The OPEN SPACE *magazine*

issue 3 spring 2001

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From the Editors

OPEN SPACE invites interested colleagues to work collaboratively to create and sustain an ongoing web-based publication/forum associated with The OPEN SPACE magazine. The online site is a context for publication of creative work, whether art or discourse or both, which may not fit into the conventional print format, by virtue of medium, subject, or form. We would like to provide opportunities to experiment in forms which are made available uniquely in this kind of space: person-to-person work exchanges; webcasting; text, audio, video, and graphics file exchanges; exhibitions; experimental community-building projects; etc. For this enterprise we are seeking committed collaborators and contributors, especially people who want to help maintain such an online structure, and contribute to its formation and development. Currently the site implements audio, video, graphics and text files on this site. Online publication started March 1, 1999. New contents will be posted on a continuing basis. If you send us your email address we will inform you regularly of current postings. The web address is:

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The OPEN SPACE WEB MAGAZINE is edited by Tildy Bayar, Benjamin Boretz, and Mary Lee Roberts. Inquiries and other communications should be emailed to

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The Open Space Web Magazine
contents as of July 1, 2001

Contributions are earnestly solicited by the Open Space Web Magazine from colleagues who are interested in developing new modes and media for meta-expressive discourse.

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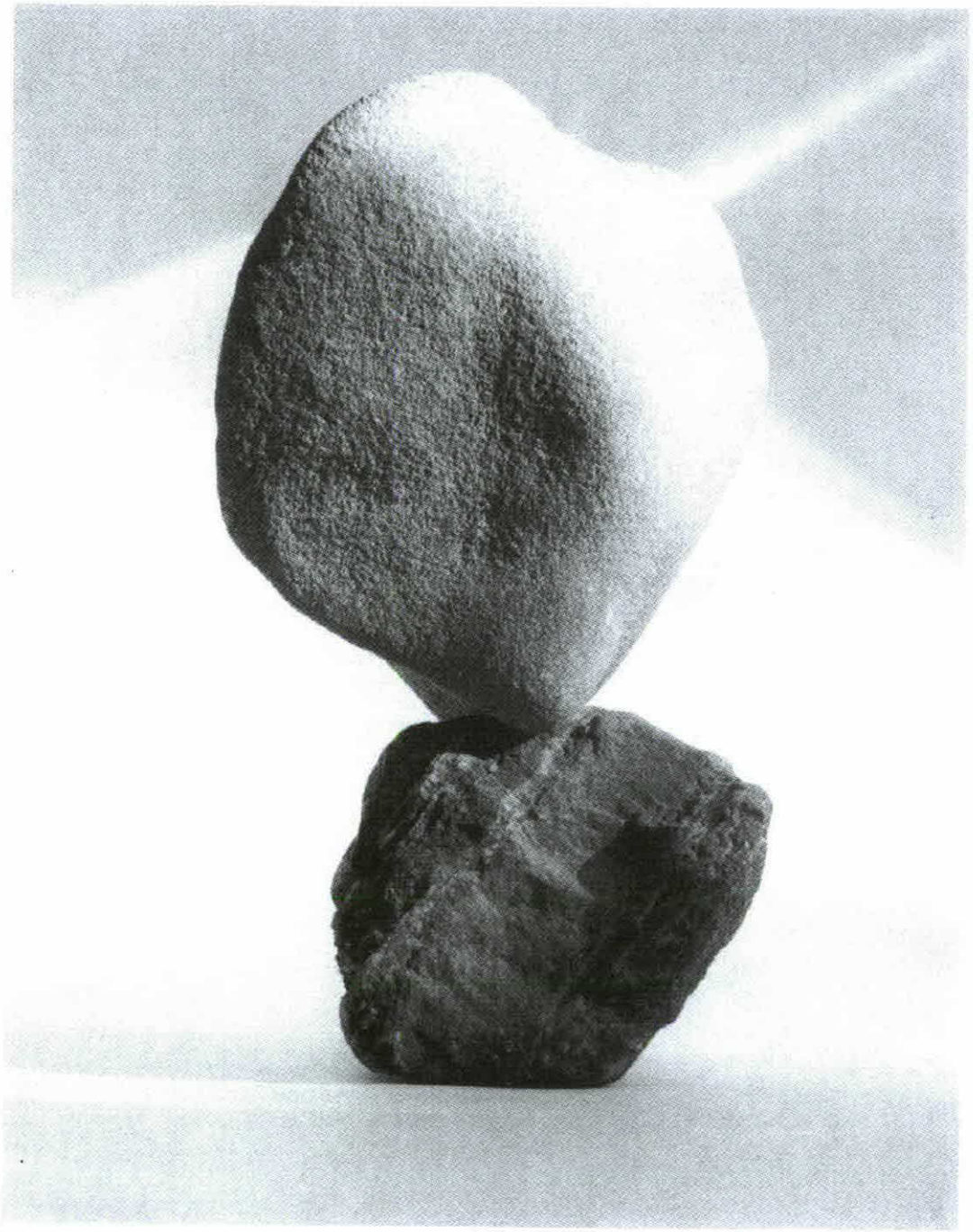
AXIAL STONES

WORKS IN RADICAL BALANCE

BEAUTY = OPTIMAL x PRECARIOUS

$\underline{\forall}$

GEORGE QUASHA



Arp's Heart
1998 · Two stones · 8" x 12" x 5"

PART ONE

The Axial

Sooner or later everything turns, and turning requires an *axis*, usually invisible. The Earth, the Sun, Jupiter, and people have one thing in common — they are bodies that move on an axis, whether *Axis Mundi* or spine. When the axis is *free* — that is, *open* — things turn freely and are somehow "in the open." Keeping the axis open — which seems to be a relation between awareness of oneself, gravity and movement on the Earth's surface — produces the state I call, for convenience, THE AXIAL. To keep one's own dynamic axis *optimally* open requires a certain consciousness, and this implies some kind of discipline or at least stabilized intention. There are many techniques — Eastern and Western, traditional and innovative — for observing and preserving the flexibility and health of the axis. This axis is obviously a phenomenon of the body, but it is also a phenomenon of mind as distinct from the physicality of the body. Accordingly, art has the potential to perform a role in revealing and maintaining "the axial" in body and mind, and when it does so an art form may transform, be born anew or even be invented. Such a sense of art thrives in an environment that values the unexpected, the unprecedented and the radically new. Joy, rather than, or at least equal to, fear, before the unknown and the unnamable.

For an artist to enter into the state of THE AXIAL, s/he must be willing to be somehow "reinvented" (at least in relation to art) — or to be in such a state of flexibility that continuous change becomes normative. In important ways the state is precarious, because by definition it is unstable. Contrary to conventional wisdom, this instability must be perceived as healthy and beneficial for the state of mind to completely embrace the possibility contained in THE AXIAL. At first this seems counter-intuitive, but as a certain integration occurs, it shows itself to be truly intuitive; a deep and ancient knowing, at the core of art itself, once again shows itself — in unknown ways.

A Wild Mare Takes Air
1998 · Two stones · 12" x 13.5" x 10"

I come to this sense of THE AXIAL through several strands of experience, as well as certain disciplines, among which I count a practice of poetics that favors *art acting at the boundary of its own definition* — the **Metapoetic**. There is also the traditionary practice of *t'ai chi* which teaches "precarious balance," and some twenty-five years of it in my case has clearly affected how I handle objects, stones in particular. Certainly my kind of work with stones would hardly be possible without the gradual emergence of an "extra sense" during that quarter century of self-study through the moving body. One zeros in on the way the body proprioceptively *knows by "falling"* — in and out of balance; this is an intimate knowing. Somehow one comes to embrace the sudden manifestation of precarious self-trueness, even when it seems to say everything and nothing with equal intensity. Loving the *open* may be an acquired sensibility, but it also seems to be irreversible.

THE AXIAL is a PRINCIPLE that is at work in any domain of activity — walking, speaking, thinking .... Accordingly it can govern one's sense of multiple art forms. Over many years I have made a substantial body of work, for instance, through tracking the axial principle in language: e.g.,

Axial Poetics

the principle by which freedom of being discovers itself as self-aware language turning freely upon its occasion.

For many years this principle has been most clearly active for me in poetry, recently in an extended work called *The Preverbs of Tell: News Torqued from Undertime**. However, I have realized in the last several years that the axial principle often shows up most poignantly in a visual arts context, even where it is operative in language. Accordingly I have done installations that consist entirely of axial statements on walls, where *the moving body performs a "syntactic unfolding."* For instance, you see language from afar which reads out easily:

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* For this text and related material (e.g., "Axial Poetics: free standing language on an open axis"), see http:/www.quasha.com.

She Sees Through Your River
1999 · Two stones · 13" x 28" x 13"

these stones prove the earth sees

You notice smaller (unreadable) type and have to walk closer to a get to a point of readability. Here there is a sort of shift in syntactic ground, a further "axis" of turning language that alters all, even what has gone before:

through you

Now there is a "doubling" in the present, a twin possibility activated by your participation, your mental and physical approach with the intention to *read*: "These stones prove the earth sees *through* you" and "These stones prove the earth sees through *you.*" In one instance the direct power of the earth exposes you and cuts through the cultural veil. In the next instance you are a power, an agent of earth itself; you are the means by which earth sees. As such your consciousness is somehow inseparable from earth — its *consciousness* in *you.* The relationship between subject and object here is itself axial; who or what is doing the seeing is open. Is language itself the agent? Does the world have *designs on us?* Am I co-extensive with the art medium (in which case *I am a medium!*)? Is "living" language also *of the body* — where syntax is as much *walking* as *talking?* Am I joining a thinking that is always already going on? Perhaps all questions (and these questions are but a sample of possible questions here), understood in the light of **THE AXIAL**, only lead us to a new threshold — a liminality relative to possible answers.

These are real questions but the axial art work does not posit any particular truth; it exists as a manifestation of principle in which truth in some way is engaged or apperceived *in process.* In a related instance I am working with a kind of installation that consists of a **line on the walls** at "stand-up reading height," running around a whole room, with language above the line in axial relationship to language under the line. An example from the work called ***Life on the Line and Under / Liminal Structures*** is:

two stones on one edge

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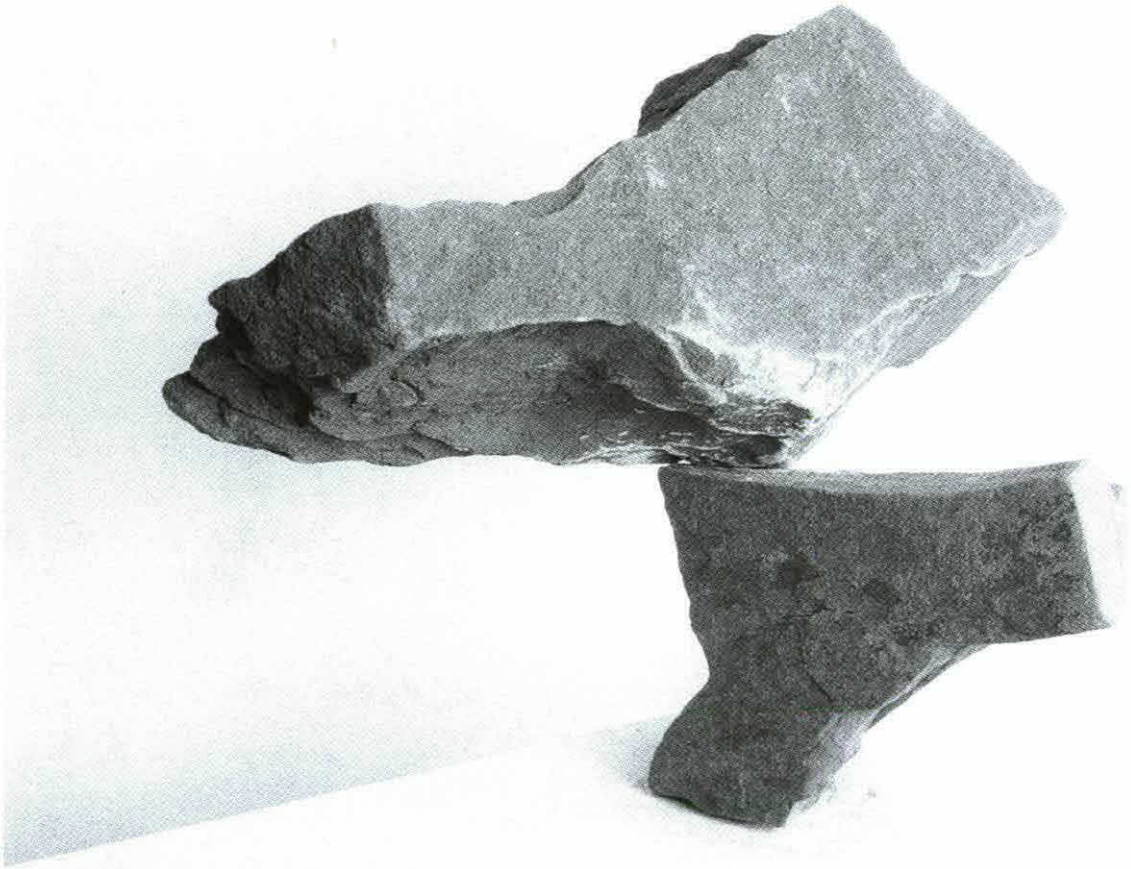
utter surface

Here *superficial means profound.* What happens at the surface *speaks out* for what normally hides in the roots. The **axis** itself is exposed — the open center of body, world and mind — surfacing as a fact of language, itself at the edge, its functions ambivalent. The surface utters *precariously* the wide-open state of its own self-generating turbulence, which unexpectedly reaches a ***still point*** — like something the stones say in their mode of being, which speaks in stones.



Torqued Stone Alight
1999 · Two stones · 23" x 18" x 18"

PART TWO

Speaking in Stones

BEAUTY = OPTIMAL x PRECARIOUS

A stone in its natural state becomes AXIAL when it *mates truly and perilously* with another stone by way of *unforeseeable precarious balance.* When a stone "discovers" its AXIS IN COMMON with another stone, it comes into such *radically particular and optimal relation* that the actual identity of both stones speaks out as never before. True connection changes both "ends" — both identities as "subjects-also-objects" — just as a changing viewer/reader changes what is seen/read.

PRINCIPLE of LIMINALITY / THE PRECARIOUS: **What is at once *on center* and *on edge* stands at the threshold of its *further life* and steps up its living intensity.**

Accordingly the state of greatest stepped-up intensity is, somewhat paradoxically,

the still point

Where the state of stepped-up intensity is realized according to this principle of liminality — so that we might say Beauty = Optimal x Precarious — stones seem to awaken in a conscious field.

A working notion for what happens in that field might be called

zero-point speaking

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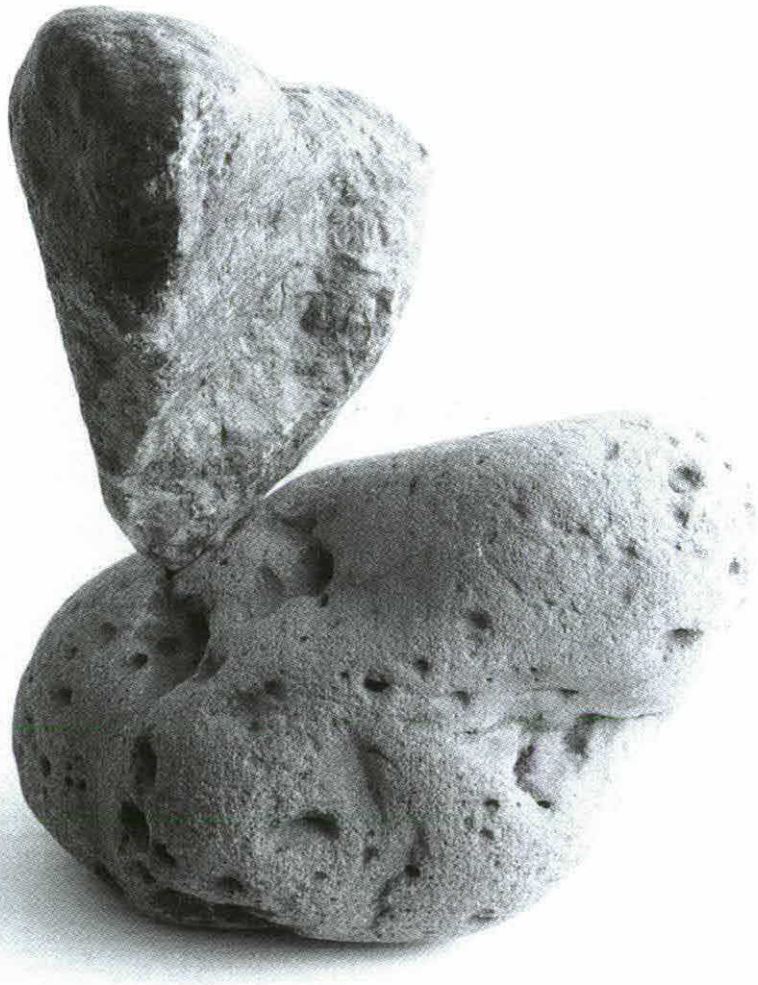
How axial stones come about

The stones seem to come together spontaneously, as if by a will of their own; at least this is my experience, and an effective notion for me to maintain in doing this kind of work. Sometime after discovering the stones, usually in riverbeds, I get the itch: and I would say particular stones attract me and, through me, each other.



Holding Her to View
1998 · Two stones · 10" x 10" x 7"

The medium by which they discover each other is the free space of the artist's own AXIS — *the vertical line of self-balancing* that one carries around all day long, corresponding basically with the human spine, although it's probably something more like a "spinal field," a physical and non-physical columnar zone that comprises the actual sentience or erect awareness. In working with the stones one's attention achieves dual focus — on the spinal field in one's own body and on a sort of virtual twin of this field in the mating stones. Only through some such intentional free-focus awareness and a developed sensitivity does one discover the STILL POINT, the precarious balance point where the stones seem to be weightless, inspiring a feeling of trust that a true relation is coming about.

NOTE: When people see the stones, they often mistakenly assume that the stones are somehow glued together. So I respond by pretending that I have "rules" (listed below). But there are no rules. There are principles and there are guidelines of a sort. AXIALITY is a PRINCIPLE; whereas GUIDELINES help remind one of how to act appropriately to embody the principle. [Note the GUIDELINES appear before the NOTES at the end of this document.]

The work of stone at zero point

Listening to stone: The process consists in ***listening through oneself***, through one's body, to the stone. It seems that the stones are speaking their will. This is a particular kind of bodyspace, which comes from focusing through a specific ***empty axis***, an alignment between oneself and two stones in active balancing. Stones seem to collaborate — even when resisting, which is a stage of collaboration, as when animals mate. The stone must be "tamed" which means completely communicated "with" — or perhaps "through" says it less problematically. When the two stones come together, I experience them in some sense as the same as myself — we align. ZERO POINT = happening in free space, no gravity, indeed levity or sudden arightness and alightness, on the same radically particular axis showing up just this once, very lightly, and only for these two stones. It's as though the ***stones speak their place***, and for the moment it is my place too that is spoken. It's a place of some danger, requiring mindfulness.

The stones seem *more themselves only now* (although they have never ceased to remain themselves) in relationship to each other, to me, to *viewing*, to their being known in the mind. I call this ZERO-POINT SELF-IDENTITY — and I pose it as a challenge to our sense of identity itself, a complex subject certainly, which the experience of axiality (and the stones in particular) might help reframe, toward a sense of *radical identity*.

There is a **change of matter** — something like "transubstantiation" — that is rather like a change of mind, as if the stones had *changed their matter by way of discovering the* ZERO POINT.

Shipped-out Ledge
1999 · Two stones · 18" x 18" x 10"

The change is *elemental.* Only now do they belong *less to earth* and *more to air*, as if at the threshold of taking wing. They stand liminally to earth and air, to matter and mind, to being and viewing.

Stones seem to speak their will: The view itself is altered. Quite strange, this intimacy with stone. *Being viewed.* Is it language? It shows intention. Whose? Indeed — it is a space of zero-point identity without subjectivity, liminal to subject and object. What is animate is the connection, the being in relation. *Whose* soul is showing is a matter of view, what shows up in viewing within the medium.

Trans*instantiation* — a *transformation* of *concrete instance,* or a *trans-mission* or *exchange of instance between mind and matter.* **Instance**? In the root sense there is a range of meaning in INSTANCE:

> stance, instant-present, in place, standing still, witnessing ("who stands beyond"), erect (statuesque), impelling motive, urgent solicitation.

Stones in the instance of themselves, instantly present, standing still in place, urgently calling you into viewing, impelling motivation to witness.

Seeing with the body: At the moment a viewer realizes that the stones are balanced and not "fixed," the state of viewing shifts, as if one registers the "sight" with the whole body. The *seeing-sensation* registers danger — like fear of falling. Stomach muscles might tighten slightly — one grips the ground in the stance. It's as though one's perceptual patterning does not easily assimilate unexpected precarious balance.

This is an art that intends a shift in *viewing stance.* It invites radical self-reflection, spontaneously. All concepts become mind-degradable, returning to a zero-point of optimal energy potential in any actual moment.

To witness the stones is to be interactive at the level of mind in the body, through autonomic response, pulling awareness back to matter, self-knowing and self-transforming — that is, at once proprioceptive and transubstantial.

At once *on center* and *on edge.* They are connected at the ZERO POINT.

Treat the stones as living beings — is the root, and previous to all other principles. No one is master, there is no mastery in the open.

The standard of rightness is *the optimal.*

What is optimal changes according to the forces active at any given moment, **the field.** The field is at least as alive as the entities within it.

The standard of aliveness is *the precarious.*

Periplus
1998 · Two stones · 19" x 14" x 9"

Further

Things spinning quickly may tend to lift off the ground if they catch the air just right — think of a helicopter. What is less obvious is that things spinning slowly and *just right* are continuously *grounding* and *rising* at once. AXIAL STONES which had to turn on their axis to get into this new "home spot" seem to *retain the trace of their turning* — as if, once set into motion, the *axial music* never quite stops, or the eyes perpetuate it at a glance. We intuitively understand this phenomenon, and we know that when words uplift us it is because their turning courses right through us and induces a natural-seeming *levitational force* — we seem to rise, may even seem to float a bit, "light headed." Deeply felt spoken meaning may enter the condition of language as if it were lifting off the skin — *tongued,* just as it sounds. Stones, too, are barely audible.

AXIAL STONES ask us to *shift our stance to see them.* For instance, staring at a precariously poised surface you entrain to your own depth, and work your way out, differently. One registers extremely improbable equipoise not mainly through the eyes but through the whole body, the body as organ of perception — organ of intervention. One *reads* the balanced stone through an ***axial sense***, the central axis of the body registering disturbance. This may remind us of dream which somehow *surfaces* through an open axis, activating the whole of the dream body. AXIAL STONES seem to dream their way from earth to air, as if fulfilling an ancient wish. They execute that wish by discovering an axis in common with us, the viewers.

THE AXIAL FORCE runs invisibly through everything, holding appearance at a pitch of reversibility. AXIAL STONES aspire to the condition of poetry, *verse,* the turn upon the possible, precariously equiponderant upon impossibility, and they too seem strangely to belong to the nature of language, its ambivalent roots that are themselves so dreamlike and given to rising through slips of the tongue.

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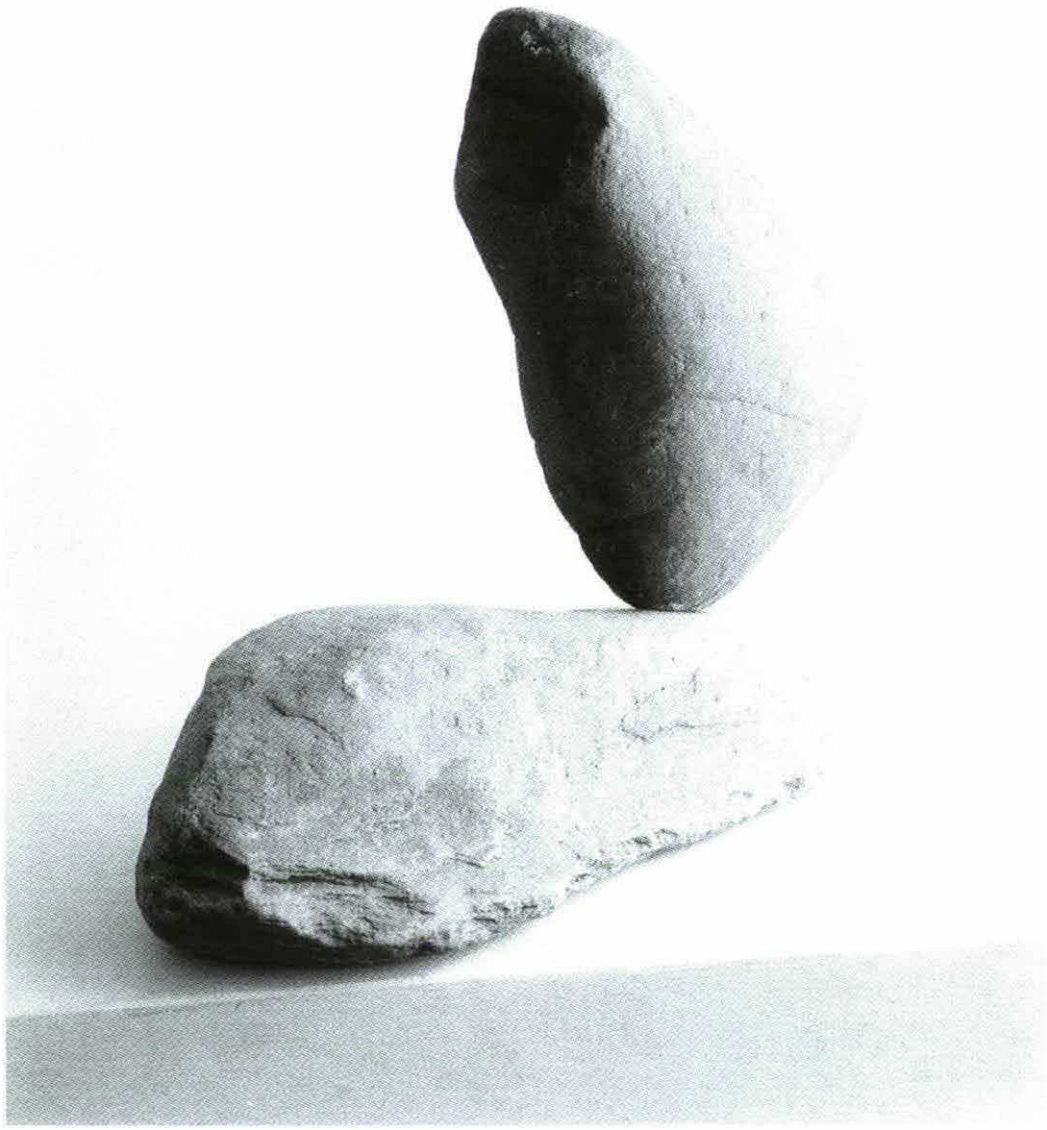

Leaping Between Two Worlds/Unable to Bear Either
1998 · Two stones · 17" x 20" x 9"

PART THREE

The Principle of Principle Art

If I were to give a personal artistic declaration it might go something like this:

I work with and from PRINCIPLE.
Consequently, for me the question of *medium* is radically open.
The core of my work in its essential modality is AXIAL.
My stance on any either/or distinction or duality moves toward the LIMINAL.
The work declares itself a participant in a ZERO WORLD — which means:
It supposes a ZEROVERSE of unlimited/unknown possibility.
So it aims to be *performative* of the state of root possibility itself.
Its performance is first an act of *sheer listening intensity*.
As for "artistic standard," I think OPTIMAL.

the view:

Art is self-awakening performance.
Artist and participant thereby discover *common bounding*.

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Principle as distinct from the conceptual

The main terms here are used in a very particular sense applicable to an art context, and even in this delimited sense these distinctions are oversimplified for emphasis. The purpose is to generate a *further view* of art possibility, not to redefine art history.

PRINCIPLE may be sharply distinguished from the CONCEPTUAL in that there is ***no definitive instance of a given*** PRINCIPLE, whereas the CONCEPTUAL tends toward definitive (re)presentation.

CONCEPTUAL ART, at its purest, produces definitive instances of the underlying concepts which, like a mathematical proof, aim to end or close a conceptual matter with finality. PRINCIPLE ART (or, perhaps, *principle-centered art*), at its truest, **opens to a *further instance of itself*** — it is open-ended, open-middled, self-productive and self-organizing. It may produce forms that appear *heretical to itself,* because a principle is not defined by its manifestation. And it is non-clutter — it works best when it is ***mind-degradable*** and becomes a vanishing moment in a self-renewing process. Arguably the mind and indeed life itself are sustained by such a self-recreating process, which carries them to their intensest possibility.

One River Godly Thinking
1999 · Two stones · 11" x 24" x 12"

CONCEPTUAL ART moves toward the MINIMAL.
PRINCIPLE ART moves toward the OPTIMAL.

In a living process there is no ultimate "minimum," and there can be no true "minimalist artist" whose "ultimate success" would reductively lead to stasis; stasis in a living ecology means death. The CONCEPTUAL may tend to close itself off in its self-contained perfectivity.

A living process seeks to generate an OPTIMAL statement of itself. OPTIMAL in a work of art indicates the condition of ***processual embodiment*** that is both ***self-true*** and ***accords with the work's actual environment***. The optimal moment in a living process is its **point of intensest being**, its most fully living instance of itself. It **evolves** through continuing **responsive interaction with a living ecology**.

CONCEPTUAL ART may end up with the safety of full understanding, the satisfied and excelling intellect achieving its point of rest.

PRINCIPLE ART never truly ends because it is never definitively bounded. Its flexible bounding is a function of its **receptivity**. It is **self-regulating and self-organizing** rather than controlling. And it thrives on reaching ever new points of "danger' as it edges out toward the ***most precarious balance***. It favors a conscious embrace of instability as the true condition of being alive — the extending outer ledge of evolution toward possibility.

So a practice based on PRINCIPLE properly leads to ***the state of alertness, openness and possibility*** that I call AXIALITY. Such a practice is more than a technique or methodology, more than "art" in the limited sense — it is, in the poet Charles Olson's words, a ***stance toward reality*** with far reaching implications. In essence, principle-centered art is not necessarily medium-specific as such, and PRINCIPLE ARTISTS may be extremely free in their ranging within, across and through mediums. Principle likes change and tends to discover itself at large.*

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* Obviously there are many great works of art that foreground "concept," and many are intentionally "minimalist," but I would argue that they are not always fully accounted for by the working theory — perhaps no significant work of art ever is. My purpose here is in no way to denigrate conceptualist or minimalist theory or practice, but to call attention to a dimension of what is often considered conceptualist/minimalist but which is unaccounted for in the theory. The notion of PRINCIPLE ART does not designate a technique or method or style, and indeed the more deeply one practices according to sheer principle, the freer one is from technique, method and style or any social-aesthetic trend. Often the stance is antithetical, dialectical or, at its most refined, dialogical. I would argue that many powerful artists who have apparently little in common are PRINCIPLE ARTISTS: Joseph Beuys, Robert Smithson, Robert Irwin, James Turrell, Michael Snow, Marina Abramovich, Gary Hill, etc. These artists make works performative of subtle transformation aiming to alter the very possibility of life in its place and in its moment. Their work is characterized by highly energetic integration of personally located yet environmentally alert activity. Their sources run deeper than conceptual thought, and in a sense the *work* does the real thinking, in dialogue with its "outside" or "the world." And its thinking serves the world rather than the self.

So-called guidelines for creating axial stones

1. Never alter a stone. Stones are *given* just as they are.
2. Listen at every point for and through the axis. The axis discovered between two stones, and between them and oneself, is always radically particular, connecting self, stone, earth, and sky.
3. Whenever there is an impulse or idea to seek the axis between two stones, however far-fetched, act on it in good faith.
4. Treat the stones as living beings, as equals. The relationship with them is active, collaborative, processual, and open — nothing is final; everything is impermanent and at the point of change.

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NOTES

1. Guideline 3 — ***Listen at every point for and through the axis*** — applies especially to the situation of finding stones, or letting them find you, and working with them — positioning them, erecting them, joining one stone with another or attempting a certain joining. This rule also means, don't second-guess the idea — the process of acting on it will make its own way. Don't judge the result but stay with it until it shows more. Every stone and every possibility for positioning and partnership is unique. *The lessons of one union may not help with the next*, and in fact if taken as a model may impede the next process. There are no models. Stones are their own forms, their combination is an event within their own shared possibility. It can't be known until it's there. Therefore the process is as much *not doing* as doing — but it is both, or it is liminal to both. If I listen appropriately, I facilitate the unique attraction certain stones have for each other. The rest is a mating ritual in wild mind, aware to the root.

2. Exhibiting Stones

My wish is to see the AXIAL STONES exhibited in an appropriate environment that includes the subtle presence of language, itself in an axial state, so that *the walls dialogue with the center of a room, awakened by the presence of stones on alert.* In addition, it could enhance the sense of actual process traced in the stones by having videos of the process of "creating" axial stones in proximity to the stones. The *physicality* of the process is a key to what it is.

3. Axial Video

I am working on **video on axial principles**, an ongoing series called ***Verbal Objects,*** involving language from *The Preverbs of Tell: News Torqued from Undertime.* One of these incidentally involves Axial Stones, but the axial principle is here central to the video pieces themselves, independently of theme or subject matter.

4. Axial Performance

As relates to installations, the sheer physicality of THE AXIAL can appear where people are directly "axialized" by delicate hands-on action connected to the process of working with the stones. The experience suggests something of what it would be like to *be* like axial stones. (This matter needs further discussion.)]

5. A Note on the origins of the notion of an Axial Principle

This is a long subject, but briefly stated "for the record": My sense of **THE AXIAL** derives from discovering the principle of "**poetic torsion**" (circa 1967) in reading and writing about Blake's poetic "Prophecies," expressed in an essay, "Orc as a Fiery Paradigm of Poetic Torsion," *Blake's Visionary Forms Dramatic*, ed. David V. Erdman and John E. Grant (Princeton University Press: Princeton, 1970), pp. 263-284. Within a few years the notion of the *axial* — a more fundamental principle than *torsion* — derived from the fact that torsion is a particular instance of the tendency, for example in vines, to rotate about an axis. When a rotating force like that of a vine meets resistance to its purely circular motion, torsion results, which leads to stimulation of growth and an irregular pattern of extension. This emphasizes an *evolving structure and/or consciousness.* The axial itself allows for a *centering process* that emphasizes *dynamic balancing and freedom from struggle and effort.* (Aspects of this awareness emerged in the "Proverbs of Soma" embedded in my long poem, "Of a Woman the Earth Bore to Keep," published in *Stony Brook 1/2* [1968].) By the early '70s I could see that the axial projected a possibility for poetry and indeed for mind itself. In the long poetic work of that time called *Somapoetics* (from 1971) I define the principle explicitly, particularly in *Word-Yum: Somapoetics 64-69* (Metapoetics Press, New York: 1975): "Axial nullity." I playfully invented the term "noaxis" and defined it as "the axial nullity we twine around" and "the swivel of mind."

BEAUTY = OPTIMAL x PRECARIOUS

Realism Terrorism:
Mistaking Signs for what they Represent.

Ross Feller

In memory of Herbert Brün (1918–2000).

"The idealist hopes to find constants, where daily experience mocks him with variables. The dialectician hopes to find variables, where daily experience tortures him with constants. I do not hope to find either constants or variables and, instead, find hope in using the years, weeks, days, hours, minutes, seconds, of my biological existence for an ongoing ambiguity by manifesting my temporary presence in tone, color, gesture, movement, and languages, as a presence superior and prior to any eternal, that is, constant variable or variable constant" (Brün 1986, 6).

– Herbert Brün

Sometime ago, perhaps during the Greco-Roman era, the real-ideal split pertaining to representational matters was found to be a red herring. No doubt someone noticed that the overlaps between apparent and imagined worlds often functioned as indices of self-subsisting metaphysical entities. For various reasons, some economic, some political, this someone sought to hide this fact from others, and thus, invented the concept now known as terrorism in order to do so.

Sign representation involves distortion between the inputs and outputs of a given system of representation. This is largely due to the required translation, or mapping onto terms that takes place between signs and their interpreters. The same holds true for artistic matters. In order to render the object one sees, there must first be transference from the world outside of the body, through the mind's eye, and back out again. When painting or sculpting we not only use brushes, sponges, or knives as tools but also as representational conventions, historically situated.

Saussure's two-part sign demonstrates the 'truth' of Platonic realism, but let us not forget that the notion of critical realism includes illusion and other perceptual tricks. So a non-critical realist is not so much someone who represents things as they are, but someone who often disguises the qualities of imagination that sparked their fire. In semiotic terms they mistake the sign for what it represents. Historically this process has led to unfortunate circumstances, *ennui*, or even war.

The growing numbers of radical primitivists, who hold that technology deprives more than it empowers, want to pull the plug on things as they've become. "Today's overload of representation serves to underline the radical impoverishment of life in technological class society–technology is deprivation" (Zerzan 116). Anarchists once again have a mission to fulfill. Today's anarchists wear masks as they throw rocks at chain stores. Appropriating the random, anonymous, unpredictable tools of terrorism they engage in acts of culture jamming, believing, naively perhaps, that it

will be to our era what civil rights was to the 1960s or feminism was to the 1970s. But terrorism and its counter-terrorism mirror have long ceased being random, unpredictable, or even anonymous. Both feed on the ancient notion of the blood feud, with no end in sight. Revenge and feuds are part and parcel of cultural domestication.

As a mid-nineteenth-century phenomenon Realism was supposed to combat the accoutrements of conventional, Western idealism. It was considered taboo to depict any events in which the artist had not taken part, or objects that weren't seen or touched by the artist. Seemingly, the realists grounded their work in progressive politics, actively seeking justice for the working class. Some even served time in jail for their activities. Yet, their style of art was widely considered to be neutral, or objective, in the sense that they concentrated on depicting 'facts' of reality. Thus, they sought to tell the truth through their art. "As long as we do not claim the knowledge of absolute truth, and while believers can not but make liars, listeners make storytellers tell stories and make composers compose music. And they know it" (Brün 1986, 3). The truth desired and the object depicted were seen from a single viewpoint. The realists assumed a natural (i.e. not part of any cultural signification system) link between 'direct' representation and truth. They employed iconic signs to draw attention away from the fact that signs were being used at all. The myth of art as being true to life without stylization or idealization is the propaganda of the realist.

Like Realism, *trompe l'oeil* and postmodern pastiche both rely upon stylization to get their respective jobs done. The more transparent the process the more we are delighted or fooled. Our inclination to separate reality from illusion is foiled. "When one has been visually deceived one takes pleasure in guessing, and even if there is no intent to deceive, to fool, the aesthetic and tactile pleasure produced by certain forms involves a kind of divination" (Baudrillard 31). This is distinctly absent from art that erases all transcendental signs so that not even a trace of illusion remains.

It is clear that intersubjective content, with no assistance from intuition, isolates significant aspects of propositions without reifying their objective status. One may choose to represent objects of the imagination, eliminating any extraneous accessories, without trying to transcend physical limitations. The moment of art resides between "real life and artificial commotion" (Brün 1997, 72).

Unlike other cultural sign systems such as language, musical sense isn't derived from the sign-object connection. Instead the sense itself creates signs (Brün 1997, 76). Hence, flow isn't equivalent to narrative; a point of coalescence isn't equivalent to a dramatic climax. A musical work "does not possess the kind of reality which forces people to take cognizance of it for the sake of their lives. They are not necessary unless one needs them. This need is a creation of mind" (Brün).

According to Kant aesthetic judgments don't necessarily depend upon empirical knowledge about the experienced object. Our aesthetic sensibility, which for Kant includes manifolds of imagination and understanding, has already been partially determined. For the reality buffs this might seem counter-intuitive, in as much as their ultimate goal is total transparency, or a redefined sense of ecstasy wherein all functions are subsumed into a single, complete interconnectivity. "No more

hysteria, or projective paranoia as such, but a state of terror which is characteristic of the schizophrenic, an over-proximity of all things, a foul promiscuity of all things which beleaguer and penetrate him, meeting with no resistance, and no halo, no aura, not even the aura of his own body protects him" (Baudrillard 27). What is described here is a peculiar tragedy that afflicts reality sympathizers.

One wonders what will remain of the doctrine of the real after events such as the O. J. Simpson trial, or the video footage of the Rodney King beating. Perhaps only vanishing points and aesthetic demons. John Zerzan tells us, underscoring the quick fix of contemporary representation, that "Culture, as the opposite of nature, grows discordant, sours, fades as we strangle in the thinner and thinner air of symbolic activity" (Zerzan 141). The implication here is that signs aren't real. Yet, the most 'abstract' sign, such as Charles S. Peirce's notion of "firstness" never evades the semiotic necessity to attach itself to a real-world object.

Sources:

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'...composer est une bataille...' – pour la paix.
Paragraphs on Xenakis

Agostino Di Scipio

> I shall not say, like Aristotle, that the mean path is the best, for in music – as in politics – the middle means compromise. Rather lucidity and harshness of critical thought – in other words, action, reflection, and self-transformation by the sounds themselves – is the path to follow.
>
> (Xenakis, *Vers une métamusique*, 1967; English trans. *Formalized Music*, 1992, p.181)

"Xenakis is dead – February 4th, 2001".

The news came over the electronic mail, sent by a Greek-French friend, Makis Solomos. But it came not unexpected, as Makis himself had kept me informed of the degrading state of Xenakis's health over the last months. The final moment was approaching with the very character of a matter-of-fact event, prior to its actual taking place, ineluctable in its imminence – something that appeared meaningless even to wish to postpone or shift into the future. I occasionally turned my mind to something like a 'sense' in this imminent leave-taking, and to figure out the artistic, intellectual and moral heritage Xenakis left to those willing to establish some fertile relationship to his work.

But questions of heritage are always difficult, especially when asked about personalities as strong and multifaceted as Xenakis. In the following, I can barely try to provide (for myself, in the first place) a few annotations possibly of use in approaching, from afar, questions of intellectual heritage. For, who am I to raise these questions? And what images in Xenakis's life and work gain *momentum* in my present situation, now that he's left and we're left with the questions of what he left us with?

I was born in 1962 (May 29th, same day as Xenakis, if we are to believe the biographical data supplied by several authors, which remain anyway uncertain because of the loss of official records in wartime Greece). In 1962 Xenakis was 40, or 41. This, too, is uncertain – if anything, we know he was in the middle of the way of his lifetime. By that time, he had composed outstanding, ground-breaking works.

