
- linear—nonlinear
- gender—gender
- differentiation—integration
- sequential—simultaneous
- rational—intuitive
- neat—slippy
- sequential—multiple
- subjective—objective

Figure 1. Adapted from Lory, P. 41

Those attributes in column A suggest a part of the mind which deals with one thing at a time, stringing things out according to some kind of strategy that pulls individual elements together according to some easily comprehensible commonality. Things are selected and spread out on a table to be reassembled in a search for some order that satisfies. I have borrowed from Covey in choosing to refer to this aspect of consciousness as "analytic." Those elements, in columns and rows, are fairly different things that have to do with large amounts of things swept up together, either adjoined separately or held together in a larger whole. The considerable degree of voluntary control of the rational aspect of mind is exchanged for the ability to scan enormous amounts of detail in many ways at once. This is an aspect of the "relational" aspect of consciousness.

As a composer, I am not particularly concerned about where in the brain those activities happen, but I am compelled to believe that these levels of mental activity are simultaneously operative when we listen to a piece of music and when we do everything else. I would add that while there do appear to be two such conscious functions. I am convinced that these very different kinds of mental responses to music (and to everything else) talk to each other. Moreover, either there is a variety of "blends" of these qualities or there is a continuum of levels that spans the extremes.

I stress the importance of the "two kinds of consciousness" and their role in musical experience because I believe that the most satisfying aspects of the experience of music are in, fact, the sensations of our own minds working. Music's special quality is not found in the physical dimensions of the sounds as much as the flowing quality that makes the mind grasp for impressions, engaging the processes of exploring, experimenting, turning, pondering, and thinking. We do not savour the perturbations in our world; we savour our own reconstruction of the

groozier, umphameric qualities that have flashed through our consciousness, leaving only what we thought about them in their wake.

Impression upon impression offers a changing view of the perceptions received. For each individual, the order, kind, and depth of impression will vary greatly. But let me try to give an example, using the opening of Brahms's Variations, a portion of the piece that is really a microcosm of the process of the work as a whole.

8. AN EXAMPLE

The functions of the beginning section are to attract attention to an aspect of the music and to hold that attention. It is easy to do the first, but as time passes, holding attention requires increasingly greater provision. The piece begins with a moderately loud burst of sound which allows little doubt that the piece has begun. It is perhaps useful that this device draws attention although I believe that the average audience member will give the composer the benefit of the doubt and attend for at least the first few seconds. One is conscious of approximately the following sequence, although I must, of course, use words to convey these impressions. I believe that non-verbal thoughts are more frequently the agents for handling this kind of information in the minds of:

a. rapid, free articulation on one high pitch
b. the free rhythm is resolved gradually to regular pulses
c. the pulsations gradually sort themselves out into specific spatial locations
d. the unions gradually transform to octaves and fifths relative to the original pitch

e. a consonant tone emerges and overarches the other activity there is a sense of anticipation f. the tension of the anticipation is resolved by an entry in the counterpoint that generally releases tension by means of a slower, more driving rhythmic, and a fast staccato tirade

There is nothing very remarkable about any of this, except that its general tendency to attract and hold the attention of a listener. The "holding" is attempted by beginning very simply and then gradually transforming the rhythms and manner of less than simultaneously—greater activity and complexity.

The word is "gradually." That is one of the primary sources of the continuity that enganges all our attention. If numerous gradual processes are underway at once, there is a greater likelihood that the performer will attend to one of them. When fatigue, or other stimuli cause that line of evenfulness to be abandoned by the listen-
er, there are others waiting to take and hold the attention. The mind seems ready to remain for very long in its attention to a single thing, but moves rapidly from aspect to aspect. Attention is, in essence, held if only the mind turns its attention to the same aspect frequently, comparing the present state of the aspect to previous assessments of its state.

