

Rosemary Mountain

“Sorting Sounds: Testing Tools and Strategies”

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<http://www.ems-network.org>

## Sorting Sounds: Testing Tools and Strategies

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In an effort to investigate cognitive and aesthetic issues relating to music classifications, I decided to conduct a little experiment, by classifying 37 musical compositions in ways which reflect my appreciation of their particular qualities. Twenty-three of the pieces were chosen to represent an array of electroacoustic works I particularly enjoy; in honour of the hosts and theme of EMS-08, most of these were drawn from the *Archives GRM* boxed set. I also added another 20 favourite non-electroacoustic works in order to see whether there are "missing areas" in the electroacoustic set. (See table 1 for list of pieces.) For the purposes of the experiment, I treated all the works on their sonic nature alone, disregarding any potential non-aural components (whether visual or political).

The exercise had three main objectives: (1) to be a first step in determining what analytical method (s) would be (most) appropriate to reveal more about the identified salient characteristics of each work; (2) to test out the various tools and strategies I have been developing for analysis; and (3) to present the range of different aspects which can draw someone to a particular work.

My research tool entitled *the Interactive Multimedia Playroom*<sup>1</sup> is designed to facilitate just such "sorting" of sounds and images. Handheld objects are each stamped with a barcode which triggers a sound file when scanned. They can then be placed in three-dimensional space to approximate a multi-dimensional scaling model. After listening to each piece a couple of times, I chose excerpts of approximately two minutes' duration to assign to the barcoded objects. These excerpts were chosen to be not only "reminders" of the whole work, but also, as far as possible, representational of the work's "character" as I perceive it.

H. Alizadeh - <i>Songs of Compassion</i>	I. Malec - <i>Reflets, Week -end</i>
C. Ballif - <i>Points-Mouvements</i>	O. Messiaen - <i>Turangalila</i>
M. Bashir - <i>Taqsim en Maqam: Awj</i>	D. Milhaud - <i>La Rivière endormie</i>
F. Bayle - <i>Eros Bleu</i>	R. Mountain - <i>Eddies in the River of Memory</i>
M. Chamass-Kyrou - <i>Étude 1</i>	B. Parmegiani - <i>Indicatif France Culture, Le Roue Ferris</i>
C. Diez - <i>Rlo IRO</i>	A. Pärt - <i>Tabula Rasa</i>
L. Fernandez - <i>Querencia</i>	R. Rénouard-Larivière - <i>Futaie</i>
L. Ferrari - <i>Étude aux accidents</i>	S. Reich - <i>Music for 18 Musicians</i>
B. Ferreyra - <i>Souffle d'un petit Dieu distrait</i>	J.-C. Risset - <i>Sud</i>
Y. Geslin - <i>Variations Didactiques</i>	J. Schwarz - <i>Il était une fois</i>
Y. Gigon - <i>Cercle Visqueux</i>	P. Schaeffer <i>Étude aux objets</i>
R. Gonzales-Arroyo - <i>De la Distance</i>	A. Shepp - <i>Don't You Know</i>
H. Gorecki - <i>Symphony No.3</i>	D. Smalley <i>Wind Chimes</i>
R. Haubenstock-Ramati - <i>L'amen de verre</i>	A. Southam - <i>Reprieve</i>
A. Hodeir - <i>jazz et jazz</i>	A. Vivaldi - <i>Four Seasons</i>
B. Johnston - <i>Sonata for Microtonal Piano</i>	A. Webern - <i>String Trio</i>
F-B. Mâche - <i>Prélude</i>	I. Xenakis - <i>Concret PH, Pleiades</i>

Table 1: Source of examples chosen.

Even with this relatively limited set, it is obvious that I appreciate different pieces and fragments for very different reasons: musical qualities of timbre, texture, tuning, timing; evocative elements (e.g. nostalgia) arising from reference to preferred genres, activities, or soundscapes; reactions to the meaning of spoken words; appreciation of the composer's intention to express humour, present clever designs, etc. It is also clear that some of my reactions stem from quite personal aesthetics and experiences; however, these are typical factors in our reactions, so I describe mine as examples which I believe are not uncommon in principle, though perhaps not shared by a majority of my colleagues. In fact, a glance at the chosen works will doubtless indicate quite a bit about my aesthetic preferences: an attraction to design and pattern and practically an aversion to the dramatic. I also have a fascination for distinct and nested levels of activity as well as simple polyrhythmic structures and non-tempered pitch structures (doubtless deriving from an early immersion in Indian music and probably responsible for my initial interest in electroacoustics).

What I did confirm through this experiment was my clear tendency to differentiate the aural excerpts by their "patterning of time": the distribution of both sound and contrast within short durations of time. Although this was clearly heightened by the way in which I was juxtaposing short excerpts, I believe that it is a valid part of my appreciation of the works. Thus, aspects such as the presence or absence of frequency glides, regularity and length of event duration, density of events and the contrast of event density were all heightened during the experiment. Another more surprising factor in differentiation was what I consider the degree of realism or abstraction; this seemed to merge with the degree of evolution or development in the area of form, giving a nice two-dimensional array potential of an X-axis *abstract/recognizable* (referring mainly to timbre), and a Y-axis *environmental/evolving* (referring to form). The perception of narrative form, for example, is suggested by a less predictable succession of events whereas many of the abstract ones seem to create more of an environment where one is presented with a collection of sounds and forms to appreciate rather than being led to follow a specific path. Thus, my placing of Ballif, Risset, Alizadeh, Parmegiani, and Diez close together in one classification exercise reveals my appreciation of each of these works as a guided tour

<sup>1</sup> See <http://www.armchair-researcher.com/IMP/IMPweb/index.html> for details.

through an experience, where the various sounds seem to be shaped by external forces (controlling for example the duration of a particular texture) which is revealed only by the sonic traces. They were, collectively, placed at quite a distance from Southam's *Reprieve* and Xenakis's *Concret PH*, for example, which I find much more abstract and static in a large-scale sense, and appreciate for their micro-fluctuations in spectrum and amplitude.