Also, he had already gone through the guerrilla actions of the Greek leftist resistance against the English (and later American) protectorate, and then moved first, and only very briefly, to Italy (a former invader of Greece during the Fascist years, then itself the object of a continuing but hidden form of U.S. protectorate) and finally to France (wherefrom Xenakis planned to sail for the U.S., to no success though). By 1962, he had already joined (and quit) architect Le Corbusier's studio and Pierre Schaeffer's GRM, and had passed through many other adventures and collaborations (including classes with Olivier Messiaen, collaboration with Hermann Scherchen's *Gravesaner Blätter,* and the initial sketches of what eventually became his most famous book, *Musiques Formelles*).

Some collaborations, it must be noted, had concluded due to his pronounced intellectual autonomy from his Paris 'tutors': he heavily criticized Le Corbusier's images for the 1958 Philips Pavillion in Bruxelles, and later had *querelles* with Schaeffer, especially at the time of the making of *Analogique A/B* (1958-59). He left the GRM after composing the tape music titled *Bohor*, in 1962.[1]

As a background to these events, was his polemical stance against the then prevalent serial approach to composition. His paper *The crisis of serial music* dates from 1955.

Now, as I said, all this had already happened before I was born in Southern Italy (called Magna Graecia in Latin), and more precisely in Naples (the Greek Neapolis, i.e. 'new city', also known as Parthenope after the name of a mythical Siren, meaning a virgin, fertile girl, a potential bearer of life).

The first time I ever listened to Xenakis's music was probably as late as 1984 (so he was in his 60's). It must have been a recording of *Metastaseis*, or perhaps *Nomos alpha*, I can't say now.

The first time I listened to his electroacoustic music was probably in 1987 or 1988. It was possibly a more crucial listening for me as a composer, one of a much younger generation than Xenakis. At a concert in Montreal, in 1991, I listened to the powerful computer-generated *Gendy301* (later published with the title *Gendy3*). In 1994, a companion tape piece followed that I loved in all its peculiar strangeness, the shorter and somewhat 'trembling' *S.709* (the Italian première of which I eventually curated, on the occasion of an intermedia event called *Tetractys*, in L'Aquila, 1996). To my ears – the ears of a musician then around 30, who in his teenage years used to scratch a customized solid body electric guitar – the man behind those pieces was quite *young* indeed. This music had a lot of noise in it, a clangorous sonority of battle and fighting, the texture and impact of natural phenomena that are random, ineluctable and overwhelming. It demanded that the listener take a clear position concerning the nature and meaning of artifacts such as 'music' and 'sound', however different from the composer's own position.

This *pathos*, or passionate participation, peculiar to the sound world of Xenakis's music, sometimes is described with a world image of wild and furiously

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[1] According to François Delalande (*Il faut être constamment un immigré. Entretiens avec Xenakis*, Buchet-Chastel, 1997, p.159), the word Bohor is the name of a character in the Lancelot saga, also called 'Bohort l'Exilè' (Bohort the exiled).

hostile natural forces, as depicted in Lucretius *De rerum natura* (with overtones of Epicurus' and Democritos' atomistic draft of the world). But this *pathos* was also very clearly contrasted by an equally strong theoretical and formalized attitude, a 'colder' and detached insight into the mathematical details of the musical construction reflecting the eye (or ear) of an external demiurge, or architect. To my ear, the latter element, one of 'abstraction', created a powerful and intense dialectic clashing with the energetic impact of the sound matter itself.

That dialectic – a trace of Heraclitean *pòlemos* at the very heart of this music – is crucial in Xenakis's entire instrumental-vocal *ouevre*, from *Metastaseis* (1953-54), *Pithoprakta* (1955-56) and *Eonta* (1964), to *Nuits* (1967-68), *N'Shima* (1975) and *Palimpsest* (1979), down to the works from the 1990's (e.g. *Ittidra*, 1996). Yet, today it seems to me especially audible in his electroacoustic music, from *Diamorphoses* (1957) and *Concret PH* (1958) to *Hibiki Hana Ma* (1970), *La Lègend d'Eer* (1977), *Pour la paix* (a kind of *hörspiel*, from 1981) and *Gendy301*.[2] I think it must be this fundamental inner dialectic that brings about the overall impression of a problematic and unreconciled sound art created by a *young* person, or perhaps a true 'youngster' – anyway, someone who cannot firmly rely on the past when facing the present, and who can hardly stand waiting for the future.

This young man was, again and in a more essential way, a 'stranger' – as even his family name seemed to recall, with its ring of *xenos*, of 'foreigner'. A young which is also an immigrant and an exiled. (Only later I read of the death sentence put on him during the armed resistence in Greece).

Today, in retrospect, I clarify my impressions with images of *youth* and *pòlemos*. These also resonate from a number of events, maybe biographically marginal, but telling. Two examples. During the May 1968 events, in Paris, activist music students wrote on the Conservatory walls: "Xenakis, pas Gounod!" (stop with Gounod, we want Xenakis). In Summer 2000, the sonic 'dust' of *Concret PH* was picked up by a number of 'laptop DJs' (a new generation of music youngsters) as the only sound material they re-mixed and heavily processed in their late night performances at the 'off-festival' running in parallel to the International Computer Music Conference, in Berlin.

Other such examples could be recalled. The only time I shook hands with Xenakis, he was surrounded by young listeners, musicians and not musicians, who had just attended a concert of his music.

Now, already in partial and admittedly very personal memories and annotations such as all of the above, I seem to catch a glimpse of a possibly transpersonal view of the kind appropriate to circumscribe the compelling questions of Xenakis's heritage. I refer to (1) a healthy, vital and never really resolved 'con-fusion' of the quantitative and the qualitative, of the algorithmic and the experiential, of the conceptual and the perceptual – reflecting a more fundamental struggle (or maybe encounter?) between the rational and the sensuous, the mind and

[2] Analytical sketches of some of these tape works are found in my paper "Compositional models in Xenakis's electroacoustic music", *Perspectives of New Music*, 36 (2), 1998.

the body; and (2) a today much needed 'ethics of the immigrant', of the uprooted[3] – something of the utmost relevance in these years, in Europe and elsewhere.

(In passing, I'd like to say that a very similar view can be observed in the life and work of another protagonist of the second half of the history of Western music in the 20th century: Herbert Brün, who died last year at 82. Himself an intellectual and musical *wanderer*, and a brilliant polemicist and a proponent of critical thinking, Brün had left first Jerusalem for Europe in his youth, then he left Europe for the U.S., in the early 1960's. During the last years, in Urbana, he was always surrounded by much younger people, including composers and performers.)[4]

The clash of number and sound, of abstraction and sensuous perception, is what allows for the encounter of *theoria* and *empireia*. This 'collision that binds', and the existential situation of the uprooted foreigner, testify to an element of *tragedy* – to which I want to briefly turn now.

I'm not assigning any strictly representational attribute to the word 'tragedy', I'm not referring to any form of theatre or literature, nor to the Greek roots of the term. I am rather referring to the 'tragical' as an essential element of human existence. In simple words, 'tragedy' is when we come to perceive that which *is*, that which comes into presence before it leaves, as a soon-to-vanish presence. It is, too, the perception of something present that makes us sense, in its difference, a hitherto unrealized lack of knowledge that leaves us uprooted and stranger to the 'here and now'. Maybe a kind of *breakdown*, but an existential and even ontological one.[5]

A nourishing element of life – we feel what *is* present, and, at the same time, feel compelled to find a way to it, however strange or different it may be. But this is something often annihilated by a notion that the present is problematic and somehow incomplete, and that technical solutions exist to cope with that. Yet, the best technical solutions only and always belong to the future: we have a tendency to project or even 'outsource' ourselves into the future, to eradicate us from what *is*, eventually feeling relieved from the (unsatisfying, difficult, tiresome) present. Don't think about it, it's going to be solved.

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[3] Xenakis comments on this in passages of Delalande (1997).

[4] I wrote *wanderer* only to evoke Brün's Jewish-German origins, without romantic connotations. The word has a ring of Luigi Nono's *caminantes* in it. It provides a faithful translation of the Greek *kéleütha* (wayfarer), referring to the title of a Xenakis' book, *Kéleütha* (L'Arche Publ., 1994), meaning 'ways', 'paths'. I wish someone one day may consider Xenakis *and* Brün, who were friends, as contemporary incarnations of an ancient, historical and philosophical antagonism at the roots of Western civilisation, between Athens and Jerusalem, between Greek and Jew worldviews – an early Mediterranean dualism resonating in the Eastern sources of the West. An important tape work of Xenakis' bears the title *Orient / Occident* (1960).

[5] One is reminded of Nono's musical poetics in his opera *Prometheus*, bearing the subtitle 'the tragedy of listening' – meaning a 'listening-still' in the absence of known cues and frames for 'lending our ear' to what comes to us in the medium of sound. Interestingly, but in an entirely different context, the U.S. composer Michael Hamman describes one of the task of composing, and not a secondary one, as the 'engineering of a breakdown'. To accomplish that, he usually works with computer technology. Thus, the task is accomplished with the very means by which breakdowns are normally prevented. This adds a sense of 'critical view of technology' to the activity itself of music composing today.

A diminished, minimalist form of the 'tragical' is when our projection into the future – following from the imperative that economic advances be capable of overcoming today's difficulties, and from the predominant utopian ideology of quantitative knowledge and the marketplace, presumed to make life on earth milder – proves of little help in the face of that ultimate presence whose nearness and being-here cannot be *explained.* (This word also means 'flattened', put down on the floor.) The more we abstract ourselves into the future, the more our present and presence weaken and impoverish. The present is made absent by that very projection into the future which is, however, essential to technology.

Commonly understood, 'technology' is the operative representation of know-how that provides ways to efficient 'problem-solving'. As a side-effect, it also weakens our perception of the present, because it is always the case that more efficient technical solutions belong to the future. (This instills the popular notion of 'progress', as well as the common sense that progress is 'necessary'). By removing the present, technology minimizes the experience of the tragical, and keeps it to nil. (Hence the noun 'nihilism'.)

An attitude of 'problem-raising' – perhaps a different notion of technology, a 'heretical' one – is instead characteristic of all art making, of 'composing'. It demands a stronger perception of, and an emphasis on, the present. Therefore, it fosters a perception of the tragical.

But the present is uneasy, uneven, too. It features a lot of contradictions. The clash of *theoria* and *empireia* also witnesses an attempt to preserve and deal with present contradictions, as an alternative to turning them into conflicts to solve. Turning contradictions into conflicts is a way to deny differences. (This is Brün's observation.) It's the same as problem-solving, in that it reflects an imperative that differences be negated as such and reconciled to unity. Problem overcome, end of conflict, endgame.[6]

In contrast, Xenakis says, and makes it musically audible, that "the difference is a proof of existence, of knowledge, of participation in the things of the world".[7]

What is relevant here, for me, is a *pòlemos* that generates a difference.[8]

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[6] All technology provides an attempt to re-generate a more fundamental unity or harmony felt as 'originary' (i.e. belonging to the origins, to the sources). This is because 'harmony' (meaning an intimate unity and balance of human existence and nature, fusiV – be it 'earth' or 'cosm') is anyway lost. Proof is that technology exists.

[7] Makis Solomos, *Xenakis*, P.O.Editions, 1996, p.107. See also Balint Varga, *Conversations with Iannis Xenakis*, Faber & Faber, 1996, p.50.

[8] This echoes the interpretation of the Heraclitus' *pòlemos* (Heraclitus fragment n.53) provided by Jacques Derrida's in his reading of Martin Heidegger (*La mano di Heidegger*, Laterza, 1991). Heraclitus says: *Pòlemos panton patèr estì, panton de basilèus, kai tous men theoùs èdeixe tous de anthropous; tous men doulous epòiese.* Derrida's Heidegger translates: "battle is the generator of everything, the guardian of all things; of something, it proves they are Gods, of other things it proves they are humans; it generates some as slaves, some others as free men" (Derrida, 1991, p.150). I am not able to confront the concepts contained in such lines – it's hard for all of us to understand, let alone accept, what is meant with 'Gods', 'free men' and 'slaves'. What is relevant, however, is that Derrida refers the *pòlemos* to an ontological scenario *not* an anthropological one (i.e. a scenario 'before' the human being becomes conscious of itself as present rather than absent, as being rather than not-being). In anthropological

It's not that life *should* be a battle (that would be war ideology...), but that life is brought about by an essential struggle: being born (and bearing) is a struggle that brings to life. Generating *as* being generated. According to Xenakis, "composing is a struggle".[9] Which is to say that composing is a kind of bringing to life, the presencing of something previously nonexistent, whose presence is revealed by its difference.

This implies a view that human existence is primarily a question of perceiving and holding the different *as* different, such that a richer and broader situation is offered at any time, *in the present*, a chance for us to hold the unheard-of, the unknown – i.e. to 'welcome the stranger'. (I think this has to do with Xenakis's quest for 'originality', too.) The 'holding of the different' is *philein* – i.e. love or friendship, a sense of sharing a common existential situation. Thus *pòlemos*, the 'originator of all differences', is a prerequisite of *philìa*, and an attribute of peace.[10]

(This is the same dialectic as the 'collision that binds' mentioned above.)

"Opposition is true friendship".

(William Blake wrote these words in his manuscript copy of *The Marriage of Heaven and Hell.*)

The necessary is only briefly unveiled when we feel as present and near that for which, albeit problematic and controversial, life is worth living. Xenakis succeeds in precisely providing an image for, and a powerful auditory experience of, this state of affairs. In short, what he fundamentally does is to call our attention to the fact that *one does not die if he hasn't lived* – which is *no* platitude.

At the beginning of my annotations, I mentioned a kind of ineluctability in the approaching of death, a sense of little surprise about Xenakis's leave. How could it be different?

Indeed, having had so much of the tragical proper to the human existence (the cognition and experience of the present and the different), and having matched, too, all that 'sound and fury' against the grids of a theoretical rationality leading into abstraction and formalization, Xenakis in a sense could not but die. Which means:

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terms, the Heraclitus fragments reads: "War is the father of everything". For Derrida-Heidegger, instead, *patèr* is understood simply as 'generator', as 'bearer of life' (hence originator of the difference of 'being' *and* 'not-being'), rather than with the familiar figure of the 'father' – just as *basilèus* is understood as 'guardian', 'care-keeper', rather than 'king'. In short, this is a de-anthropologized reading, which seems quite appropriate, as in fact at the time of Heraclitus (5th century B.C.), no *philo-sophia* existed as such, i.e. in the anthropological sense of 'man's quest for knowledge and wisdom'. We usually refer to it as a pre-Socratic form of thinking. A similar de-anthropologizing seems to resonate in Xenakis when he refers to another pre-Socratic, Parmenides (who, anyway, met young Socrates). Of main relevance to Xenakis was Parmenides' *Poem*, quoted many times in *Formalized Music.*

[9] Same references as in footnote 5.

[10] It may be significant that the text spoken by the choir of *Pour la Paix* describes war events. One voice, however, is dubious about that, as she asks: "What peace? Anyway this wasn't a real war, so this isn't a real peace" (p.12 of the draft Salabert score, 1994). In the final, another voice says: "The grenade exploded just above them. And they had time to think, one that it was good that that happened, another that no" (p.14).

he died not 'tired of life' but 'satisfied with life', having drunk of it to a point of satisfaction. There lies the only meaning of the fact that, 'after all' and 'by now', he *was* an elder at 'that' point. Youths, as the tune goes, can't get no satisfaction – not yet (but still try and try, trying to get reasons to live and get old).

In short, it's a question of finally *meeting with death* rather than *being found by it.* Exhausting one's own life *vs.* being deprived of it.

So, if life was *left*, on February 4th, that happened because it had been *reached* in the first place. And death was *reached* as well. Xenakis *could* leave. Others could, and we all hope to be able to. Like Varèse could, to mention a name of another 'immigrant'. But today this particular way of 'thinking life and death' is what we are left with by Xenakis, together with his music and his writings. It is necessary, one of these days, to see how this thinking ties with many other learnings we draw from these traces left.

"Xenakis is dead". Today these words signify a difference.

L'Aquila, February 26th, 2001

For Marcia Lind (1951-2000)
philosopher-scholar

after apparent eternities
the true one
never seems

the happiness
of all exploded ownesses

you pose it

in the same hat as
you wear it

arbitrarily small:

the next step
when death
computes

the Breast Plate
incised with
eat-you-up eyes

the facets of the stone
scale down
without limit
leaving the mind an image of infinitude shining
through the echoing refractions
of inordinate light

the brightness
increases
without limit

a point
approaching
across nothing—

traversing its own absence—it became

how come
I didn't know
I was somebody
else? I was there
where I wasn't. I hadn't
come to be
by any
means

An absolute number
on the slate wiped clean
appears

over the hill where nobody goes

the hill is
a house
on a hill. The earth
lights up
inside it

words
spring like gorse
        itching the hill

  Every thought
 that drinks
the mind
returns
to the same
Ace.

The Ace
Cuts.

Every land elides
to another otherwhere
 than far from it

the sun
    in the cartouche
       of each

the hammer
the dungeon
the bludgeon
the skirmish
the ruse

an abject object
stacks the dull
deck. Running through the whole
file
  like animals attracted
by a thud

tip toe through the bookracks

the waves
ripple out
to the sky.

These people need to leave these
minds behind and take up
new minds

walking away from the set-up
and only for a moment free.

I pledge no
allegiance
beyond my own
return

after forever
one more lap

And after all
the forevers

the jaguars
leap on the town cars

that from which
eruption
evaginates

the image
iconoclast
from within

now I recall
what then
was

the pulsing
of intent
at work
in the human nexus

a pulsing light
behind the veil

a community of pulsations
across an implacable membrane

here
on this side

there
on that

The slopes
change
with proximity
to the curtain
of oak

letting

forcing

staunching

the Pleiades west
of the Meridian

the thought
just out
of the mind

the skater
on perfect
 surfaces
    turns
curves
          while trucks
 stop
        in the same
night

  where images

order—

the calculus of strangeness

it is a dry
life
but beacons
an economy
of starlight

an economy
of images

on the edge
of traversable
absences

you know
what's missing
from the plan
for space

the question
had to be found

someone wanted
to know
where the little child
wandered off to

and the child, cold,
wild, mild, old,
blithe, loath to but must
bear the cargo
of its own inquiry

I will vanish gladly
into the liminality
of rainbow light
on a sharp but wet
declivity favoring
an horizon of rainbows

things began to get
more difficult
to organize as
they became hard
to lift
soon
even minimally massive objects
would not budge

Every moment
might
have firmed up
the thought that spanned it

a bridge
abridged
from mindstate
to another
mind's
momentary staunching
of time itself

Where did it
come from
but the simultaneity
of fore and aft
the forward rupture
of a prior shadow

the mind
staunches
time
's denials

the neutrality hard to
maintain
or even to look at

how could death overtake
the project to know it

close

approaching
the limit
that it most was

how could occurrence
yet surprise
its implacable witness?

the thickness
of subterranean
confusion
scanned
on time

fading away
into the merest
thought
of the smallest
instant
to come
while yet it's there
where thought can't "get it"

where excess
grapples
with reach

ink
can't get at
the mind

the obedience
of ink

the recalcitrance
of shadows

the luminosity
of blots

where the sun
went back
to the well

the infinite bucket
dropped

from the many-stranded braid of embodied light

the same
night
that bespoke its own starlight
leaving
        local space
alone—just letting be

more active now
consumes the truth of day

as if the act of forbearance
were a kind of substance

nothing
under
embodied
light
but every instant

a radiant source

of Possibility

Herself

the Queen
of that which the King
is Necessity—together
gleam
in a single self

the Queen went down
beneath the hill
the King
came up on
dawn
they two
one flash
in the timeless
reach
of an absolute velocity

Beyond the curtain
of an ancient oak

the side
wherefrom we speak

we speak
from both sides
of the mouth
of night

as if the source
of the moment
were a great division
and night
and light
were cast
across a line

the hill
the shadow
the time
the substance
the well

the braided light

it is no
simple
thing
where the deep breath wanders

enormous wings
then none

my thought went out
before me

leaving the rock
of breath
a guardian of simplicity
until such time as thought return
where thought is not

and Possibility
is invisibly
the happiness of sitting there

Charles Stein

An Interstitial Music

Tom Baker

The Art of Space

Architecture functions through space. The fundamental connection of architecture to space is a result of the role of a building as shelter and as demarcated boundary for human activity. Architecture delineates areas by articulating boundaries *around* the space, creating spatial identities. This function of delineating and demarcating space is particular to architecture; it is this functional and intrinsic relationship to space as a *medium* that defines architecture as the *art of space*.

Given this primary relationship to space, an architectural work can only be *realized* over *time*. The experiential process of inhabiting architecture occurs in "real" time, over the duration of passage through a building's spaces. This movement through space is called *circulation*; to circulate from one use-space to another takes real time. In the words of the architect Toyo Ito: "A temporal architecture is an architecture of sequences. In moving from one place to the next, and then to the next again, space appears but then disappears...marking only the passing of time."[1] But architecture also exists in another temporal framework: imaginary time. When the normal striations of spatial identities are smoothed over, or when traditional spatial cues are subverted, one can get the impression that the primary existence of the work is as a temporal entity. Imaginary time is experienced in architecture through a series of relationships (in real time) between real space and human perception. How does one perceive this flow of time? How does one mark the passing of real time with regard to space and space configuration? Iannis Xenakis postulates:

> We seize [time] only with the help of perceptive reference events, thus indirectly, and on condition that these reference-events be inscribed somewhere [and] do not disappear without leaving a trace. It would suffice that they exist in our...memory.[2]

Real time dictates that an observer can only be in one real spatial position at one real temporal moment. But two other factors begin to affect the perception of space. These factors are *reflection* and *prediction*, and they stretch out in opposite directions from the moment, creating imaginary time through an "expanded" moment for the observer. A contemporary canon of works has begun to evolve that explores the temporal qualities of architecture; works by Steven Holl, Antoine Predock, Peter Eisenman and others incorporate the temporal — the continuous folding of events through and around space — into a living, dynamic architecture.

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[1]Toyo Ito, "Steven Holl". *GA Architect* 11 (1993): 10.

[2]Iannis Xenakis, "Concerning Time". Translated by Roberta Brown. *Perspectives of New Music* 27/1 (Winter, 1989): 89.

The Art of Time

Much as architecture functions through space, music functions through time. The fundamental connection of music to time is a result of the inherent tendency of music to delineate and demarcate the boundaries of temporal events. Music partitions chunks of time by presenting events of distinct duration, and by articulating the boundaries *around* durations of time. The boundaries of such temporal events are the musical materials that create segmentation and anteriority. Music is essentially *about* time, and it refers to time without the representation of any outside realities. It is this intrinsic relationship to time as a *medium* that defines music as the *art of time*.

Having established music's primary relationship to time, it is clear that music also exists in real space. Music, as a sounding phenomenon, exists in a real acoustic space, and occupies a fixed amount of registral space. But music can also exist in imaginary space. This is the counterpart to the imaginary time of architecture. When the normal articulations of temporal identities are smoothed over (creating what Boulez calls a smooth or amorphous time), or when traditional temporal cues are subverted, one can get the impression that the primary existence of the work is as a spatial entity, a static object. Jonathan Bernard speaks of this kind of atemporal impression: "It is the *absence* of certain devices traditionally applied to the structuring of time that has the potential to disorient, to lend the impression that time has stopped altogether, or that the music exists somehow beyond or outside of time."[3] A contemporary canon of works has begun to evolve that explores the spatial qualities of music; works by Ligeti, Varèse, Xenakis and Feldman attempt to illuminate the imaginary space of music.

DeFormation

In a 1993 issue of Architectural Design, Jeffrey Kipnis explicated a new movement in architectural thought, which he called DeFormation. This movement centers around the work of several architects including Kipnis himself, Peter Eisenman, and Greg Lynn, and uses the concept of *folding* from René Thom's catastrophe theory as a conceptual design tool. Their ideas for a new movement in architecture are based on a shift away from semiotics and phenomenology and a move towards geometry, complex science and political space. In essence a move away from Derrida and toward Deleuze.

According to Kipnis, any *new* architecture must adhere to three tenets: it must first avoid the logic of erasure and replacement by participating in re-combinations; second, it must engender a heterogeneity that resists settling into fixed hierarchies; finally it must propose new principles for design, and project new forms. The first two of these tenets adhere to the prescription for post-modernism; the third, however, moves beyond it. (As Kipnis demonstrates, collage as a design technique does not project new

[3]Jonathan Bernard, "The Minimalist Aesthetic in the Plastic Arts and in Music". *Perspectives of New Music* 29 (Winter 1991): 90.

forms other than collage itself.) As theory, DeFormation is fundamentally about morphogenesis, or the generation of new forms.[4]

In an effort to clarify this alternative to postmodernism and collage, Kipnis lays out five characteristics for DeFormation. 1) *Vastness:* the work must reflect sufficient spatial extension to preclude the imposition of traditional, hierarchical spatial patterns. 2) *Blankness:* a formal abstraction is the result of the suppression of quotation or reference. The architecture can engage in unexpected formal affiliations without relying on fixed hierarchies. 3) *Pointing:* the work should direct us toward the emergence of new social arrangements and to the construction of new forms. 4) *Incongruity:* a repeal of the postulates of harmony and proportion; this results in the subversion and recombination of traditional programmed elements including the site, functionality and adjacencies. 5) *Intensive coherence:* the properties and assemblages of the work enter into multiple and even contradictory arrangements, creating a coherence forged out of incongruity. These properties begin to prescribe a design paradigm for a new movement in architecture, resulting in work that cannot be broken down into simple planar units.

There are traditionally two main kinds of formal design spaces: use-space and interstitial space. The use-space is the primary space of a building, and the interstitial spaces are the transition or connective spaces. Interstitial space represents the middle-ground, the in-between. It can reflect the temporality of architecture, as it is often concerned with the idea of movement and circulation. DeFormationist architects say that the primary goal of their work is to render all the spaces in a building as *interstitial*, without making them homogenous. By toppling the traditional hierarchy of use-space and interstitial space and blurring the boundaries between foreground and background and time and space, DeFormation sets out to create an architecture of the interstitial. Could there be a musical corollary to this new movement in architecture? What might an interstitial music sound like? What new musical forms may be explored? A search for an interstitial music might yield fertile ground for exploring new musical complexities; perhaps leading to an illumination of an essential time/space relationship between these two disciplines.

An Interstitial Music

Conic Sections is a musical improvisation by Evan Parker, who is a free-jazz saxophonist and composer. Parker recorded *Conic Sections* in five movements on solo soprano saxophone in 1989. The piece combines virtuosic breathing and fingering techniques with a compositional approach to improvisation; each movement is a dynamic stream of continuous sound events which, as one composite unit, gives an impression of polyphony in multiple voices. Perhaps this work could serve as an example of an "interstitial music."

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[4] Jeffrey Kipnis, "Towards a New Architecture". *Architectural Design* 63/3-4 (1993): 44.

The sounds in *Conic Sections* are produced by a combination of several techniques. The keys of the instrument are fingered in polyrhythmic patterns that start out slowly and accelerate as the multiple voices spin into one composite sound. While the patterns are in motion, Parker demonstrates long durations of circular breathing producing a fluid and seamless sound. The combination of the circular breathing and the multiple voices creates a sense of movement, even urgency. But the spatial and static effects result with the addition of the final ingredient: speed.

György Ligeti discusses a phenomenon similar to *Conic Sections* in a description of his *Piano Concerto*: "The work is composed of repetitive patterns which appear in constantly new combinations. In perception, we soon abandon the pursuit of isolated rhythms, the temporal events then appearing as somewhat static. When this music is...performed at the given speed and with the given accentuation, after a certain time it will 'lift off' like an aircraft: the rhythmic events, too complex to be perceived in detail, hang in a suspended state."[5]

The spatial effects in both of these works are analogous to the visual effects of the spokes of a spinning wheel; the spokes accelerate to a certain speed and become indistinguishable from the wheel as an entity. The moving spokes create an illusion of a non-moving wheel. They are integral to the wheel, no doubt, but they are useless as individual entities. Their meaningfulness is realized only in their interdependence with the other elements at a high rate of speed. In the musical works, once the sounds get up to speed, events occur in such a rapid succession that an aural illusion of polyphony is created. The polyrhythmic pattern accelerates until it seems to spin, and achieves a state of *moving/non-movingness*. The "spokes" in *Conic Sections* are in the counterpoint, which relies on the dynamic quality of the pattern through registral overlap and overtones.

At the beginning of the piece, the musical events of the pattern are dispersed from a central registral location, and the rotation begins slowly, so the interval of time between the events is long enough that we perceive each separate event existing for its own sake. As the pattern speeds up, the duration of time between the events gets shorter, and the musical texture becomes more dense. It is at this point that the piece "lifts off," and seems to hover without moving, almost as if time had stopped. Parker says: "the complexities reach such a pitch that they cancel one another out and you get a blur. Not white noise but an impenetrable kind of thickness. Everything locks solid and stops."[6]

The compositional process is one of assemblage, where all the improvisational and compositional techniques combine to enable Parker to "speak" with more than one voice; the listener fluctuates between hearing the spokes and hearing the wheel. The melody line, which is

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[5]György Ligeti, "On My Piano Concerto". *Sonus* 9/1 (1988): 9.
[6]Evan Parker, quoted in Graham Locke "Speaking of the Essence", *Wired* 85 (March, 1991): 33.

usually considered a horizontal element of music, is exposed as having vertical characteristics as well; in the sliver of time between when a tone is sounded and when it completely decays, Parker slips another in above or underneath it. Thus a melodic line is turned back on itself through a combination of speed, dexterity, and a multiplicity of focal points.

Revisiting the five characteristics outlined in an architecture of DeFormation in the context of an interstitial music, one finds that *Conic Sections* can be said to exhibit: 1) *Vastness:* in a musical context, sufficient *temporal* extension to preclude the traditional, hierarchical *temporal* patterns. The movements of *Conic Sections* are of substantial length and without pause or segmentation, creating a temporal extension that serves to subvert traditional temporal expectations. 2) *Blankness:* formal abstraction as the result of the suppression of quotation or reference. *Conic Sections* is abstract in this sense, subverting the traditional signification of the jazz saxophone sound. 3) *Pointing:* the work should direct us toward the emergence of new forms. *Conic Sections* certainly implies construction of new forms as it defies traditional formal analysis or reduction and cannot be deconstructed into simple components. 4) *Incongruity:* a repeal of the postulates of harmony and proportion. Though there is an overall continuity to the sound of *Conic Sections*, there are no traditionally proportioned formal divisions. 5) *Intensive coherence:* the properties and assemblages of the work enter into multiple and even contradictory arrangements. *Conic Sections* does indeed reflect an assemblage that projects multiple arrangements. It is a combination of techniques and musical lines performed on a solo instrument that creates a dense texture of individual identities which then assemble themselves into a composite whole.

* * *

In the realm of the interstitial, there exists an essential connection between music and architecture; a connection that moves beyond the ghost of Pythagoras, beyond a frozen music, beyond translation. This connection is found in the relation of the architectural or musical work to its primary *and* secondary mode of expression; architecture in relation not only to space, but to time, and music in relation not only to time, but to space. John Cage aptly expressed this essential connection: "The arts are not isolated from one another, but engage in a dialogue. This understanding will introduce new kinds of spatial [and temporal] phenomena. It is predictable therefore, that new music will be answered by the new architecture – work we have not yet seen, only heard."[7]

[7]John Cage, "Correspondence". *Pamphlet Architecture: Architecture as Translation of Music* 16 (1994): 72-73.

Postmodernism and the History of Music

Daniel Charles[1]

With perhaps some exaggeration — but what polemic is free of that? — the composer John Tilbury (a Brit and a postmodernist) lamented a few years back that music departments in the United Kingdom had frequently become overly specialized in one of the major subdisciplines of musicology, to the point of consisting of the same single subject: namely, the history of music.

I myself have observed that, in this regard, the French situation in the twentieth century, with few exceptions, has been no different. And the field of philosophy seems to me to have undergone an analogous development that, while clearly inherited from the nineteenth century, was recharged with the importation of what Jean Grenier called "hegelianism with tartar sauce." Common sense, the dogma according to Anne Cauquelin, contributed to the ways teaching and research became focused on themes that were as venerable as possible. It all took place as if one had decided to make as large a retreat as possible — the communications revolution notwithstanding — at the moment that apprentices in philosophy and music might have begun to create for themselves either concepts or "waves of sensation" in the deleuzian sense of the term. What is more soothing than a nice tapestry of references burnished by time, and which one might observe and calibrate with the possibility of eventual reuse?

But this process brought about the rebels of '68. Rebels who turned into Lyotardian postmodernists. By dint of exuding meaning, history stopped functioning as a safeguard and began producing revolutionaries . . . It would be unwise, given these conditions, to cast recriminations against postmodernism. Certainly everything did not depend on how one chose to educate the thinkers and artists of tomorrow or the postmodern day-after-tomorrow: evidently pedagogy is not all. But (to paraphrase Adorno) it is important to know whether one is to be content to administer education like a sedative, or if one intends to give it the effectiveness of a ferment.

The thesis according to which the twilight of the twentieth century has

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witnessed a dying vocation in music as well as philosophy is, at any rate, worth examining. Cassandra-Attali thought of this. Skewering received ideas like a latter-day Flaubert, he defined modernity as "that which is never out of style"; "postmodernism" as a buzzword that describes the future "without taking the risk of making a prognosis"; and history, in his words, "neither advances nor retreats, nor continues along a straight line, except one that resembles a high wire whose growing oscillations threaten to bring down the tightrope walker." One could not be more clear. And the American historian William M. Johnston is no less clear when he proclaims that "a ghost is haunting Europe: commemoration," and condemns "the cult of anniversaries" that has been invented to fill the void left by the decline of metanarratives. One must polemicize, he suggests, against "disneyfication" and "pantheonization," for these are nothing but purification rites.[2]

But doesn't Western philosophy, ever since the Socrates of Plato's *Parmenides*, teach us to venerate purity? Doesn't Socrates refuse with all his might to give to hair, to mud, to spit the status of ideas? He forbade their very mention. Why? Because he deemed them undesirable or harmful. To relegate them to a state of formlessness was the surest way to neutralize them without making a fuss . . .

In a little book published in 1997 under the deliberately aggressive title *Of detritus, of trash, of the abject*, the Lyonnais philosopher François Dagognet took it upon himself to defy Socrates.[3] Providing an inventory of everything that the Western quest for purity (directly inspired by Platonism) set aside or minimized, he strikingly demonstrated the point to which the great European systems from antiquity to the present day have been able to asepticize and anesthesticize sensibilities by proceeding from exclusions that were forced, even obsessive. The caustic thinkers from Lucretius to Diderot and from Leibniz to Bachelard, however, were not absent: the enumeration of "the crusaders against thinking in circles" is comforting to us, at least if we agree to demystify the initial proscription to which we subscribed by weakness. But was it possible to resist the influence of an Aristotle or a Descartes? Only an artist, perhaps, might have saved us. It is precisely in writers (Péguy) and poets (Ponge), materialists (Dubuffet) and the partisans of the abject (Beuys) that Dagognet himself finds ways to revitalize himself, and it is starting with their works (or non-works) that he advises us to re-educate ourselves. As ridiculous as they might seem to us, their productions will help us to rediscover the poetry of the real, and from there, to reconstruct the ontology — or the "abjectology" — that the mirages of earlier worlds hid from us and that knowledge requires from the present in order to reestablish our true roots to the world.

It is regrettable that Dagognet omitted any discussion of music. Hasn't the treatment that Western "spirituality" has reserved for the shredded and the shattered, the tallow and the feldspar, soiled papers and trash also been similarly

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[2] Jacques Attali, *Dictionnaire du XXIe siècle* (Paris: Arthème Fayard, 1998; 2d ed., Paris: Livre de poche no. 14778, 2000), 174-175, 231, 279; William M. Johnston, *Celebrations: The Cult of Anniversaries in Europe and the United States Today* (New Brunswick, NJ and London: Transaction Publishers, 1991), published in French as *Postmodernisme et bimillénaire*, trad. P.-E. Dauzat (Paris: P.U.F., 1992).

[3] François Dagognet, *Des détritus, des déchets, de l'abject*, Collection Les empêcheurs de penser en rond (Le Plessis-Robinson: Institut Synthélabo, 1997), 103-105.

inflicted on noises? Undoubtedly Socrates had to have been so little interested in music in order for pythagorism to impose its calculations and Plato his number-ideas! The anathema pronounced against the cinders of "pure sound" in the name of supreme harmony did not cease to be a burden, if you think about it, on the entire development of "elevated" music in Europe. Percussion instruments of indeterminate pitch arrived very late to our orchestras, and even then only by a remarkable detour via nineteenth-century Russia. Has one never listened, in a keyboard concerto by Bach, to the rustlings of the clavichord's wings clashing with the pizzicati of the strings? Was it necessary to banish from our ears, from the beginning and ever since, that which all the civilizations of the world allowed since prehistory? Parasitic noises evidently have no impact until one chooses to censor them no longer. It is this perception that the twentieth century has restored — even though it was in no way concealed until then. It simply went unnoticed. One heard it without listening.

We must not imagine, however, that the transmutation of silence into noise was accomplished in a single stroke, or even that it was imposed universally (*urbi et orbi*). Before Cage, Satie had suggested the principle, and before Satie, Thoreau, in the middle of the nineteenth century, was already putting his ear against telegraph posts near Walden Pond. Dagognet's argument in favor of celebrating materiality only seems belated to us because we are familiar with the art of today; for those of us who are aficionados, it is the summit of a long acculturation. And nothing says that all readers will feel implicated. It is the same with music. During the 1950s, the composers assembled by Herbert Eimert in the electronic music studio at Cologne made it a point of honor to work only with the "pure sounds" emitted by frequency generators. In so doing, they considered themselves to be more "advanced" than the workers gathered around Pierre Schaeffer in the buildings of the ORTF, rue de l'Université — who in turn judged themselves to be more serious than the American pioneers of tape music. While in the end the techniques and aesthetics have met up, or have traded places, this process took many years. To comprehend this one needs only to remember the precautions Stockhausen took in choosing the voice of the little boy in *Gesang der Jünglinge*: he made a decision only after realizing that, like a flute, it resembled the periodicity of a perfect sine curve. This did not prevent him from being accused at the time of making a "pastiche" of the supposedly "surrealist" artisanal methods in vogue at GRM in Paris.

Who, today in the age of ubiquitous sampling, would care? Pierre Henry is back in style, and live electronic music has largely engulfed techno. The rivalries of the heroic age have surely faded. Yet with them (and without any doubt) what has disappeared, or dissipated, is the sense of progress, or, bluntly, the sense of history, that each of the tendencies then in play really hoped to turn in its favor. The prodigious development of the means of distribution and elaboration that have authorized an omnivorous and quasi-instantaneous blending has contributed more than a little to the confusion. The situation has become clouded: postmodernism really seems to have abolished the trajectory of time. And this confirms the impression of Tilbury that the inflation of history, as soon as it becomes globalizing,

kills history.

This idea is one I have borrowed from the brilliant commentary that Jocelyn Benoist devoted in 1998 to the visionary book of Francis Fukuyama, *The End of History and the Last Man*, which was recently translated into French and which has been the object of rather heated debate.[4] In the paragraphs that follow, I will paraphrase a few of Benoist's arguments and apply them liberally to music.

Benoist's text opens with a citation of Michelet that I reproduce here because it defines clearly what is at stake in the whole debate:

"History is justice, history is resurrection in justice. It is resurrection, but just as at the Last Judgment, each will return with his acts, with his works, and each will be cloaked in his responsibility, his good will or his ill will, but at least his good will. That is what history is."[5]

This definition, taken from the *Cours au Collège de France*, might seem enigmatic because of Michelet's use of an evenly-divided metaphor, half moral and half theological, that is more likely to satisfy a religious mind than inform a curious reader or listener seeking to learn about historical work.

To attempt to clarify the issue, let us begin by "secularizing" the crux of the matter: the word "resurrection." "The entire problem is there," explains Benoist. "Can one separate History from the horizon of Judgment? Is it possible to imagine a History without end, since it is understood that this would signify a History without Justice?"

Obviously the response, at least at first glance, has to be negative. To throw religion overboard, wouldn't that amount to plunging into discouragement? If no recompense is promised to us, if no punishment awaits us, what is the point of persevering in our efforts, and why suffer? You can't trap flies with vinegar: as simplistic as it is, such reasoning, in its frankness, inevitably hits the nail on the head.

The problem that the historian must face is apparent here. To complain, as Tilbury did, of the perpetuation of the hegemony of historical studies in the academy is to risk upsetting those who thirst for justice, for an equitable retribution of pain and suffering when it responds to a well-understood interest and satisfies an obvious moral demand. But who are the ones who thirst for justice, if not the faithful? Unless we admit that belief involves not only clinging to a dogma, but engaging through reflection upon all moments along the path of faith without ever ceasing to be converted, the work of the historian in "resurrecting" events must seem to go on infinitely. He or she, of course, is only making a weak imitation of the mystery of the reincarnation at his or her own level — that is to say, at a level that is accessible to all. But reactivating this mystery serves only to defer the final deadline.

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[4] Jocelyn Benoist, "La fin de l'histoire comme forme ultime du paradigme historiciste," in *Après la fin de l'histoire: Temps, monde historicité*, ed. Jocelyn Benoist and Fabio Merlini (Paris: Vrin, 1998), 17-59. Benoist critiques Francis Fukuyama, *La Fin de l'histoire et le dernier homme*, trans. D.-A. Canal (Paris: Flammarion, 1992) as well as Jacques Derrida, *Spectre de Marx* (Paris: Galilée, 1993).

[5] Jules Michelet, *Cours au Collège de France*, ed. P. Viallaneux, O.A. Haac, and I. Tieder (Paris: Gallimard, 1995), 2:689, cited in Benoist, 17.

An indefinite (*sine die*) adjournment would be equivalent to a limitless secularization: Tilbury condemned this solution, whose workings he saw only too well. It remains to face up to the due date. But what is the best way to proceed? The Judgment, if it is *final*, is hypothetically *post mortem*. This death, must we incite it? That would be the end of history and the death of art. And to be content with waiting for it resolves nothing, because it is *against all waiting* that Tilbury raised his objection.