At work here is the most significant mechanism of music. That mechanism is attention. If a work raises no particular expectations for the performer, he/she has little more involvement than a
moment-to-moment sensation of the physical proportion of the work. But if a sufficient accretion of experience suggests one or more expanding possibilities, mental activity directly related to the experience of the work can move beyond relational necessity to analytical thinking where is the process going? when will it get there? is it indeed a simple process or are there new aspects emerging? if the mind is drawn to recalling what has already happened, comparing that to what is happening, in order to consider possibilities for what will happen, the listener is involved well beyond simple moment-to-moment monitoring and is involved simultaneously in at least three aspects of the work at once. the percept is taking on active, rather than passive, role in the work. it is that activity that requires "attention."

3. another example

the following excerpt, owing to its higher information potential that the opening of the piece, is more demonstrative of what i believe is the kind of exploratory process that we use in listening to a piece of music. figure 2 is a representation of a pattern used in the piece.

i refer to this kind of material as "rocket" although i tend to use it monotonically and in much longer series of repetitions than was the case in the work of the 17th and 18th centuries composers who drew attention to the possibilities of the technique. i have chosen this pattern because it is a very important one for the character of elektronika no.2 and because it is a relatively direct example of the issues that i wish to illuminate. needless to say, the actual experience of the pattern is far from the reading of it on the page. a first musical encounter with the repeating pattern might seem like the following chronology of mental activity.

a. in the first moments there is a sense of the whole as an agitated jumble of sound, and there is little if any differentiation except a general awareness of a more or less narrow range of timbre and little variety in sound object durations.

b. at the same time, there is a vague awareness that the sounds, while generally mechanical and repetitive, are subtly varied the sound source of the mechanical is not simple, there is an "organic" quality to the sound.

c. there is now an increasing awareness of a regular pulsation as a composite of the sounds coming from various spatial locations.

d. there is now an increasing awareness of a distribution of the sound across a number of spatial locations [it is difficult to know whether one of these observations precedes the other or if the two are essentially simultaneous].

c. a sense emerges that there is iteration of the same timbre coming from fixed spatial positions- this hypothesis is tested and confirmed by listening at least one of the apparent locations.

d. once the apparent position in space and timbral identity have stabilized, there is an increasing sense that the rhyme has a complex but regular pattern and this too is tested and rettested perhaps eventually confirmed by following the 7- or 8-note rhyme of a single spatial position only, or by identifying a recurring juxtaposition of two or three voices at one particular point in the pattern for example the last three eighth notes followed by the first three eighth notes of the combined pattern. because the spectrum and loudness of the individual attacks is quite free of the pattern, made up as it is of sounds with a general timbral envelope and attacks of only approximately regular intervals, the task of verifying that a regular pattern is present is not trivial. thus perhaps the observer will not entirely confirm that there is a regular pattern if the issue does not seem sufficiently important or if the task is beyond the analytical skills of the listener. the pattern is sufficiently complex that the listener may nearly or entirely sort it not only can it doubt the presence of a pattern, and then begin to analyze it again.

4. from space, timbre, and rhyme are analyzed completely, there is the variance of attack spectrum and loudness combined with the slight doverance of attack regularity that will involve speculation and testing. moreover, the mind goes on to the next level of interpretation in a non-linear and non-systematic way. the mind goes on to a much more abstract level of mental activity, beginning with the following chronology of mental activity.

a. in the first moments there is a sense of the whole as an agitated jumble of sound, and there is little if any differentiation except a general awareness of a more or less narrow range of timbre and little variety in sound object durations.

b. at the same time, there is a vague awareness that the sounds, while generally mechanical and repetitive, are subtly varied the sound source of the mechanical is not simple, there is an "organic" quality to the sound.