The differentiation of abstract vs. realistic was perhaps less surprising in the timbral field, where the recognizability of the sound source has been a focus of attention for electroacoustic scholars. However, in instrumental works, it was only when I noticed a particular organic quality of the sonic patterns or gestures that I would consider the excerpt more "realistic", not the recognizability of the orchestration.

Although I often feel that genre is overemphasized as a differentiating factor, I did notice that I placed two jazz works (Abou-Khalil and Shepp) in proximity to Hodeir's *jazz et jazz*. Close by, I placed Fernandez's *Querencia* -which draws on flamenco traditions - and Milhaud's *La Rivière Endormie*, which evokes a nostalgia of older musical traditions, partly underscored by the vestiges of an old recording. Of course, it is the layering of different musical ideas in the Milhaud that really attracts me, but the evocation of mood through genre seemed a major component. However, my placement of Chamass-Kyrou's *Étude* nearby, which doesn't seem genre-specific, suggests that it is the evocative quality itself that I found a commonality. For as I expected, I do like some works because of their mood, whereas others I admire for more formal design aspects.

It seems clear to me that each of these aspects suggests a different type of analysis: parametric, semiotic, socio-cultural, etc. It also strengthened my conviction that we need to keep developing analytical tools to articulate the qualities of macro - and microstructure such as the degree, scale, and magnitude of contrast or differentiation, and the amount & complexity of detail. For example, in **Illustration 1** I have drawn diagrams based on one of my favourite formal organizations: short units of discrete sets of events interpolated with longer and much less active durations (in Renouard Larivière's *Futaie*, these are often silences; in my own *Eddies*, they are mainly bell decays). But the effect of scale, which is the main difference between A and B (assuming the time-line is the same) will have a considerable effect on the result. And although there is an apparent echo of microcosmic / macrocosmic structure (more evident in B), the layering of another "voice" in C increases the effect dramatically.

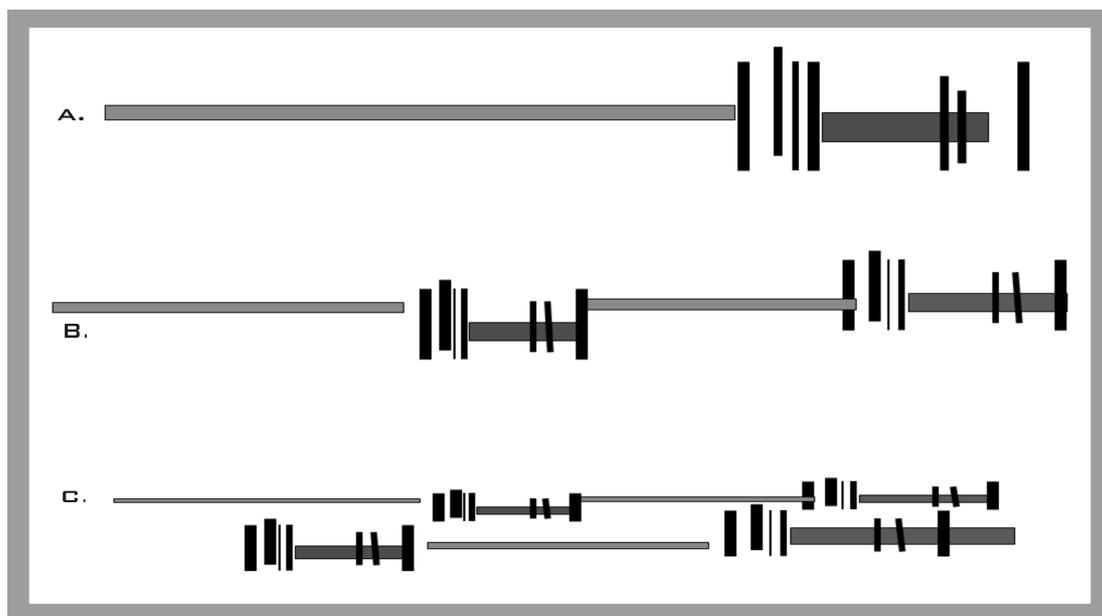


Illustration 1: Variations on a favourite structure.

Clearly, if all my chosen excerpts had been attractive to me mainly because of the moods they evoked, the specific moods would have been a major factor in classification. As my tendency is to be particularly interested in formal concerns, however, those excerpts which evoked a mood other than that of contemplation of sonic parameters or their organization were lumped together while I then tended to refine my sorting on the most salient parameter(s) - usually rhythmic and timbral - of the remaining ones.

Watching visitors to the *Playroom* and reflecting on my own cognitive processes while working in composition, analysis, or more mundane matters, has led me to surmise that sorting is very naturally and efficiently done in stages: subdividing a collection of things into (usually two to five) major groups (often usefully containing a miscellaneous and/or a reject pile), and then taking one or more of those groups and applying a finer sieve. I am therefore increasingly convinced that analysis should encourage this tendency, and that along with the encouraging proliferation of analytical tools, we should be practising how to identify the salient aspects of the piece we wish to study before selecting the analytical method to be applied. The fact that each of us may appreciate different aspects of the same piece may then result in a variety of analyses, each of which can reveal something of the work's impact, while collectively giving us a good appreciation of its character. Just as extensive experience with contemporary music can teach us the advantages of different manners of listening, so different analytical approaches can refine this ability and presumably make it easier to learn and teach.