How to escape from this impasse? Postmodernism, as Benoist presents it, cannot help us at all. What does it add to modernism apart from the monosyllabism of a prefix that is utterly empty? We know in fact how to adapt anything to the situation of the "after," especially in music, where any repetition at any level has always been acceptable. To use a recent taxonomy, let us mention the distinction that Laurent Jullier proposes between the "recycling" of old forms and their "transformation,"[6] in which the composer addresses the listener by relying on the pleasure of "intellectual" recognition of forms, or even on their "physical" powers of seduction; all variations are, of course, imaginable, and nuances abound. The composer is in no way prevented from suggesting, through an appropriate treatment of the context in which the "placement" of his or her borrowing takes place, the premeditated character of this borrowing. In this case it is the composer's responsibility to perceive the level of sophistication (and knowledge) of his or her audience. I also agree with Jullier that "the entire repetitive and minimalist trend" appeared in the United States in response to the gem *In a Landscape*, composed by John Cage in homage to the *Musiques d'ameublement* of Erik Satie. This may explain the propensity of a good number of this movement's protagonists (and "postmodernists" in general) to "show favoritism to the triad — terror of Modernists from the Viennese School to the Post-Serialists, and key element in the soundtracks of postmodern films."[7] But, surely, as regards the return of the triad, one must also take into account the specific economic context of postmodernism, without which, according to Jean-François Lyotard, "in the absence of aesthetic criteria" one usually "measures the value of works by the profit that they earn."[8]

In unmasking the equation of value with profit Lyotard rejoins a certain type of analysis that "postmodernists" agree to reject, but which loses none of its pertinence in the era of media globalization: the substitution of the value of exchange for the (supposedly archaistic) rites of the value of use. But the formula that I have just cited remains ambiguous if hastily interpreted, because it attributes to "aesthetic criteria" the miraculous power of abolishing the supreme authority (*imperium*) of the value of exchange. Stardom, especially in music, has not waited for the evaporation of "aesthetic criteria" to become dominant. To the contrary: presumed criteria can make very good use of smokescreens or pretexts to mask true motives that are real yet unmentionable because they have to do with money. Hence the musical press, echoing the non-musical press in France and abroad, recently published under a delightful title the following exchange: "It is just like olive oil: there is the first pressing and then there are the rest. I would say that Shostakovich

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[6] Laurent Jullier, *L'Ecran postmoderne* (Paris: L'Harmattan, 1997), 7.
[7] Ibid., 15-16.
[8] Jean-François Lyotard, *Le Post-moderne expliqué aux enfants* (Paris: Galilée, 1986), 23, cited in Jullier, 16.

is a second or even a third pressing of Mahler." Since the author was named Pierre Boulez, the passage was entitled: "Boulez puts on the pressure . . ."[9] It is impossible here not to think of the reproach that Ludwig Wittgenstein once addressed to Mahler himself in the name of the same criteria of modernist "purity" or virginity, among the aphorisms collected in *Vermischte Bemerkungen.*[10] Wittgenstein's reference to Mahler definitely makes one think! Yet, as concerns Shostakovich, one can also refer to Franz C. Lemaire's excellent book, published in 1994, which reveals the heart of the matter. "The Shostakovich craze really surprises me," Boulez declared to a Belgian journalist in September 1993. "I would trade his entire oeuvre for a few little pieces of Stravinsky, such as the three pieces for clarinet or the Russian songs." It is understandable why this craze could irritate him, for if you examine the musical statistics of a country like Germany, where contemporary music is prominent, you will find that, out of 8500 concerts in the 1993-1994 season, the music of Boulez appeared in 12 programs compared to 264 for Shostakovich.[11]

Duly noted. Yet even if we can discover in Lyotard a way to relativize that which so many others — whether they be composers, critics, or both — fetishize, the absence of "aesthetic criteria" is not at all synonymous in his eyes with the abdication or the "death of art." Rather, *there are two postmodernisms*: one, which is the domain of "standards" and advertisement — that of captains of industry — and which Lyotard calls a "supposed postmodernism", and the other, which has little to do with being "presentable" but has a lot to do with what Lyotard calls being "unpresentable." The latter, irreducible to the former, is even its antidote, just as the "sublime," which lies outside of categories, contrasts sharply with the master category of Western aesthetics, the Beautiful. This "true" postmodernism is less concerned with opposing modernism than with rewriting it. And it is therefore "an-aesthetic" — meaning that it does not expect creativity to return to an existing "aesthetic" along the lines of criteria that are eternally presupposed (that is, they have been "assumed," even in their absence).

Isn't the "an-aestheticized" composer forced to give up? It is at this very point that everything turns upside down: the "post" in "postmodernism" vacillates with "ante" or "ana." For Lyotard, the "anaphora" or the "anamnesis" resets the clock. "Anaphora" supplants "metaphor" in the designation of creative rewriting; just as (Platonic!) "anamnesis" erases short-term memory to the benefit of a re-commemoration by which the past, inventing itself, intrudes like the future. In this way it captures its status of *anteriority* in relation to modernism. It is an *antemodernism.*

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[9] "Boulez met la pression. . .," *Répertoire* 133 (March 2000): 6; the article cites the *Sunday Times* and *Le Nouvel Observateur.*

[10] "The greatest danger seems to lie in putting one's own work, in one way or another, into the position of being compared, first by oneself then by others, with the great works of former times. One ought to put such a comparison right out of one's mind. For if conditions nowadays are really so different from what they once were that one cannot even compare the *genre* one's work belongs to with that of earlier works, then one can't compare them in respect of their value either." The remark, which dates to 1948, begins as follows: "If it is true that Mahler's music is worthless, as I believe to be the case, then the question is what I think he ought to have done with his talent." Ludwig Wittgenstein, *Culture and Value*, trans. Peter Winch (Oxford: Basil Blackwell, 1980), 67e.

[11] Frans C. Lemaire, *La Musique du XXe siècle en Russie et dans les anciennes Républiques soviétiques*, Collection Les chemins de la musique (Paris: Arthème Fayard, 1994), 207, note 12.

The true composers are not those who "compose in" context, but rather those who "propose," who create it. These composers are inventors: as Lyotard points out, they "work without rules, and to establish the rules for that which will have been created."

Yet Lyotard is not advocating any old kind of disorder. The model he proposes is more along the lines of John Cage, who, invoking Thoreau, did not hesitate to call himself an anarchist — but with the following clarification: "My anarchism does not suppress the police." In fact, even before referring to Cage, Lyotard had already taken to heart the remarks of Jean Grenier, whom he had from the very beginning considered as his master. "The true artist is the one who, when faced with absurdity and incoherence and willingly taking the greatest risks, imposes something that resembles order. This order does not have the same characteristics as before. It is order in flux whose broad outline will emerge at a later time."[12]

In the last years of his life, Cage had, of course, reconciled with the tonality that Schoenberg had chastised him in the thirties for disregarding. When he studied with Schoenberg, he had founded a percussion orchestra. Half a century later he had clearly changed his mode of attack. Had he converted to postmodernism? Yes — but in the sense of "rewriting modernism" according to Lyotard. For his tonality not only "did not suppress the police"; it "suppressed noise." Something which would not have displeased Grenier . . .

In the final analysis, it is acceptable to take leave of the historians, philosophers, or musicians who believe that, to cite Jocelyn Benoist, "it is possible to disregard our contingency and bypass the fact that we are trapped in our historical identity. This in no way reflects the meager evidence that mankind does not want to die. But a philosophy that would pass its time in reminding mankind that it must die (*memento mori*) and cultivate the sense of the 'end,' as one sees so often today in dyed-in-the-wool and fatalistic nihilism, would commit the same mistake. At any rate, there are other things to be done. And that is where the true sense of history resides, in the transgression of all economies — and all dramaturgies — of sense and nonsense by accepting a fate that is regulated in a very ordinary and global fashion."[13]

—Translated by Leslie Sprout

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[12] Jean Grenier, *Essais sur la peinture contemporaine* (Paris: Gallimard, 1959), 211-212. It was Jean-François Lyotard himself who brought this text to my attention.
[13] Benoist, 59.

Some things I learned (didn't learn) from Milton Babbitt

or

Why I am (am not) a Serial Composer

Robert Morris

I never studied with Milton Babbitt, so I didn't learn about him what students usually learn about their teachers. I had no idea of Babbitt's temperament, personality, or views on anything but music, and only those views he took the trouble to write or lecture about. I also didn't have the benefit of his opinions of my music. Moreover, in the 1960s, when I was a student, Babbitt did not enjoy his present international reputation (some of which is still notoriety), although he was always well known in academic and some American contemporary music circles. At that time his music was only beginning to be recorded and his newest scores were unpublished and hard to come by. In fact, I had almost no personal contact with Babbitt until the late 1970s, although his music and its structure had begun to attract my attention fifteen years earlier. It was only in 1982, when I invited him to give a lecture and seminar at the Eastman School, that we (finally) talked at some length. Yet Babbitt's music and musical ideas have been of great importance to my work, and I write to explain how and why this came to be.

Babbitt and I are known as serial composers. On the face of it, this is because we write music with what are called arrays, usually composed out of twelve-tone rows. Of course, our musical sensibilities are quite different and our music doesn't sound (to me) at all alike. But the term "serial composer" has come to have many negative connotations. Serial composers are supposed to write a "cerebral" and "unpardonably complex" music, designed to "intimidate" the listener, to express "horrific" or other unpleasant emotional states (or on the other hand, to express nothing at all), and/or to form a "club" of in-group composers in order to suppress all other kinds of new music. If this were true, then Babbitt and I definitely would not be serial composers. Actually, even if the label were neutral or positive, it would still not capture many of the things I do in my music—or Babbitt does in his, for that matter. In my work as a composer-theorist I've attempted to show that a lot of music that would not properly be called or considered serial music, no matter what the the term might suggest, shares important structural affinities with serial music per se. My term for this large body of music is "composition with pitch-classes,"

which addresses and is intertwined with composition without pitch-classes, that is, with pitch and/or contour alone.[1]

I doubt what I have to say will clear up the present misunderstandings about serial music or Milton Babbitt. I'm not writing to right wrongs or vindicate those of us—all of us—who care if anyone listens. I write only to record my own views that I have variously expressed in part in my teaching and discussions with like-minded musicians and scholars. Here I reach out to a wider audience, one I hope will listen and consider what I have to say. The discussion has to get a bit technical now and then, and I've tried to keep it "as simple as possible, but no simpler." (The two appendices are optional reading.)

In addition to Milton Babbitt, I'm deeply indebted to other scholars who have written about his work and to composers who have been influenced by his musical achievements.[2] Some of what I will present here has been said or done by others in other ways and to other ends. I don't want the reader to think my views are self-contained or radically different from those found in the literature on serial music and Babbitt.[3] Nevertheless, I write from my own point of view, and as a composer, not as a theorist.

1.

Aside from a brief foray into European serialism in 1964-5, I was not interested in composing serial music seriously until about 1973. In hindsight, the change that occured then in my musical orientation was not abrupt: a number of musical

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[1]See Robert Morris, *Composition with Pitch-Class: A Theory of Compositional Design* (Yale University Press: New Haven and London, 1987).

[2]Two of the most penetrating Babbitt scholars are Joseph Dubiel and Andrew Mead. Dubiel's "Three Essays on Milton Babbitt," published serially in *Perspectives of New Music* 28/2 (1990): 216-61, 29/1 (1991): 82-131, 30/1 (1992): 90-122 represent a high point in studies that address how the structures and relations in various Babbitt pieces can affect and enhance a listener's experience of the music. Mead's many articles and definitive book on Babbitt, *An Introduction to the Music of Milton Babbitt* (Princeton University Press: Princeton, New Jersey, 1994), have set high standards for the analysis of the music of twentieth-century composers. Mead has also written an important two-part article on twelve-tone theory: "Some Implications of the Pitch/Order Number Isomorphism Inherent in the Twelve-Tone System," *Perspectives of New Music* 26/2 (1988): 96-163, 27/1 (1989): 96-163.

[3]For bibliographies of articles on Babbitt, see Mead, *An Introduction to the Music of Milton Babbitt* and the "Symposium in Honor of Milton Babbitt" consisting of papers read at the Library of Congress symposium of the same name held on May 2, 1998 and published in *Perspectives of New Music* 35/2 (1997). (The reason for the date discrepancy is that *Perspectives* is publishing about a year late.)

experiences and emerging interests led naturally to this new juncture. But in 1969 when I arrived at Yale as an Assistant Professor, I could not have predicted this development.

In 1961, as a freshman composition major at the Eastman School of Music my compositions were influenced by Béla Bartók, Paul Hindemith, and Igor Stravinsky. I was getting interested in Indian classical music, so I tried writing music that combined the pan-tonality and rhythmic vitality of neo-classical music with Indian ragas and talas. My lights were works by Henry Cowell, (early) John Cage, Lou Harrison and Alan Hovhaness. But about this time, the avant-garde serial and electronic music of European composers was beginning to capture the imagination of many progressive music critics and young composers—and as I think back, I probably mean "capture" literally. Having access to the holdings of the Sibley music library made it easy for me to get hold of scores, recordings, and writings by Luciano Berio, Pierre Boulez, Luigi Nono, Karlheinz Stockhausen, and others.

For about a year I resisted this influence, but the music was compelling and interesting. I finally broke down and tried to write music influenced by Anton von Webern, the serial Stravinsky, and the new Europeans. Along the way, I read some essays and books on Webern and serialism, almost all of them from a European point of view. I had no idea at that time that there was an independent American serial movement going on centered at Princeton. I did come across an article by Babbitt anthologized in a book called *Problems of Modern Music.*[4] The Babbitt article "Twelve-Tone Invariants as Compositional Determinants" had a long-range effect on me, for despite its technical difficulty, upon reflection it made sense, whereas most other articles on serial topics seemed arbitrary and ideological.

At Eastman I was also introduced to what was called informally "the Hanson System," which would prove to be of considerable, but indirect, influence later on.[5] The system was taught routinely to composition and theory majors in their junior year by Robert Sutton, who it was rumored had helped Howard Hanson work it out. The system was a way of categorizing and relating all chords and scales according to their interval content. I found out later that this theory was essentially isomorphic to Allen Forte's 1964 article "A Theory of Set-Complexes for Music."[6]

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[4]*Problems of Modern Music: The Princeton Center for Advanced Musical Studies*, ed. Paul Henry Lang (New York: Norton, 1962).

[5]Howard Hanson, *The Harmonic Materials of Modern Music* (New York: Appleton-Century-Crofts, 1960).

[6]See Allen Forte, "A Theory of Set-Complexes for Music," *Journal of Music Theory* 8/2 (1964): 136-83. Forte's subsequent book, *The Structure of Atonal Music* (New Haven and London: Yale

The difference between Forte and Hanson was that Forte was a theorist writing with a good deal of mathematical rigor while the composer Hanson had presented his ideas in a much more homely way. Moreover, Hanson posed and proposed his theory as an antidote to what he asserted were pathologies: non-tonal and twelve-tone music, while Forte was using the same conceptual frame to analyze this very body of music. Later, when I started teaching at Yale, I discovered I knew a good deal more about twentieth-century music "set-theory" than many of the graduate students in Forte's classes. (Of course, being a composer also helped.) So in my first years at Yale I found myself teaching Forte's theory to graduate composers and theorists on the side.

One other experience during my serial days at Eastman had significant consequences. I had been trying to write twelve-tone, multiple voice canons à la Webern and Stravinsky but came up with unwanted octave duplications. Webern had solved this problem with two rows by assigning each pitch to a registral position— something I learned later was called "frozen register," used by Boulez and Stockhausen for this and other purposes. I wanted to have my canons work in a more traditional way, so that a voice's notes would not jump all over the pitch space but stay in the same registral region. So I asked the faculty and friends who knew something about serial music (hardly any at Eastman) if they knew of a technique so that, say, four related twelve-tone rows could be arranged in canon so that their notes did not vertically form octaves. One or two of them had heard something about Arnold Schoenberg's use of combinatoriality and referred me to Josef Rufer's book,[7] but I was not interested in only two rows and ones that were aligned note for note. Little did I know I was very near to formulating multi-row combinatoriality. Of course, had I done so, I would have found out eventually that Babbitt had solved the three and four voice case only a few years after I was born.

During 1964-5, in my senior year at Eastman, I became aware of a few of Babbitt's works: the *Compositions* for four and twelve instruments, his song cycle, *Du*, and his first electronic work, *Composition for Synthesizer.* I also spent some time analyzing his short song, *The Widow's Lament in Springtime.* One section of the song disturbed me. Babbitt had apparently changed his material from chromatic hexachords to diatonic ones. This seemed inconsistent to me, mainly because I thought twelve-tone music had to be chromatic, despite my knowledge and love of

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University Press, 1973), presented the theory with some technical changes and many analytical examples.

[7]Josef Rufer, *Composition with 12 Notes*, trans. Humphrey Searle (London: Barrie and Rockcliff, 1954).

Alban Berg's Violin Concerto. That year I met Babbitt with my fellow student composers, and I mentioned my "problem" to him. He was kind and didn't embarrass me. He merely pointed out that the unfolding of the work's basic hexachord was responsible for this change of harmony and that the work was anything but logically inconsistent. He suggested that "normative" might have been a more pertinent word and referred me to a few philosophical works on value ascription. That short exchange gave me much food for thought.

In the fall of 1965, I began graduate studies in composition at the University of Michigan. In Ann Arbor my interest in composing any kind of serial music had dried up almost completely as I became interested in free improvisation, indeterminacy, electronic music—in other words, I followed the trends in avant-garde European and American music. Nevertheless, I remember being completely enthralled by the premiere of Babbitt's *Sextets* for violin and piano at Tanglewood in the summer of 1967. The piece impressed me with its sinuous energy and lovely pitch choices. I soon found out that the performance was highly flawed so I wasn't sure what I had heard.

Pursuing my continuing study of Indian music, I also took courses and seminars in ethnomusicology, which had a tremendous impact on my compositional aesthetics. The fact that there were musics based on completely different structural and cultural principles from ours made it possible for me to understand that Western music was also divided into different musical languages and that modern music was not only stylistically but linguistically diverse. Thus, the reason that composers and listeners from one school or orientation didn't like or understand another type of new music—or even more saliently, why people well versed in classical music (or any other form of a musical tradition) found modern music difficult—was that new music proposed a set of musical idioms as different from each other as they were different from tonality. Each idiom not only proposed a new vocabulary of sounds, but provided a new syntactic and semantic component in which those sounds would function. I also saw that some new music was out to rid itself of any language-like features, so as to be independent and outside of any previous or contemporary musical idiom.

Of course, musical structure is not literally like linguistic structure, but I had been reading Noam Chomsky then (as I did again later in 1969), so I took the connection seriously. In any case, the analogy was strong enough to suggest that twentieth-century composers had been evolving new musical languages, and that a few were literally constructing them, either in the image of the tonal common-practice language, as Hindemith had done, or with new concepts of musical time

and space, as in the case of, for instance, Stockhausen, Edgard Varèse, and Iannis Xenakis. Schoenberg's "composition with twelve-tones related only one to another," seemed to be a special hybrid case. On the one hand, as Babbitt pointed out, Schoenberg's reliance on permutation rather than combination was a radical departure, but on the other, Schoenberg's use of "regions" of hexachordal row-pairs made a direct analogy to the relations of keys on the circle-of-fifths. Schoenberg's later style had similar neo-classical leanings. The conservative tendencies in Schoenberg's music were well-noted by the European serialists and they all asserted to various degrees of severity that it was Webern, not Schoenberg, who truly saw the revolutionary aspects of the twelve-tone system. It is to Babbitt's credit that he cut though this ideological thicket and showed how Schoenberg's ideas could be generalized and adapted to form the basis of a complex and ramified musical language.

After graduating from Michigan I began teaching at the University of Hawaii and Yale, and I began to write music that reflected my studies in Ethnomusicology. I eventually conceived of writing a triptych of works, each part devoted to a different aspect of how various musical languages, even cultures, could come to influence one another. One part of the triptych contained a piece called *Not Lilacs* written for a small jazz ensemble. *Not Lilacs* was simultaneously an avant-garde jazz composition and a rigorous twelve-tone piece. The idea of putting together jazz and serial ideas was hardly new. Babbitt had written such a work, *All Set*, fifteen years earlier during the time Gunther Schuller was promoting what he called "Third Stream" music, a juxtaposition and/or combination of jazz and classical music. But Babbitt's piece was not really written to evoke jazz idioms. It was a serial work played by a jazz ensemble (and by, at least at the first performance, jazz artists). My piece was also thoroughly and utterly 12-tone, but the lines and harmonies were designed to sound very much like those of jazz. The idea was to make a piece that could be heard from two completely different points of view, that is, in two musical languages simultaneously. In this I was successful, but the reception of the piece troubled me, for most of the audience had heard it *only* as jazz.

Not Lilacs did not come out of the blue(s) however. In addition to my tutorials in twelve-tone and set theory at Yale, I became interested in twelve-tone music again due to my acquaintance with a graduate student, Daniel Starr, who had, as a lark, written a computer program that generated all of the all-interval series while a high-school student in Boston. Starr studied composition with me and showed me the output to his program, some 3856 rows. I got interested in trying to understand the necessary and sufficient structure of these rows and wrote a few

ideas down and sent this memo to Starr. He came back with some other observations and a new, better algorithm for generating all the rows anew. This led me to propose that we write an article together. In the process I began to read the entire advanced literature on twelve-tone and serial structure, writings by Bo Alphonce, Babbitt, David Lewin, Forte, Donald Martino, George Perle, John Rothgeb, and others. While some of these articles were almost opaque to anyone who had not already understood their content, I made enough headway to get a glimpse of the underlying and general mathematical model for relations among pitch-classes.

Starr and I made a good team. I had my new structural understanding and previous compositional experience and Starr was an expert computer programmer with a solid background in math. While working on the the all-interval row article, I came across the row I would use in *Not Lilacs.*[8] AIS row #44 nearly jumped off Starr's computer printout into my consciousness because the tune it made, in the smallest registral space, seemed completely and inherently jazzy. To my surprise a few weeks later, I came across the same row in an article by David Lewin.[9] It turned out this row had a unique property that had been discovered or constructed in the 1950s by a student named Pohlman Mallalieu at Princeton. I was also surprised that it had not been used, as far as I knew, by Babbitt or Martino, but perhaps this was because it was not all-combinatorial. So during the next few months as I wrote *Not Lilacs,* I invented new ways to generate combinatoriality and special order relations as I went. When I finished writing the piece, I had enough new ideas to write up a second article with Starr generalizing combinatoriality from two and four rows to any number of rows. A start on this work had been made by Martino,[10] but we had many more general methods. Starr supplemented my discoveries with his own, and he wrote computer programs so the work was again a joint effort. We wrote this article over the spring and summer of 1974.[11]

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[8]This row became the subject of a mini-symposium, "'Maximally Scrambled' Twelve-Tone Sets," in *In Theory Only* 2/7 (1976) to which Babbitt, Richmond Browne, David Lewin, and I contributed. My paper, "More on 0, 1, 4, 2, 9, 5, 11, 3, 8, 10, 7, 6", discusses a few features of the row and shows some ways I used it in *Not Lilacs.* Later in 1988, Mead discusses the row in the second part of his article "Some Implications of the Pitch/Order Number Isomorphism..."

[9]David Lewin, "On Certain Techniques of Reordering in Serial Music," *Journal of Music Theory*, 10/2 (1966): 276-87.

[10]Donald Martino, "The Source Set and its Aggregate Formations," *Journal of Music Theory* 5/2 (1961): 224-73.

[11]Daniel Starr and Robert Morris, "A General Theory of Combinatoriality and the Aggregate," *Perspectives of New Music* 16/1, (1977): 364-89, 16/2 (1978): 50-84.

2.

Having set the stage for a more complete discussion of Babbitt's ideas about twelve-tone structure and my response to it, I now want to get clear what the twelve-tone system is and what it is not. To this end, I will share a statement called "The Twelve-Tone System" that I wrote a few years ago on the occasion of presenting some of my music to a composers symposium at Eastman. (Since my statement uses a few technical terms, I have defined them in Appendix A just in case the reader is not familiar with some of them.)

The Twelve-Tone System

There is no such thing as *the* twelve-tone system. All that's there is pitch-class space and definitions of the aggregate, ordering, and a set of transformations. All other constraints are defined by the composer. Many of these constraints are communal. For instance, composers may share the use of rows, row-classes, local aggregate saturation, certain operations, order and content invariances.

Twelve-tone technique can be systematic or not. If systematic, the twelve-tone system functions in the role of language. Language enables the coordination of phonology (specific collections of sound), syntax (specified sequences and timings of sounds, local continuity) and semantics (relations among sound complexes, form). This is musical or structural meaning. (The use of music to express emotion, gesture, depict scenes, tell stories, accompany human ritual, etc. is in the domain of cultural meaning, which uses, but is not bound by, a music's structural rules or conventions.)

Twelve-tone music can assert musical hierarchies or not. Tonality is a musical hierarchy—of the tonic and its subsidiary relations with other scale-degrees and its harmonic flux of consonance and dissonance. The twelve-tone system asserts neither hierarchy nor association. A twelve-tone language might accommodate one, the other, or both. Since our memory works both by hierarchically chunking incoming data and by linking ideas, a language that

operates in both capacities provides the most secure base for implementing musical memory.

If a composer wishes to write music that has aesthetic content, what I call "suchness," [a term borrowed from Buddhist thought,] the role of language, musical or otherwise, is neither necessary nor sufficient: unnecessary, for music of any kind or function can have suchness; insufficient, for language only coordinates complexity of utterance. Nonsense can be beguiling, prose is not poetry.

Most often, the decision to use or invent a twelve-tone language is prompted by a desire for musical communality. This opposes an urge for distinctive context, but distinctive context tends to isolate pieces and their creators. A compositional method that allows bonds between different works yet allows elbow room for individuality eases this conflict.

What can a twelve-tone language do for the composer? It can provide certain regularities: (1) groups of operators acting on sets of pcs; (2) a harmonic vocabulary (the set-classes); (3) local affiliations and rules for consistent counterpoint and harmony; (4) long range affiliations based on repetition or connection of different passages on the basis of shared properties or subsets.

Not everything in music can be said or done with the twelve-tone system; but this is true for all musical systems or languages. Since some of the resources of twelve-tone music have been studied using mathematical tools, we can get a glimpse of how vast and intricate the possibilities are. So there's much to be done to make these possibilities manifest—to make music that is deep, rich, beautiful, and challenging.

—Feb. 1995

My statement covers many issues connected with serial music. For our purposes, the main point is to assert that the twelve-tone system, if limited to just rows and transformations, hardly determines compositional practice at all. So I say that Schoenberg, Webern and Berg (not to mention Ernst Krenek, Adolf Weiss, etc.) each use a different twelve-tone language; although they all use rows and the same set of transformations, each composer imposes different constraints on the use of rows. For instance, Webern was fond of linking his rows together end to end, while Schoenberg would often break his rows up into smaller units with or without maintaining pc ordering within these segments; Berg's music is filled with interesting systematic order transformations. In the 1950s, Stravinsky invented what became known as the "rotational array," his own way of making serial music. These differences and many others particularize each composer's music. Babbitt's version of the twelve-tone system was (from about 1945-60) a generalization of aspects of both Schoenberg's and Webern's twelve-tone language. He generalized hexachordal combinatoriality from Schoenberg, and trichordal derivation from Webern, which obliged him to augment considerably his repertoire of transformations.

3.

Babbitt's writings on Schoenberg, among other things, focused on Schoenberg's practice of using a *row quartet* consisting of a row called P, its *combinatorial inversion* called T_nIP, and their retrograde forms, RP and RT_nIP. By combinatorial inversion, I mean the row T_nIP is a transposed inversion of P and that its last six notes are same as the first six of P, and vice versa.

A few words on the notation T_nIP. For example, T_3IP is the name or label of a row related to P. The label says we operate on the row P by first taking its inversion around the note C natural (denoted by the I operator to the left of P in the label) and then transposing the result 3 semitones (higher) (indicated by the T_3 to the left of IP in the label). Likewise, RT_4IP is the label that denotes the row derived from P by inverting P around C, transposing by 4, and retrograding, in that order. (The order matters.) We see that the operations in row labels are always performed from right to left. When we are showing the relationships between any P and other rows inversionally related to P, we use the label T_nIP, which means that the row we are interested in is an inversion of P (around C) transposed by some number n of semitones.

One reason this row quartet appealed to Schoenberg was that the succession of two rows from the quartet could form what Babbitt has called a *secondary set.* For instance, if we label the first six notes of P A and the second six B,

the P row is notated as the string AB. By the definition given above, the combinatorial inversion T_nIP must be notated by the string BA. The R row will be notated BA and RT_nIP row by AB. This is shown in Example 1. (P in Example 1 is the row of Schoenberg's Violin Concerto.) The secondary sets are produced by the succession of two rows; the second six notes of the first row and the first six notes of the second form the secondary set, a complete aggregate. Secondary sets are underlined in the example. Moreover, as shown, Schoenberg could place two rows of the quartet in counterpoint so that the first notes of each row formed an aggregate, and likewise for the second six notes of each. This situation is called *hexachordal combinatoriality*. In sum, the combinational aspects of a row quartet were dependent on the outside hexachords of its rows, which comprised only two complementary note collections, A and B. Schoenberg would compose whole sections out of the rows of one row quartet so the hexachords A and B would dominate the fabric of the music giving the passage coherence and making it easy to comprehend aurally. In fact, Schoenberg's *Piano Piece*, Opus 33b is made out of only one row quartet.

Babbitt showed that the Schoenberg row quartet forms what is called a *four-group* in mathematical group theory. This means that the four rows are closed under the operations of identity, inversion and retrograde. This resembles in miniature the structure of the entire row-class of 48 rows, which is also closed under the 48 transformations of transposition, inversion and retrograde. Babbitt also pointed out that not any row can form such a quartet. The A hexachord of P has to be able to transform into the B hexachord under an operation of inversion and transposition. Not all hexachords have this property. Babbitt proved that the transposition had to be by an interval of an odd number of semitones.

Schoenberg's row quartets are based on the criteria for what are called *row regions* in twelve-tone theory. A row region is the collection of all the rows in a row-class that start or end with a particular hexachord. In our example, the set A is the defining hexachord. (We need not consider B, for if a row starts with B, it ends with A.) The reason "row quartet" is not coterminous with "row region" is that, with certain rows, more than one row quartet can have the same defining hexachord. In the case of the Schoenberg Violin Concerto row however, each row quartet is a row region. There are therefore twelve row regions, each a transposition of the others. Example 2 shows two row regions of the row-class of the Schoenberg row. Our row region R_0 is the row quartet of example 1; as I have said, its defining hexachord is the hexachord A, the set of notes {C Db D F# A}. Another row region is given in Example 2. It is called R_{11} because it is the transposition of row region R_0 by T_{11}.

Its defining hexachord is called C, {B C D♭ F F♯A♭}, which is T_{11} of A. (We can write C = T_{11}A.) So each row in $RT_{11}P$ starts or ends with the notes of hexachord C.

In the many published analyses of the Schoenberg Violin Concerto,[12] it is pointed out that Schoenberg makes much of the relationship between these two row regions. Example 3 shows why. There is an interesting cross-relation between the row P and T4IP (P is in R_0, and T4IP is in R_{11}). The top half of Example 3 shows that the four non-overlapping trichords (3-note sets) of P are reordered but kept together in T4IP. I've labeled these trichords W, X, Y, and Z and underlined each to illustrate the cross relation. Schoenberg often makes this cross relation explicit in the Violin Concerto by articulating P or T4IP in 3-note chordal motives. Another observation about these trichords makes the connection between these two row regions even more salient. The middle two trichords {D A G} and {Db C F♯} of T4IP taken together are the notes {C Db D F♯G A}, which is the defining hexachord of R_0. So the middle hexachord of T4IP has the same pc content as the opening hexachord of P. The bottom of Example 3 shows another relationship between R_0 and R_{11}, this time between the rows RT5IP and $T_{11}P$. Here, as shown, we can pull out of RT5IP four ordered, but non-adjacent, sets of pcs labeled J, K , L, and M. The same four ordered sets can be pulled out of $T_{11}P$, but in a different pattern of extraction. I doubt this particular cross relation between R_0 and R_{11} is exploited by Schoenberg, but others somewhat like it are.

Babbitt was the first to discern how Schoenberg defined a twelve-tone language based on hexachordal combinatoriality, row quartets, and regions. These musical procedures and concepts allowed Schoenberg to compose local affinities within a row region while at the same time utilizing a vast variety of cross relations between row regions to secure connections between non-adjacent passages of music. There is much more to say about this way of generating musical form, and I will return to this topic later.

Once Babbitt had figured out how Schoenberg deployed his invention of combinatoriality to determine both local and formal connections, we can imagine Babbitt asking himself such questions as: are there other types of combinatoriality, say between a P row and its transposition? Can combinatoriality be defined between more than two rows? Can the row region concept be generalized; specifically, can one find ways of associating different row-classes by the content of parts of rows? The answers were yes and led Babbitt to create a vast and unified twelve-tone

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[12]See for instance, David Lewin, "A Theory of Segmental Association in Twelve-Tone Music," *Perspectives of New Music* 1/1 (1962): 89-116 or Andrew Mead, "Large-Scale Strategy in Arnold Schoenberg's Twelve-Tone Music," *Perspectives of New Music* 24/1 (1985): 120-157.

language that he used in his music up until about 1960, although he has returned to it since in short occasional pieces like his *Minute Waltz (or 3/4 +/- 1/8)* of 1977, or used it to provide arrays to use in his "superarray" pieces.

Example 4 shows some hexachordal combinatorialities between the row Babbitt used in his *Reflections* for piano and synthesized tape. Here we see that Babbitt's row, which we will call P (despite the fact we used that label for the Schoenberg row in Examples 1-3), forms aggregates with each of the basic forms of the row-class. The top pair of rows illustrates the same kind of combinatoriality as in the Schoenberg, called *I-type*, since a P and T_nIP row are involved. (That the transposition number in the I form, the 5 in T_5IP, is the same as in the Schoenberg case in Ex. 1 is a coincidence.) The second pair of rows illustrates what is called *R-type* hexachordal combinatoriality. Unlike I-type combinatoriality, all rows can form this kind of combinatoriality. If we take the rows we've encountered so far, we have a row quartet with the addition of the retrograde of T_5IP. The third pair of rows forms *T-type* combinatoriality. P forms aggregates with its tritone transposition. Finally, we have the last type of combinatoriality, *RI-type.* Babbitt invented a term for rows like P: *all-combinatorial.* An all- combinatorial row can produce all four types of hexachordal combinatoriality. We note that all the row pairs in Example 4 are in the same row region since they all begin or end with the first hexachord of P, {A Bb B C Db D}. There are eight rows in this region, so dividing 8 into the total number of rows in the row-class of P (48), we have 6 row regions. In the case of the Schoenberg Violin Concerto row there were 12 regions (48 divided by 4).

Babbitt went on to determine structural properties of each of the four types of combinatoriality and of all-combinatoriality. Please see Appendix B for some technical notes on hexachordal combinatoriality.

4.

So Babbitt determined that combinatoriality depended on the properties of the hexachord A (the first six notes of a row). He used the term "source-set" for a set-class that contained sets that can play the role of A in determining combinatoriality. He then examined all the possible hexachordal set-classes to see which ones were source-sets that satisfied all four cases of combinatoriality. He found there were six. These all-combinatorial hexachordal source-sets are given in Example 5. (The letter names were probably given to these by Donald Martino.) Three of the source-sets are familiar to many musicians: A is the chromatic hexachord; C is the diatonic hexachord; F is the whole-tone scale.

From a Schoenbergian vantage point, there is a problem with all-combinatoriality: the number of regions containing many row quartets is small. Example 5 shows that the number of row regions of an all-combinatorial row can be no larger than 6 and as small as 1, where the row-class itself is the row-region. Thus, the form-defining feature of a region is considerably weakened by all-combinatoriality.

Babbitt overcame this limitation with another brilliant innovation. Taking his cue from the row of Webern's *Chamber Concerto*, Opus 24, Babbitt constructed 4-row combinatorialities that would play the role of regions in his music.

Example 6 shows the row of Webern's Opus 24. The row's four non-overlapping trichords are related under twelve-tone transformations. The four distinct trichords are labeled W, X, Y, Z below the row. On the next line the relations between the trichords are spelled out by showing how each is related to the first, W. W is, of course, W (We can express this formally by writing $W = T_0W$.) Trichord X is the RT_7I of W. $Y = RT_6W$, and $Z = T_1IW$. Thus, the four trichords are related in the same ways that the rows of a row quartet are related through the four basic transformations. We can see why this kind of row is called a *derived row*: each of the four trichords is related to the first, so the row can be derived or generated from the first trichord by operating on it with twelve-tone operations.

But Babbitt went a step further than Webern, for he understood that he could form a 4-row combinatorial array from a derived row such as Webern's. One produced the four rows of the array by simply operating on the entire derived row with the operators used to derive the row from one of the trichords. The result of this procedure is shown in Example 6. This array has the following properties.

1. Each cell in the array has one of the four non-overlapping trichords of P.

2. Each row of the array contains each disjunct trichord of P once and only once. This is revealed by the second schematic array labeled "Structure of trichordal combinatorial array," which shows how the trichords W, X, Y, and Z of P are disposed in the trichordal array.

3. From 2, each column contains an aggregate. Thus this array is called a *trichordal combinatorial array.*

4. The upper two and lower two rows each display hexachordal combinatoriality.

5. From 4, the entire array could be considered the combination of two hexachordal combinatorialities.

6. The rows in the array could be relabeled according to the labels at the end of the schematic array. r_6 is a *rotation operator* that places the last six notes of a row before

the first. (So the four rows in the trichordal array could be defined to be related by T_7I and/or r_6 alone, that is, without R.)

This array has other harmonic properties as well. The first hexachord of P {C Eb E G G# B} is from the all-combinatorial source-set E. Thus Webern's row is all-combinatorial, although Webern never uses it to produce combinatoriality. (Combinatoriality was not part of Webern's twelve-tone language.) In addition, each pair of vertically aligned trichords in the upper two and lower two rows forms another all-combinatorial source-set, namely the A-type, chromatic hexachord. For instance, the last two trichords of P and T_1IP form the set {Bb B C $C_\sharp$ D $E_\flat$}, a chromatic hexachord. Another instance is the second trichords of RT_7IP and RT_6P, which form the same set. The presence of all-combinatorial source-sets here is not fortuitous. Babbitt was able to show that rows made from all-combinatorial source-sets could always form rows derived from a single trichord. Moreover, of the twelve trichordal set-classes, all but one can produce derived rows that are also all-combinatorial.

But how could one construct derived rows of any kind? The answer is simple. One finds a way to partition the aggregate into non-overlapping sets of the same size and of the same set-class. (There are however set-classes that will not allow such a partition.) The bottom of Example 6 shows the underlying aggregate partition of the Webern row. It divides the aggregate into four trichords so we call it a 3333 or 3^4 partition. Each trichord of the partition is from the same set-class. This set-class is called 3-3 or [014] and contains all the transpositions and transposed inversions of the set {C $D_\flat$ E}. To make the derived row, one finds out under what twelve-tone transformations the trichords of the partition are interrelated. One then orders one of the trichords and produces the ordering of the others by using the set of transformations on the first. Some of the resulting orderings can be reversed to bring the R operation into play.

Babbitt used trichordal arrays of the type given in Example 6 and other, more complicated ones, in the ways Schoenberg used row regions to give local coherence to a passage in a longer work. So a work by Babbitt up to about 1960 would typically be composed of a series of trichordal arrays, each based on a different trichordal set-class (or two different set-classes) and an all-combinatorial hexachord. One question remained. Since the number of different trichordal arrays is large, which ones might one use in a given composition, and placed in what order? Babbitt solved this question by deriving the trichordal arrays and their rows from the imbricated trichords of a master row or ordered hexachord.

The top of Example 7 shows the opening row of Babbitt's song of 1950, "The Widow's Lament in Springtime." This was the piece I briefly discussed with Babbitt in the fall of 1965. The row is hexachordally derived from the ordered hexachord <F E D G E♭ C>. This is the first half of the row, the last half being the retrograde of the first half transposed by the tritone. Thus the relationship between the two hexachords of the row is RT_6. This means that the row is derived from the two trichords labeled W and X. X and W are not from the same set-class; one is from the set-class called 3-2 or [013] and the other is from 3-11 or [037], the set-class that contains the major and minor chords.

The opening array of the song is given in the middle of Example 7. This array is made out of four rows, none of which are related by standard twelve-tone operations. The second row XP is related to P by an operation called X. X takes the trichords of P and places them in reverse order but without reversing their internal order. The relationship between P and XP is quite easy to hear: one hears the same four trichordal melodies twice, in P in the order 1, 2, 3, 4, and in XP, 4, 3, 2, 1. The bottom two rows are similarly related. There is a systematic relationship between P and Q, but it need not be explained, for the structure of the whole array is made out of ordinary twelve-tone transformations of W and X as shown in the schematic array. The outer columns contain members of the set-class 3-2 [013] and the inner columns, 3-11 [037]. Other than the derivation from two trichordal partitions of the aggregate and the relationship between the rows in the array, the array has exactly the same combinatorial structure as the Webern array. The first hexachord of P is of the B source-set and the vertically aligned trichords of P and Q (or XP and XQ) in union are of the E or A source-sets.

For the rest of the piece Babbitt takes the imbricated trichords of the first hexachord of P and constructs new arrays that put the four trichords together in all possible combinations. Example 8 shows all the imbricated trichords in the first hexachord of P, labeled W, X, Y, Z. Below that is the fourth trichordal array of the song. The all-combinatorial hexachords in this array are the diatonic C source-set as the first and last hexachords of the top two rows, the B source-set in the same hexachords of the bottom two rows, and the E source-set in the vertically aligned trichords of the top two and bottom two rows.

5.

A question almost always comes up when I explain Babbitt's compositional practices: Can you hear it? Of course, this depends what you mean by hear. But for me the answer is an emphatic yes. In point of fact, it was the possibility of hearing

the identity of the different source-sets and relationships among the rows, hexachords, and trichords in the arrays that most impressed me about Babbitt's innovations. I found they were even easier to hear than the relationships in Schoenberg's works, perhaps because of the redundancy within Babbitt's arrays and the differences between them. By this I mean that, as we have seen, one of Babbitt's trichordal arrays is based on only a few ordered and unordered sets related by hearable transformations such as transposition and inversion. And since these sets change to other ones when Babbitt introduces the next array, it is easy to tell that a new array has begun. Of course it helps a lot to know the aural identities and properties of the set-classes. But many of these have been used in other twentieth-century music or even in tonal music. And there are only 12 trichordal set-classes. (As I've already mentioned, the 3-11 or [037] set-class contains the major and minor chords. Another set-class contains all the diminished chords; it is known as 3-10 or [036]. Another is 3-6 or [024], this contains sets made out of three consecutive notes of a whole-tone scale. As for the all-combinatorial hexachordal source-sets or set-classes, perhaps only B is not already overused in contemporary music.)