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if the above at all represents what a listener might think, i would suggest that this approach to the composition reflects a gestalt approach to the considered judgment that they are quite highly organized. the sequence of thinking moves from (a), which is a non-systematic exploration to (b), an essentially relational impression subjected to rudimentary analysis, (c) is more analytical than (b) but still rather rudimentary. not by the time we have arrived at (d) and (e) in time spans of a few to several scores of seconds), the levels of thinking are highly analytical and we are into a kind of thinking that may emerge for a time, very much into the second or the framework of the listener, i would direct attention to the fact that there is sufficient evidence to provide a significant aesthetic encounter with the passage if the listener merely focus some sense that there is or may be a pattern and undertake some degree of testing the hypothesis. that the listener come to a successful conclusion [that (d) is regularly patterned and that (e) is not. for example] is not at all necessary.

in elektronika no.2, sonic colours are worked...
into variously similar and contrasting rhythmic contexts intended to encourage the listener to move his/her mental focus among the larger and smaller levels of structure. In doing this there is some sense of coherence and, in particular, continuity at any of these levels. At the micro-levels of the work the richness and variety of the individual points is meant to attract in one way or another the listener's attention, while the macro-levels of combination of interwoven streams of points, merge into structures which are meant to fully engage and hold the listener's attention.

The micro-levels are not less important than the larger levels, however. Syntactic mosaic art which reached perfection in the 6th century, Bogol Syncope, particularly exhibits small stones which were set by hand in the damp cement mortar, and the resulting irregularities, causing the facets to reflect as different angles were an essential factor of the glittering effect of the gold backgrounds. It is just this kind of subtle but highly kinetic quality that I feel is essential as a supplementary or background process in art. It brings additional vitality to the experience. Moreover, the interference with the more scaleable features prolongs, and may heighten, the impact of the analytical processes. Of course, so many terms there is no parallel change of perspective, but the essentially capricious succession of a keyboard with activated touch sensitivity can produce this same kind of subtle but highly kinetic quality in the scored domain. While a repetitive pattern is, on the level of rhythm and general colour, constant, the varied sound quality calls attention here. Then, there, to provide a highly active context, making the activities more dynamic.

I do not pretend to have covered in the above summary the full range of possible thought processes going on in the mind of a listener to this pageant. While thinking in repetitive loops and jumping into the world all or most of the modes delineated above, the mind of the listener will additionally fill through such observations with:

"that sounds like a door bell;....the undertones are varying without apparent patterns...this rhythm is repetitive...will there be a logical resolution or will the patterns fade away or will it go on annoyingly long?....

And events.

"If I turn off the radio before I left home, the man in front of me has a sad cold..."

this sort of happenings will be more comfortable if I cross my legs..."

But if there is sufficient motion in the music to attract the attention (most happening at the regional, and on-a-round, then peripheral and hold it (mostly happening at the analytical end), such thinking will occupy a sufficiently large portion of the mental processes to register a significant and positive experience.

10. THE POINT OF THESE POINTS OF SOUND

What is to be gained in all this effort to register for the speaker's mental and positive experience? What is the significance? Before I try to answer that, it is important that we have a clear picture of what the brain is actually making of these events. John, Reppond and Jeffrey Koons [Campbell, pp. 234-250] have already demonstrated that the individual tends to construct complex concepts out of disconnected elements and it is in this constructed meaning that is remodeled. During complex experience, the brain goes to work on information while it is being stored in memory, interpreting, drawing inferences, making assumptions, fitting it into a context of past experience and knowledge already acquired. When the information is re-collected, the elaborations added by the brain may alter the memory; so that people have the mistaken impression that the extra information is part of the original message.

Once placed in memory, observed information and impression information are not easily distinguishable. Various strands of meaning can be so thoroughly fused together that they may not be capable of being unraveled. This knitting of parts into one whole experience appears to be a one-way process, not reversible without conscious effort, and not always then. For the composer, it is important to know that what is likely to be the sense of what happened is in much more important than what actually happened. Two sentences from Percy Scholes, "English Companion to Music" beautifully express the implications for art of this aspect of the mind: in science, things are what they are. In art things are what they seem.