But I should also say that Babbitt's structures were easy for me to hear not only because I composed music, but because I had already learned a lot about note sets and their set-classes from my student days at Eastman, where I was introduced to the "Hanson system." This, with the further support of Allen Forte's set theory, made listening to Babbitt's music a relatively easy matter.

6.

What I have just explained represents most of what I knew about Babbitt's music when I began thinking about twelve-tone music and structure in the early 1970s at Yale. But there was another important source of knowledge. Martino's classic article of 1961[13] discussed and illustrated hexachordal (two row), tetrachordal (three row), and dyadic (six row) combinatoriality. Most of this article is really a list of all the possibilities of creating aggregate partitions out of one or two trichordal set-classes. For instance, each combination of trichordal set-classes was listed according to what hexachords would result. This was not as interesting to me as the parts of the article on what Starr and I would call "folding" trichordal combinatorialities into 8-row arrays, or the mention of uneven 2-row combinatoriality (by dividing rows into a 5 then 7 note set). I found out later that some of the material in Martino's article had been discussed in Babbitt's lectures at Princeton in the 1950s. I also knew that one

[13]Donald Martino, "The Source Set..."

could compose 12-row arrays arranged in a 12 by 12 square such that: each column produced an aggregate; taking the top four rows in trios of columns produced trichordal combinatoriality (and the same for the array's middle and bottom four rows); and that rows in pairs formed hexachordal combinatoriality. This I learned from studying Babbitt's *Composition for Twelve Instruments* just before I started teaching at Yale. (I thought everyone at Yale would know this work and all about Babbitt, so it was necessary for me to at least get acquainted with its structure. But it wasn't so.) There were also some almost parenthetical references to what Babbitt called "generalized and weighted aggregates" in one of his articles, but I didn't follow them up.

I also noticed that the literature that interested me was almost divided neatly between authors associated with Yale versus Princeton and that writers at one school were not reading the writings of the other (or were not admitting to it). Work by other Princetonian composers such as J. K. Randall, Claudio Spies, and Peter Westergaard augmented my knowledge of serialism, while research by Yale authors such as Forte and Alphonce helped me understand the universe of set-classes and its many diverse webs of interrelations. Hubert Howe's work at Princeton on set-classes with respect to the M_5 and M_7 transformations was also important. By combining methodology and insight from both schools I was able to have some original structural thoughts of my own. Thus, when I decided to compose *Not Lilacs* using the all-interval source-row #44 from Starr's computer printout, I was able to invent ways for that row to do double duty in jazz and serial contexts.

But I should acknowledge that it's likely I wouldn't have written a serial piece in 1973 had I not been able to overcome some misgivings about trichordal and hexachordal structures and arrays. First of all, the limitation to a handful of hexachords and the 11 trichordal set-classes that can form trichordal combinatoriality did not altogether spark my imagination. In fact, the sound of most of the all-combinatorial hexachords despite their many properties seemed generic especially when compared to the beautiful chords I could make using hexachords in set-classes such as 6-6 [012567], 6-17 [012478], or 6-44 [012569]. However, these set-classes contain hexachords with very few or no combinatorial properties (aside from R-type combinatoriality). So I came to the conclusion that the striking intricacies of Babbitt's combinatorial system were not possible with the hexachords I liked best. And I conjectured that perhaps the best-sounding hexachords were precisely those without combinatorial potential. As I shall relate later, I was quite wrong about this. But if I considered using other hexachords with only some combinatorial possibilities with the trichords, as Martino had suggested in his article

and had done in his music—which I did not know well then, except for his *Trio for Clarinet, Violin and Piano*, which I admired—the chunking of music into 3s, 6s, and 12s still seemed too texturally and gesturally redundant. But these limitations actually reflected the limitations of my compositional craft and imagination, for today I know such constraints would not cramp my style. Of course, the main reason I didn't jump right in and write serial music was that I wanted to write music that was my own, that didn't sound like Babbitt's or Martino's or anyone else's. (I had heard such serial imitations at Tanglewood and found them dull and lifeless.) And since I was in the middle of my project to write music that explored the notion of musical acculturation and syncretism, serial music was not the main show.

7.

But when I began to think about composing *Not Lilacs*, I invented ways to create combinatorial arrays that were not evenly distributed. Arrays of this type are given in Example 9. P is the row of Schoenberg's Violin Concerto of Example 1. Glancing over the set of nine arrays we see that, except for 9a and 9b, most of the columns contain uneven distributions of notes. In addition, no row is obliged to contribute notes to every column of the array; there are many "holes" in these arrays. Many of the arrays are asymmetric with respect to the transformations of their contributing rows. Examples 9a to 9d are transformationally symmetric, so that, for instance Example 9b can be transformed into itself under R and/or T_3I and an exchange of rows in the array. And the arrays use only the classical twelve-tone transformations.

Examples 9a through 9d show how hexachordal combinatoriality can be "folded" into a larger array. Example 9a illustrates R-type combinatoriality, the simple combination of a P and R form. In 9b, a copy of the array transformed under T_3I is added to the original array. The result is a trichordal array that has its top and bottom pairs of rows in hexachordal combinatoriality, as in the arrays of Examples 6 and 7. But the array is not made from a derived row, and the trichords within it are of four different types. Example 9c presents another 4-row array made by folding 9a, but the transformation is now T_1. Each column of the array is partitioned into a pentachord, a tetrachord, a dyad and a single note; hence the partition label 5421 under each column. The semitone transposition between P and T_1P, and RP and RT_1P, a double canon in *pari passu*, makes this array very easy to hear, all other things remaining equal.

In Example 9d, I show an 8-row array. Embedded in it are 4- and 2-row combinatorial arrays. Its top and bottom halves are 4-row arrays (if one ignores every other column boundary) and these arrays themselves contain hexachordally

combinatorial arrays. This array was made by taking 9a, folding it under T_3, then taking the resulting four-part array and folding that under T_{10}. This led to an unexpected benefit since the rows of 9c are contained in the array although one cannot fold 9c to get 9d.

Examples 9e and 9f contain 3-row combinatorialities. 9e contains three rows from the 8-row combinatoriality of 9d, but they are distributed very differently in their 3-row environment. 9f shows how it is possible to have more than one row in an array line. T_4IP is followed by $T_{11}P$ in the array's second line. Thus we have a 2:1 relationship between this line and others, resulting in the consistent 63^2 partition in each column. This array's structure depends on the fact that the middle hexachord of the row is the T_4I transform of the first hexachord. This cross-relation also determines the relationship between row regions R_0 and R_{11} discussed in Example 2.

The last two examples display arrays whose columns each contain unique distributions. The row transformations of Example 9g suggest that it is not a folded array; there are no transformational symmetries. It has to be composed from four rows, not built up from simpler arrays. The same is true of the 5-row array in Example 9h. However, it contains two evenly distributed columns, the second of which is trichordal (3^4) and the fourth, tetrachordal (4^3). Thus it is possible to have evenly distributed columns among the others.

There were many reasons why I was attracted to compose with such arrays rather than the trichordal ones. The different distributions suggested all kinds of rhythmic, gestural, and polyphonic ideas. I didn't have to start with something uniform and distort it to give it vivid contour and musical muscle. There was an attractive ebb and flow in the way some rows would contribute only one or no notes to a column while at other times they would dominate the column with runs of 6 or more notes. This meant that segments of the row were more able to be heard more easily as other rows got out of the way in the flow of changing distributions of notes. I saw how the profile of an entire composition could be made out of the concatenation of these kinds of arrays. And of course, I could use the evenly distributed arrays when I wanted more stability or equality among the rows in a section of music.

During and after writing *Not Lilacs*, I felt completely comfortable with the twelve-tone language I had constructed for myself and which I understood could be reconstituted if necessary every time I wrote a new piece. As I wrote the combinatoriality article with Starr, I was not just doing theory, but research that would be useful for composing future works.

8.

In our article, Starr and I recounted and expanded the source-set approach to generating combinatoriality. For instance, we generalized hexachordal combinatoriality to 2-row combinatoriality. Example 10 presents a new row, which is shown to possess 2-row all-combinatoriality on the tetrachordal level. Thus the note set {C Db E♭ E} is a member of a tetrachordal all-combinatorial source-set. The criteria for 2-row combinatoriality depends on thinking of the row as having a *beginset* of notes at its beginning, an *endset* at its end, and the remaining notes in the middle as a *midset.* Appendix C contains the details of 2-row combinatoriality. The result is that all-combinatoriality is not the special domain of the six all-combinatorial source-sets and even a row that has no hexachordal combinatoriality (except for the R-type) can be all-combinatorial at another level.

But perhaps the most interesting aspect of this generalization of combinatoriality is that row regions can also be generalized with a remarkable result. In the hexachordal case, a row could be a member of only one row region at a time, but in the case of non-hexachordal 2-row combinatoriality, a row is a member of two row regions, the row region of the beginset and the row region of the endset. (The reason the hexachordal case is different is that the beginset is the complement of the endset, so that the two row regions are the same.)

I found generalizations like those just presented and in Appendix C to be intellectually exciting and compositionally stimulating. Starr and I discussed other cases of combinatoriality that did not depend on the source-set approach devised by Babbitt and Martino or a generalization thereof. By probing more deeply into the properties of various transformations in the twelve-tone system, we devised other generative techniques. We also expanded the classical twelve-tone transformations to include the M_5 and M_7 operations, which map the chromatic scale to the cycle of fourths or fifths. I had already understood that these so-called "multiplicative" operators were useful in understanding some basic transformations in jazz harmony, and they were used in this capacity throughout *Not Lilacs.*

As I mentioned above, Starr wrote a number of computer programs that implemented the methods in the article and others to produce arrays. When I became proficient enough at programing I wrote similar programs and others to help eliminate the tedious construction and analysis of arrays. By running these programs, we found it to be a rare row that would generate any less than a hundred distinct cases of combinatoriality without going beyond four rows in an array. (It was necessary to put limits on the output to keep these programs from churning out too many (often unwanted, or trivial, but distinct, cases).)

The most important result for me was that a row didn't have to be assembled from special source-sets to have combinatorial potential. Any row, consisting of any set-classes whatsoever had copious combinatorial potential. Combinatoriality was therefore a property of all rows and a vast and pervasive way to construct a twelve-tone system.

9.

Just after we had finished writing the first draft of our article, a new issue of *Perspectives of New Music* appeared with an article by Babbitt, entitled "Since Schoenberg."[14] This article reviewed and brought together many of the issues and results in Babbitt's earlier work and introduced and illustrated two new types of arrays, the *all-partition array* and the *weighted array*. It was interesting to compare Babbitt's approach to ours, since it was clear from the article that Babbitt had been composing works and developing structures that addressed some of my concerns about trichordal combinatoriality and duplicated some of our discoveries. But since most of the article concerned itself with derived sets and trichordal combinatoriality, I didn't fully appreciate then that Babbitt had changed his *modus operandi* from his hexachordal, trichordal, derivation practice to working with all-partition arrays for quite some time. But I should have known from my encounter in 1967 with *Sextets*, one of his first all-partition array pieces, that he was up to something new, for the features I had admired in that piece were exactly ones that were suggested by the kind of arrays presented in Example 9. Around 1973-4, composers such as Yehudi Wyner told me that Babbitt seemed to have entered a new compositional phase. I assumed most of the novelty was due to Babbitt's invention and use of the timepoint system,[15] a system of rhythmic serialization as elegant as the all-partition array.[16] But I had to wait three or four years to hear recordings of *Arie da Capo* or *Reflections*. This was even an ironic situation, since Babbitt had illustrated his all-partition and weighted arrays in his "Since Schoenberg" article with the opening blocks of his arrays from *Reflections*.

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[14]Milton Babbitt, "Since Schoenberg," *Perspectives of New Music* 12/1 (1973): 3-28. This issue was late and actually published in 1974.

[15]See Milton Babbitt, "Twelve-Tone Rhythmic Structure and the Electronic Medium," *Perspectives of New Music* 1/1 (1962): 49-79.

[16]The timepoint system was not only elegant but solved once and for all the problem of mapping pitches and pitch-classes to timepoints and timepoint-classes proposed by serial composers in the early 1950s. While I have written a few (short) pieces using the timepoint system to control foreground rhythm, I've not (yet) been able to find a way to use it effectively in my music.

So Babbitt's concept of a 12-line, 77 aggregate all-partition array did not immediately spur me on to try to make one for use in my own music. It seemed that such an array would be only useful for a large piece for many players, and I was used to constructing my compositional designs from smaller arrays. Nor did it cross my mind that one could make smaller all-partition arrays like Babbitt's 6-line, 58-aggregate, array for his works *Tableaux* and *Arie da Capo*, or the 4-line, 34-aggregate array used in *My End is My Beginning*. But I did understand that the all-partition array was an extremely elegant extension of Babbitt's compositional technique since Babbitt's arrays were built to preserve row regions.[17]

Let me illustrate this business about row regions by discussing the examples Babbitt presented in "Since Schoenberg." Example 11a reproduces his article's Example 4a. It is the first "block" of the all-partition array from *Reflections*.[18] It contains twelve aggregates, all with different partitions. Like Babbitt, I arrange the array in six pairs of rows, each of which presents a different row region of P, based on an A-type all-combinatorial hexachord. Since a row based on an A-type source-set will have six row regions, the array presents all row regions simultaneously. If you take any pair of rows alone, they articulate the implicit hexachordal combinatoriality of their row region, the two aggregates of which are bound by the double bar. Since there are eight rows in each row region of this row, the next block can continue the pattern of the six simultaneously unfolding row regions by keeping new rows from a row region on the same array lines as in the first. In fact, in the second block of this array Babbitt uses the retrogrades of the rows in the first block, so situated to provide a secondary set between the second hexachord of each row in the first block, and the beginning hexachord of a row in the second block on the same row. At the end of the fourth block, all the rows of the row-class have been stated once, and each row region has been completely presented in combinatorial pairs in its vertical position in the array. Two more blocks are necessary to complete the entire all-partition array.

In his article Babbitt presents three more 12-row blocks, all of them transformations of the first. He shows that one can operate on the entire array with one inversional transformation to permute the row regions of the original array. I do something similar here, but for an additional reason, to show how an array of this type can be repartitioned by transformation. I take the block in Example 11a and transform all of it under T9I then exchange the rows in various ways. (The process

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[17]A number of Babbitt's all-partition arrays have been published in Mead, *An Introduction*..

[18]The entire array is published in John Peel and Cheryl Cramer, "Correspondences and Associations in Milton Babbitt's *Reflections*," *Perspectives of New Music* 26/1 (1988): 144-207.

is documented in Example 12a.) The resulting block in Example 11b has the same vertical partitions as its source, but the horizontal partitions of the individual rows have been exchanged within each row region. So the horizontal partition of the top row of Example 11a is the horizontal partition of the second to top row in Example 11b and vice versa. By checking through the arrays to confirm this exchange of partitions, the reader will discover, if s/he hasn't already, that 11a and 11b are not completely made from the same rows. 11a has T_4IP and $T_{11}P$, while 11b has $T_{10}P$ and T_5IP. Nevertheless, these four rows are all from the same row region, so the integrity of the region preservation is not compromised. (If the set of row transformations of the twelve rows of 11a had formed a mathematical group or coset, then the rows of the 11a would have been completely replicated in 11b.)

Example 11c is almost the same as Babbitt's Example 4b in "Since Schoenberg." Here each row region is transformed into itself under its *own* T_nI operation, where the n is different for each row region. This has the effect of exchanging the rows of a row region but keeping the horizontal partition of each array line intact. I then exchange these rows so that the order of rows in the block is the same as before, but the horizontal partitioning is exchanged within the row region. (See Example 12b for a documentation of these transformations.) Because each row region is transformed under a different inversional operation, the array loses its overall 12-part combinatoriality while the row region combinatoriality is preserved. This kind of array block was designated by Babbitt as "weighted" since the columns are no longer aggregates and notes are duplicated in one column and missing in another. (I call such arrays *vertically weighted.*) Of course, the whole array has twelve instances of each pitch-class but the distribution is not as finely grained. Since combinatoriality was such an important feature in Babbitt's music I was surprised at his interest in vertically weighted arrays, but I understood that if he did want to use row combinations that were not aggregate preserving, deriving these from combinatorial arrays was at least a systematic way of including weighted arrays in his twelve-tone language. I shall return to vertically weighted arrays later, for they perplexed me in other ways as well.

10.

As I worked on new pieces based on arrays with diverse and uneven partitions, I began to sense the vastness and grandeur of the things one could do with twelve-tone rows. In addition to combinatoriality, I explored other kinds of row relations based on segmental invariance and hierarchies of row inclusions. I also began to formalize these properties and publish the results in theory articles. I wrote

computer programs to help generate pitch-class entities and configurations of different kinds. I spent a grueling two months in 1977 working on a large FORTRAN program that would automatically construct 12-part, 77 partition all-partition arrays. It was a failure for want of a general model of such arrays, for I was trying to generate them without what I now call horizontal weighting, a technique Babbitt mentioned in "Since Schoenberg," but which I didn't fully understand.

My appreciation of the world of generalized aggregates reached new heights when I finally understood that *all* aggregates could be related within or across pieces to various degrees of relation. And combinatoriality was (perhaps) the chief way of projecting these relationships. In my earlier thinking about aggregate preservation, I considered it as a way to keep the aggregate circulating locally to avoid direct octave relations in counterpoint and to provide a criterion for combining or concatenating rows. I thought of the aggregate as either totally unordered (a collection), or totally ordered (as one of the 12! rows), or as a partition of notes from which one could construct combinatorial relations, such as hexachordal and trichordal combinatoriality. But when I saw that generalized aggregates could represent aggregates as partial orderings as well as model segmental interrelations among rows (as in the example of the cross relations between Schoenberg's row regions above), I saw the prime entity in twelve-tone music was not the row but the aggregate. Thus, pieces not based on rows, but on smaller (or larger) sequences, collections, or partially ordered sets of notes and those with multiple row-classes were all part of a universe of twelve-tone languages all interrelated to greater or lesser extent by their use of aggregates as a norm of association and progression.

Babbitt himself has written similarly of the multiple paths of association from the 12^1 partition represented by the total ordering of row of a composition to the 1^{12} partition in a 12 by 77 all-partition array, an aggregate that can be ordered to form any row desired. Thus Babbitt's all-partition array represents a particular type of microcosm of the entire set of relations available in aggregate-preserving music. Such arrays coordinate many different compositional issues. For instance, when using rows alone or a series of arrays of two to four rows with equal partitions one has to interpret the row's notes in various registers to obtain a registral profile for the work. With all-partition arrays of six rows or more, just assigning each row to a different register produces a unique registral profile. The array's profile is the work's profile. In addition the entire pitch-space is saturated at the end of a block, in the same way the aggregate is completed at the end of each array line and, of course, at the end of each array column. (If the array is embedded by smaller aggregate functions like row regions or other forms of combinatoriality, these present different rates of twelve-tone saturation. In such cases, each note has multiple

functions in the array as it contributes to different overlapping and embedded aggregates.) Assigning lines of the array consistently to an instrument or ensemble of instruments gives that solo or group a complete twelve-tone composition to play, a feature that doesn't in principle hierarchize instruments into primary and secondary roles; this is much like the equal-voiced music of the Medieval, Renaissance, and (sometimes) Baroque periods. But arrays can also be deployed hierarchically as well.

In their normative role, aggregates provide a musical metric for rhythmic patterning and pacing. Aggregate rhythm takes the place of harmonic rhythm in older music. In my own music, I have almost always determined the durations of aggregates before realizing their notes as pitches in time and register. (Of course, I would make changes if the compositional moment demanded it.) Babbitt's rhythmic practice in his early works often involved interpreting pitch-class rows in time by associating the notes written as integers from 0 to 11 with durations from 1 to 12 rhythmic units. With his invention of the timepoint system, he would interpret the pitch-classes and intervals in an array (often that of the pitch-class array of the same piece) as timepoints and durations, respectively. This meant he was composing with two arrays simultaneously, the pitch-class array and the (perhaps derived) timepoint array. The interrelations between these two arrays would bring about a creative tension in the composition as the relation between sets of notes and sets of timepoints clashed or fused time and pitch. Aggregate rhythm was therefore a factor in his work, but the aggregates that determined the timing of his music were those situated in the timepoint array. (Some theorists (including Babbitt) would rather consider arrays as uninterpreted, abstract structures, and their implementations as either timepoints or pitch-classes in music as interpretations of the same abstract array.)

The ways in which one designed and combined arrays and composed-out their aggregates suggested to me new concepts of form including what has been termed "recontextualization" by Dora Hanninen.[19] Musical units from notes and motives to entire arrays could be configured so their literal repetition in new contexts was not heard as the same thing in a new context but as a new thing in a new or repeated context. For instance, I have written works where entire sections of

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[19]See Dora A. Hanninen, "A General Theory for Context-Sensitive Musical Analysis: Application to Four Works for Piano by Contemporary American Composers," Ph.D dissertation, University of Rochester, 1996, and "Context Formation and Recontextualization in *By Far* (1995) by Robert Morris," a paper read at the "Musical Intersections 2000" Conference of the *Society for Music Theory*, November 2, 2000, at Toronto Canada.

a piece are played both alone and together forming a larger continuity that has emergent properties that place the sections in new, unforeseen contexts.

Music made from internally diverse but aggregate forming arrays fortified and implemented an aesthetic position that I had held since my graduate school days in Ann Arbor. I had expressed an aspect of it in my pieces that combined different musics together. I had long felt that Western classical music had become too fixated on the composer's vision above all others so that many late nineteenth-century and early twentieth-century pieces presented the listener with really only one basic way of hearing them. Such music could be readily appreciated on first hearing, due to its unambiguous homophonic textures, its reliance on musical rhetoric and ready-made signifiers. To be sure, the best of this music was suitably nuanced, but it did not wear well on subsequent hearings. So rather than compose works that hierarchized some musical experiences over others, I wanted to make a music that would offer the listener a diversity of music experience, and often without a trace of the musical teleology characteristic of earlier Western music. Array composition allowed me the room I needed to create works that present a multitude of listening paths to be discovered by the listener, many of which I might not have considered myself. Rather than forging a single trail through a familiar terrain (with vistas clearly marked) from one definite place to another and ending up back home, I could design musical gardens that can be visited and enjoyed in a multitude of ways. In this, array composition is wed to the rich flow of sound and sense in twentieth century poetry, and the aperceptive features of much modern art.

Array music also suggested connections with Eastern concepts and concerns as communicated in Hindu and Buddhist treatises and sutras, a literature I was beginning to study and appreciate at about the same time I started composing array music. I saw the array as having a cosmographic function in analogy to the stupa, mandala, or pagoda. For instance, the image of Indra's net is often found mentioned in "Huayen" Chinese Buddhism. The net is a web of strands connected together by jewels, each of which reflect the entire net. This interpenetration of figure and ground seemed exemplified in compositions based on twelve-tone arrays. It follows since any row-segment can be heard in an array composition as a figure whose ground is the neighboring parts of the array, which are none other than transformations of itself, that is, other related rows. And that row-segment becomes (part of) the ground for a different figure when we change our focus to another segment. This is one reason why an array composition can be heard in so many different but coherent ways.

11.

To indicate more concretely how array composition suggests the figure of Indra's net in Example 13, I have constructed some ways of composing-out aggregates using the first block of Babbitt's *Reflections*. Since I move through the block one columnar aggregate at a time, it probably will be useful to compare these examples with Example 11a, where the block is given as a whole.

Example 13a shows that the notes in the first block of the Babbitt array can be ordered to form the T_1IP of the Schoenberg Violin Concerto row. The reference could be much closer than simply playing the row note by note, for any presentation of the row in the Concerto with repetitions, simultaneities, and other elaborations could be exactly duplicated in this aggregate block. T_1IP is not the only row of the Concerto that can order the aggregate. Eight other members of the row-class can do it: T_nP (where n = 1, 2, 5, 8, 11) and T_pIP (where p = 4, 7, 10). For fun or practice, the reader might want to reorder the aggregate to present one or more of these rows.

I've given two different realizations of column 2 of the Babbitt array in Example 13b. The first, on the left, shows how the aggregate can be ordered to give the content of the successive trichords of the RT_6I transform of Schoenberg's row. In this aggregate, there are more order constraints than in the first so it turns out there is only one other Schoenberg row whose trichords can be similarly projected. The reordering of the array column on the right of Example 13b shows that the aggregate can present two complementary members of the C-type all-combinatorial source-set, set-class 6-32 [024579] or the diatonic hexachord. This shows us that an aggregate can be ordered to project a particular harmony or set of harmonies without reference to a particular passage of a composition. Such orderings provide aggregates with harmonic colors of diverse characters and qualities. (Babbitt seems to be fond of such references to the all-combinatorial hexachords, as the opening of *Arie da Capo* attests. I chose to partition this aggregate into C-type hexachords because Babbitt opens *Reflections* with a clear instance of the C hexachord.)

An aggregate can also provide internal references. Example 13c orders the third aggregate of the block according to the P row of its generating row, although that row is not a line in this array block via this ordering. Or one could say that the P row refers to this aggregate since references between different aggregates always work in two directions; various forms of compositional rhetoric can weight the direction of reference one way over the other. I will take a moment here to offer a hypothetical example of such a reference. Let us suppose there were a P row somewhere else in the work played by a group of instruments assigned as follows:

flute plays the A♭ of the row; oboe plays the F♯ and B of the row; clarinet plays F and C; harp plays D♭; violin plays G, D; cello, E, A; and tenor voice E♭, B♭. Then let us assign those instruments to play the lines in the block in the following way: flute plays line 2; oboe plays line 7; clarinet, line 8; harp line 9; violin, 10; cello, 11; tenor, 12. (Other instruments play the other lines of the array.) Then aggregate 3 of the array would be referenced by the presentation of P, or vice versa, or both. Note that even if the aggregate were ordered in some other way, the reference of P to the aggregate would still go through (although with less force) because of the instrumental assignments which pick out the same notes.

Another inter-array reference is shown by Example 13d, where the notes of the fourth aggregate of the block are ordered so its notes can refer to the notes in the tenth aggregate. Column 10 of the block is given in the example for convenience. The retrograde of column 10 is ordered so that it conforms to the configuration of notes in column 4 written immediately above it. Since the ordered dyads in the lines of the bottom column can be picked out of the top column between the lines, the ordering of column 4 corresponds to the retrograde of the ordering of lines in column 10. We would need to have some means of picking out the dyads in column 4, say timbre, articulation and/or dynamics, to make a clear reference to the lines of column 10. Note that while column 4 has to be ordered as given, column 10 can be ordered in any other way without disturbing the cross relation via retrograde between the two columns.

Relationships between array columns have been explored by Babbitt. Andrew Mead's excellent article in *Music Theory Spectrum* on Babbitt's piano piece, *My Complements to Roger,* shows how.[20]

Example 13e provides a cross connection to the 3-row array I presented in Example 9e. (This array does not appear in the Schoenberg work.) One of the rows of 9e is substituted by an ordering of column 5 of the Babbitt block. Or, alternatively, one of the rows of the array of 9e is partitioned into "voices" that can refer to the lines of column 5 of the block.

References between aggregates are between partially ordered sets because array columns are partially ordered sets. Some of the notes in an array column are constrained (the ones in a line); others are not (those notes which are alone in a line of an aggregate). Notes that are not in the same array line of a column are free with respect to their mutual ordering and are said to be "incomparable." Thus an array

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[20]Andrew Mead, "Detail and the Array in Milton Babbitt's *My Complements to Roger*," *Music Theory Spectrum* 5 (1983): 89-109.

column's aggregate is a partially ordered set (or poset). When we make connections between two aggregates where at least one comes from an array, we are comparing two posets. Example 13f, like 13d above, shows such a connection between two array aggregates. Here they are column 6 of the Babbitt block and the first column of the hexachordal combinatoriality of the Schoenberg consisting of the first hexachords of P and T5IP. As in Example 13d, there are some ordering constraints on both aggregates to make the cross reference as close as possible. By reordering each aggregate slightly the reference can be less direct or partial, if that is what is desired (or occurs to one).

The last two examples show similar connections to those we have just examined. 13g connects column 7 to the three part array of 9e, just as in 13e except the row substituted by the column is different. 13h plays the notes of column 8 according to the row of another twelve-tone concerto. The row referenced in the Berg Violin Concerto is the first clear presentation of the row in the violin in measures 15-17 of that work.

To be sure, the number of order constraints in each of the columns of the first block of Babbitt's *Reflections* is relatively small, so many cross relations between it and other aggregates are possible. Partitions such as 4^3, 3^4, and 6^2 have many more order constraints. They will come up in the other blocks of the array and connections to other aggregates will be more limited. Nevertheless, the number of possibilities for inter- and intra-array associations is astronomical.

12.

In 1977, *Perspectives of New Music* published a double issue devoted to Babbitt and his music.[21] There were articles from about forty scholars and composers including many analyses and discussions of Babbitt's music. A response by Babbitt himself[22] led off the issue. While I read the issue avidly and with great appreciation, for the most part I didn't learn anything really new about Babbitt's compositional craft. One exception was an article by Stephen Arnold and Graham Hair[23] on Babbitt's Third String Quartet, a piece that I knew fairly well, but only aurally from the recording released in about 1973. (The score had not yet been published.) I later surmised that

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[21] *Perspectives of New Music* 14/2, 15/1 (1976).

[22] Milton Babbitt, "Responses: A First Approximation," *Perspectives of New Music* 14/2, 15/1 (1976): 3-23.

[23] Stephen Arnold and Graham Hair, "An Introduction and a Study: String Quartet No. 3," *Perspectives of New Music* 14/2, 15/1 (1976): 155-8.

this work was probably based on an all-partition array, but I didn't understand how Babbitt could have composed it in analogy to the arrays he described and illustrated in "Since Schoenberg." Arnold and Hair's article presented the entire 8-line array of the quartet. This was the first time I had seen a complete all-partition array. The array distributed the row's row regions unequally. The row used a D type all-combinatorial source-set, which has only three row regions. The array devoted four of its lines to one row region: two combinatorial lines are played by violin I and the other two by violin II. The remaining two row regions were given in row pairs to the viola and cello respectively. Since there are seventy ways that one can partition the number 12 into as many as eight parts, the entire array had 70 aggregates. The array had another feature that I had not yet encountered in Babbitt's music. Some of the blocks had pitch-class repetitions in the rows across the array boundaries. Here was a concrete example of the horizontal weighting described in "Since Schoenberg."

Example 14 shows the second block of the all-partition array of *Reflections.* It is *horizontally weighted.* The weighting is found over the aggregate boundaries. For instance, D♭, A♭, F♯, F and G, the last notes of their respective lines in column 1, are repeated at the beginning of column 2. Looking over the entire block we see that each distinct pitch-class is repeated once over an array boundary so that Babbitt can have an array of 13 aggregates rather than 12 as in the first block. By using 5 horizontally weighted arrays and one unweighted array, Babbitt can have enough aggregates to display each of the 77 partitions of the number 12 once each (5 times 13 plus 12 equals 77). Not all of the repetitions are between adjacent columns however. The C natural in column seven has to wait until column 10 to find its duplicate.

Horizontally weighted arrays differ from unweighted arrays in another important way. While each column of both kinds of arrays breaks the aggregate up into non-overlapping sets—that is, each column contains a partition of the aggregate—the linear aggregates in each horizontally weighted array line are not broken into non-overlapping sets because of the repetitions. Up until this point, I had always assumed that, except for vertically weighted arrays, arrays would always partition the aggregate in each column and line.

Horizontally weighted aggregates fascinated me. I liked their repetition feature, which allows one to connect one aggregate to the next with a tied or common note, therefore blurring the aggregate boundary a little, but giving local prominence to that note. When the repetition was discontinuous, across several aggregates, the repeated note helped connect the line to its past. In other works like

Arie da Capo, Babbitt had to weight the notes twice to produce blocks of 14 aggregates and some of those repetitions were between blocks. Thus a note could be sustained for three successive aggregates. I later found that weighted aggregates allow many more partitions to be generated for the array and therefore made the construction of all-partition arrays considerably easier.

This connection of aggregates by common tones suggested new modes of continuity in array composition. I wanted to make my own arrays with this feature, but I had neither any idea how Babbitt had produced them, nor how to produce them in general. The problem was that all the methods I had for generating combinatoriality depended on the properties of the aggregate divided into non-overlapping subsets. (In unweighted arrays, each column and each line (a row) was a partitioned aggregate.) Weighting involved overlap and of the most delicate kind—one tone in common. Since the 78 possible contiguous subsets of a row are ordered, the placement of the duplicated pitch-class was tricky even to arrange for one common tone. And since a horizontally weighted array demanded 12 common tones, all different, at the beginning or ending of partitions of row segments, generating these arrays by mathematical methods seemed very difficult indeed. (And I went to mathematicians to see if they could suggest a general way to construct them, but they just scratched their heads and told me it was really an engineering problem anyway.)

Nevertheless, I invented a number of ad hoc ways to make weighted arrays in the 1980s, but it wasn't until about 1989 that the general method occurred to me. And it was blindingly simple: one simply took the collection of unpartitioned rows and started partitioning aggregates from the left end, duplicating notes on the edges of row segments if desired, until the process finished on the right side. Of course, in practice the procedure was a little more difficult; one had to keep track of the types of partitions, which notes have been duplicated, and backtrack when there were no aggregates to the right available. This backtracking algorithm was not efficient and for small numbers of rows quite tedious, as it involved a lot of backtracking. So I wrote a computer program to help manage the process.

13.

I admired the way horizontal weighting weakened aggregate boundaries while providing salience to a particular pitch-class. But vertically weighted aggregates like the one in Example 11b raised a number of problems I could not overlook or immediately solve.

First of all, the realization of a duplicate pitch-class in a column of vertically weighted arrays would result in direct or displaced octaves or unisons. This conflicted with my initial interest in combinatoriality, which automatically avoided these intervals. Octaves especially tended to disturb the independence of the rows in the array. It was difficult to avoid creating something like an octave transfer in the realization of a vertically weighted array. I have always been very sensitive to octave doubling in non-tonal music, so simultaneous octaves can sound to me histrionic (due to their rhetorical uses in older music) or just plain wrong. And I never have liked "avoiding" when I am composing.

Second, weighted aggregates opened a Pandora's box to the practice of combinatorial arrays. While one could easily weight an existing array by any number of methods, the operation of weighting in general had no inverse. In other words, given any weighted array, one cannot immediately find the combinatorial array from which it has been derived by some foolproof and direct method. Even with Babbitt's method of weighting that preserved row regions, substituting row pairs from the rest of the region (which are large with all-combinatorial rows) would be time consuming and tedious, if eventually successful. What was worse, how could one tell a weighted array from some arbitrary combination of rows that were partitioned in twelves but without producing aggregates. I could not think of any obvious features that would tell the ear or mind that one weighted array was derived from an aggregate-preserving array and another was not.

But my most telling objection to vertically weighted arrays was that each column was no longer an aggregate, that a vertically weighted aggregate was no aggregate at all. (This was not true of horizontally weighted aggregates, since the common tones in each line of the array did weight the frequency of each pitch-class in the aggregate but without the weighting of any note ever being zero.) Moreover, the lines in a vertically weighted array column overlap and therefore do not present a partition of the column taken as a whole.[24] Thus the wonderful community of aggregates with its degrees of relatedness that satisfied so many of my musical needs could not be accessed by vertically weighted arrays, pseudo or not. So I decided vertical weighting was not for me.

But when I first heard the works of Babbitt employing vertically weighted arrays, I had mixed reactions. On one hand there were passages that had the sonic features of weighted arrays I did not like, but a moment later there would be a gesture or texture that was exceptionally beautiful. And I found that I could get used

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[24]An array that is both horizontally and vertically weighted has no aggregate partitions at all.

to the octaves that initially disturbed me and find myself enjoying them as "pleasing to the ear." I also noted I wasn't hearing these octaves and unisons as I had heard them in tonal classical music, but in some new way. Of course I had been through this process of not-liking to liking many times in my musical life. Something that seemed out of place or unnatural (for lack of a better word) would eventually click into place. Non-tonal music had struck me as "wrong" when I was ten, triads and diatonic collections in non-tonal pieces seemed out of place at twenty, and octaves at thirty. (And in my forties, John Cage's indeterminate and aleatoric pieces opened up to me—really me to them—, but that is another story.)

But liking the sound of vertically weighted aggregates only made the conflict worse, for my structural objections still seemed cogent. My situation reminded me of an exchange I had with an Indian musician at Ann Arbor in 1966.

> Arun Ram, a PhD student in physics, was teaching some of the ethnomusicology graduate students a little about playing the sitar every week. I was among them due to my interest in Indian music. So Ram and I would often talk after his tutorials. Ram was a student in the Allauddin Khan gharana, Ravi Shankar's tradition. Once I mentioned how much I enjoyed a performance of the Raga Marva by Vilayat Khan, a sitarist in a different school of sitar playing. Ram said, "Yes, Vilayat Khan's Marva is very beautiful, but it is not correct!"

While I didn't think Babbitt's music was not correct, I was caught in the tension between maintaining the integrity of one's structural means and appreciating other ways of making music, ways that could abrogate that integrity.

14.

There were other issues in Babbitt's music that led to the same conflict.

First was Babbitt's practice of placing two array lines in the same register. Babbitt's piano piece *Post Partitions* articulates a 12-line array with each of its B-type hexachord's six row regions in its own register. Thus the notes from two hexachordally combinatorial lines were mixed in the same registral space.[25] One would have to untangle the two lines to determine that the music was generated from an array of twelve-tone lines. At least in *Post Partitions* one line was consistently distinguished from the other in the same register by articulation: one line was played

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[25]Joseph Dubiel touches on this issue in his article, "What's the Use of the Twelve-Tone System?", *Perspectives of New Music* 35/2 (1997): 33-52.

by short, staccato notes while the other was sustained, legato. Nevertheless, I spent many hours puzzling over the score before I realized what was going on. Babbitt has continued this practice of placing two lines in one register in most of his works written since the middle 1970s, but without differentiation.

Unlike the vertically weighted arrays, this practice can be justified on systematic grounds. After the row or hexachord itself, the next basic unit in all of Babbitt's music is the row region which is always articulated by the hexachordally combinatorial row pair. To place this unit in one register does not transgress the conceptual hierarchy of Babbitt's twelve-tone system. Of course, it conflates the two lines, but one can recover them by remembering that a row region is based on rows that begin or end with the same two complementary hexachords. Once one knows what the two hexachords are, one can partition the flow of notes—like Maxwell's demon—into one set or the other. And the regularities and redundancies of the all-interval source-sets make this as easy as possible. For instance, if the row were based on the F-type hexachord, then notes are sorted into the two whole tone scales, what is from one scale is from one line in the register, and what is from the other complementary scale is from the other line. Another way to distinguish the two lines in register is by attending to repetitions. If one is careful to repeat notes only immediately in an array line, never repeating them after intervening notes in the line have been played, then a note pattern such as ABA indicates that the two notes are from different lines. However, a pattern such as AAB does not distinguish the lines since both A and B can be from the same or different lines.

Placing more than one line in a register makes it possible for the music to have a lot more surface variety than when the array lines are distinguished by register. This is one reason why even some short pieces by Babbitt present so many diverse melodic shapes and local harmonies. While each array line projects the same series of intervals, their inversions, or retrogrades, and therefore promotes unity across the entire array, such unity can easily become too much of a good thing. But I also suspect that Babbitt was obliged to place more than one line in a register since with a 12-line array there are not enough registers to distinguish all the lines. The piano keyboard has only 7 and 1/3 octave registers. In some pieces based on smaller arrays such as *Tableaux*, each line is assigned to its own register. Placing multiple lines in a single register saves space and is a necessity if one wants to compose with "superarrays."

But how can one decipher an array piece in which the lines are intermixed and otherwise camouflaged from a collection of randomly generated pitches? Actually, this is not a very meaningful question since arrays assure all kinds of

regularities that random streams of pitches do not. Rather a better question is how can one unearth the array of a piece that seems a good candidate for being composed from an array. If the array is an all-partition array, one of the columns will contain a sole string of twelve pitch-classes in one line. This will be relatively easy to find in the music, and one will have probably located the row of the piece or some segments thereof. Once one has the row and has identified its hexachords and the attendant row regions, one can begin to sort out the notes into aggregates and blocks and recover the array. But even when only the row is known and the array is not, the array will present passages where segments of the row appear without registral interference. Of course, there will be other places where the row is lost or hard to hear in the thicket of pitch-class overlay. The resulting experience can be quite enjoyable, like playing hide and go seek, but with notes rather than people.

Another way to discover and appreciate a piece based on an array is if one knows another piece that is based on the same array, but realized by different instruments, registers, and articulations. What one knows about the one piece can be used to reveal the structure of the second, another variety of of hide and go seek. And since Babbitt has written many pieces based on the same all-partition arrays (only differentiated by twelve-tone transforms), it is possible for one to almost immediately understand and appreciate structure and function in a new Babbitt work if it uses the same array as another piece one already knows. This is standard operating procedure in common practice music; once one knows how a few sonatas go, the next sonata one encounters will be more easily understood and assimilated.

But despite the justification for two lines in a register, I usually prefer to articulate the lines of my arrays more directly. When I do put two lines in register, they are usually distinguished by timbre or instrument.

A more minor issue of interpretation that initially puzzled me was suggested in my second analysis of a Babbitt all-partition work, *Arie da Capo*. In this piece, a 6-line array is divided into blocks. Notes from the end of a row in a line of one block often have to be added to the beginning of the next block in the same line to make the combinatoriality work and produce all 58 aggregates of partitions of 12 into 6 or less parts—or the reverse, notes from the beginning of the next block have to added to ends of lines in the present block. Thus horizontal weighting connects the array blocks.

In this work, I found that Babbitt sometimes changed the instrumentation of the array at the end of a block. For a time, I thought he had made a mistake in the array itself or in its presentation in the piece, since an instrument would either not start or finish a row or add an extra note before or after a row. When I

mentioned these "problems" to Babbitt himself in 1982, he said that I was having trouble because this piece's structure was only resolved by referring to an earlier piece of his, *Tableaux*. I didn't have a score to *Tableaux,* so I had to figure this out on my own. But I soon realized that Babbitt was changing the instrumentation at the end and beginning of a horizontally weighted block, not at the beginning or end of the rows of the block. At first I wondered why; wouldn't Babbitt want to articulate the rows in his piece? At that moment, I didn't remember that Schoenberg, Berg, and Webern rarely articulated rows by instrument, but I was thinking more of Babbitt's music and mine.

I mention these problems I had with the way Babbitt presented his arrays because they were finally resolved once and for all when I understood that Babbitt was realizing arrays, not only rows. The rows were only the building blocks of the arrays. Moreover, the arrays were arrays of row regions, pairs of rows, not rows! So, Babbitt had never lost touch with Schoenberg's row region conception even when he entered his third period of composition using superarrays.

Pairs of rows are partially ordered sets. And there are many different manifestations (total orderings) that express or present these posets. Assuming rows rather than posets to be the backbone of Babbitt's music had perplexed me and I should have known better, for I was open to the idea that the "twelve-tone system" was really a set of distinct but intersecting twelve-tone languages. But the question of vertically weighted aggregates remained.

15.

In the early 1980s Babbitt began a new phase of composition in which he superimposed two or more all-partition arrays, a technique later denoted by the term *superarrays.* The superimposition did not attempt to maintain aggregate partitioning between the arrays. Neither were the aggregate boundaries of different arrays articulated at the same timepoints. Babbitt's new music was marked by a much greater density of sound, reinforced by many octave relations and line doublings between the arrays. Sometimes it sounded very much like the music of Ives where two or more musics would be played against each other without much regard for fitting them together, phrase for phrase. Indeed, some of the passages of great density in Babbitt's *Ars Combinatoria* even sounded to me like places in Ives works such as *Central Park in the Dark.* But perhaps a better connection might be to the polyphonic complexity of the early high Renaissance composers like Ockeghem, where complexes of voices come and go, neither starting nor ending together. But whatever the connections with other musics, superarrays proposed a new way of

writing twelve-tone music for large combinations of instruments. And not only did Babbitt write two piano concertos, *Ars Combinatoria* for small orchestra, and *Transfigured Notes* for string orchestra, but his chamber works using superarrays took on a depth of sound invoking the orchestral medium.

In some ways I was not surprised by this development. After all, Babbitt had been working with two arrays at once ever since he started determining the rhythm of the notes in his pitch-class arrays by composing with timepoint arrays. Superarrays were also a generalization of vertical weighted arrays. Vertically weighted arrays had the effect of combining many hexachordal arrays without partitioning them into aggregates. The difference between vertically weighted and superarrays was only in the much greater size and complexity of the components of the latter. Babbitt had already in effect composed a superarray composition in 1974 when he combined two weighted versions of the same 12-line array in the second half of *Reflections*, one played by the piano and the other played by the tape.

But my problems with vertically weighted arrays were now reincarnated and substantially magnified with superarrays. Had Babbitt allowed the aggregate to recede in coordinative importance so it retained little aural or structural function? Was Indra's net torn down and unravelled? Not exactly of course, for the aggregate relations within the individual arrays were still preserved and arrays were usually transforms of each other. Besides the combinations of arrays were often carefully configured to allow each combination to occur only once. Babbitt used the phrase "galaxy of arrays" to describe his new music, so each array might be likened to a solar-system with its own gravitational focus (the aggregate) but floating within the larger context of the galaxy. Another analogy came to mind, that of a world with its various cultures and countries, each having its own internal order and coherences in the context of a less intelligible, variously amorphous and anarchistic—even antinomian—world (dis)order. When I conceived of Babbitt's new music this way, I saw he was touching on some of the issues I had broached in my works exploring the combination and interpenetration among musics of different styles and cultures. But in the end, I simply observed that the relationships between the arrays in one of his works is akin to the relationships between his pieces—that the word "piece" perfectly describes the part-to-whole relationship in and among Babbitt's music.

By the 1980s I, too, was interested in combining different arrays in composition, but I also made sure the combination would preserve and not compromise whatever I had determined was the definition of an aggregate for that work. There were so many other things I thought of doing in my music that I could let vertical weighting wait. So I existed in the state of my sitar instructor until about

1994 when I finally found ways to organize and generate weighted arrays so they could function positively in my music. Only then did I feel right about using weighted arrays in my music.

As an example of my solution, I present a 3-line, all-partition, vertically weighted array in Example 15a. It is from my song cycle, *Cold Mountain Songs*, a setting of poems by Han Shan. The array is made out of 13 rows from the row class of the row P = C C♯ D F F♯ E♭ G G♯ B♭ A B E. In the array, row boundaries are shown by dashes. Each of the 13 columns of the array is weighted so that each is a member of the same 8-note set-class. This set-class (8-5 [01234578]) contains the complement of the first four notes of the row. Thus the last eight notes of the T_n P and T_nIP forms of the row spell out the member of this class. To show this, under each column of the array, I've written the note names of the pitch-classes that are not included in the column. These notes are therefore the content of the first four notes of some T_nP and T_nIP row in the row-class. The result is that each column is related to a segment of the row and to each other under transposition and/or inversion. Consequently, these weighted aggregates have the same kinds of interrelatedness that ordinary 12-note aggregates have in and among the columns of ordinary arrays. Thus I can relate the weighted aggregates in the array to each other and to other presentations in other pieces of the 8-note set-class 8-5 [01234578]. There is another resource here as well: the doubled notes in each column can be used in any number of ways to establish musical connections. And there is some theory to help one predict which notes will be doubled when an array line is transformed to produce a weighted array.

As I've said, my array is an all-partition array, but it has only 13 columns not 19. (There are 19 ways to partition 12 into three or fewer parts.) The missing 6 partitions are ones that have parts longer than 8 notes. (For instance, partition 921 is missing.) Since each array column contains the notes of the same 8-note set-class, no column can contain a row segments of more than 8 tones. Example 15b shows a property of the row I call *set-class super-saturation.* Row that have this property are more able to form all-partition arrays than those which do not. Taking overlapped segments of the row the example shows that two internal hexachords are of the same hexachordal set-class as the outer ones since one of them is related to the first by T8I and the other is related to the last by T_{11}. Thus if we take the row and transform it by T8I, the resulting row's first hexachord will be the same as the third hexachord from the left end of the P row—similarly but with different hexachords for the T_{11}P form and P. Such segmental interrelatedness preserves the same sort of harmonies over the entire row and helps compensate for this row's lack of hexachordal combinatorial properties, aside from the R-type. But I've also proven

that its easier to make all-partition arrays from supersaturated rows, than from rows without this property.

I have also worked on the problems of combining arrays to form superarrays. As with vertically weighted arrays, I have examined certain constraints that can make the combinations and alignments of independent aggregates meaningful and useful, ones that promote relations inherent in a composer's twelve-tone system. Example 16 shows that it is possible to superimpose two aggregates from different arrays so that they form four hexachords of the same set-class. I took the first aggregate of Example 4, the I-type hexachordal combinatoriality of the Babbitt *Reflections* row, and the first aggregate of a 5-row array I constructed using the row of the Schoenberg Violin Concerto. They are written first alone, then combined in the example. The combination aligns them to form four hexachords. The first is called Q and the others are the T_3, T_6, and T_9 transpositions of Q. I chose Q because both the Babbitt and Schoenberg rows contain members of the set-class of Q. The rows that literally include Q are given at the bottom of the example. The four transforms of Q in the superimposition are interesting since Q is a ZC-related set; that is, it cannot form an aggregate with a transformation of itself. Yet it can form a double-aggregate with its transpositions to members of a diminished seventh chord. This is news to those of us who have studied the partitions of the aggregates into subsets. So there is some new theory to work out with respect to partitioning two or more aggregates. Such work will provide new foundations for the logical and coherent superimposition of aggregates.

16.

In the meantime, the complexity of Babbitt's music has become staggering. Andrew Mead's recent description of Babbitt's *Clarinet Quintet* of 1995-96 indicates that each instrument is projecting a 6-row array combined to form a five-array superarray.[26] Handling 30 rows in fifteen row regions is not something most composers would even care to consider, much less make into beautiful music. But the music has logical depth; under the complexity, there are norms. All-partition and trichordal arrays made from pairs of rows articulating row regions are taken from older works and reinstalled as components of superarrays. The arrays, not the aggregates, are the jewels in Babbitt's version of Indra's net.

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[26]Andrew Mead, "Still Being an American Composer: Milton Babbitt at Eighty," *Perspectives of New Music* 35/2 (1997): 101-26.

I tend to reconfigure the parts of my twelve-tone language for each new work. In some works I switch to a different twelve-tone language or even invent a new one. Each work will have its own row(s) (or other forms of material) and its own set of arrays which are explicitly constructed to support intricate ordering relationships among complexes of array lines designed to support new types of musical forms that recontextualize musical materials and their relations. So, in its diversity of means,[27] my music often has connections to technical features of the music of Stravinsky, Carter, Boulez, Stockhausen, Xenakis, Feldman, and others.

This version of Indra's net is identified with individual pieces, but connects to the nets of other composers including Babbitt's.

Milton Babbitt and I write serial music. But by now I hope it is clear that serial music—composition with pitch-classes—need not be a criterion for similarity among composers or their works. Babbitt learned from Schoenberg and I learned from Babbitt, but in different ways. Schoenberg didn't take the time to describe the theoretical foundations of his music—that's not the subject of Schoenberg's article on twelve-tone composition. Besides, Babbitt wasn't the only composer influenced by Schoenberg, and I'm certainly not the only composer who has been directly influenced by Babbitt's work. Donald Martino, Andrew Mead, Stephen Peles, Claudio Spies, Richard Swift, and Charles Wuorinen, for instance, have each developed their own twelve-tone languages with various degrees of intersection with Babbitt's.

It wasn't only the music, but almost rather the compositional structures that enabled Babbitt's music to make its mark on mine. It is an influence of means not ends. So our music differs, and how we think of it differs as well. But don't think I don't love to listen to Babbitt's music. It's very inspiring to know that a composer whose craft is both considered and impeccable can write such incredibly moving music. We are often told it's not supposed to work that way, but it does.

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[27]My compositional craft has also been stimulated and informed by writings on compositional theory. Among the most influential have been Phillip Batstone, "Multiple Order Functions in Twelve-Tone Music," *Perspectives of New Music* 10/2 (1972): 60-71, 11/1 (1972): 92-111; Daniel Starr, "Derivation and Polyphony," *Perspectives of New Music* 23/1 (1984): 180-257; David Kowalski, "The Array as a Compositional Unit: A Study of Derivational Counterpoint as a Means of Creating Hierarchical Structures in Twelve-Tone Music," Ph.D dissertation, Princeton University, 1985; and Ciro Scotto, "The Hybrid System", Ph.D dissertation, University of Washington, 1996.

Appendix A

Technical Terms

A *pc* is the abbreviation for *pitch-class.* A pitch-class is the set of all enharmonically equivalent notes related by any number of octaves. All C♯s and D♭s form a single pitch-class; all C naturals, B♯♯s, Ds form another pc. There are twelve pitch-classes, known informally as "twelve-tones" or the "notes of the chromatic scale." Whenever possible, I will use the term "note" to mean pitch-class throughout the rest of this text.

A *row* is an ordering of the pcs without duplication. This is much more elegant and precise than saying something like "a row is the notes of the chromatic scale placed in any order without repetition, and a row can be played with its notes in any octave register." I don't use the (Princetonian) term "set" for row. A set is an unordered collection of elements; a row is ordered.

The *aggregate* is the set of all twelve-tones in any ordering. A row is an aggregate, a twelve-tone cluster is an aggregate, the combination or a succession of a C-major chord, a D-minor chord, a G♯-minor chord and a F♯-major chord is an aggregate, and so on.

A set of transformations can be the familiar, classical row operations of transposition, inversion, and retrograde, which in all combinations produce 48 different transformations, but there are other transformations as well.

Row-classes are sets of rows related by the set of transformations. Given a row we call P and the classical transformations, the (classical) row-class of P contains P, its inversion, retrograde and retrograde-inversion, which we respectively call IP, RP, and RIP, along with all the transpositions of these four basic transformations.

Local aggregate saturation insures that the twelve-tones turn over quickly— perhaps as quickly as possible—in the deployment of rows in composition. One way to get local aggregate succession is by a writing a piece that is a sequence of single rows. When one uses rows in counterpoint however, local saturation is harder to produce.

Combinatoriality is the technique by which local aggregate saturation is secured. A set or row that is said to be "combinatorial" is one that permits aggregate saturation. The term combinatoriality was introduced by Babbitt in the 1950s.

Set-classes are unordered sets of notes without duplication related by a set of transformations, in this case, transposition and inversion. All the major and minor

chords (related by transposition and inversion) form a set-class. All the chromatic hexachords (related by transposition and inversion) form another. Set-classes and row-classes are similar concepts except the things in a row-class are rows (ordered sequences of notes), while the things in a set-classes are unordered sets.

I also use the term *source-set* in the context of combinatoriality. A source-set is another term for set-class.

Appendix B

Hexachordal Combinatoriality

Hexachordal combinatoriality depends the properties of the set A, the first six notes of a P row:

1. If A can be transposed and inverted so the result has no tones in common with A, *I-type combinatoriality* is possible.

2. If A can be transposed so the result has no tones in common with A, *T-type combinatoriality* is possible.

3. If A can be transposed and inverted so the result is the same set as A, *RI-type combinatoriality* is possible.

4. If A can be transposed so the result is the same set as A, *R-type combinatoriality* is possible. Here the transposition can always be by 0 semitones, so all rows can produce this type. However, there are some A sets that can produce identity under a non-zero transposition.

We can write the 4 cases algebraically where B is the *complement* of A; that is, A and B have no tones in common and A and B comprise the aggregate:

1. I-type: $B = T_nIA$ for at least one value of n.

2. T-type: $B = T_oA$ for at least one value of o.

3. RI-type: $A = T_pIA$ for at least one value of p.

4. R-type: $B = T_qA$ for at least one value of q.

An all-(hexachordal)-combinatorial row has a set A that fulfills each case.

Appendix C

2-Row Combinatoriality

The *beginset* of a row P is the note set formed by taking the first n notes of P; the *endset* of P the note set formed by taking the last n notes of P; the set of notes not in the beginset or endset is the *midset* of P.

There are two cases of this kind of combinatoriality

Case 1. The beginset remains the same under some transformation X. Then the row P will produce combinatoriality with the row RXP.

Case 2. The endset under some transformation X is the same as the beginset. Then the row P will produce combinatoriality with the row XP.

Hexachordal combinatoriality is just a special case of 2-row combinatoriality where the beginset and endset are hexachords (so the midset is empty). Note also that X can be any one-to-one and onto pitch-class transformation whatsoever.

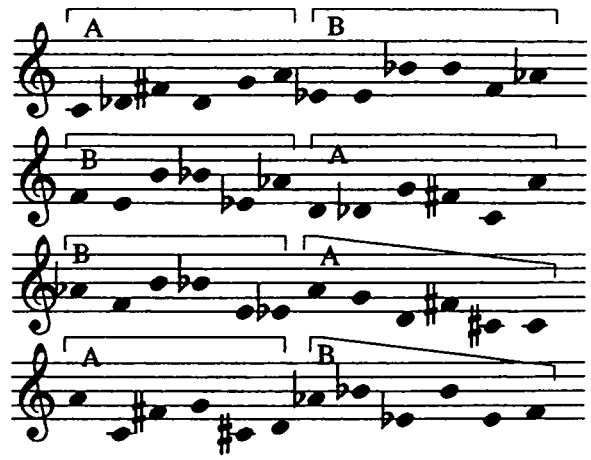
If a row has a beginset that satisfies case 1 under T_mI, and case 2 under two transformations, T_n and T_pI, then the row is all-combinatorial. The set-classes that fulfill these requirements are the 2-row all-combinatorial source-sets. We know that there are six hexachordal source-sets; there are also 5 dyadic, 5 trichordal, 14 tetrachordal, and 9 pentachordal all-combinatorial source-sets.

EXAMPLES

1 - 15

Example 1. Schoenberg's row quartets.

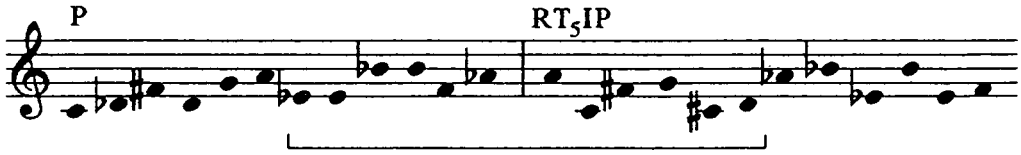
Row	hexachords	example
P	AB	P =
T_nIP	BA	T_5IP =
RP	BA	RP =
RT_nIP	AB	RT_5IP =



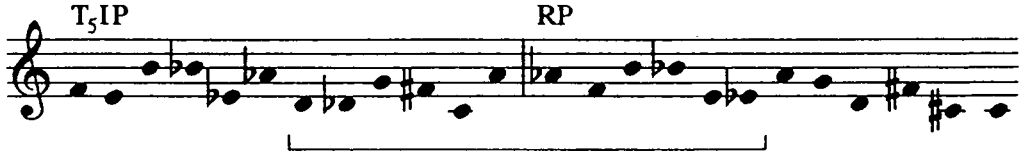
hexachord A is the set of notes {C Db D F# G A}
hexachord B is the set of notes {Eb E F Ab Bb B }

Secondary sets:

sequence of P then RT_nIP: ABAB (linear aggregate bracketed)
example: P then RT_5IP:

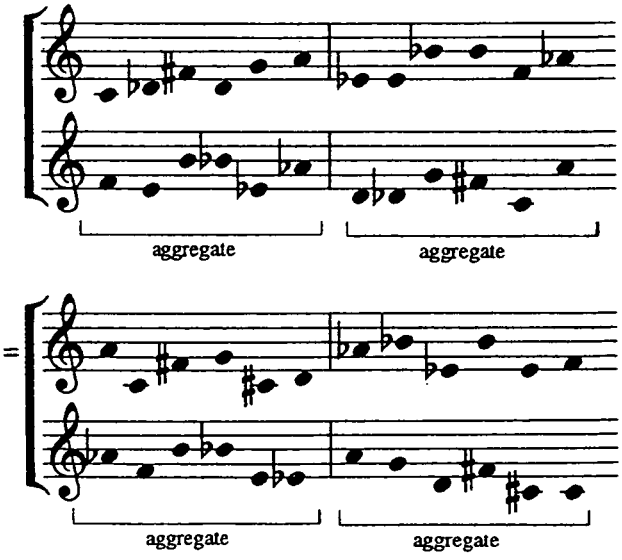


sequence of T_nIP then RP: BABA (linear aggregate bracketed)
example: T_5IP then RP:



Combinatoriality:

P	A B	P =
T_nIP	B A	T_5IP =
RT_nIP	A B	RT_5IP =
RP	B A	RP =

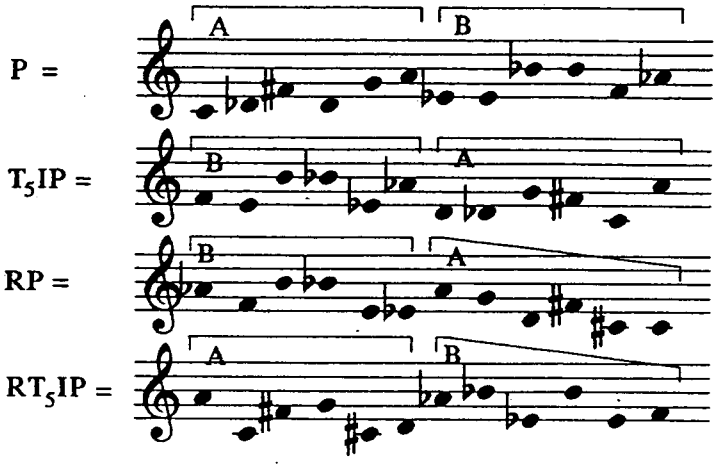


Example 2. Row regions R_0 and R_{11}.

Row region R_0 consists of the row quartet given in Example 1.

Rows in row region R_0 start or end with the sets A (or B).

A is the set of notes {C Db D F# G A}
B is the set of notes {Eb E F Ab Bb B }

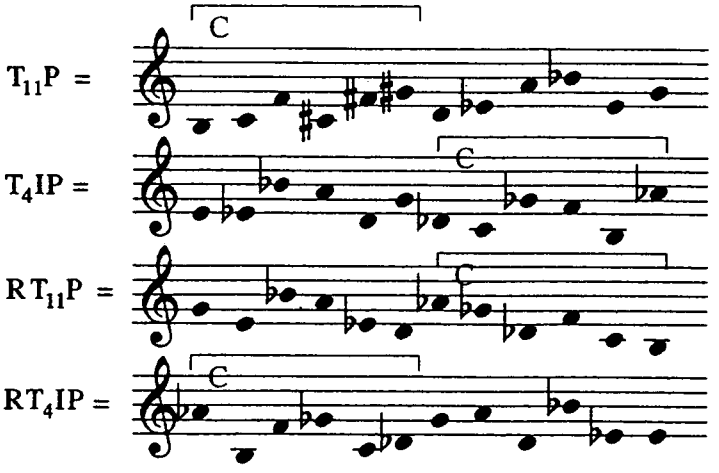


Row region R_{11} consists of the row quartet given in Example 1.

Rows in row region R_{11} start or end with the set C.

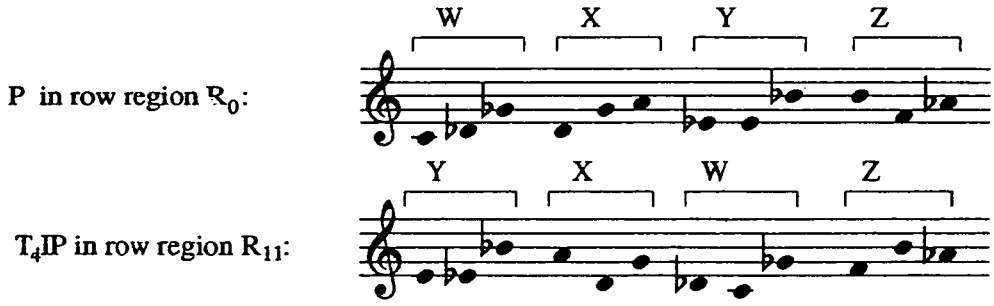
C is the set of notes {B C Db F F# Ab}

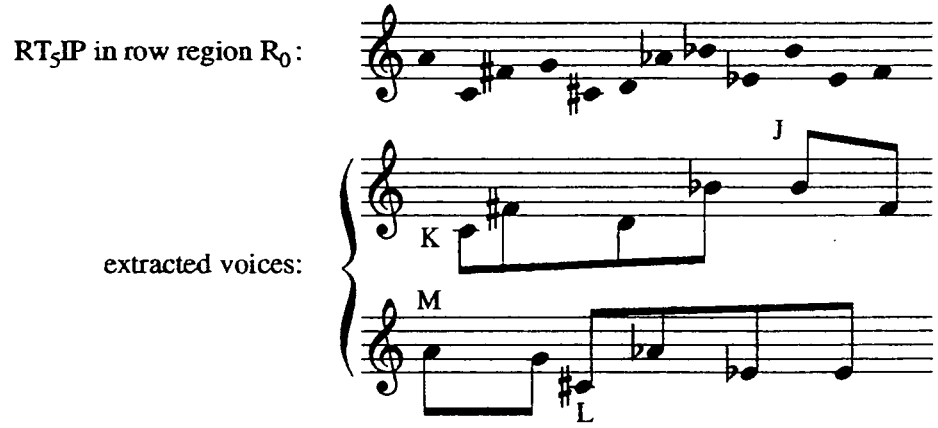
Note: C = $T_{11}A$

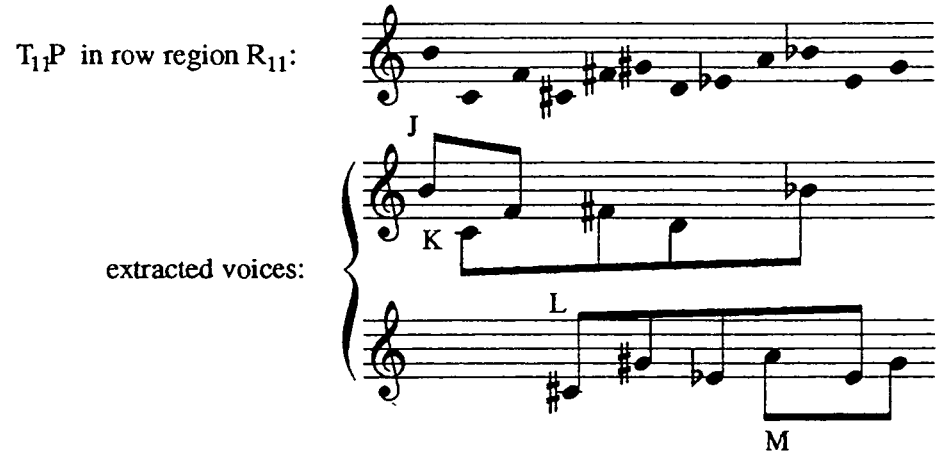


Example 3.

Some relationships between row regions R_0 and R_{11}.





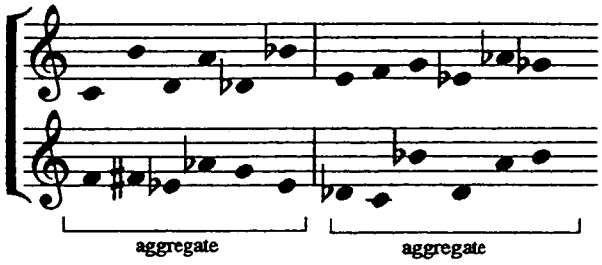


Example 4. Hexachordal combinatorialities.

I-type:

P =

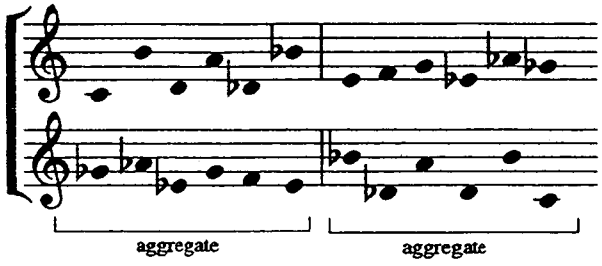
T_5IP =



R-type:

P

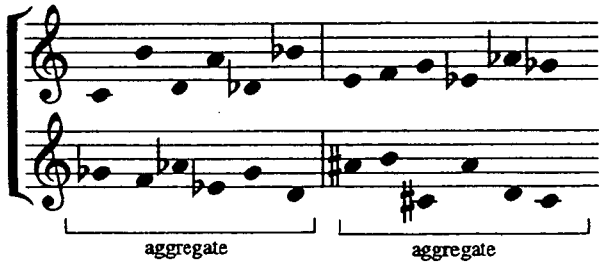
RP =



T-type:

P =

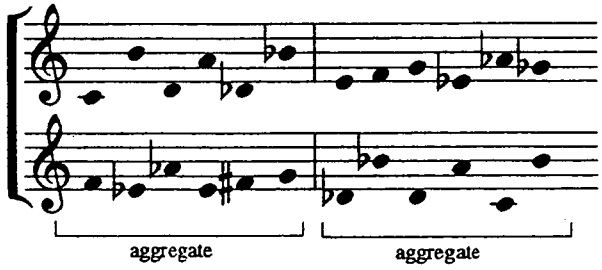
T_6P =



RI-type:

P =

$RT_{11}IP$ =



Example 5.

Babbitt's six all-combinatorial source-sets.

Name	a member of the source-set	Complement of the source-set member	Number of row regions
A	C Db D Eb E F	F# G Ab A Bb B	6
B	C D Eb E F G	F# Ab A Bb B C#	6
C	C D E F G A	F# G# A# B C# D#	6
D	C Db D F# G Ab	Eb E F A Bb B	3
E	C Db E F Ab A	D Eb F# G Bb B	2
F	C D E F# Ab Bb	Db Eb F G A B	1

Example 6. A derived row.

P = row of Webern's Opus 24.

P	C B Eb	E G# G	A F F#	C# D Bb
	W	X	Y	Z
	W	RT_7IW	RT_6W	T_1IW

Trichordal combinatorial array based on Webern's row.

P	C B Eb	E G# G	A F F#	C# D Bb
T_1IP	C# D Bb	A F F#	E G# G	C B D#
RT_7IP	A F F#	C# D Bb	C B D#	E G# G
RT_6P	E G# G	C B D#	C# D Bb	A F F#

Structure of trichordal combinatorial array (schematic array)

P	W	X	Y	Z	P
T_1IP	Z	Y	X	W	T_1IP
RT_7IP	Y	Z	W	X	r_6P
RT_6P	X	W	Z	Y	r_6T_1IP

Underlying 3333 or 3^4 aggregate partition:

{ {B C Eb} {E G G#} {F F# A} {Bb C# D} }

Example 7.

P = Row of Babbitt's "The Widow's Lament in Springtime."

P	F E D	G Eb C	F# A C#	G# A# B
	W	X	RT_6X	RT_6W

Opening trichordal array of "The Widow's Lament..."

P	F E D	G Eb C	F# A C#	G# A# B
XP	Ab Bb B	F# A C#	G Eb G	F E D
Q	C Db Eb	E G# B	F D Bb	A G F#
XQ	A G F#	F D Bb	E G# B	C C# D#

Structure of above array (schematic array)

P	W	X	RT_6X	RT_6W
XP	RT_6W	RT_6X	X	W
Q	T_5IW	$T_{11}IX$	RT_5IX	$RT_{11}IW$
XQ	$RT_{11}IW$	RT_5IX	T_BIX	T_5IW

Underlying 3333 or 3^4 aggregate partitions:

partition 1 : { {D E F} {Ab Bb B} {C Db Eb} {F# G A} }

partition 2 : { {C Eb G} {F# A C#} {E G# B} {Bb D F} }

Example 8.

Imbricated trichords of the first hexachord of P from "The Widow's Lament..."

First hexachored of P:	F	E	D	G	Eb	C
W member of 3-2 [013]	F	E	D			
Y member of 3-7 [025]		E	D	G		
Z member of 3-4 [015]			D	G	Eb	
X member of 3-11 [037]				C	Eb	C

4th trichordal array from "The Widow's Lament..."

P	B G# E	C# A F#	C Eb G	Bb D F
r_6P	C Eb G	Bb D F	B G# E	C# A F#
Q	Bb F A	Ab C G	F# C# D	Eb B E
r_6Q	Db Gb D	Eb B E	Bb F A	Ab C G

Structure of above array (schematic array)

P	$T_{11}IX$	RT_6X	X	RT_5IX
r_6P	X	RT_5IX	$T_{11}IX$	RT_6X
Q	T_0IZ	RT_5Z	$T_{11}Z$	RT_6IZ
r_6Q	$T_{11}Z$	RT_6IZ	T_0IZ	RT_5Z

Example 9

9a.

P	C C# F# D G A	Eb E Bb B F Ab
RP	Ab F B Bb E Eb	A G D F# C# C
	6^2	6^2

9b.

P	C C# F#	D G A	Eb E Bb	B F Ab
RP	Ab F B	Bb E Eb	A G D	F# C# C
T_3IP	Eb D A	C# Ab F#	C B F	E Bb G
RT_3IP	G Bb E	F B C	F# Ab C#	A D Eb
	3^4	3^4	3^4	3^4

9c.

P	C	C# F# D G A	Eb	E Bb B F Ab
RP	Ab F B Bb E	Eb	A G D F# C#	C
T_1P	C# D G Eb	Ab Bb	E F B C	F# A
RT_1P	A F#	C B F E	Bb Ab	Eb G D C#
	5421	5421	5421	5421

9d.

P	C	C# F# D G		A	Eb	E	Bb B	F Ab
RP	Ab F	B Bb	E	Eb	A		G D F# C#	C
T_3P	Eb E A		F Bb	C	F#	G C# D Ab B		
RT_3P			B	Ab D C# G F#	C	Bb F	A E Eb	
$T_{10}P$	Bb B	E C F	G		C# D		Ab	A Eb F#
$RT_{10}P$	F#	Eb A Ab	D C#		G		F C	E B Bb
T_1P	C# D G		Eb Ab	Bb	E F B	C F# A		
RT_1P			A F# C	B F E	Bb Ab	Eb		G D C#
	$3^2 2^2 1^2$	$43^2 2$	$32^3 1^3$	531^4	$32^2 1^5$	5321^2	5321^2	$3^3 21$

9e.

P	C C# F# D G	A Eb E Bb B F Ab	
T_3P	Eb E A F Bb	C F#	G C# D Ab B
RT_3P	B Ab	D C# G	F# C Bb F A E Eb
	$5^2 2$	732	75

9f.

P	C C# F#	D G A		Eb E Bb	B F Ab
T_4IP	E Eb Bb D A G	C# C F# F B Ab	($T_{11}P$)	B C F C# F# Ab	D Eb A Bb E G
RP	Ab F B	Bb E Eb		A G D	F# C# C
	63^2	63^2		63^2	63^2

9g.

P	C C#	F#	D G A Eb E Bb	B F Ab
T_4P	E F Bb F#	B C# G Ab		D Eb A C
T_9IP	A Ab Eb G	D C	F# F B	Bb E C#
RT_6P	D B	F E Bb A Eb	C# Ab C	G F#
	$4^2 2^2$	5421	63^2	$43^2 2$

9h.

P	C C# F#			D G A Eb	E Bb B F Ab
T_4P	E F Bb	F# B C#	G Ab D Eb A		C
T_9IP	A Ab Eb	G D C	F#	F B Bb E	C#
RT_3IP	G	Bb E F	B	C F# Ab C#	A D Eb
RT_7IP	B D	Ab A Eb	E Bb C F C#		F# G
	$3^3 21$	3^4	$5^2 1^2$	4^3	5321^2

Example 10.

Ex. 10a.

P:	C Db Eb E	D F F# A B G Bb Ab
RP:	Ab Bb G B A F# F D	E Eb Db C

Ex. 10b.

P:	C Db Eb E	D F F# A B G Bb Ab
T_5P:	F F# Ab A G Bb B D	E C Eb Db

Ex. 10c.

P:	C Db Eb E	D F F# A B G Bb Ab
$T_{11}IP$:	B Bb Ab G A F# F D	C E Db Eb

Ex. 10d.

P:	C Db Eb E	D F F# A B G Bb Ab
RT_4IP:	Ab F# A F G Bb B D	C Db Eb E

Beginset = {C Db Eb E }
Endset = {G Ab Bb B }

Case 1:
  Beginset = T_0(Beginset) Ex. 10a
  Beginset = T_4I(Beginset) Ex. 10d
Case 2:
  Beginset = T_5(Endset) Ex. 10b
  Beginset = $T_{11}I$(Endset) Ex. 10c

Example 11a. First block of all-partition array from Babbitt's "Reflections..."

	1	2	3	4	5	6
T2P	D	Db E B			Eb	C
T7IP	G		Ab	F Bb		F# A
T4P	E Eb			F# Db		F
T9IP	A	Bb G C			Ab B	
P	C B	D A				Db Bb
T5IP	F	F#		Eb Ab E		
RT2		Ab	F# B	G	A Bb	
RT9P		Eb	F C		E D Db	G
RT4IP	Bb Ab		Db	A B C		
RT11P		F	G D		F#	E Eb
RIP	F#		E A		F G	Ab D
RT7P	Db		Eb Bb	D	C	B

	7	8	9	10	11	12
	F#	G			A F Bb	Ab
	Eb	D	C		E B	Db
	D Ab A B		G		C	Bb
		F	E	D F#	Db	Eb
		E	F	G Eb	Ab	F#
	G Db C Bb		D A			B
	E	Db		F C	Eb	D
		Bb	F#	B Ab		A
		F# Eb			G D	F E
		A C	Ab Db Bb B			
		B	Eb	Bb Db		C
	F	Ab		E A	F#	G

Example 11b.
Inverted version of first block of all-partition array from Babbitt's "Reflections..."

All rows return except for RT4IP and RT11P.

	1	2	3	4	5	6
T2P	D		Db	E B		Eb C
T7IP	G	Ab F Bb			F#	A
T4P	E	Eb		F# Db F		
T9IP	A Bb	G C				Ab B
P	C	B D A			Db Bb	
T5IP	F F#			Eb Ab		E
RT2	Ab		F# B	G	A	Bb
RT9P	Eb		F C		E D	Db G
RT10P		E	D G		Eb	F F#
RT5IP	B Db		Ab	C Bb A		
RIP		F#	E A		F G Ab	D
RT7P		Db	Eb Bb	D	C B	

7	8	9	10	11	12
F#	G	A		F Bb	Ab
Eb	D			C E B	Db
D Ab A B		G C			Bb
	F	E	D F#	Db	Eb
	E	F	G Eb	Ab	F#
G Db C Bb		D		A	B
E	Db		F C	Eb	D
	Bb	F#	B Ab		A
	C A	Db Ab B Bb			
	Eb F#			D G	E F
	B	Eb	Bb Db		C
F	Ab		E A	F#	G

Example 11c
Weighted version of first block of all-partition array (Example 12a) from Babbitt's "Reflections..."

	1	2	3	4	5	6
T2P	D		Db	E B		Eb C
T7IP	G	Ab F Bb			F#	A
T4P	E	Eb F# Db			F D	
T9IP	A Bb			G C		Ab
P	C	B		D A Db		
T5IP	F F#	Eb Ab				E G
RT2		Ab	F# B		G A Bb	E
RT9P		Eb	F C	E	D Db	
RT4IP		Bb	Ab Db		A	B C
RT11P	F G		D	F# E Eb		
RIP	F#		E A	F	G	Ab
RT7P	Db		Eb Bb		D C	B F

	7	8	9	10	11	12
	F#	G	A		F Bb	Ab
	Eb	D			C E B	Db
		Ab	A	B G	C	Bb
	B F E D		F#		Db	Eb
	Bb E F G		Eb Ab			F#
		Db	C	Bb D	A	B
		Db	F	C Eb		D
	G	Bb		F# B	Ab	A
		F# Eb	G D F E			
		A C			Ab Db	Bb B
	D	B		Eb Bb	Db	C
		Ab	E	A F#		G

Example 12a. How to transform Example 10a into Example 10b (first two aggregates only)

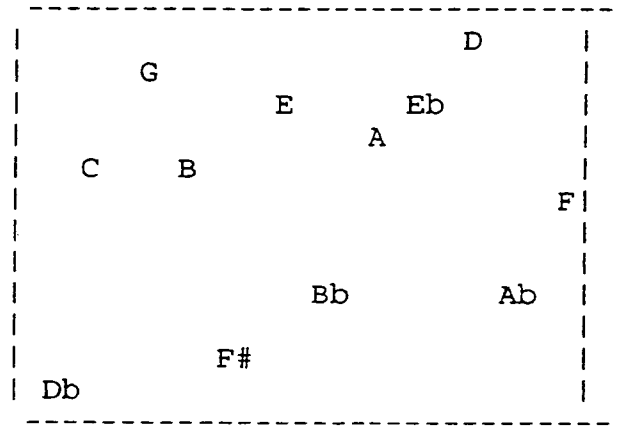
	1	2		1	2		1	2
T2P	D	Db E B	under T9I to T7IP	G	Ab F Bb	1 to 2: T2P	D	
T7IP	G		under T9I to T2P	D		2 to 1: T7IP	G	Ab F Bb
T4P	E Eb		under T9I to T5IP	F F#		3 to 6: T4P	E	Eb
T9IP	A	Bb G C	under T9I to T0P	C	B D A	4 to 5: T9IP	A Bb	G C
P	C B	D A	under T9I to T9IP	A Bb	G C	5 to 4: P	C	B D A
T5IP	F	F#	under T9I to T4P	E	Eb	6 to 3: T5IP	F F#	
RT2		Ab	under T9I to RT7P		Db	7 to 12: RT2	Ab	
RT9P		Eb	under T9I to RT0IP		F#	8 to 11: RT9P	Eb	
RT4IP	Bb Ab		under T9I to RT5P	B Db		9 to 10: RT10P		E
RT11P		F	under T9I to RT10IP		E	10 to 9: RT5IP	B Db	
RIP	F#		under T9I to RT9P	Eb		11 to 8: RIP		F#
RT7P	Db		under T9I to RT2IP	Ab		12 to 7: RT7P		Db

Example 12b. How to transform Example 10a into Example 10c (first two aggregates only)

	1	2		1	2		1	2
T2P	D	Db E B	under T9I to T7IP	G	Ab F Bb	1 to 2: T2P	D	
T7IP	G		under T9I to T2P	D		2 to 1: T7IP	G	Ab F Bb
T4P	E Eb		under T1I to T9IP	A Bb		3 to 4: T4P	E	Eb F# Db
T9IP	A	Bb G C	under T1I to T4P	E	Eb F# Db	4 to 3: T9IP	A Bb	
P	C B	D A	under T5I to T5IP	F F#	Eb Ab	5 to 6: P	C	B
T5IP	F	F#	under T5I to P	C	B	6 to 5: T5IP	F F#	Eb Ab
RT2		Ab	under T11I to RT9P		Eb	7 to 8: RT2		Ab
RT9P		Eb	under T11I to RT2		Ab	8 to 7: RT9P		Eb
RT4IP	Bb Ab		under T3I to RT11P	F G		9 to 10: RT10P		Bb
RT11P		F	under T3I to RT4IP		Bb	10 to 9: RT5IP	F G	
RIP	F#		under T7I to RT7P	Db		11 to 12: RIP	F#	
RT7P	Db		under T7I to RIP	F#		12 to 11: RT7P	Db	

Example 13a

col 1 of Example 11a.



T1IP: Db C G B F# E Bb A Eb D Ab F

P = Schoenberg row (Violin Concerto)

Example 13b

col 2 of Example 11a.

Db		E B		
Bb G			C	
	D	A		
			F#	
	Ab			
	Eb			
			F	

OR

col 2 of Example 11a.