Jeremy Campbell, p.127, remarks that while it may seem at first that the man is a rather flawed creature to possess an unreliable memory as the above implies, on further consideration, a mechanically accurate memory has only surface conveniences. He says that human beings are not designed to function uniformly. Their memory is so diverse in part from their lack of specialization. Mechanical accuracy is not what we are best at, and it is not what people, generally speaking, want to be best at. The brain is not designed to store information in one-dimensional, linear fashion only. Unlike a computer, which is subject to very little "noise" in the input information, and which works by performing a long chain of simple operations in sequence, and which is both noisy and slow, but uses its colossal number of components to pass information along many different channels at the same time. The brain is probable rather than certain in its actions, arriving at an answer. As many answers are more nearly correct than others, and those answers are modified continually by feedback of new information.

If our minds are not especially suited to accuracy, why is it that we are equipped to engage in exploring: examining, tasting, wondering? After rigorous physiological studies, Jacob [p. 37] concludes that the active questioning of the mind is a basic survival mechanism. It leads to comfort upward, and that it takes two main forms: searching behavior and exploratory behavior. Searching behavior is the response to hunger, sexual desire, the need for sleep, but exploratory behavior is unacculturated, we are simply urged to move, look, hear, feel by a need (not stimulus). Eronski suggests "these searches are almost as necessary for...well being as food or water." But as a phenomenon..."
t a b a s k a w i l l a n d a b o t t e o f 1 6 6 1 M o s o n E n g l e r o f f e r s a m o r e s a t i s f y i n g e x p e r i e n c e t h a n g r e e d y w a t e r ( e v e n t h o u g h t h e g r e e d y w a t e r n i g h t ) , t o o , b e t t e r s e r v e t h e i n t e r e s t s o f t h e s u r v i v a l o f t h e h e a r t a n d s k i n e y ) , s t i m u l a t i o n t h a t h a s p o t e n t i a l f o r d i s c o v e r y o f s i m i l a r i t y , i n t e r r e l a t i o n s h i p , c o m p l e m e n t a r y t y , o r c o n t i n u i t y o f f e r s m o r e s a t i s f a c t i o n t h a n r a n d o m o r m o n o m o n o u s s t a b i l i t y .

T h e r e a r e t i m e s w h e n o u r v e r y o b j e c t i v e i s t o e x c e r c i s e t h i s f e a t u r e o f m i n d i n p a r t i c u l a r . W e c a l l t h i s a c t i v i t y , " p l a y , " t h a t a c t i v i t y i s a t t h e v e r y c o r e o f a r t i s t i c e x p e r i e n c e . J o h a n B u r s i n g ( p o s . 7 - 1 9 ) l i s t s t h e e l e m e n t a r y f e a t u r e s o f m i s t r y o r v o l u n t a r y , 2 ) c l e a r l y s e p a r a t e d f r o m o t h e r l i f e a c t i v i t y i n s p a c e a n d t i m e , 3 ) n o t " r e a l , " b u t 4 ) s e r i o u s ( s o m e t h i n g p r o f o u n d l y s e r i o u s ) , a n d 3 ) d i s t i n c t l y c a p a b l e o f e v e r y s i t u a t i o n o f t h e w h o l e o r a n y p a r t o f t h e p a r t , t h e i m p o r t f o r m u s i c a l a l l f i v e p o i n t s i s s o e n v i r o n m e n t a l l y d e a l w i t h m o r e t h a n t h a t t h e s t u d y o f p l a y h a s m u c h t o t e l l u s a b o u t h o w a r t w o r k s . T h e m o r e i m p o r t a n t a s p e c t s o f a r t a r e h o w t h e c h i l d c h o o s e s t o t r a n s c r i p t t h e p r o g r e s s o f p l a y .