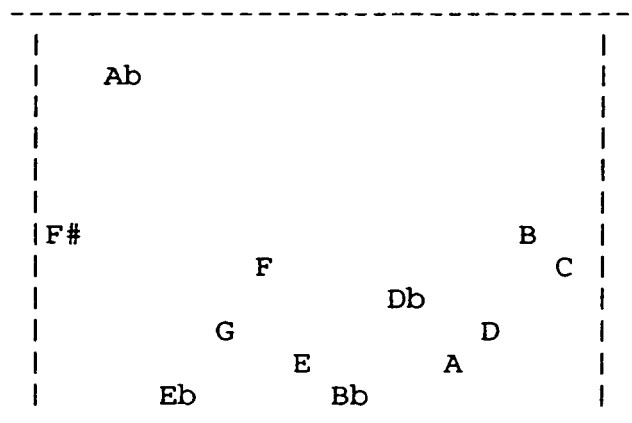
Db	E B	
Bb	G C	
	D A	
F#		
Ab		
Eb		
F		

RT6IP: Bb Db G |Ab D Eb |A B E |C F F# OR Db Eb F F# Ab Bb |C D E G A B

P = Schoenberg row (Violin Concerto) C-type all-combinatorial source-sets

Example 13c

col 3 of Example 11a.

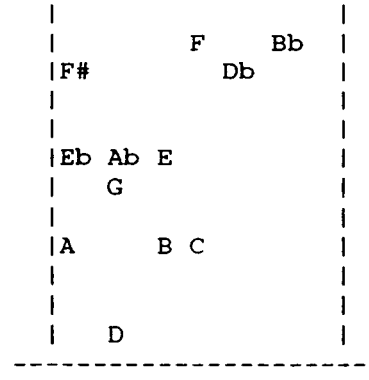


RTOP: F# Ab Eb G F E Bb Db A D B C

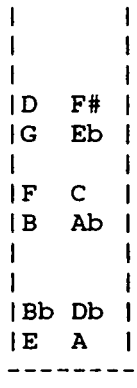
P = Babbitt row ("Reflections...")

Example 13d

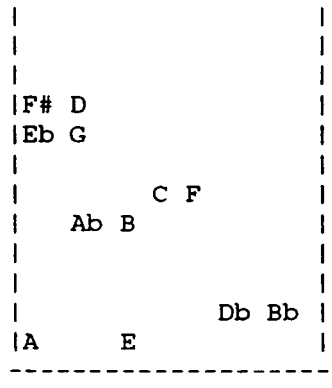
col 4 of Example 11a.



col 10

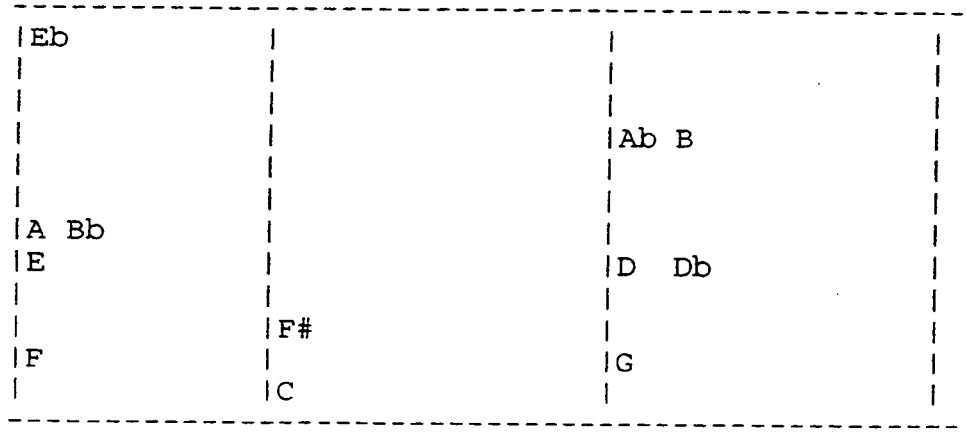


retrograde of col 10



Example 13e

col 5 of Example 11a.

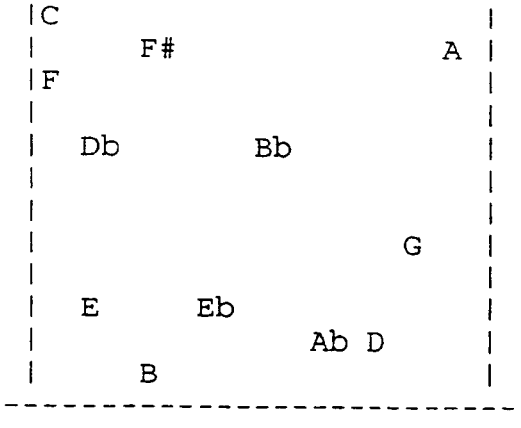



```
P     C Db F# D G |A Eb E Bb B F Ab |
RT3P  B Ab        |D Db G           |F# C Bb F A E Eb
```

P = Schoenberg row (Violin Concerto)
Three row combinatoriality from Example 9e.

Example 13f

col 6 of Example 11a.

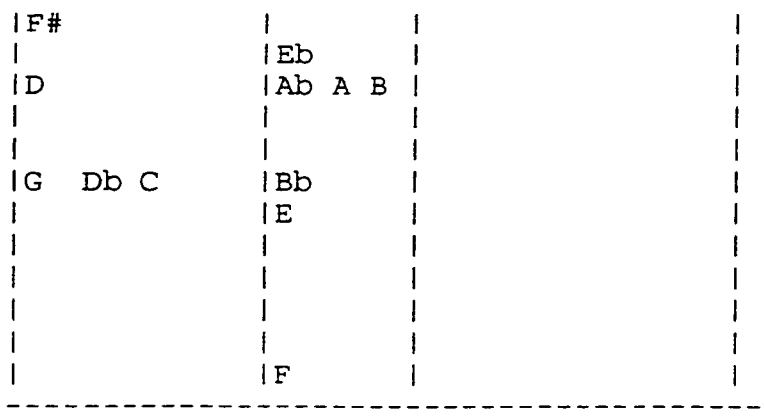



```
P:     C Db F#          D G A
T5IP:  F E  B  Eb Bb Ab
```

P = Schoenberg row (Violin Concerto)
First aggregate of hexachordal combinatoriality in Example 1.

Example 13g

col 7 of Example 11a.

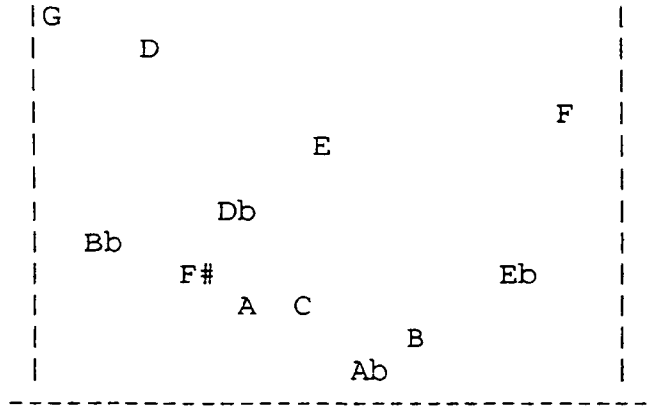


T3P Eb E A F Bb |C F# |G Db D Ab B
RT3P B Ab |D Db G |F# C Bb F A E Eb

P = Schoenberg row (Violin Concerto)
Three row combinatoriality from Example 9e.

Example 13h

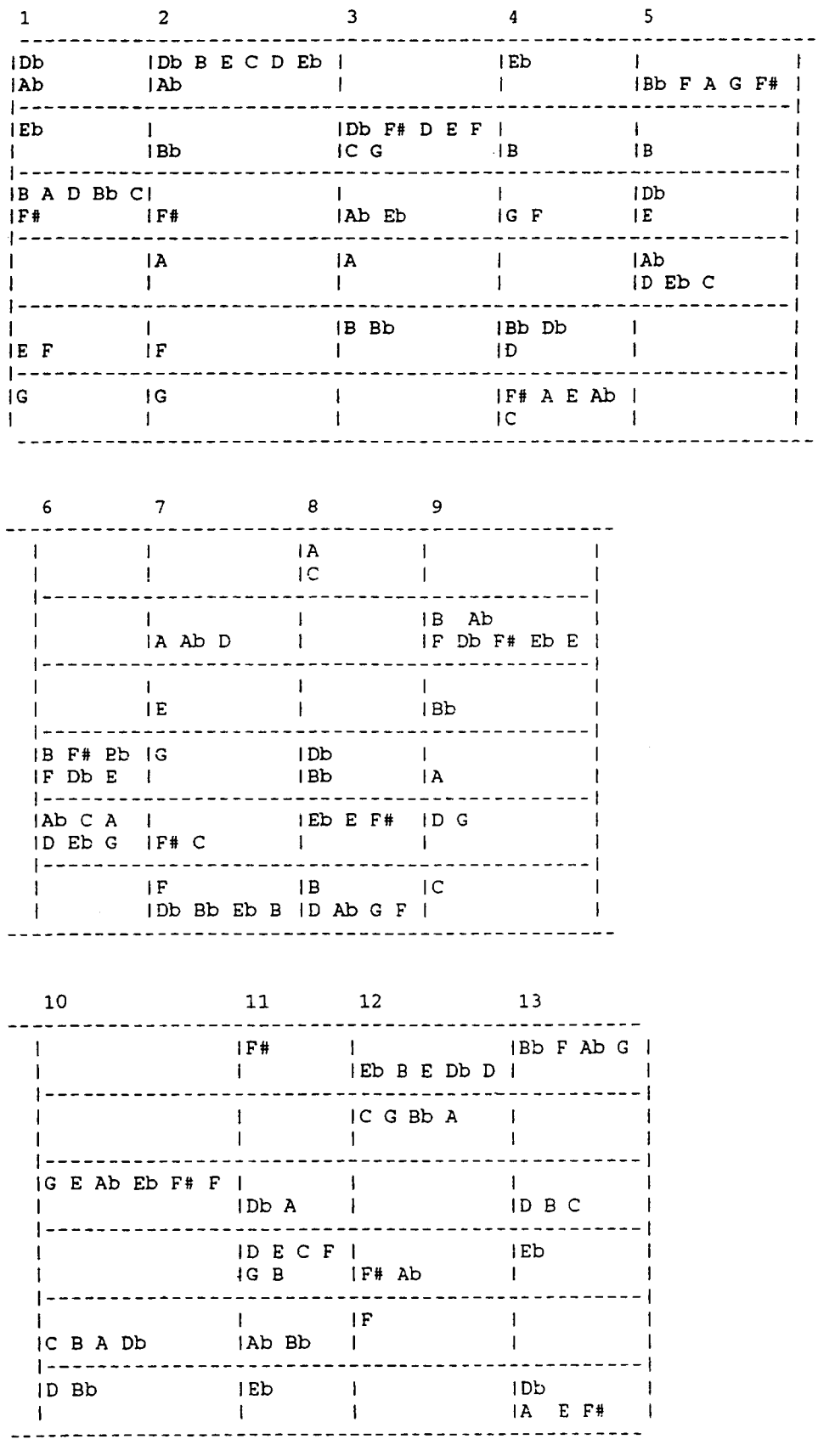
col 8 of Example 11a.



:G Bb D F# A C E Ab B Db Eb F

Row from Berg Violin Concerto.

Example 14.


1 2 3 4 5
Db Db B E C D Eb Eb Bb F A G F#
Ab Ab Ab
Eb Db F# D E F
Bb C G B B
B A D Bb C Db
F# F# Ab Eb G F E
A Ab
D Eb C
B Bb Bb Db
E F F D
G G F# A E Ab
C
6 7 8 9
A
C
B Ab
A Ab D F Db F# Eb E
E Bb
B F# Bb G Db
F Db E Bb A
Ab C A Eb E F# D G
D Eb G F# C
F B C
Db Bb Eb B D Ab G F
10 11 12 13
F# Bb F Ab G
Eb B E Db D
C G Bb A
G E Ab Eb F# F
Db A D B C
D E C F Eb
G B F# Ab
F
C B A Db Ab Bb
D Bb Eb Db
A E F#

Example 15a.

G Ab A C Db Bb	D Eb F E F# B -	E A B Bb C Db F D
	E	B A
C F G F# Ab A	Db Bb B D Eb	E - B

6^2 {B D Eb E}

651 {G Ab A C}

82^2 {Eb Gb G Ab}

Eb F#	G Ab - C Db	D F F# Eb
Bb Ab G Eb F# F D		Db C - F F#
Bb A F#	F Ab E Eb Db D C G -	F C Bb B

732 {B C C# E}

84 {F# A Bb B}

4^3 {E G Ab A}

G Ab Bb	A B E - A E	D Eb Db C Ab B
Bb G B	Ab C Db Eb D	E A -
A Ab E G F# Eb	D Db -	D Db C A

63^2 {C C# D F}

5^22 {F F# G Bb}

642 {F F# G Bb}

Bb G F# F -	Bb Eb F E F# G B	Ab A Bb C
Bb		A Ab F
Ab B G F# E F Eb	Bb -Eb E F Ab	A F# Bb B Db

741 {A C C# D}

75 {A C C# D}

543 {D D# E G}

D
E G Eb D C Db B F#
C D G

831 {F Ab A Bb}

Example 15b.

Row P	C	C#	D	F	F#	Eb	G	G#	Bb	A	B	E
X	C	C#	D	F	F#	Eb						
T_8IX			D	F	F#	Eb	G	G#				
T_{11}Y					F#	Eb	G	G#	Bb	A		
Y							G	G#	Bb	A	B	E

Example 16.

First aggregate of Babbitt hexachordal combinatorial array from Ex. 4

T_0P:	C	B	D	A	Db	Bb	
T_5IP:	F	F#	Eb	Ab	E	G	

First aggregate of Schoenberg array of Example 9e.

P	C	C#	F#	
T_4P	E	F	Bb	
T_9IP	A	Ab	Eb	
RT_3IP	G			
RT_7IP	B	D		

Superimposition of aggregates.

	C	B D A C# Bb		
	F F#		Eb Ab E G	
C C# F#				
		E	F Bb	
A Ab	Eb			
	G			
B	D			
Q	T_6Q	T_9Q	T_3Q	

Q = {F# Ab A B C C#}
T_6Q = {C D Eb F F# G}
T_9Q = {A Bb B C# D E}
T_3Q = {Eb E F G Ab Bb}

Q in Schoenberg row-class member:

T3IP: Eb D A C# Ab F# C B F E Bb G

Q in Babbitt row-class members:

T4IP: E F D G Eb F# C B A Db Ab Bb

TAIP: Bb B Ab C# A C F# F Eb G D E

Happily Listening

Paul Lansky

Things we do and experience have resonance. It can die away quickly or last a long time; it can have a clear center frequency or a wide bandwidth; be loud, soft or ambiguous. The present is filled with past experience ringing in various ways and *now* is colored by this symphony of resonance. Particular resonant strands have shapes that are interesting to contemplate, and the tale I'm about to tell is about an experience I had which has a very clear ringing sound and almost no decay.

In the fall of 1987 I was invited to teach for a semester at the California Institute of the Arts, in Valencia. It seemed like it would be an interesting change of pace and worth doing, even though it meant uprooting my family, subletting my house, finding a place to live in Los Angeles, furnishing it, and driving across the country with two small children in the back seat of the car (not an experience I recommend to anyone—its special resonance for me was a pinched nerve that lasted several years). Nevertheless, we got there, unpacked, and I reported for teaching. Among my responsibilities were four graduate student composers, among them, Randy Hostetler. I still remember my first lesson with Randy. It was in one of the big studios since he was working on a tape piece. When I arrived he was feverishly manipulating an Emu sampler, an 8-track tape machine, the mixing board and probably some other devices, which I've forgotten. What I heard, however, were the sounds of Randy's friends, teachers and family telling stories. He had recorded these over a period of a year or so and his only constraint on his subjects were that they begin their story with the phrase "Once upon a time...", and finish with "...happily ever after". The name of the piece was, appropriately, *Happily Ever After*[1]. At that moment, as I remember, he was involved in subtly tuning the inflections and intonations at the end of the piece. It wasn't quite clear to me what this was all about, but that didn't matter; the mix was absolutely fascinating. I then sat down to listen to his first draft of the piece.

Happily Ever After is forty-five minutes long. Only a handful of the stories are allowed to run to completion, most are interrupted by others and frequently interspersed here and there. Some are only distantly present. Occasionally, and with a wonderful arbitrariness, an isolated word or phrase is repeated or recycled. The pan position of each speaker is proportional to the time at which Randy recorded that particular person. The stories are varied. Some are funny, others serious, some are short, and others long. In some you can even hear the noises of a small crowd gathered around that particular recording session. Sometimes the speakers are isolated, other times they are mixed on top of one another. Towards the end Randy builds a very thick texture of voices, in development-like fashion. The result is a totally absorbing experience that swallows forty-five minutes in a single gulp.

---

[1] Randy Hostetler, *Happily Ever After,* Frog Peak Records, FP008, available from www.frogpeak.org.

I had nothing much to say to Randy except that I liked it—a lot—and that he should keep doing everything he was doing. As I quickly learned, 'composition lessons' with him were such in name only. He knew what he was doing, knew how to get it done, and I had as much to learn from him as he from me. The best thing I could do was to be supportive, supply some objectivity, and listen. I quickly learned that *Happily* was typical of the way he went about composing. His work was tightly tied to a musical worldview in which the stuff of everyday life was indistinguishable from his music. John Cage was his guiding spirit, of course. His friends and family were as much a part of the music he wanted to make as half-diminished 7th chords are for others. Randy died very suddenly on Feb. 1, 1996. All that those of us who knew him could do was shake our heads in disbelief.[2]

The primary conceptual model for *Happily* is, of course, storytelling, yet it is the work of a composer and it came to life in the realm of musical composition. Listening to a story and listening to a piece of music, however, have interesting similarities and differences. When we submit to listen to a story we purposefully suspend one end of the dialog that normally takes place when we're talking with people. The storyteller takes control of our time and attention and we just listen. Storytelling captures an aspect of childhood experience when being told a story was a common ritual. It's a warm place for most of us and in some ways represents our first experience in really listening, perhaps even before music listening. When we agree to listen to music, on the other hand, we don't choose to refrain from talking back, this doesn't seem like an option. But in both cases, we do talk back, but not with our mouths. The conversation occurs in our mind's ear as we try to make sense of what is coming in and let it mingle with whatever else happens to be rattling around up there. Both music listening and story listening engage our presence as passive participants, but in both cases we react and participate in lively, but different ways. In *Happily,* however, we have a piece of music masquerading as storytelling, as well as storytelling presuming to be music, and as such this short-circuits the assumptions we bring to the experience, which ever way we slice it. But *Happily* doesn't actually assume the mantle of either story telling or music: it plainly asserts itself as something new. In some places Randy lets a story ride to completion, and sometimes it makes sense, but more often it's hard to tell what is going on, and this doesn't matter. At other moments he treats the voices much like musical instruments while still keeping their connections with their stories within arm's reach. At any rate, we're rarely given the comfort of data that would allow the piece to topple from the fence in one direction or another. It continually shifts from being story-like to being music-like, with lots of stuff ambiguously between the two poles.

There is an elliptical aspect to both music and story listening. As we listen to a story we apply templates to construct a personal model of the unfolding events and characters. They arrive at our ears as words and we each make them into flesh in our own way as we grasp at the unfolding narrative. The elliptical metaphor in storytelling is the space provided for us to compose our own inner 'film' as we listen. In music, however, the ellipsis is of a different sort. Music pretends to come

[2] I urge you to visit the web site set up around Randy and his work, www.livingroom.org. It is an excellent and wonderful place.

fully stocked with all you need to survive, but in my view it provides a similar space for interaction, one in which your ears scan and parse the spectrum and in which you make decisions and connections within as well as without. Music furthermore provides a space in which you must decide how you're going to dance, which is my metaphor for your physical and emotional response to the sound. One does not normally dance to storytelling, or apply memory templates to music (although the latter is a familiar aspect of program music) but in *Happily* we do it all. As Randy's friends talk about their schoolyard experiences, their meals, their whale watches, their funerals, we recall our own similar experiences (or reasonable facsimiles), and as he cuts, bobs and weaves among these tales, sometimes making subtle moves with their rhythmic and temporal characteristics, sometimes letting them play out, and sometimes mixing them up in a jumble of voices, we have the urge to dance to the small and large rhythms. There is often a very straightforward musical sense to the piece. Speakers are treated like instruments, with solos, phrases, duets and ensembles, loud and soft sections, thick and thin sections, even some chords and tunes vaguely noticeable at some points through the combination of sets of words and voices. Continuity is alternately carried by the sense of a story or by musical juxtapositions and combinations. He encourages us to listen to the narratives as part of a musically orchestrated texture, and conversely to hear the big rhythms as if they were part of a larger story.

And, in fact, there really is a larger story that emerges at the end, and touches everyone who hears it. It's a portrait of a life in which barely a word is mentioned about that life, but in which every moment is colored by an obvious real personal relation between the author and his subjects. This is perhaps the ultimate elliptical aspect of the piece. We hear and learn, indirectly, about this young man with a degree of intimacy that I doubt he expected would emerge. While it's reasonable to think that we can learn a lot about any artist from his work there are few cases in which it is possible to draw such a vivid portrait of an everyday social, personal and family life. The qualities of the voices, their obvious delight in participating, the choices they make, the care they take, all provide stunning kinds of mirrors on the young man quietly (and sometimes not so quietly) holding the microphone. Having known Randy just confirms this but the piece gives every listener access to the same information. Were Randy to have taken a position more as archivist than composer, on the other hand, the results would not have been the same. As it is, however, we hear the cut, chopped and pasted stories as the work of his hand: he is conducting, his friends are responding warmly to his guidance, and we bask in the glow as we peer into the depths of his daily life.

As recorded music, *Happily* is rich with suggestiveness about the meaning and consequence of this technology. Recording as it is manifested here provides a window into a virtual space. *Happily* has a kind of cinematic scope as it tours places and visits people. We shift from room to room, from person to person as Randy's ears and relationships with his storytellers convolve into the window-like loudspeakers we are using to listen with. But, there is a more significant art to his accomplishment. For the moment let us view recorded music as consisting of two approaches. In the first, recording creates the illusion of capturing an event that has

an entirely plausible real-world history: recording as aural photography. Some people, at some place and time, sat down and made noise in front of some microphones, and we are hearing the captured sound. Whether or not this was actually the case is immaterial, it is the illusion that counts. The other approach is one in which it is clear that the recording is an artificial construction and that the sounds we are hearing have no plausible real-time history. While *Happily* flirts with both approaches, its domain is clearly the latter in that it compresses and convolves time and space through its technology, much as film does. Individual moments are frequently realistic enough to have been the products of a simple recording session, but the changes, pacing and mixes are not. The cumulative effect of the multiplicity of spaces and speakers is the creation of a much larger multi-dimensional 'virtual' space: the culture of Randy's daily life.

Anyone who has tried to create art that exists primarily in recorded form recognizes the potential for recorded images to dull with repeated listening—recordings age. The ability to revisit a recording as one would a favorite painting or poem is an important measure of its success in surviving as an artwork. While in live music some of the burden lies on the shoulders of the performer to engage and project, to continually make the music sound new, in recorded form the entire burden is on the ability of the sound to engage the listener in an active way. In my view, successful 'recorded sound-art' creates an elliptical space in which the listener will function as performer. To listen repeatedly to the same sounds and in each instance to hear them freshly means that the listener must be an active participant in the experience in a way that is quite different and distinct from listening to a live performance. Another way of saying this is that the listener now occupies the mediating role normally assumed by the performer. In recorded art then, the performance is composed into the process of unraveling the logic of the sounds as they pass by. In a way this means that the composer may be wise to forgo a level of explicitness normally found in performed music so that listening will consequently involve a kind of explication. *Happily* succeeds handsomely in resisting decay. Through the act of grasping at the multiple levels of elliptical concepts in *Happily* our active participation occurs on many different levels. Little is spelled out, stories are incomplete and confusing, rhythms and pitches are approximate and inexplicit, changes and continuity are surprising and enticing. The listener clearly has to participate and interpret or else all will blend into a soothing drone of voices. We not only have to negotiate the elliptical spaces normally provided by storytelling and music, but also those created by the multiplication of the two. At times it is quite easy to understand what is going on, at other times our attention is divided among several speakers and we have to lean forward and make a decision about which voice to follow, and at some points it is virtually impossible to understand anything, but we hear familiar phrases and quotes, and it keeps our ears pinned to the ongoing sounds. In other words, with each listening we have to make a conscious decision about how to listen, and each successive listening experience is probably going to be different and distinct. While the piece is not going tell us how to listen, from the very outset the invitation to join in is clear, lively and inviting, and participation is enticing. The listener is invited in, asked to take a seat, offered a drink, and made

comfortable settling into a conversation that will require attention, and a bit of work.

I've learned a lot from *Happily,* much more than Randy ever learned from me. Its resonance is one that has taught me a lot about listening and about the idea that an artwork needs to provide the user with room to breathe, to function individually, to respond in an idiosyncratic way. It highlights a sense of negotiation that we undertake as we agree to submit ourselves to an artistic experience. We're asked to pay attention, but implicit in the flow of the artwork's narrative are the terms of that attention. Looking around at the wide variety of kinds of music there are today, one notices that a specific character of difference lies in the ways that one applies attention. Listening to Schoenberg, Brian Eno, John Cage, Morton Feldman, are very different experiences because of the ways that these composers design your presence. I notice, for instance, that listening to Feldman, for me, is an experience characterized by watching myself listen, while listening to Schoenberg means giving myself over to his demands. With Eno I notice the way the music colors my space, while with Cage I am totally confused. (These characterizations may seem orthogonal, but that's the point.) Listening to *Happily* is also characterized by a deep sense of self-examination as its very personal complexion forces us to confront the qualities of our own daily lives. The work is stunningly successful in two senses: first, of course, in the experience that it creates, and second in its suggestiveness. This suggestiveness is the bell that *Happily* rings for me. It sets off sympathetic resonance in many wonderful ways and places, the content of this essay being merely the most recent.

Iannis Xenakis: Regard, Disregard; Liberation

John Rahn

Indulge my reminiscence: one Fall day in 1962, during the Cuban Missile Crisis, I was sipping Drambuie and doing calculus homework with the radio on. The oleaginous announcer's voice turned into — Metastasis! My head snapped up from the homework. The sounds were an entirely new musical world, totally and instantly engaging. But in fact it wasn't the sounds themselves that felt so different — the glissandi, for example. The sounds were put together with an audacious disregard for all compositional conventions — but this was not simply "bad boy" music either. What riveted my attention was the new regime of musical organization which so patently inhered, obvious on the surface but not limited to the surface of the music. The newness was about time at least as much as it was about pitch. The pitch-and-time blackboard had been wiped clean, then re-written.

It was the music, as music, that captured and retained one's attention, but the hint of a novel — and a "formal" — means of underlying organization had a fascination of its own. At the end of the Sputnik and H-bomb era, spurred by our fear of annihilation, technology was valorized throughout our American culture: a techno-mathematical hegemony. The value of formal methods went without saying. It was natural to try to be formal.

In 1966, now a bassoon student at Juilliard, I had obtained a copy of Xenakis's book, *Musiques Formelles*, and a tutor who was a French graduate student in mathematics. We went through the book, but ultimately I was disappointed. My tutor and I could not make perfect sense of all of the mathematics in the book. To the extent that we could — this is an interesting book of early essays by Xenakis — the formalisms did not account for the musical part of the music. That is, yes, there was a relation between the mathematics and the music, but the excitement generated by the music was not, in turn, generated by the mathematics behind the music. Between the mathematics and the music was a crucial intervention by Xenakis-the-composer. The mathematics was not irrelevant

— Xenakis used mathematics for conceptual tools, and with these tools, he fashioned the music. In the end, the music was so good because Xenakis was a good composer, not because of any underlying formalism.

There is a sense of wildness in Xenakis's music which is part of its liberating effect. Initially at least, Xenakis used stochastic laws as part of his set of formal tools. Xenakis was fascinated by phenomena described by such laws, turbulent throngs which now would probably be described by flavors of "chaos theory" still unknown in the 1950s. I believe that it was not any faith in the mystical powers of "chance" — or any concomitant letting-go of oneself, ecstasis, or abnegation of will — which attracted Xenakis to stochastic laws, but rather a positively plastic working with stochastically describable matter. Large numbers of things, such as people or molecules, behave differently from just a few of those things. Such collective behavior is often bi-modal. A gas at a certain temperature, filling a volume, uses its energy within those bounds, an energetic stasis; but a gas rushing through a bottleneck to fill a volume exhibits turbulence. Stasis and change.

For an individual, there is something frightening about the behavior of collectivities of which one may, will-he nil-he, form a part. Danger is exciting.

I once lived in a Greek village which had no streets. Every house was oriented in some way that appealed to its builder, but, apparently, no builder cared to align any house with any other house. A fundamental anarchy. Xenakis was a Greek, and a Communist (in the Greek and French contexts), who as a student had lived through violent social turbulence. This all forms part of his sensibility as a composer.

Xenakis was also an architect, of course, an associate of Le Corbusier who designed and executed important buildings. In *Musiques Formelles* (later translated and expanded into *Formalized Music*), the musical thought is not only mathematically informed, but patently visual. The imagination works in 3-dimensional spaces, represented by 2-dimensional sections. The x-y planes are the basis of the time-pitch thinking in the music. Later, this was to become even more explicitly emphasized in Xenakis's UPIC environment for graphic composition of music aided by computer.

Visual spaces are continuous spaces. Mapped onto musical space, a visual construct will disregard musical chunking by meter or scale. If a visual construct is mapped into meter and scale, the underlying disregard remains in the creation of the construct outside of those strictures. With the UPIC machine, Xenakis could extend such disregard into the realm of sonic micro-structures and timbre. The usual hierarchical stacks of harmonic partials fusing into individual "notes" with a certain "timbre" and "pitch" must have seemed too tidy — Fourier as the compulsive housewife, bundling all energy into harmonic organization. Xenakis painted his x-y plane directly into time-frequency. Since non-harmonic frequency relations are heard as "noise," this music is "noisy."

But Xenakis would be misrepresented as one who was concerned to plot music onto an x-y plane, peering myopically at the coordinates. There is something

confining about a square, or computer screen, even about the x-y plane itself. And there is something small-minded about a concern for translation, on perhaps dubious premises, from one 2-dimensional representation of music (the score idea) to another 2-dimensional representation of it (in 2-dimensional geometric space). Xenakis was never confined, and always large-minded. The distinguishing feature of his music is always liberation, from conventions, traditions, rules, and pettyness of any kind. What the visual contributes to this sense of liberation is a sense of sweeping, curved movements in spaces of at least 3 dimensions. For a while, the working studio Xenakis kept (on the top floor of an apartment building near the Pigalle in Paris) had a rope hanging from the ceiling, on which he could swing around. This makes sense as a working tool for Xenakis. So much of his music has a not only visual but kinesthetic sense of movement, swoops, arcs, projections, halts — very physical.

The affection so many composers feel for Xenakis's music springs from many sources. There is the sheer musical appeal of the music. There is the go-for-it, what-the-hell wildness clearly evident in and behind the composition. There is the radical disuse, disregard of all musical convention, showing itself in musical time at least as much as in pitch. There is the invasion of the visual into the musical, manifesting itself as complex visual designs behind the sounds which give the sounds a new kind of organisation. There is the radically abstract and magisterial thinking and compositional care which always controls and informs the wildness. There is this kinesthetic, physical feel to the music which appeals to anyone who has experienced a body, playing on a swing, skiing, swimming, standing on a street corner.... In the end, I think Xenakis realized an ideal of liberation in music, for himself and for the rest of us, which will inspire us for a long time to come.

— April 2001

Being Around Brenda Hutchinson

- An Issue of Details
- The No-Think Issue
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- The Next Real Issue

Mary Lee Roberts

An Issue of Details

I had this idea about Brenda Hutchinson, and it stemmed from how I saw her responding to the most mundane situations. She was always noticing everything; everything that I thought didn't deserve notice and was too trivial for a second glance. Strangely enough though, I noticed her noticing these things — things like the coins many of us use everyday; she pointed out to me the new quarters released by the Denver Mint — and I noticed that there were some coins that I could and would pay attention to. But before the coins I had noticed Brenda turning on and off the light in the bathroom on the first floor of our studios at Dartmouth College. She said something to me like; "the fan doesn't go off with the light?" Even more than the currency thing, this detail about the light, I had thought, "so what"? How can she go through life noticing so much? As it seems, nothing escapes Brenda's attention. Even in her neighborhood, a simple diner has all the unnoticeable trappings of something that Brenda could notice. And it's not like her life is a string of arbitrary minute details; instead, Brenda seems to live a beautiful kind of reality where all the noticed things seem to eventually become important to her work as an artist. The most significant of her concentrated activities (composing music, for example) pokes out of the fabric of her hyper attention as huge organized events.

I had thought that it would be good for me to stretch out my sensibilities and spend some time talking to Brenda, listen to her music, go to her home. In my life I have spent much effort honing and concentrating my attentions on to what were the most important activities I thought that my life demanded. Then I saw Brenda living on multiple levels of concentration at all times. She can center her musical ear to such intense modes of concentration that she can manipulate her instrument, her tube, in to the most sonically interesting places I've heard in a long time. (Brenda's signal chain starts with her lungs, then her throat, her sinuses must tag along as well as any resonances her head and chest cavity can toss in, and with her nine-and-a-half foot aluminum tube sealed around

her mouth, it, the tube, extends out from her body.) And all depending on the individual's anatomy, the tube provides sets of acoustically defined impedance points where the system, body+tube, cracks over from one tessitura to the another. All that energy concentrated and centered down that tube. Or when Brenda and I were in a coffee shop and a pigeon was trapped inside, and everybody was trying to shoo the bird out of the seating area. Enough became enough, Brenda's eyebrows went into a kind of teepee shape, she got up, and me just as gape mouthed as I had been while listening to her play her tube, I watched her sidle up to the pigeon, grasp it with two gentle hands and take it outside. I had expected her to toss it in the air, sort of Moses and the dove style, but she set the pigeon on a chair, just like I would set a hysterical cat on a piece of furniture, something solid for it to get its bearings on. I had not wanted to interfere with the bird and its shoo-ers. And it wasn't like Brenda was coming to the rescue; she was acting on what she noticed. And what she notices is the most important thing for her; at least that is how I notice Brenda. A more complex Brenda-noticing scene was when she dropped me off at a friend's house where she noticed that there were suitcases all over the place. Normally I would not have thought that I should even notice the contents of somebody's home; but Brenda asked about the suitcases and in doing so, started an interesting conversation with us about our friend's travel destination and her feeling of anxiousness concerning moving to a foreign country for an extended stay. What I thought might be trivial, suitcases all over the place, turned out to be very important, a huge issue.

There is something to notice here, something that Brenda pointed out to me, that thing being the issue of vulnerability. In Brenda's piece, *How Do You Get To Carnegie Hall?*, a complex composition that involves pre-recorded CDs of piano players, and live piano players who are also story tellers, individuals are asked by Brenda if they want to play her piano, and in their state of vulnerability they can either agree or disagree. For example, Brenda gathered most of the pre-recorded sound as she drove a U-Haul truck all over the country with a piano in the back. She'd park at a public place, like a park, put out a bunch of balloons and ask people if they wanted to play her piano. Some people would agree, many played chopsticks, most played a type of music I would consider trivial, most would tell stories about their piano playing, stories that I would never dream of asking about, or even wonder about. Here Brenda was gathering what I might consider mundane details; only much later did I notice that what she was doing was gathering big and important stories, stories of people's vulnerabilities stemming from their relationship to playing an instrument. "Their hands would shake", Brenda told me. These were not seasoned performers, these were people who agreed to come in to Brenda's U-Haul truck, play her piano, let her record them, put themselves on the spot to play in front of her, be vulnerable, expose themselves. And she was vulnerable too — sitting in a truck with

strangers and a piano, Brenda was out on a limb all the time. "When we all put ourselves in a vulnerable situation there is no power struggle, you can't push people around, it's very direct, very honest, it's like being with somebody who is dying, what is the most important thing is what is happening at that time."

The No-Think Issue

I'm thinking of my usual mode of walking around in the world where my mind is mostly outside my body looking at myself doing my daily tasks. I noticed the other day that I was irritated trying to find something in the grocery store; I watched myself get irritated. Later that day I got irritated again because I felt myself watching myself as I was walking in the snow in the woods. As long as I search for that perfect concentration, a concentration where I don't feel like I'm watching myself, where I don't even notice my feelings because I am really doing what I am doing, I probably won't find it. What I've learned from Brenda is that I have to find those activities where I, however I find myself being, can do the most important thing. I won't be able to analyze the importance of details, my attention will be focused on all events and all details will not be separate from the whole. These ideas remind me of Brenda's stories about how she feels playing with a sound improv group, Vorticella ("A single celled creature, one of the people who started our group is a biologist/cellist", says Brenda. Erin Espelande is the biologist, and with Krys Bobrowski the two formed an improvisation group.) Vorticella sometimes purposefully throws a wrench in to their own works by randomly picking directives written on cards out of a stack. Something like, "follow the leader" was Brenda's more noticed example of a directive. It's tough, the whole band is women (for the time being) and women don't always want to, or feel inclined to take the lead — the cooperative nature of the band somewhat disables itself when encountering an outside demand of defined leadership. Brenda says that when she tries to pick out the most primary parameter that her band centers their attention on it would be timbre. I think of my own composing in terms of what Brenda is telling me about Vorticella. How can I compose a piece, a type of etude, where timbre as a parameter takes on a leadership role? I am reminded of what I've been experiencing the last couple days as I leave my house in the morning; there seem to be more birds chattering in the snowy trees than there were even in the summer. In these dark, dead days of winter, where I can't even really tell if the sun is coming up, instead the gray just becomes less gray around 7 AM; the kind of days where I can dip into deep states of self absorbed melancholia; there are all these birds chattering about. The bird-made timbre here is taking the leadership role for sound making in the woods. Without denying the gray blanket of dark sky, the birds strike out of the fabric of the glacial speed of deep winter. I take my cue from Brenda, and in my rush, I stop to notice the detail of bird twitters, a

timbre that contrasts the gray creaking of snow. Then I begin to notice the wind at night and I remember Brenda saying, "space, achieved by not everybody playing all the time"; the cooperative, supportive, trust-sound where "volume level and speed don't figure". The cooperation is so intense, there's "no thinking involved, just sounds coming out."

I'm back to thinking about how Brenda found her place of no-thought, that place where her experience is only the sound, the sound is the only thing, there is no-thought because the sound cooperative has precedence, there's no time to think, no time to be outside of yourself looking in. She's practicing her tube, she's finding her way from the bottom up with her tube: "There's no other time in your life and day that you do this", this type of concentrated sound making.

The Issue of Lines

I had realized before I started talking to Brenda, that I rarely spoke to women at all. I've had only a handful of women to work with in the last 10 years. And I've become irritated with the same old social parameters that I'm surrounded by: aggression especially, but really what's annoyed me the most is something basic, the volume level of interaction in the Man's World that we live in. And I heard Brenda, "When people draw lines, you're on one side of the line or the other." What about my line, the line that separates people who go around the world making loud aggressive (in my opinion) sounds and those that don't. The fact of the line in my world makes me crabby, clogs my brain, I can spend a lot of energy concentrating on that line. Brenda: "I don't want to draw lines, I want to be as inclusive as possible." Then more Brenda: "Your awareness is something that's yours. Nobody has control over you." Except myself. I'm remembering what Brenda said to me — things about: awareness allows you to be powerful and autonomous, ("you get to have your life back", she says). I'm thinking what Brenda has thought, "You get a sound in your life, you deal with it" (a Christian Wolff idea relayed to Brenda by one of her Vorticella partners, Krys Bobrowski).

I am thinking that people are responsible for saying no, they can say no to sounds and experiences that they don't want to deal with. But even beyond the simple/hard definitive fact of "no" I've learned (in the last three weeks) that uncomfortable situations are opportunities for growth. I hope this is clear and if it's not here's another shot at my point about lines: lines feel like points of resistance, these points usually crop up in my world as types of ingrained and almost unconscious responses that I've had in my brain for most of my life. Once I try to notice how I feel, to take a fine tuned look at what the line and its details really are about, my need for resistance begins to evaporate. That's not to say that I am convinced of the legitimacy of the Man's World and his high-level ways. Instead, I no longer have a stake in it, the lines that were drawn only

magnified and legitimized the presence of the sound pollution, now I can sit down to work on an alternative without the counter-aggression that was chewing me to bits.

I asked Brenda why she creates sound generating situations where people are confronted with the decision to participate in an experience that is specifically designed to make them aware of some idea or set of ideas about sound. I had thought that it was a person's own responsibility to do the work to be aware of sound. Brenda says (and I think that she is speaking for her participants in her compositions and how they have felt), "It's to my/your advantage." When you're experiencing sound, it's like breathing, sound is there, just like air, it's there for the taking, your power is there as soon as you claim it, and soundscapes can be claimed. Then there is Brenda's; "I'm the most healthy when I'm the most open." This works for her. I'm not there, that's for sure, I'm a paranoid cynic compared to Brenda. Brenda has a confidence that I cannot share (I'm beginning to think that my paranoia is a byproduct of my being in academe all my life, no wonder). Here's a Brenda fragment: "Being open and available and vulnerable all the time, this is an ideal situation."

I think of Brenda's instruments. Not just her tube, but her instrument that sits in her living room; this kind of giant music box, a giant piano roll looking thing that is mounted on a stand with exquisite bearings so when you roll the thing it kind of has a power of its own. Instead of having paper on the roll, there is cork, and Brenda showed me how I could put stick pins in the cork and as the roll rolled, the pins would trigger (much like a piano mechanism) hammers to hit these beautiful brass keys mounted glockenspiel style on the front of the instrument frame. When I first got close enough to the roll I noticed that there was a distinct pattern in the way some stick pins had already been stuck in the cork. Brenda rolled the roll, the pins triggered the hammers to strike the brass keys, and a little sequence of pitched sounds was produced. Brenda gave me some pins and instructed me to stick them in some unused cork on the roll. Instant composition was available to me. I was at a block — I didn't know if I should make a definable visual design with the pins and assume that the definable design would trigger a musically significant series of pitches, or if I should be random, with no apparent algorithm and stick the pins hither and thither. I did the hither/thither thing, fumbling so that Brenda offered to help me with the pin sticking. Out popped a random sequence when Brenda rolled the roll. I was wondering why I was so apprehensive, why can't I let a simple music making situation be just that, simple. Why do I have to think, why can't I just ... It isn't that simple for me to create things, being vulnerable, putting myself on the line, I don't think I'll ever get used to that. But Brenda is patient, and she gets something from watching people being on the line, all I get from being and watching the line is a scared sense of aggression. I can't step up to the plate that well, I can't deal with the adversity. When I get an opportunity

to make sound in my life it's like I have to do the full blown worship of the sacred musical event or nothing at all. Too bad, it's like I can't even whistle sometimes, the music is in my head, and it's all clogged up. I'm learning from Brenda that a point of adversity is an opportunity, an opportunity and a demanding presence — something to be dealt with, not disabled by.

The Issue of Knowing - Leadership School for the Vulnerable

Brenda spent last fall living in a tiny community in Northern Minnesota. She had a grant to go out there and organize musical/artistic events for a number of small towns. These events were like variety shows for local talent and Brenda invited experimental artists (like Warren Burt) to travel to Northern Minnesota and participate. She worked at this for two months. And Brenda played her nine-and-a-half foot tube, in fact she used her tube as kind of a warm-up act to break the ice with the folks in Minnesota — she'd play the *Tennessee Waltz* on a nine-and-a-half foot straight tube. But really, the point of interest was that she managed to arrange a cooperative effort to organize local talent. She knew she would be interested in what people would bring to these music making events. Just like she knew, while organizing her *How Do You Get To Carnegie Hall?* piece, Brenda knew that she would find things of interest, all she had to do was go somewhere and things would pop up. Before I get too deep into the community stories that go along with Brenda's Minnesota stay I'd like to tell a story from Brenda's past, as I heard it from Brenda.

Some time in the early '80s Brenda knew that she wanted to live and work with people in New York City. So she packed her backpack, and with no money she went there to see what would happen. After weeks of sleeping on the subway (you might ask her which train is the most conducive for sleeping and she will probably tell you how best to sleep on a backpack so that it doesn't get ripped off while you are dozing) she met some people who were improvisers and she joined their group as a percussionist. I can't tell you how she met the group that she joined, it didn't seem important. What did seem important is that Brenda survived in the mean-street days of NYC; and she had the guts to do what she did. I've moved across the country a bunch of times, but I've always had a place to go, at least a friend's house to stay in while I got my bearings. But with Brenda it seems that there are never any lines to distinguish what is and isn't possible, even when it comes to practical things like basic survival, she always knows that everything will work out somehow. I have the feeling that Brenda always knows (though she tells me that she is more motivated by fear, she never wanted to be held back by fear).

But in regard to Brenda's Minnesotan experience I'd like to take some time to think about community. Brenda entered on the scene to help

cultivate something different from the type of experiences the folks in Minnesota were thinking about. "For me the difference had to do with not acting (like the type of activities the folks were used to doing in the plays and shows they had been involved with) but with sharing somehow." I used to live in Minnesota. I had experienced rural Minnesotans to be most suspicious of people from outside the area, particularly people that showed urban tendencies. But Brenda had a different experience, and I think it was because she bore her vulnerabilities to the communities she worked with. She put her hopes, her energies, and her fearlessness right out in plain view. She knew who she was and she let it be known what she expected. And just like *How Do You Get To Carnegie Hall?*, Brenda invited people with homemade talents to bare their vulnerabilities with her. Could I make up a working definition for community: a group of people willing to bare their vulnerabilities so that the common goal of the group (whatever that is) can be achieved? Isn't the idea of community basically a coming together of people who need the skill and attributes of other people to make something happen? What about service? Certainly Brenda didn't just provide a service (as a local talent show producer); she set herself out as a servicer of community; a person who goes to a town in service *for* a community. (Brenda: "I never thought of this as a community service".) Beyond her obvious leadership skills she has an interest in what people do. Unlike an academic who just does voyeuristic-style fieldwork, Brenda makes community happen as part of her art. She likes being close to the core of people's struggles; this is the primal point for her.

I had thought that Brenda's community building/art making must mostly be a gathering together of people's stories where the art part of it comes out of Brenda's assembling of the stories into a comprehensive whole. Certainly if you take a look at the score for *How Do You Get To Carnegie Hall?* much of Brenda's work was organizational. And it seems like she does well with a lot of material. In thinking about her work in Minnesota, Brenda had to juggle a lot of data, many personalities, prejudices (at least I assume this), and practical factors like performance hall availability and transportation. But she knew she could do it. And as I'm noticing, the fact of her "knowing" is what clinches the success of her ventures.

A Hula Dancer, a Cowboy Poet, Brenda's Tube, random acts emerging from the audience; Brenda set up a Vaudeville for four North Country Minnesotan towns. She started out by reminding herself that, "I would love to come to an event like this". Then she got to work, relocating her household to Effie Minnesota to organize artists, manage rehearsals, organize production of props, costumes, and stage design, do publicity, basically stir things up to such an extent that a travelling Vaudeville production of Minnesotans went on the road last fall for a week. Brenda says:

> "I delegated. That's an important thing. I didn't do it all myself. That's an important part of the piece — finding people in the community who do these things or would like to try and then turning it over to them. Creating this context and collaborating with people in this way is very important to me. My role is to be a catalyst for this experience, also an improviser and a composer. A conductor."

She had no idea what would happen, only a feeling that this is something she would want to do, an opportunity to stretch herself into other people's sensibilities. These folks were making maple syrup; they were being cowboys, foresters, local historians, child caretakers. They did have their Edge of the Wilderness Community Center with coordinator Patty Feld; their art-making community had been intact for a long time. These folks already had a well-established and firm belief in the importance of their self-made art. They also had the obvious remoteness and the do-it-yourselfness that goes along with being in the North Woods. Everybody goes to Church; everybody's favorite topic for conversation is the weather.

Brenda had wanted to steer away from the Talent Show paradigm. "With Talent Shows there's an audition, judgment, comparison." Instead she called the show a *Vagabond Vaudeville*, a chance for people to take a chance and be responsible for their chances; if what they did was a flop, it was their chance and since each act, in the most basic sense, produced itself, the responsibility for the show's success was on the individual. Responsibility shifted to the individual to do their job; and this responsibility trickled up, up to the success of the show as a whole. That's the paradigm: no top trickle down, but the responsible individual's attitude making the whole event happen. This paradigm is probably the most interesting idea of Brenda's for me. It makes sense to me, it reminds me that things happen best in small communities, grass roots events are the least susceptible to hierarchies but most susceptible to thoughtful leadership.

The inclusion of invited guests (I had spoken to Warren Burt about his experiences of being in these shows, he has great, warm, and very special memories) is an interesting topic for me. Here is Brenda:

> "The inclusion of professional talent of a more experimental nature was always part of the plan. The intention had more to do with providing a common ground where the audience is more open and able to appreciate what they are witnessing. Once it is established that everyone is exploring something new, taking a risk, etc. people operate on a different level. This is especially true with regard to judging the work of others. Hopefully it is no longer about judgment of ideas, aesthetics, anything really. People in the audience are receptive to their friends and relatives whatever they

> happen to be doing. This receptivity carries over to experiencing more experimental or "avant-garde" types of work. The intention to share an experience is very different from the intention or desire to entertain, perform or sell something. And I think that this allows people to be more open and receptive to what is going on, no matter who or what it is. The only restriction I placed on people, and I was quite clear about it, was a time limit. No act could be more than 10 minutes. Less was better. The reason for this was also to contain the offering to a comfortable amount of time. This was to ensure that if something was boring or disturbing or uninteresting for any reason, everyone knew it would be over soon. Nobody hogged the attention or took advantage of it. The audience was very tolerant of things they might not have liked because they knew it wouldn't go on too long. This isn't to say that it's not a good thing to challenge people's expectations or exposure them to something new and complex that needs to time to be understood. This project wasn't concerned with those issues."

There were no admission charges to the *Vagabond Vaudeville.* The performance environment was created to be safe: with the audience members encouraged to participate at any time, somebody could hop up to recite a poem, sing a song, and make a commentary. Without the tensions of being on stage with a strict delineation of what was supposed to happen and what actually happens, the show had a relaxed atmosphere. And there were no commitments demanded. The last minute sign-up sheet for acts, the idea of: if it doesn't work out in your life to show up to do the show — well, that's the way it goes. I think of Shunryu Suzuki and what he says about leadership, " To give your sheep or cow a large, spacious meadow is the way to control him. So it is with people: first let them do what they want, and watch them. This is the best policy. The second worst is trying to control them. The best one is to watch them, just to watch them, without trying to control them." And Brenda was the person who gave them permission to organize, but never told them what to do. She never told the folks in Minnesota what it meant to simultaneously do personal expression and express their community spirit. Even the Hula Dancer was bound to the community, bound to the culture; she was part of the Brave People Community whose sole purpose in the show was self-expression. And when the Hula Dancer got up there to do her act, people whispered, they said that they didn't know that this was something to be done, where did Charlotte Bailey pick up Hula Dancing, how did she get the nerve to do this? She was stepping out. Charlotte Bailey stepped into the void where she revealed something to her neighbors that they didn't know much about. This vulnerability, this step-out, this permission she gave her neighbors to see her do the Hula, all this helped to strengthen her community.

It is true that the weather is the most interesting thing in the Minnesota North Country. I knew what it felt like to ski into a frozen swamp in January, not ever knowing what it would feel like to ski back out, having my heart jump into my mouth when a moose couple come charging toward me out of the blizzard. I had skied down a riverbed late one night because the wind up on the prairie had literally blown me over. That night I had scared some deer that were desperate for enclosure trying to huddle in the frozen drifts along the riverbank. I had spent nights under an electric blanket going full blast, huddled with my cat, where I just couldn't warm up in my breezy house. And Brenda tells me that the folks she worked with related to the land. They knew the stories of their neighbors who had suffered the desperate fears that the weather had offered stranded travelers. Brenda: "They were relating to the land all the time, they knew they could die." But they had a kind of confidence in their ways, they knew what to do, they knew to keep their gas tanks full so that the insides wouldn't freeze. They knew to carry a sleeping bag in their pickups, they knew to have kerosene heaters at home, just in case the power goes out. Brenda: " They're in control, not freaked out". Relaxed. With the unpredictabilities of nature these folks are "very open and generous, with an amazing ability to improvise and be spontaneous."

I always wonder about folks that work hard all day, then go home and extend their work into another realm of creativity, like writing poetry, or painting, creating an original something. These folks prefer their self-made creations to those diversions that the media offers them. These folks have an energy that seems unfathomable to me, then as I get older, I see myself doing the same thing — going home to do my work. In the *Vagabond Vaudeville* there was Howard Pitzen, the cowboy poet. A real cowboy, and a poet to boot. I see the photo of him bowing to the audience, tipping his hat, with his rodeo-style belt buckle catching the light. That confidence of knowing exactly what to do. Just like he knows how to deal with his cattle, he knows how to write his poetry. Like Brenda, he just knows. Brenda: "I don't think of myself being capable of helping people". Instead, she and Howard are challenging themselves (I would think that being a cowboy is challenging enough, but to Howard there is a next step to be taken); they are getting better and dealing with the challenges. Brenda: "There is this ideal human experience" — sharing with people on the level that the Vaudeville provided. I make myself as vulnerable as possible and ask people to join me and maybe something wonderful will happen."

The Next Real Issue

Brenda is making a score for her *Vagabond Vaudeville* piece. The score will map out the Vaudeville in general terms so that the show can be translated for different environs. She keeps saying that she wants to do it

in an urban setting; a place where community is just as strongly defined, but with very different demographics. I have a hard time imagining the *Vagabond Vaudeville* in San Francisco, the city where Brenda lives. I am so attached to the idea of rural sensibilities making the Vaudeville work that I tell myself that an urban version won't even be the Vaudeville, it will be something else. When Brenda reads this she will say something like, "of course, that's how the pieces work, what stays put is the structure, what changes are the details, the flavors, the entire show, the people." And Brenda purposefully constructs these transformable situations for community art making. She keeps telling me that *How Do You Get To Carnegie Hall?* is so different depending on where it happens. The version of *How Do You Get To Carnegie Hall?* that I saw was staged in Hanover New Hampshire. But Brenda has put this show on in Germany and any number of locations in the US. When I heard/saw *How Do You Get To Carnegie Hall?* there were 3 pianists: a filmmaker who played the piano when she was much younger, a Mom pianist, and her Son pianist. The most impressive was the performance of the Son (approximately 11 years of age) who showed the most intense concentration I have ever seen in my life. This guy makes any pro musician look like he is faking it. The filmmaker, who is also a talented scriptwriter, told the most engaging story about how one of her fingers was chopped off in an auto accident. During her monologue she played some Beethoven (with only 9 fingers). Everything that the players brought to the performance was prescribed in general terms by Brenda's score for *How Do You Get To Carnegie Hall?*. Since each part still belonged to each player — the piece as a whole was the only part of the construction that showed Brenda's design — but the basic sonic content and story content belonged to the players. Brenda has told me about when *How Do You Get To Carnegie Hall?* was performed in Germany by a single pianist. She had encouraged the pianist to speak in his native language — an attempt that I interpret as Brenda trying to make sure that the particular performance belonged to that particular player — but the pianist insisted on telling his stories in English.

Whatever happens, that's how it turns out. Everything has to be the way it is, there's no arguing with reality. A little over a month ago I was sitting with Brenda in a diner near her home. Brenda was asking me about my recent travels in California: I had been hiking in the Cambria Pines on the California Coast, I had been visiting with a friend in San Francisco: a person that I rarely see but every time I do it is as if nothing is forgotten, we had taken off comfortably from the exact same spot we had been at five years ago. Brenda began to tell me about her Mom and what she's been doing lately, little details about her family. The diner was tiny, the tables were so close it was hard to get by and the waitress and cook were speaking/shouting an Asian language I couldn't identify while serving us the most basic of western breakfasts (waffles for Brenda; eggs, hash browns, orange juice and toast with jelly for me). All of a sudden this

fellow who we had not noticed, a guy sitting next to Brenda said something like, " Hey, are you two old friends who haven't seen each other in a while? You talk like I used to talk to my old pals, you remind me of things that I used to remember, hiking in Cambria, visiting my sister, thinking about my Mom. I want to go find my friends and talk to them like I hear you talk. How long have you known each other?" Brenda and I were embarrassed, we had only known each other for a month. We were shy in admitting this. The guy was undaunted. He continued with his breakfast and said that basically he didn't care, he was going to go track down some of his pals and have a chat. And after that he was going to go to Cambria.

I guess that what is next is remembering. Re-membering by putting things together. Getting the stories down and put down so that they are not forgotten. I have always been attracted to the stories in John Cage's books. They are so lovely, little biographies (mostly) that have no moral (except the Buddhist ones: they are the ones that I always forget). With Brenda's pieces the story elements seem to be the nuts and bolts of the form. I try to understand why Brenda's work is so special for me: obviously the story part of it really works for me, and somehow Brenda seems to encourage folks to steer away from the morality stories and head more toward straight-ahead tale telling; the non-hierarchical form of her work; and always the kind ear that Brenda lends toward other people's experiences. In all cases, Brenda sees things as they are; she takes them in, organizes them, never claims them as her own, admires them, collects them, and gives them a voice without disenfranchising them. She builds the instruments for other people's musical ears, she facilitates the show for other peoples stories, she lends the expert musical mind, the expert musical tube, the serious dedication to sound, the re-clamation of sound for the individual, the rights for each individual's sound-space. She invites the vulnerable to join her in her own vulnerabilities. Brenda is honest in her expectations for herself and her collaborators, in all cases she doesn't seem interested in fantasy (what she calls the "abstract"), instead she goes all over the place snagging pieces of what most folks call the "real", or the story that includes the sound that includes the reference to what really is for real for each individual.

A review of *Bitstreams (Art in the Digital Age)* (March 22-June 10, Whitney Museum of American Art, New York City) and *010101: Art in Technological Times* (March 3-July 8, Museum of Modern Art, San Francisco)

Tildy Bayar

"I hope it isn't going to be stacks of computers piled up in artistic configurations."
—Marjorie Tichenor, before entering 010101

"For it was now like walking among matrices of a great digital computer, the zeroes and ones twinned above, hanging like balanced mobiles right and left, ahead, thick, maybe endless."
—from the *010101* catalog, credited to Thomas Pynchon, 1966

I don't think these museum shows on opposite coasts were conceived or implemented by any of the same people (although I happened to read somewhere that the director of the SF MOMA used to work at the Whitney), but the similarity in their conceptions is striking. So why is the idea of computer-generated art in the air this year, even as the larger society's initial fervor over digital technology in general seems to be subsiding (or, perhaps more accurately, deflating)?

The content of these two shows, together with the contexts they provide, constitutes an examination of digital technology's integration into the most fundamental fabric of today's artmaking, having changed artists' conceptions at a basic level. Or, observed from another angle, the two shows illustrate the ways in which artists have come (and undoubtedly struggled) to assimilate the most salient aspect of our current affluent North American culture: an ever-expanding cornucopia of technological tools, and a popular image that equates technology with progress toward some mythical goal which is never defined, but undoubtedly has to do with having and using more technological tools.

The shows' titles rather uninspiringly rival each other in promising collections of artworks whose subjects are the tools with which they were made. I imagine those who believe "Gödel, Escher, Bach" to be a great book might actually find the idea of "art about zeroes and

ones" interesting; as did the curators at the SF MOMA, who dedicated their show to the guy who invented the idea of using binary digits to represent data.

The differences between the shows seemed after seeing both to be primarily of context rather than of content. While any piece in either show might have been included to equal advantage in the other, the SF MOMA show possessed a key ingredient missing at the Whitney: major funding from the Intel Corporation. (Thus?) it tended toward the glossy, was gung-ho about digital technology in a manner reminiscent of mainstream-media attitudes of ten years ago and literary (it's nice to see that literariness, rather than something else which might provide fewer jobs for academics, is Hip and New and Now) in its self-presentation, while the overall presentation at the Whitney show came across as more inquisitive than celebratory, more sociological than literary, and more exploratory than promotional.

"The pervasiveness of digital media in our society has led to an internalization of these complex effects, influencing the ways we perceive, think, and feel. 'Bitstreams' explores this internalization, treating the digital age not as something residing solely in a kind of techno-style, but rather as a constellation of technical, formal, emotional, and cognitive phenomena that are redefining how art is conceptualized and created, while simultaneously transforming important aspects of the human experience."
—from the Bitstreams catalog, credited to Lawrence Rinder, Curator of Contemporary Art

> "The artworks included in this exhibition ... demonstrate that technology is enabling a whole new range of expression for artists working in all media. The show is more than an exhibition, however; it is also a look at how technology is bringing new ideas and working processes to the studio and stimulating new exhibition practices at museums. ... These pioneering artists are demonstrating that digital technology, like photography and video before it, offers a new and vital means of creative expression and communication."
>
> —from the *010101* catalog, credited to Pam Pollace, Vice President of Corporate Marketing, Intel Corporation

If technology-involved art has any common element besides its generative tools, that element would seem, on the basis of these two shows, to be a preponderance of text. Text as content, text as context, text as explication, text as justification, text as consideration. Each show featured full walls of introductory text to read on the way in, attesting (soberly at the Whitney and effusively at SF MOMA) to the cornucopia of technologies available to the present-

day artist and to the diverse ways in which said artist has engaged with said technologies. Text featured prominently in many of the artworks, and uniformly produced a disconcerting and disjunct experience.

I go to museum shows (1) for the same reason I go to see movies: to wallow in a sensory experience of a kind I wouldn't normally have; and (2) to encounter thought in a medium other than text. My preferred method of engagement with the stuff at museum shows is to take it all in relatively uncritically, then 'digest' it at leisure—that is, to keep verbal thought at bay until the last possible moment so it won't interfere with other kinds of perception, and then to translate from experiential to verbal thought as a way of processing. But the text-heavy art in these shows kept directing my attention away from sensual experience, jolting me back into the cerebral, while at the same time not really being viable as cerebral experience: while trying to take in some complicated verbal idea, I was also standing in the middle of and being jostled by a crowd of people from which emanated loud renderings of other people's opinions, children running around and screaming, miscellaneous unrelated conversations, snatches of music and droning tour guides.

"An acid trip, new cyberpunk novel, a quick-cut MTV video, or a night at the 'house music' club can provide the same hypertext-style experience. The rules of linear reality no longer apply."
—from the *010101* catalog, credited to Douglas Rushkoff, 1994

> "There is a new psychological phenomenon emerging in this era of hyper-telemedia, information abundance and overload. People of all ages and all walks of life are 'blanking' _____ That is, they are shutting down or experiencing momentary ruptures of consciousness, or in very severe cases, 'blanking' sometimes lasting for days. This is not attention deficit disorder (ADD) or daydreaming (dd), but a sudden breakdown of consciousness brought about by sensory and cognitive over-extension induced by hyper-connectivity. People rarely choose to focus on one coherent stream of information these days, but rather gather data from multiple sources simulataneously."
>
> —from the *010101* catalog, credited to Tom Sherman, 1997

At the Whitney, Paul Winkler and I noticed halfway through the show that while a signficant number of the pieces were simple to the point of being flat and one-dimensional (conceptually, though not necessarily

physically), the "artists' statements" affixed at strategic points nearby invariably added many layers of concept and tended to have a retroactive transformational (and often overburdening) effect on a formerly unprepossessing work. Throughout the second half of the exhibit we played a game in which we took in each artwork without prior information, then attempted to guess what the artist's statement would say about it. Invariably we were way off. The artworks' function in the larger environment began to seem analogous to music's function in present-day MTV videos: a frame on which to hang, or something with which to prop up, something more interesting.

"Jim Campbell's *Portrait of a Portrait of Harry Nyquist* represents the legendary engineer who established what has come to be known as the Nyquist Limit—the mathematical ratio that determines the amount of information that can be converted from analog to digital within a given system. The piece itself appears to demonstrate this principle as a digitally rendered photograph of Nyquist is periodically obscured by pixelated 'noise'." —from the *Bitstreams* catalog

At SF MOMA, Marjorie Tichenor and I stood for a longish while at one of the monitors, scattered throughout the show, which featured sequences of cycling quotations. Each quoted text was presented for probably a minute, long enough to read it through (usually), but too short a time to have any but the most rudimentary thoughts about it. Each sequence consisted of maybe ten quotations, almost all critical or theoretical in tone, all describing some aspect of the ways in which people relate to technology. We squinted at the screen, somewhat disgruntled at the difficulty of reading a dense text hurriedly and then finding it replaced by another equally dense text before we'd quite processed the first[1]. I was feeling smart, thinking lots of medium-is-the-message, materialization-of-the-postmodern-experience, ooh-I-geddit thoughts.

We'd come to the realization that while we'd seen a lot of texts describing aspects of life in a technological society, we'd seen none that drew any conclusions about

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[1] In *Amusing Ourselves to Death : Public Discourse in the Age of Show Business* (New York: Viking Press, 1986), media critic Neil Postman describes the equivalent phenomenon in television or radio as "the 'Now This!' syndrome".

it[2], when the following sentence leaped out at Marjorie from the end of a long, seemingly generic-rhapsodic paragraph about the many changes technology has brought about: "... and how is all of this relevant to Black people?". This was, as far as we saw, the only mention of race in the show. Marjorie's idea was that this quote had been included for viewers like us, who were looking for something more immediately comprehensible amidst the bristling jargon.

"I realized the place was awash in noise. The toneless systems, the jangle and skid of carts, the loudspeaker and coffee-making machines, the cries of children. And over it all, or under it all, a dull and unlocatable roar, as of some form of swarming life just outside the range of human apprehension."
—from the 010101 catalog, credited to Don Delillo, 1985

"Likewise, when we have access to unlimited information, that information can become, in its very infiniteness, indistinguishable from noise."
—from the Bitstreams *catalog, credited to Lawrence Rinder, Curator of Contemporary Art*

At each show I scribbled down some notes so I'd be sure to remember at least some of what I'd seen. When I looked at the notes later I realized I'd lumped much of what I saw into categories, among which were "tech as art", "R&D as art", "stuff made w/techie tools", "stuff made w/tech waste or byproduct", "computer-'enhanced'", "tech as concept", "cybernetic realities", "text overload", and "'interactive'". For me the "stuff made w/techie tools" category was probably the most interesting, as the works in it tended to be least defined by what the tools were, and least likely to take technology as their subject.

"Postmodern humans swim in a third transparent medium now materializing. Every fact that can be digitized, is."
—from the *010101* catalog, credited to Kevin Kelly, 1992

Tech as art: At the Whitney, Swiss architects Décosterd & Rahm's "Melatonin Room" featured two one-person-sized spaces, one green-lit to block the body's production of

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[2] Who was it that defined postmodernism as history that's afraid to make predictions? John Zerzan says in *Future Primitive and Other Essays* (Columbia, MO: C.A.L. Press, 1994) that "if the representative postmodernist resists summarizable conclusions, in favor of an alleged pluralism and openness of perspective, it is also reasonable ... to predict that if and when we live in a completely PM culture, we would no longer know how to say so."

melatonin and make the viewer feel energized, the other darkened and lit with ultraviolet light to stimulate melatonin production and make the viewer feel sleepy. This was my favorite idea about "technology" in either show; suggested follow-ups: "Midol room", "Prozac room".

Tech as art: At SF MOMA, Karin Sander's "1:10" consisted of a group of doll-like miniature sculptures, each in its own display case, each labelled with a first and last name. Each seemed to be a model of a modern person, each seemed individual and realistic; but we couldn't guess what they might have in common. I thought perhaps they might have been the results of an anti-high-art idea about making sculptures of the first twenty subjects to cross the artist's path, but I was wrong. The important thing about the little figures was that they were the products of a sophisticated 3D scanning process, able to produce the most accurate 'portrait' of a person in three dimensions ever recorded. The entire scanning process is done by technicians; the artist herself has no input into the process except to decide which figures to use in the ultimate group. The statement on the wall next to the group of sculptures consisted primarily of a detailed description of the scanning technology.

"We will come to think of interface design as a kind of art form – perhaps the art form of the next century."
—from the 010101 catalog, credited to Steven Johnson, 1997

R&D as art: At SF MOMA, two works entitled "NETboard prototype" and "DVD handy navigation system prototype" were, as far as we could tell, just that – under plexiglass and looking very much the objets d'art. The artist credited with these works was the Samsung Electronics Design Institute.

Tech as concept: Also at SF MOMA, Chris Chafe and Greg Neimeyer's installation "Ping" transduced the functioning of the internet into sound and light. Viewers were invited to type a hostname into a terminal (I typed "bard.edu"; the person before me had typed "microsoft.com"), and the resulting time lag while data was transferred between sites was then made audible in clicks and beeps, and visible in columns of blinking red light. There was a piece with the same idea at the

Whitney, John Klima's "'ecosystem' … an animated representation of realtime global stock market fluctuations". The 'ecosystem' was a huge sci-fi-movie world populated by flocks of birdlike creatures moving erratically around technicolor planets; "'the more volatile the currency, the more active the flock', explains Klima".

(The idea that such transductions constitute "meaning" has always seemed spurious to me. If one doesn't already "know" what the piece "is", it will seem at first take like some fairly featureless clickings and beepings, or some fairly random movements across a screen. In these works meaning inheres in an idea one is supposed to remember while looking/listening, rather than being conveyed by the work itself; meaning (or perhaps 'interpretation' would be more accurate) is applied rather than organic. This kind of conceptual overlay has often seemed to me to be an opportunity for artists to relax the rigor and effort necessary to convey something in particular with often-intractable materials. Graphic or sonic representations of data, however, are undoubtedly extremely useful in many scenarios, and their inclusion here may point not to trends in artmaking as much as to trends in museum curating, as what is allowed inside the "art" boundary expands.)

"Within the Ping environment, one can navigate through the network soundscape while overlooking San Francisco, a cityscape itself linked by the same networks that constitute the medium."
—from the 010101 catalog

Stuff made w/tech waste or byproduct: At the Whitney, Leah Gilliam's installation entitled "Apeshit v3" was a bunch of old Mac Classics standing, Ozymandian, on rusty metal stands ("like cenotaphs", the posted statement informed us) in a pitchdark little room with a carpet of prickly dry grass underfoot. On each Mac's screen a scene from the film "Planet of the Apes" played flickeringly, as though old and warped, disintegrating, distorted and barely visible. Interestingly, this was the only work we encountered which was ironic about technology, which perhaps points to our collective lack of comfort with it (contrasting notably with the use of televisions and TV images in artworks).

"When the buzzing of bees resembles digital noise and the whir of a spinning disk seems organic, our traditional points of reference fail ..."

—from the *Bitstreams* catalog, credited to Debra Singer, Associate Curator of Contemporary Art

Computer-'enhanced': Jeremy Blake's 'enhanced paintings' were featured in both shows. While we watched, blocks of richly saturated color moved slowly over and through each other in straight-line trajectories, accompanied by low quiet rumbling sounds. Sometimes the shapes seemed to resolve into recognizable images, mostly different kinds of doorways. Smoothly luminous, luminously engaging, engagingly hypnotic, hypnotically regular, regularly smooth... and seemingly totally random.

"In the spirit of our increasingly blurry and artificial contemporary culture, his aesthetic is an irresistible haze in which definitions melt and borders dissolve."
—from the *010101* catalog

Tech as art: Marjorie's and my favorite part of *010101* was "SCUMAK (Auto Sculpture Maker)". Artist Roxy Paine had built a computer-controlled automatic machine for the purpose of mass-producing blobby amorphous plastic sculptures, which moved along a conveyor belt as they were finished and were removed at the end by museum personnel and stacked up on a table in a corner. The plastic was fire-engine red and dribbled out of the machine nozzle like industrial-strength cake frosting in a Dr. Seuss-style industrial kitchen setup, settling more or less randomly into a messy pile which eventually solidified into an ungainly blob. Each sculpture took quite a while to make, as the hot plastic dribbled slowly and the end products were quite large. We watched part of one, already fairly complete, form, and Marjorie got into the speculative physics of dribble in a big way. The SCUMAK process was immediately and intuitively compelling in the way a mud sculpture being built magnetically attracts a child. We realized later that we'd forgotten to look at the computer controller, which was also on display and was ostensibly the heart of the piece.

Cybernetic 'realities': Craig Kalpakjian's DUCT at the Whitney was a 'photograph' of a place that doesn't exist, ostensibly the interior of a cavernous ventilation duct. The 'photograph' was "created entirely on the artist's desktop computer using the 3-D rendering software FormZ". The large black-and-white picture of an

eerie-looking shadowy space was described in the statement posted nearby entirely in terms of the process by which it was created, involving complicated rendering techniques and the last-minute addition of "the point of view". Kalpakjian's contribution to the SF MOMA show was CORRIDOR, a video installation in which the watcher's viewpoint seems to be moving at a regular speed, as though standing still on a conveyor belt, down an unnervingly bland white corridor which could be any office building anywhere; and rather like Xeno's paradox or James Tenney's "For Ann (Rising)" we never arrive anywhere but just keep moving hypnotically along the same little bit of the same featureless hallway. "Every detail of CORRIDOR", effuses the *010101* catalog, "from the texture of the paint to the slight reflections on each surface, is the result of programming, not the hammering of nails or the wielding of a paintbrush".

> "No more subject, focal point, center, or periphery: but pure flexion or circular inflection. No more violence or surveillance: only 'information', secret virulence, chain reaction, slow implosion, and simulacra of spaces where the real-effect again comes into play."
>
> —from the *010101* catalog, credited to Jean Baudrillard, 1983

Stuff made with techie tools: At the Whitney, Inez van Lamsweerde's "Me Kissing Vinoodh (Passionately)" covered an entire wall. Seemingly a hugely blown-up photograph of a woman, eyes closed, mouth and other parts mysteriously misshapen or even missing until you realized that the other person in the photograph, the one whose mouth enveloped the woman's and whose fingers closed on her shoulders, had been cut out, but his silhouette remained, the color of the brick wall behind. Like the famous old-woman-or-vase drawing, once you 'saw' the silhouette the photograph looked irretrievably different. The artist's boyfriend's image, the *Bitstreams* catalog states, had been "digitally removed to leave a disturbing gap … suggesting that even the closest lovers remain a mystery to each other". Before reading the 'statement' the photo looked as though "Oh, hmm, someone's cut out the other person with PhotoShop"; after reading the statement it seemed poignantly disturbing, as though perhaps even the closest lovers remain mysterious to each other.

Stuff made w/tech waste or byproduct: At SF MOMA Hu Jie Ming's "The Fiction Between 1999 & 2000" was a series of

rooms made out of columns of linked floor-to-ceiling transparent stills from Chinese and American television, video and web pages, printed onto some kind of flimsy plastic film. It was impossible to see the higher images, and impossible to look at everything, as there was a bewildering profusion of images and as we were herded, four at a time, through the narrow corridors. The pictures from TV and text from websites tended to be political, but obscurely so: stills of politicians talking, but about what? Described in the *010101* catalog as an "information labyrinth", the installation felt as overwhelming and as frustrating as searching through a hundred websites or flipping through a hundred cable channels in search of information on something you really want to find out about.

"Once you break the bounds of your bag of skin in this way, you will also begin to blend into the architecture. ... So 'inhabitation' will take on a new meaning – one that has less to do with parking your bones in architecturally defined space and more with connecting your nervous system to nearby electronic orgrans."
—from the *010101* catalog, credited to William J. Mitchell, 1995

'Interactive': At SF MOMA I stumbled across a transparent box, a room-within-a-room full of intriguingly miscellaneous furniture and household objects, at the door of which were instructions to swipe a card with a bar code across a sensor. When a coded card was swiped, things happened inside the room: a light went on, a hairdryer started up, an umbrella opened and closed. When a different card was swiped, a second light flashed, a snatch of music played, a drawer opened. I didn't read the 'statement', but if I'd written it I would have talked appreciatively about the piece's critique of consumer culture. My own preoccupations led me to also see the piece, admittedly pessimistically, as a summation/critique of 'interactive' technologies.

Next to the bar code room was a black wall-sized painting hung above a couple of hair dryers lying around as though waiting to be used (no instructions provided). When a hair dryer was turned on and blown at the painting, the black surface dissolved and groups of four letters appeared where the heat was applied; as soon as the heat was taken away the black coating returned and the letters disappeared. The title of the piece was

something like "Four-letter Word". I was quite disappointed that the four-letter groups consisted of random sequences; this rendered the excitement of discovery pretty flat after a very short time. Is this disenchantment part of someone's vision of the postmodern experience; are we to learn to find meaning and satisfaction in experiences that are inherently irrelevant? Or, as is more likely, does the person who made the piece find randomness meaningful? I'm reminded of the most annoying artwork I ever saw, at the Tate Gallery in London where the walls of a huge (HUGE) white room had been covered with orderly lists of people the artist knew, names which could have no possible meaning to anyone but him. Very ultimate-PoMo-statement, very conceptual, very I-hate-the-audience.

"The oversize, jittery letter N that makes up Jeff Elrod's painting NNNNN was first drawn with a mouse on the artist's computer. For Elrod, the N is a meaningless sign, simply an abstract formal device that he uses as a basis for the process of drawing an all-over pattern. Uneven concentric lines expand out from the N until they reach the limits of the frame. Using the computer program Freehand, Elrod repeated the original drawing four times to create an overlapping friezelike composition that he then projected and painted onto a large canvas."
—from the Bitstreams catalog

The *pièce de résistance* for Paul and me was the hall of sound at the Whitney. Twenty-five sets of headphones connected us to twenty-five different and diverse pieces of digital music by DJs, pop bands, "noise artists", electroacoustic composers, visual artists who hadn't previously done anything with sound, instrumentalists and writers. "Diverse" would be an understatement when trying to describe the cornucopia of sound on offer; everything from sample-based sequencing to physical modelling to recorded live radio to documentary recording to vocal performance to the sound of someone writing to text-sound composition to the sound of CDs being destroyed ("an example of a new genre called *glitchwerks*") was represented. We listened to everything, and I don't know about Paul but I can only remember the sound of two pieces: John Hudak's "Pond", a sparse sonic environment populated with high small quiet sounds (made by underwater insects, apparently), and Paul D. Miller (DJ Spooky That Subliminal Kid)'s "ftp:>snd>", a cyclic wash made out of traffic noises rendered warm and comfortingly abstract. There is a kind of not-environmental not-music that doesn't make the mistake of trying to be musical and atmospheric at the

same time (always obnoxious), but consists of really interesting non-musical sounds happening in real- (or virtual real-)time. "Pond" was a great example of this, while "ftp:>snd>" was more toward the "music" end of the spectrum but lower-key than "music" would have been.

Also featured on the sound wall: Music made out of intercepted cell phone conversations (exactly what you might expect, reminiscent of the pieces people used to make out of late-night call-in Jerry-Springer-type TV shows until that kind of thing got too clichéd); music in which drum machine rhythms are notated and then played by other instruments (but it still sounds like a drum machine); a music of "organic, pulsing beats"; some "intense, improvisational digital processing"; "the soothing, sweeping sound of pencil across paper akin to lyrical voices"; a documentary recording of someone playing a conch shell; "razor blade-, marker-, lubricant-, microwave-oven"-damaged CDs stuttering in teeth-grinding bursts; a repeating digitally-simulated car crash; some "hypnotic vocals"; nice music made out of sampled computer geeks talking geek-talk; a recording of a live radio performance spoofing a war between Serbia and the US "fought only with cartoon sound effects" (I must have missed this piece at the time, but it sounds like it might be worth going back for); a recorded reading of Roland Barthes' "Pleasure of the Text" pronouncing only the vowels; a "richly textured, imagistic soundscape"; some "warped and bent" samples from John Cage's *String Quartet in Four Parts*; a sampled accordion processed with digital sounds; a "fragment opera"; a "virtual string quartet"; Chinese characters translated into digital sounds; fluorescent lights transduced into sound. Featured: lots of ideas about sound and sound processing. Not featured: ideas about musical structure, which pretty uniformly stuck with "Now this!".

"The sun never sets on the cyberspatial empire; somewhere on the globe, at any hour, an electronic retina is receiving light, converting sunbeams into a stream of ones and zeroes."
—from the *010101* catalog, credited to Thomas J. Campanella, 2000

Reflections on Iannis Xenakis

Joel Chadabe

I first met Xenakis while we were both in Berlin in 1964. Since then, we met from time to time, mostly in Paris, more often in recent years. I recall discussions of his stochastic approach to music, lunches discussing Le Corbusier, his demonstration of the original UPIC System, his commentary at the premiere of Boulez' Repons at the Centre Pompidou, demonstrations of his recent software, and his story of listening to cicadas at night while camping in northern Greece as a youth. We had a purposeful and historically oriented talk in his studio while I was writing Electric Sound in 1994. These were all friendly and warm visits, always enjoyable, often fascinating. Xenakis the person was straightforward, communicative, and comfortable.

Xenakis the artist projected a more complex personality and wider array of memories, sensibilities and interests than was apparent in his conversations. As Nouritza Matossian points out, for example, the polytopes are similar in sound and sight to a World War II air raid. Xenakis' feelings for traditional Greek music are evident in much of his music, nowhere more so than in N'Shima, for two amplified peasant voices, 2 amplified French horns, 2 tenor trombones, and amplified cello. And his stochastic approach to musical structure, with roots certainly in his training as a civil engineer, is evident in much of his music; as his interest in hyperbolic paraboloids led him to create the design of the Philips Pavilion in Brussels in 1958. This mixture of influences—the violence of war, the yearning in folk music, the rationality of engineering—is so unusual in a composer that we might be satisfied with saying that he was among the most interesting musical personalities of the 20th century. But there is more to it. From a historical point of view, Xenakis is a pivotal figure.

We always write history from our perspective of the future. Or, to put that another way, it is our perception of what is becoming important that leads us to look for origins and development paths. My own sense of the future of music is that the fixed forms and objects of the past will be largely replaced by processes with which performers or members of the public will interact in some way. Those fixed forms and objects of the past are the products of tonality as an underlying structural principle that determines how every note is synchronized to harmonic change, how chords lead with expectation from one to the next, and how forms are symmetrically closed by the tonic chord at either end; and those structural principles are similar to the structural principles of Newtonian mechanics, which state that everything is synchronized to Absolute Time, that one state of an object proceeds with expectation to the next state of the object, and that Newtonian time, in which the future is as certain as the past, is symmetrical. The period of tonality in music, 1600 – 1900, coincides with the period of Newtonian physics.

The structural paradigm for the 20th century, in my view, has been a growing appreciation of complexity and how we might deal with it. Two scientific models for dealing with complexity were statistics, which evolved from the thermodynamic systems of the 19th century, and systems theory, which was born in the 1950s; and the main themes of Xenakis' work were rooted in those models. Unlike the serialists whose lineage extended from Bach through Schoenberg and who represented complexity within the mainstream of musical history, Xenakis broke away to use systemic and statistical models without carrying the burden of the musical tradition. He heard the cicadas of a summer night as clouds of sound made up of particles too small to be traced as individual events, but understandable as statistical systems with energy distributions; and he thought of string glissandi, or pizzicati, for examples, as events that could be understood and controlled with a mathematics based on probabilities.

Xenakis used statistical procedures as early as the 1950s in Metastasis, Pithoprakta, and other compositions. In 1961, he used a computer to calculate

probabilities. He wrote, "With the aid of electronic computers the composer becomes a sort of pilot ... sailing in the space of sound, across sonic constellations and galaxies ..." It was a vision of realtime interaction. He achieved a sort of realtime interaction in 1961 in Strategie, a game between two orchestras, and again later in the UPIC System.

For the most part, Xenakis used statistics to calculate the event structures in a composition but then created the composition itself as an object, different in its compositional technique from the music of the past but an object nonetheless. He composed scores for orchestra, for chamber groups, for unusual ensembles, composing extraordinary pieces that could be performed by musicians in a conventional musical world. And in that sense, Xenakis was a transitional figure. He began his work at a time when technology was at a startup stage and when interaction and realtime calculation were not yet possible. But he pointed the way.

Re: Robert
Paredes
view
Harry

Partch:
If
there was a composer-------less sympathetic to the subsumption of artistic expression to within that perennial homily-cum-dumpster of "l'art pour l'art"....further removed from the often politically motivated rhetoric of the stonewall which we have come to know as "letting the music speak for itself" (for "What is music that it should have a self? as the Australian composer, Felix Werder, once ((and not so innocently)) inquired)....more opposed to the notion that an instance of music (or a composer, for that matter) need only to be pulped down to a detritus of immanent characteristics to be "understood"....as deeply antipathetic to the exclusive preoccupation with the merely decorative (as in some version of the Hummel figurine); or the merely conceptual (as in some version of the Galilean way of it in which physical/sensual (("corporeal")) experience is deemable as nought when compared to the reassuring truths provided by the precisely measurable); or the merely, "mere" (as in the notion that music must, at all times, "communicate" with smiley-faced immediacy and in full accordance with specific codes, rigidly in place and drearily familiar)--------he/she comes not so
readily
to
mind.
What
then
makes
David Dunn's Harry Partch: An Anthology of Critical Perspectives(Harwood Academic Publishers, 2000) so immediately satisfying is the variously-voiced, difficult-to-rein-in, diversity and abundance of its address—as befits the subject: a composer whose bone with reductionism was of long, persistent and tenacious picking and whose creative advocacy on behalf of the hearing, seeing, feeling-whole body—(and passion to save it and its works from the compromise crafted of willy-nilly wizening and love of the denotative above all)---made for a life's work more "art" because human needs and wants required it, than the
other
way
'round.