W i t h o u t u n t i n t e n d e d , t h e t r e a t y m a y a l s o b e v e r y u s e f u l s o u r c e o f t h i s k i n d o f k n o w l e d g e . S o m e y e a r s a g o , w h i l e s e r v i n g a s a n i n s t r u c t o r f o r a n d e l e c t r o n a u d i o m u s i c w o r k s h o p i n F r a n c e a n d f o l l o w i n g a p e r f o r m a n c e o f o n e o f t h e m a p e c e s , f i l l o w i n s t r u c t o r G i o u s e p p i E n g l e r o b s e r v e d , " D o y o u d o d r a m a t i c m u s i c ? I d o n ' t , b u t d r a m a t i c m u s i c a l o n y l i e n e . " I n f a c t I h a d n e v e r t h o u g h t o f u s i n g t h a t j u d g e m e n t t o d e s c r i b e w h a t I d i d w i t h t h e m u s i c , a n d a t f i r s t I t h o u g h t t h e d e s c r i p t i o n r e f e r r e d t h e r e a n o n e g a t i v e o n e . U p o n u n t e r s t a n d i n g , I t h o u g h t i t p a r t i c u l a r l y a p p r o p r i a t e d e s c r i p t i o n . G i o u s e p p i d i d n o t w a y . " A n o u t p u t i t " d r a m a t i c , " h e u s e d t h e w o r d " d r a m a t i c , " I a m n o t s e e i n g t o t e l l a s t o r y , b u t I t a k e i t t h a t f r o m u g r o o m i n g t o m a k e m a s s i v e u s e o f t h e b a s i c s t r u c t u r a l c o m p o n e n t s t h a t w o u l d f i n d i n a d r a m a . a s p e c i f i c a r e a f o r a c t i o n , d i s t i n g u i s h a b l e p r o t a g o n i s t s t h a t a c t o r s a r e a c t e d u p o n , a m o v e m e n t t o w a r d a v a r i e t y o f l i k e b u t i m p o r t a n t l y d i f f e r e n t p o s s i b l e o u t c o m e s , a n d a r e s o l u t i o n o f t h e t r i a d , c r e a t e d b y t h e f o l l o w i n g , t h r o u g h i m p l e m e n t a t i o n o f a n o u t c o m e t h a t s e e m s a n a p p r o p r i a t e c o n s e q u e n c e o f t h e s u m o f t h e a c t i o n " s f o r c e n s e .

P e r h a p s i t i s a p p r o p r i a t e t o c o m p a r e w i t h t h e o b s e r - v a t i o n t h a t b o t h t h e w o r d " m u s i c " a n d t h e w o r d " m u s i c a l " a r e s a m e c o n c e p t . I n p o t e n t i a l l y , " m u s i c a l " m a y b e u s e d t o m e a n t h e s t a t e o f h a v i n g m u s i c a l " t o h a s e " a n d t h e G r e e k w o r d f o r t h a t m o v e s w h o m e a n " s i n g i n g a n o p e n s t r o v e l y . A f f o r d l i n g , l o s s o f c o n t r o l . I n g r o w n s p e e d , v a r i e t y , b u t i m p o r t a n t l y , d i f f e r e n t p o s s i b l e o u t c o m e s . A n a t t e n u a t i o n t o t h e i n t e n s e l e t t e r , t h e t r a c k i n g f u t u r e s o f t h e e n e r g y o f t h e e n e r - g y e n e r a t e d b y t h e m u s i c " s f o r c e n s e .

N O T E

1. I f t e l l i n g p e o p l e w h a t w e d i d i n m a k i n g s o m e p i e c e o f m u s i c i n t h e s t u d i o o f d i s s e r t a t i o n c o n c e p t i o n , w h y a m I w r i t i n g t h i s p a p e r ? T h e a n s w e r i s t h a t m y o b j e c t i v e i s n o t t o e x p l a i n F e r d i n a n d M u r a t , b u t t o t r y t o b r i n g o u t i n t o t h e l i g h t o f d a y s m o r e s t h i n g s a b o u t m e a s a c o m p o s e r a n d a l - l i s t e n e r . R e a d e r ' s r e s p o n s e s t o t h i s p a p e r a r e t h e