Such
a
contrary

thorny

cussedly unpidgeonholeable personage—
(composer,
writer,
poet,
creator and fabricator of musical instruments,
theoretician of tone,
visual artist,
diarist,
polemicist,
politico,
missionary,
satyr-simulacrum,
bricoleur-bona fide,
mandarin anti-mandarin,
firestorm (?),
sweetheart(?) and
shit (?))
-----requires a commensurately variegated set of exegeses and so (therefore) in lieu of a proforma teleology of the distillative, editor Dunn has sought rather to advance to us (through thoughtful choosing and sensitive arrangement) a foliative ontology born of care. Instead of the building block, stark in its insufficiency, he gives us a rainforest, rich in strange life-forms and potential medicaments----causing, into the bargain, a very beautiful and much needed meta-music of his own to
come
into
being.
Comprised
of texts, photos, and a CD recording, the work's macro-structure is a tripartite one, each discrete grouping given a rubric in accordance with Mr. Partch's own stipulated trinity of emphasis, i.e., Sound-Magic, Visual Beauty, and Experience-Ritual. Within and between these larger locations are expressions, observations, and analyses of profound understanding, deep sympathy, and head-scratching complexity, each presenting us with a rich and varied point of entry into the composer's elaborate, multi-faceted-and-articulated domain. Through this body of offerings, resonant within and between their various contexts and divides, we are treated to a Harry Partch in the plenitude he deserves, demands, and
cries
out
for.
Following
an introduction----(inferential ((if only by me))) as a kind of heterophonic/polyphonic-meta-text, music-by-text, in the form of a dialogue between long-time Partch associates percussionist/teacher Danlee Mitchell and editor David Dunn, flanked by resonant ghosts in the form of knowing (if not entirely affirmative) observers of long standing and Mr. Partch himself in hovering cross-talk)—Sound-Magic begins with Mr.

Partch
(himself)
speaking
in
the form of The Rhythmic Motivations of Castor and Pollux and Even Wild Horses. Here is the composer taking issue with the familiar fireside dichotomy of classical music versus popular (as if we could imagine that any musical life could be lived outside of the corrals these categories represent). Classical's worship of the past and popular's habitual resort to the most simplified musical terrain are equally decried----yet we find Partch not a little attracted (in spite of himself?) to the visceral excitement ("strength") which he hears in the popular domain. This sensibility coupled with a desire for greater complexity of rhythmic articulation informs the composition of the two works under discussion. Of further interest within this discourse is writing illustrative of the formative influence which an examination of African rhythmic structures had on Partch's work----and the metaphoric richness he derived from the art and life of the poet, Rimbaud (as in a sense of lost innocence, "humanness," fueling
and
fuel
for
a
rebellious physicality)----Far
from

being
the modest offering its title might lead one to expect, A Word or Two on the Tuning of Harry Partch, by Rudolph Rasch is an elaborate and detailed discourse on the mathematics of Partch's world of pitch and interval. Initially touching (with tantalizing brevity) on the implications and problematics of perceiving "Intonational color"----(i.e., the condition of pitch as carried by----((and fused with))----its instrumental medium), the author provides us with an invaluable introduction to the domain of tunable ratios (providing roughly equivalent tempered analogues to allow one access)----and further discussion concerning the way in which various groupings and configurations of selfsame conjoin to produce Partch's own
characteristic
expression of the idea of
tonality.
Ben
Johnston's, Harry Partch's Cloud Chamber Music, offers both a dramatic narrative of that work's unfolding and a discussion of the political context which informed its making. Here is a Partch who, nostalgic for primary cultures, believing our society to be in an advanced state of decay and having no faith in the older folk to remedy the situation—would become the "inciter of youth." Rich in theoretical address, the text as well sheds light on Partch's macro pitch-dialectic as this is embodied in the interconnection and interqualification of Otonalities (aggregates of tunable ratios

analogous to major chords) and Utonalities (analogous to minor). We learn something of way these blocks of quasi-tonalities were grouped and employed to provide contrast and tension within Partch's system and how configurations of tunable ratios (e.g., Unity Diamond) became (quite literally) the very macro-shapes, orderly internal domains, and physical limits of the instruments themselves in an exquisite wedding of concept and evidence, (theory and functionality). In this latter light, one remembers with savor the kinetic beauty exhibited by a diamond marimba player as he negotiated a rapid series of crossovers from one ratio domain of that instrument to another and hears,
sees,
feels
the

physicality of [numbersoundmediumgesture]
reading
clear
through
in beautiful
fusion.
In
Daphne

of
the Dunes: The Relationship of Drama and Music, Glenn Hackbarth frames those tissues of connection extant between the putatively "pure" "musical" specificities of his chosen work and the dramaturgical attributes of its particular characters (i.e., Daphne and Apollo) providing much insight into the processes Partch employed to construct—to "flesh out"—his corporeal system. The many and clarifying notated examples interspersed throughout are meticulous and
beautifully
rendered.
Uniquely,
in
Elaine Barkin's A Text on the Music of Harry Partch taken from Notes and Commentaries on Notes made during and after Auditions of the Music of Harry Partch, we are presented with an analysis----(through an altogether more expansive genus of dictation)----issuing from the vantage point of a listener-composer writing meta-text----(about mood, in light thereof----about implications, in light thereof)---- directly in response to hearings of Partch's work. The resulting body of small writings, each very beautiful, self-contained and focused on some divergent aspect of the composer which a given hearing has caused to be framed, interqualify one with the other in this reader's imagination to create an ecology of Partch/resonances----a verbal meta-field of potential connection, by turns describing how it feels to experience the sounds, unfolding an almost film-like parallel story line of images----("dance of the bluesyfloozies")----for which the

Partchmusic might plausibly be construed to be an underscore, and ruminating on questions

of

how

and

why. Rich

in

beautiful

and illustrative graphics, Verses in Preparation for the Delusion of the Fury, by Paul Earls, is concerned with the issues of prefiguration, and subsequent expansion of material----and variously desribes the sonorous groupings, rhythmic structures, pitch protocols, and notational problematics germane to the composition of that collection of works which may be said to have constituted the "maquette," if you will, for a larger "sculpture" which became Delusion of

the

Fury.

Visual

Beauty

is exclusively comprised of a collection of photos, all save one of the composer and his instruments: Several Partches are in evidence here, among them a hobo/merchant-mariner, indomitable-atop a freight car....the composer/builder (a defiant sun-king centrally seated and surrounded by his creations in quasi-orbital freeze-frame?)....the adapted violist, fighting a well-loved gig-suit....a *viejo*-akimbo out of B. Traven, defending hearth and home from the onslaughts of salesmen, sacred and

profane.

By

way

of

memoirs,

Experience-Ritual, begins with Further Memories and Reflections, and "I Do Not Quite Understand You, Socrates." The first of these is an engaging dialogue between the previously introduced Danlee Mitchell and another American original in the person of composer Henry Brant, pioneer in the practice of specifying particular spatial placements of instruments as an attribute of given compositions. Through Brant's and Mitchell's recollections, more of the composer emerges, i.e., the patient, but tautly focused rehearser, the interpreter of Chopin, the unremitting "reminderer" to the Court of Ancient Ritual that music might have a basis

in

tone.

The

second,

by Partch's longtime friend and fellow composer, Lou Harrison, is an affectionately formal mini-remembrance touching, but profoundly, on the depth of Partch's immersion in the classics, the origins of his involvement with corporeality as idea, and the development of the

tuning

system.

Both

memoir

and cultural critique Beyond Harry Partch, by Ben Johnston, takes up the vexing and perplexing issue of a continued obeisance of American serious ("concert?") music----(What do we call it now?)----to European models and upper-class pretensions and explores Partch's remedial importance with respect to this seemingly perpetual circumstance. Time is also taken both to hurl (lob? toss?) a small verbal projectile at the limitations of an education system which for so long has defined musical legitimacy near solely in terms of 18th and 19th century European concerns and to relate to us a part of Mr. Johnston's own story (i.e., introduction to the work of Helmholtz, apprenticeship with Partch at Gualala---- subsequent and not wholly fulfilling experimentation with Electronic

Music).

Both

speculative

and

critical,

In

Search of Partch's Bewitched. Part One: Concern

ing

Physicality, by Kenneth Gaburo is that composer/phenomenologist's exam

ination of Partch's corporeality in Gaburo's own dist

inctive and no less corporeally resonant meld of text-as-to-be-(could-be)-sounded, ear-beautious, roll-off-the-tongueable poetic rum

ination and hard-assed, fire-worked-logic-cum-practic

ing-lapsed-jesuit-apologetical-multi-elaborat

ing-rice-paper-rapier th

ink

in which

graymatter and guts do their motherfuckerdance

of one

inside the other until they

are one

and

inside the

other.

Implicit

as a kind of climactic point, by virtue of its length and penultimate place in the work as a whole, Gaburo's writing----(a large-scale musing in light of Partch's, The Bewitched)----is in many ways the heart of the collection---(and a dagger aimed at

the heart of reducto). Herein the author takes Partch at his word(s)----(present as one voice in a two-part polyphonic theater)----and proceeds to ask just what they mean. Beginning with an inquiry into the nature of observation (i.e., affirmative both of its unassailable basis in the physical and that of the descriptive language which gives it voice), Gaburo moves on to construct a composition-within-a-composition-as-generative grammar in the form of a word-thicket of physically-referential interconnections/qualifications within which the most tightly crafted instance of Partch-aimed reduction is bound to achieve an irreversible entanglement. There follows a "demystification"----(within which is to be found an exquisite, "touchy-feely" relational-rumination on the world of sensual experience provided the author by his tactile encounter with Partch's Marimba Eroica)----in which Gaburo speculates on the ways Partch's own language may have contributed to a quasi-canonization (desired or not by the composer). A final discussion addresses Partch's theater in terms of its implications as a socially integrative phenomena----(an art, arguably significant as much for having provided its participants with an intimate occasion to experience and share particular qualities of being----(feeling)--together....as for having become one more array of "holy relics" on artworld's large mantel----entity on entity.

Last

among the texts and by

way

of a coda there is The Umbilical Chord Still Vibrates. This is Harry Partch's own mordant observation-cum-pronouncement of and upon our investment in the masterpiece culture....deeply critical of the price we pay in moribund cultural life (and stifled creativity) for the thousandth-odd recording of Sheherazade (Fritz Reiner's Chicago Symphony reading which I've lovingly carted around since childhood is quite enough for me, thanks). Special vitriol is herein reserved for the fetish preoccupation with (*frisson* for?) matters interpretive (the shape of the phrase as shape of the foot?). You know how it goes. Because having deprived ourselves (through fear, laziness or bigotry) of those regenerative benefits of wilderness to be found in the form of new, complex, and not easily habitable creative domains which fully engage the body and its reluctantly cohabitative mind-brain, we are reduced to an experience of music----(selected, for its familiarity and drained by over-audition of any particle of information)----as little more than an occasion for oooing-and/or-ahhhing over this or that minuscule difference to be discerned from one self-similar

recording

to

another.

Accompanying

the

book

is a compact disc with two offerings----an interview done with Partch after a dress rehearsal of Delusion of the Fury, and The Day the Kithara Fell, a broadcast of what is characterized as "a somewhat sensationalized accident on the set of Delusion of the Fury, one day before the premiere." The former gives you the

"grain" of Partch's voice, the knowing, would-be, scoffer's chuckle and smoker's rasp; the peaks, troughs and cadences of inflection (Partch's ur-text?), and the contradictory nature of the composer in interview----restless, argumentative, a bubbling obstreperousness barely containable within the limits of convivial intervieweehood. The latter offers----for all its would-be tabloid feverishness----a real taste of that world of fragility and tenuousness within which performances of such powerful stretch and reach must inevitably take place. One remembers (indeed, I remember) the shattering of a Spoils-of-War bowl in a San Diego performance of The Bewitched and the subsequent sweeping up of its shardshower by an intrepid harmonic canon player (and ((I)) further recall the collapse of that same instruments base just before a performance in Cologne).

For those coming new to the work and person of this composer, be advised: the man within the book is not the blandly personable, easy to define and eminently dismissable corporate cutout so seemingly cherished in this time of unregenerate dumbness, but a complex person/personality/persona, full of himself and full of his mission. A polyartist in search of his own good ground in the ongoing battle with a musical and social world which he cannot stand----yet, whose attention and understanding he nonetheless covets. In paraphrastic homage to the late Herbert Brün, it might be said that Partch is an adversarial input to society, instead of its obedient output: in and with every sense----(and by way of the fertile alternatives which he composes to the utter desiccation he perceives)----a persistent and unapologetic voice of nonaffirmation to socialworld's unquestioned and unquestioning, identity-drained din and mutter.

That David Dunn has, through his compilation, conveyed such a profound sense of the very deep and palpable difference which Harry Partch constructs with his own hands, is argument enough for its acquisition by every interested person.

Iowa City,
2/10/01

March 9, 2001 UCSD Philosophy Seminar Room, 7th Floor H&SS Tower, Muir College Main
Audiences: UCSD Philosophy Dept. and UCSD Science Studies Program

The Tangible Scientific Model as Quasi-experiment: Applying the 'Mediating Model' Concept to Johns Hopkins-Style Clinical Sexology of Gender Identity Formation

Eric Peterson

Thank you all for coming. [Overhead 1]:

Broad Overview

Aim: To find a philosophical framework in which to evaluate and critique the use of intersexed people as scientific models for gender identity development.

1. "Sexology isn't physics, so who cares?" Isn't sexology just substandard or immature science?
2. Introduction to terms and issues relating to intersex, gender identity, sexology, and lay intersex activism.

From the semantic view of models to the mediating models approach.

My main aim today will be to find a philosophical framework for studying a particular family of scientific models. These models are about the development of gender identity in an individual. The models are characterized by the use of a special set of people—intersexed people—to study the development of gender identity in the general population.

The history of philosophy of science being what it is, I have to begin by answering a vexing question: "Who cares about sexology?" In the past, and even today, philosophers of science follow a method of inquiry that I seem to be violating. The method is this. Identify science that some unspecified "we" all intuitively know to be good in some undefined way. Then figure out what 'good' means. Here is the method I am following instead today. Identify science I believe to have important social and political consequences. Figure out how it works and how it doesn't work. Further,

figure out a way to identify important values for which it fails to account. Today I won't have time to do the latter task: critique. I shall, however, explain how to evaluate empirically the bit of science I'll be talking about. To do that, I shall examine the usefulness of two philosophical approaches to scientific models: the semantic approach and the mediating models approach.

So in what sense does clinical sexology of gender identity development have important social and political consequences? To answer this question, let me introduce some helpful terms and then sketch a caricature of the relevant history. [Overhead 2]:

Terms

Intersexuality: An umbrella term for "...a variety of congenital conditions in which a person has neither the standard male nor the standard female anatomy" (Alice Domurat Dreger, Intersex in the Age of Ethics, 5).

Gender Identity: (intuitive notion) One's sense of oneself as either some kind of masculine person, some kind of feminine person, and/or some kind of androgynous person.

Gender Identity/Role or G I/R: (John Money) [Among other differences from the intuitive concept, G I/R classifies one's *sexuality* as an aspect of one's gender identity.]

First, 'intersexuality.' The word is "an umbrella term for '...a variety of congenital conditions in which a person has neither the standard male nor the standard female anatomy.'" Some intersex conditions result from uncommon chromosome patterns. Others occur because the body is unable to synthesize a particular hormone. Still others occur because the body's target tissues cannot respond to a particular hormone. And there are other causes as well. By a conservative estimate, 1 out of every 2000 children

born in the United States is intersexed. Let me repeat that: 1 out of every 2000 children born in the United States is intersexed. This is not a rare phenomenon. It just isn't talked about.

One common contemporary notion of gender identity is: "One's sense of oneself as either some kind of masculine person, some kind of feminine person, and/or some kind of androgynous person." Now, John Money, the main researcher I shall be talking about, instead uses the specialized notion of 'Gender Identity/Role' or 'G I/R.' (An aside: the phrase 'gender identity' was first used in the 1950s and Money himself is widely credited with coining it.) The only point I want to make about Money's concept is that it diverges from some people's concept of gender identity by including sexuality. Thus, a very masculine man who prefers sex with other men has, for Money, a more feminine G I/R than a similar man who prefers sex with women. I am warning you about Money's usage here just so you won't be confused later.

Now a very brief history. [Overhead 3]:

Theoretical Issues

Money: Prenatal factors exert some influence on the direction of gender identity development, but carefully arrayed social factors can override those tendencies.

Diamond: One's gender identity is mainly determined by prenatal factors. In the majority of cases, social conditioning cannot alter the prenatally determined gender identity.

Intersex Activism

Cheryl Chase and the Intersexed Society of North America (ISNA): www.isna.org

John Money, along with Joan and John Hampson and others, developed a characteristic approach to the psychology of gender identity development in the 1950s at Johns Hopkins University. In caricature, Money and his

collaborators eventually created the following theory of gender identity development: "Prenatal factors exert some influence on the direction of gender identity development, but carefully arrayed social factors can override those tendencies." The idea was this. One's gender identity mainly results from gendered social interactions that take place at critical periods in one's postnatal development. Gendered social interactions, for Money, depend on how a person's parents and peers treat him or her. And how a person's parents and peers treat him or her depends in large part on the shape of his or her genitals. Money says that whether one's genitals and style of dress seem to be those of a boy or a girl—or neither—in the earliest years of one's life has more to do with the one's eventual gender identity than do one's chromosomes, hormonal history, or original anatomy. Famously, the theory implies that a boy can—under the proper social and surgical conditions—be turned into a girl, and a girl can be turned into a boy.

Here is why Money's science matters. Money's view has been highly influential in the medical community. The view has had tremendous consequences for the treatment of intersexed infants and children where ever surgical resources are readily available. Citing Money's theory, surgeons have reasoned that they must operate on the genitals of intersexed infants as soon as possible. They must make the genitals "normal" as soon as possible. If they don't, the individual will develop an "abnormal" gender identity. According to John Money and to conventional wisdom, having an "abnormal" gender identity makes a person miserable. It makes one a social cripple and an outcast. Due to Money's influence, since the 1950's, U. S. surgeons have performed more than 75,000 genital operations—mainly clitorectomies.

In the 1990s, Cheryl Chase founded the Intersex Society of North America or ISNA. The purpose of ISNA is to convince physicians that intersex surgeries should be stopped. ISNA gives many reasons against intersex surgeries. The medical treatments, combined with the fact that doctors routinely lie to patients about their purpose, instill a deep sense of shame. The surgeries cause sexual dysfunction. ISNA also cites the fact that some intersexed people are assigned the wrong gender. That is, some intersexed people develop a sense of gender identity at odds with their social and surgical gender assignment. Sexologist Milton Diamond supports ISNA. Diamond contends that Money's theory is wrong. He states that one's gender identity is mainly determined by prenatal factors. Diamond's view is that "in the majority of cases, social conditioning cannot alter the prenatally determined gender identity."

I shall now present a pair of clinical studies by Money, Bernard F, Norman and (in one case) Howard Devore, published in 1986 and 1987, in which intersexed people serve as a scientific model. (I'll clarify what I mean by 'scientific model' a little later on in the talk.) Intersexed people serve as a model of gender identity development in the general population.

[Overhead 4]:

A Pair of Longitudinal Outcome Studies
in which
Intersexed People Serve as a Scientific Model
of Gender Identity Development in the
General Population (of Males)

The studies' general purpose: "...[T]o differentiate the variables and determinants of ... gender identity" (Money, Bernard F. Norman, and Howard Devore 165).

Gender transposition: Bisexuality, homosexuality, or the desire for sex reassignment (in all cases, judged with respect to the sex of rearing)

All subjects had masculinizing prenatal development.
Group 1 were assigned as girls.
Group 2 were assigned as boys.

Actually, strictly speaking, the model used in these particular studies is of gender identity in the general population of males. The general purpose of the studies in which the model is used is "to differentiate the variables and determinants of ... gender identity." That is, the authors want to learn what

factors cause the development of gender identity and how those factors interact. To that end, they look at medical records and interviews with intersexed people who were patients' of Johns Hopkins from childhood through adulthood. The authors specifically focus on the frequency of factors relative to the presence and to the absence of what they call "gender transposition." Gender transposition is, "bisexuality, homosexuality, or the desire for sex reassignment," judged with respect to the sex of rearing. The presence of any of those conditions indicate, to the authors, that the gender assignment did not "take," at least not completely. The authors determine whether a patient is gender transposed or not based on medical records and on interviews with the patient and family.

Both studies examine groups of so-called "male hermaphrodites." All subjects are male in the sense of having a chromosome conformation of 46, XY. In addition, it seems that the authors aim to include only patients whose prenatal development was "masculinizing." For this reason they exclude a patient with androgen insensitivity syndrome, a person whose tissues cannot respond to testosterone. On account of this criterion of inclusion, the authors consider all of the subjects comparable to non-intersexed males with respect to the prenatal history.

The people in the first study were all raised as girls. The people in the second study were all raised as boys. The logic in comparing the two groups goes as follows. All subjects had (more or less) the same, masculinizing prenatal history. If some can be successfully raised as boys and others successfully raised as girls, that will be instructive—provided we can identify the factors the enabled the success of the gender assignment. Likewise, it will be instructive to determine which factors likely contributed to failure of a gender assignment (that is, the presence of gender transposition). [Remove Overhead 4]

The authors chose to study one factor or another based on a variety of motivations. For each factor, they determined the frequency of gender transposition in the factor's *presence*. They also determined the frequency of gender transposition in the factor's *absence*. Likewise, the authors determined the frequency of gender *non*-transposition in the factor's presence and in its absence.

[Overhead 5] :

Factors Examined

In Group Raised as Girls	In Group Raised as Boys
Regular or Special Referral Status	Regular or Special Referral Status
Referral Status and Sex Reassignment	
Stigmatization	Stigmatization
Ambivalence in Sex of Announcement	Ambivalence in Sex of Announcement
Age of Feminizing Surgery	Cosmetically Adequate Masculine Genitals
Age of Surgery and Stigmatization	
Hormonal Puberty	Hormonal Puberty
Age at Gonadectomy	Urinary Posture
Mullerian Organs	Mullerian Organs
Family Behavioral Pathology	Family Behavioral Pathology

Here is a complete list of the factors they examined in each study. I'm not going to go through them all, but I'll hit the highlights. For both groups, they separated out those who were referred because of a stated desire for sex reassignment and then looked at the prevalence of gender transposition in the remainder of the patients. They also looked at the effect on frequency of

gender transposition of having gender-appropriate genitals by a certain age, through surgery. A further question was whether being stigmatized—made fun of or shamed—either at home or in the wider community affected the frequency of gender transposition. In the case of girls, they also looked at the frequency of stigmatization as a function of the age of feminizing surgery.

The authors performed a chi-squared test on each of the distributions they found, in order to determine which were statistically significant. Here is a summary of distributions that they found to be significant. [Overhead 6]:

Statistically Significant Results Regarding the Group Assigned as Girls

1) Stigmatization correlated with gender transposition ($p<.001$)
2) Stigmatization correlated with late or absent surgery ($p<.05$)
3)

Statistically Significant Results Regarding the Group Assigned as Boys

None.

In the case of those raised as girls, there is a statistically significant correlation between gender transposition and stigmatization. The probability that the distribution they found is due to chance alone is less than one in a thousand. They found a weaker, but still significant, correlation between the presence of stigmatization and late or absent feminizing surgery. The authors interpret these results to mean that girls who grow up with unfeminine genitals tend to be teased on that basis. They also infer that teasing based on the appearance of the genitals causally contributes to the development of an abnormal gender identity. None of the results about the boys was statistically significant because only 4 of the 24 patients in the study were classified as gender transposed.

I now turn to philosophical accounts of scientific models. Again, my aim is to find a philosophical view of models from which to evaluate the

model of my case study. I'll begin with what's called 'the semantic view'. [Overhead 7, uncovering only title.]:

The Semantic View of Scientific Theories: Families of Models

The semantic view is actually a family of views about scientific *theories*, rather than about models *per se*. Still, proponents of the semantic view were the first modern philosophers of science to talk about scientific models, so it is a sensible place to begin. The semantic view is bound together by the claim that scientific theories are families of models.

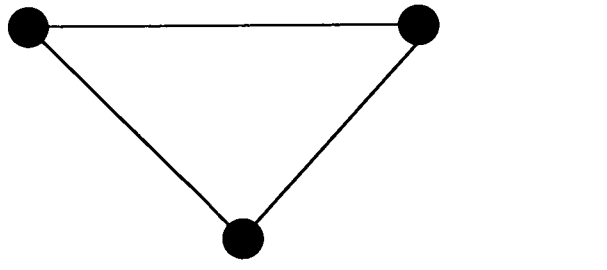
[Uncover whole of overhead 7.]:

Van Fraassen

Scientific *theory*: a set of axioms.

1. For any two lines, there is at most one point that lies on each.
2. For any two points, there is exactly one line that lies on both.
3. On every line, there lie at least two points.

A *model* of a theory: any structure that satisfies all of the theory's 0.75 pt axioms.

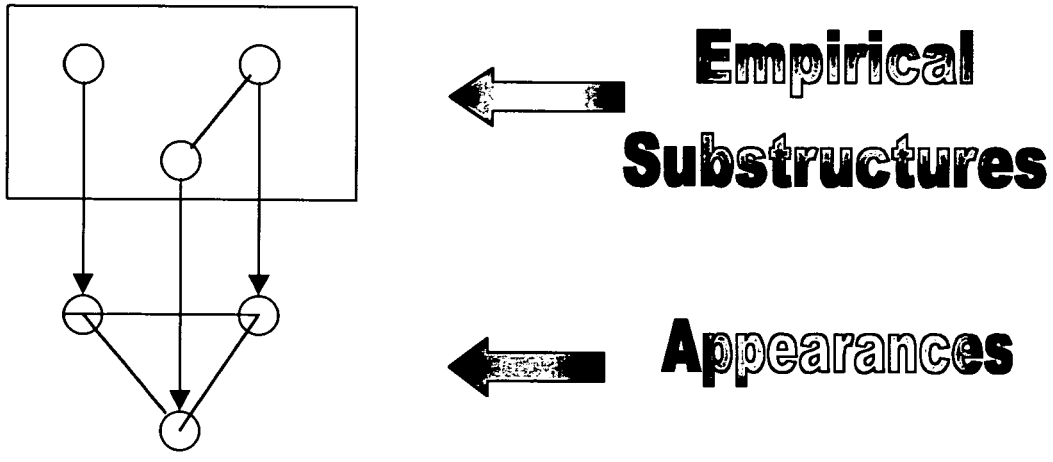


Semantic View: Van Fraassen continued

Empirical Substructures: those parts of the model that are "candidates for the direct representation of empirical phenomena."

A theory is *empirically adequate* if it has a model whose empirical substructures are *isomorphic* to appearances.

ISOMORPHISM



Let me try to give you a sense of what semantic theorists mean by the term 'models'. Consider a set of axioms similar to those most of us have encountered in geometry. The set of axioms functions to pick out a set of models, that is structures about which all of axioms are true. In the example on the overhead, each one of the axioms is true of the structure below it. Thus the pictured structure is a model of that set of axioms.

[Overhead 8]:

A Problem with Van Fraassen's Account of Empirical Adequacy for Scientific Representation

1) Requirement that *every* observable feature of appearances be modeled is too strong.
   A. Why isn't it enough to know that a representation is good enough for our purposes? (Forces us to state what our purposes are.)
   B. The requirement embodies an untestable (metaphysical) assumption: that appearances and human capacities are such that it is possible to construct a *complete* model of a phenomenon—that it is possible to run out of questions.

According to the semantic theorists, a theory is a set of models. Bas Van Fraassen is one of the most well-known American semantic theorists

and also a strong empiricist. I shall rely on Van Fraassen's account of the semantic view. Van Fraassen stresses the importance of the model's *empirical substructures*. The empirical substructures are those parts of the model that scientists consider to be "candidates for the direct representation of empirical phenomena." That is, Van Fraassen allows that models (and thus theories) can have parts that do not represent the observable world. The parts of the model that are meant to represent phenomena have to bear a certain relation to what Van Fraassen calls 'appearances'—the measurable and observable parts of the phenomena in which we are interested. If the correct relation obtains between at least one of the theory's models and the intended phenomena, then the theory is empirically adequate. Specifically, an empirically adequate theory must have a model whose empirical substructures are *isomorphic* to the phenomena they represent. In other words, it must be possible to create a mapping between representation and phenomenon-represented in which:

1) Each feature of the representation is mapped to one and only one feature of the phenomenon; and
2) Each feature of interest in the phenomenon is mapped to one and only one feature of the representation; and
3) The relations that hold among features of the representation also hold among the corresponding features of the phenomenon.

The semantic view is limited in a number of ways. [Overhead 10]:

Limitations of the Semantic View on Models

1) Only talks about THEORETICAL models
2) Only talks about PAPER AND PENCIL models, not tangible models.
3) Can't explain how models function autonomously from theory (Margaret Morrison).

The model of my case study presents several features with which semantic accounts of models cannot or do not cope. First, as Margaret Morrison of the mediating models camp points out, the semantic view only talks about theoretical models. They view models as little more than vehicles for giving content to theory. Yet Money's model, like many others, is non-theoretical. The phrase 'theoretical model' can mean many things. 'Theoretical model' can mean a model logically or mathematically derived from theory. More

loosely, 'theoretical model' can refer even to models that are not, strictly speaking, derived from theory. The phrase can refer to models created by taking an ideal model—one derived from theory—and modifying it according to a stock of techniques closely associated with the theory. However, even on the loosest rendering, Money's model is not theoretical. The model's purpose is to test Money's theory. But the theory isn't about intersexed people, except insofar as it is about all humans. Moreover, there is nothing in the theory that tells you to use intersexed people as a model.

This brings us to a second problem. The semantic view was designed primarily with paper and pencil models in mind. It's not that semantic theorists deny the existence of tangible models, that is, of models comprised of real world objects or, as in this case, people. Semantic theorist Ronald Giere, for example, discusses Watson and Crick's material model of the structure of DNA. It's also not that mediating models must be tangible models. Rather, it's that, of the two, only the mediating model approach can allow for models about whose contents are not entirely known. That is, the semantic view doesn't take seriously the major difference between the two types of models: whereas paper and pencil models have in them only what we put there, tangible scientific models may have properties we don't even know about.

Indeed, as Mary Hesse taught us a long time ago, tangible models are valuable on account of possessing properties and behaviors whose relation to theory is still uncertain. Hesse says that the features of the model whose relation to theory we are still debating provide points of theoretical growth. That is, properties and behaviors in the model about which we are unsure whether there are counterparts in the phenomena provide potential points of correction and expansion of theory. But we can't talk about any of this if our only concept of models is that they are the things that give content to our theories. The reason is that talking about models as content-givers presumes that we already know all of the model's properties and behaviors and that we already know that all of those features are described in the theory.

The problems I have been gesturing at can be summed up with a point made by Margaret Morrison. The point is also exemplified by the work of many other scholars in the book Models as Mediators: the semantic approach to models doesn't allow us to talk about the many ways in which models function autonomously from theory. In my case, it doesn't allow me to talk about the way the non-theoretical, tangible intersexed model functions as a quasi-experiment whose purpose is to test theory. By contrast, the 'mediating model' concept provides a more fruitful point of departure.

[Overhead 11]:

Criteria for Being a Mediating Model

1) The model does not derive from theory.
2) The model is not determined by data.
3) The model is able to "replace the phenomenon itself as the focus of scientific research"
   a) because it conveys "some *particular* or *local* knowledge specific to the effect or phenomenon that is being modelled"

      (Mauricio Suárez, Models as Mediators p. 170).

   b) because it allows Money to test his theory in ways that ethical considerations would otherwise prevent
   1) studies on the intersexed as "natural experiments"

Morrison gives three criteria for being a mediating model. Arguably, all three apply to the model of my case. The first criterion is that the behavior of the objects of the model—in my case, of real people—is not derived from theory. I have already pointed out that the group of intersexed people, and their properties, serving as the model of gender identity development are not described in Money's theory. (Granted, I haven't yet said what I mean

by saying that the people and their properties are a model, but hang in there.)

The second criterion is that the model does not derive from data. Now the relation between data and model in my case study is something I haven't talked about at all yet. The researchers' preparation of the data involves elaborate procedures that I haven't time to describe right now. Briefly, however, Money is explicit that the data for his clinical study are not the patients included in it, but rather the prepared histories of those people. So again, the data are not people but rather carefully prepared histories. Thus, in the case of the clinical study, far from the model deriving from the data, *the data*—that is, histories of people—*derive from the model*, the people themselves.

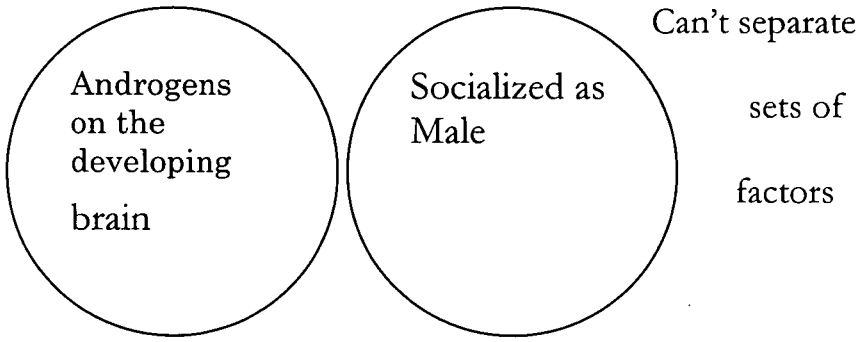
The third criterion is that the model replaces the phenomenon as the focus of scientific research. That criterion is certainly fulfilled in my case. Money and his collaborators focus on gender identity development in intersexed people even though they want to learn about the development of gender identity in individuals of the general population. Now, admittedly, the reason for this replacement of focus is a little different from what the mediating models folks have in mind. Most of the scholars writing on mediating models are looking at science in which theory is high-level, abstract. Mauricio Suárez, for example, looks at the way electromagnetic theory was originally applied to superconductivity. In that case, scientists couldn't simply apply electromagnetic theory to superconductivity because the phenomenon wouldn't fit into any of the available theoretical models. Attention shifted to the construction of a mediating model of the phenomenon. Then scientists adjusted the theory to accommodate the mediating model. So the typical idea behind the third criterion is that the mediating model embodies local knowledge of a phenomenon, knowledge that the abstract theory can't yet handle.

My case is a little different. Money's theory is not abstract. It is expressed in ordinary English that talks directly about the phenomenon of gender identity. In my case, the mediating model is instead needed to test the theory.

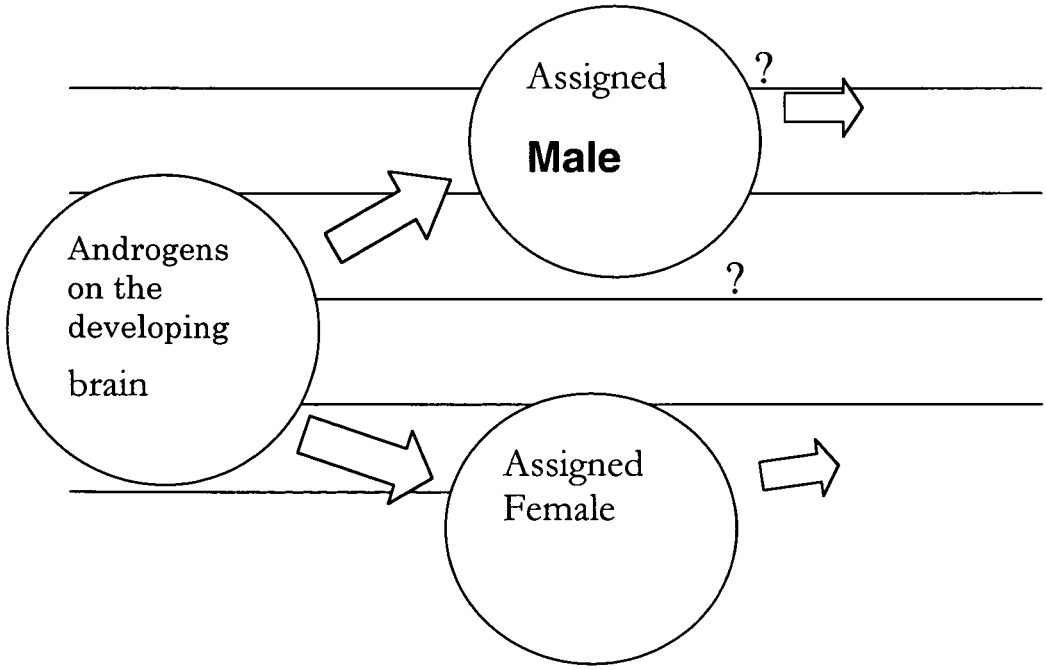
[Overhead 12]:

Studies on the Intersexed: "Natural Experiments"

Non-intersexed male



Intersexed Male



Money calls intersexed people "natural experiments." That is, Money believes Nature and society have graciously provided him an ethical way to test his theory. The most direct way to test Money's theory would be to separate the factors artificially: manipulate fetal hormones, surgically manipulate gonads and genitals, raise females as boys and males as girls. Normally, ethical considerations prevent scientists from doing that. With intersexed children, Money believes, the situation is different. He presumes they must be made to look "normal" in any case. In addition, the limits of surgical technology among other factors dictate that some intersexed males be raised as girls, and vice versa—or so he believes. Hence, sets of factors that normally vary together can be separated. The function of this particular mediating model, then, is to allow the ethical testing of a theory than cannot otherwise be ethically tested. (I should state for the record that I don't believe this testing is ethical. I am just saying that this is the intended function of the model.) [Remove overhead 12.]

So Money's model is a tangible model that functions as a quasi-experiment. Thinking about this case study through the purview of the mediating model literature opens up a new domain of questions that the modeling literature itself does not address. For, when one begins thinking seriously about tangible models, one begins to suspect that they can be found all over the place, in the realm of *experiment*. That is, perhaps every experiment is a tangible model for the target system under study. After all, in an experiment, you have one physical system—the one scientists set up in the lab or wherever—representing a whole host of physical systems elsewhere in the world. The modeling literature talks a lot about how models represent the phenomena. What I would like to do is to apply the same set of questions to experiments, considered as models. Bringing the literature on models to bear on experiment will open up new ways of looking at experiment. It will help us isolate questions about how the experimental system or population represents the target system or population.

By now I have said a little more about what makes the intersexed research subjects a scientific model: they somehow represent gender identity formation in general and are somehow studied in that capacity. I have also implied that what Money learns by studying them will have implications for his theory. But I haven't yet been very specific about which aspects of the subjects are part of the model, and in what capacities. For example, if I am an intersexed person who serves as a scientific model, is my little toe a part of the model? So far I have been speaking of scientific models in a mode I'll call '*the "raw" model*'.

[Overhead 13]:

A quick and convenient sense of 'model':

The "Raw" Model

RM=$_{df}$\{"All" the features of the group of people under study —noticed or not, relevant to the object of study or not\}

(Analogous to Hesse's model$_2$, perhaps.)

In the "raw" model mode of speaking, we imagine the things or persons constituting the model as bearing all of the features they "actually do" bear, whatever that is taken to mean. Some of the "raw" model's features actually come into play in scientific representation and some don't. The "raw" model way of speaking exists just for convenience, for shorthand.

We can begin to talk about the functional parts of the model by imagining a subset of the raw model, the internal dynamic. [Overhead 14]:

Functional Aspects of Mediating Models

1. The INTERNAL DYNAMIC, D=$_{df}$\{the raw model minus the features that are not potentially relevant to the scientific investigation at hand—including any potentially relevant features that have not been noticed yet\}, a subset of RM.

2. EFFECTS-UNDER-STUDY/POTENTIAL CAUSE PAIRS

a. effects-under-study, E=df{those features of the model's internal dynamic that scientists consider to be in need of causal explanation: $e_1, \ldots, e_n$}, a subset of D (the internal dynamic)

b. potential causes of e_i: for i=1 to n, $C_i =_{df}$ {those features of the internal dynamic considered to be potential causes, separately or jointly, of e_i: $c_{i1}, \ldots, c_{im}$}, a subset of D; $C =_{df} \{C_1, \ldots, C_n\}$, a set of sets of potential causes.

c. effects-under-study/potential cause pairs, $EC =_{df} \{\langle e_1, C_1\rangle, \ldots \langle e_n, C_n\rangle\}$, a subset of $(D \cup C)^2$.

The internal dynamic includes all and only those features of the raw model that could come into play in a scientific study of whatever phenomenon the model is a model of. Thus, the internal dynamic is the representational potential of the model. It is what gives the model the particular character it has in its capacity as a stand-in for the phenomenon. In the case of paper and pencil models, the internal dynamic could comprise the same features as the raw model. In tangible models, the raw model probably contains features not included in the internal dynamic—for example, someone's little toe. The internal dynamic of Money's model includes all and only the people's features that are potentially relevant to a study of gender identity.

Among the features in the internal dynamic, one or more features constitutes the set of effect- or effects-under-study in the model. In the model of my case study, the effect-under-study is gender transposition. For each effect-under-study, there is also a set of potential causes under consideration for that effect. The potential causes are also drawn from the internal dynamic. Only potential causes that scientists are actually considering appear in a set of potential-causes-under-consideration. That is

to say, the internal dynamic might have a feature that someone *could* consider as a potential cause for a given effect that doesn't make it into the official set of potential causes for that effect. The composition of the set depends on the choices of the scientists using the model. For Money's model, the set of potential-causes-under-consideration comprises the list of factors examined in a given study. Actually, we would have to expand the list to include both the presence and absence of a factor. For example, we should include both (genital surgery before age 1 or not needed) and (genital surgery only after age 3 or not at all. Finally, we pair each studied effect with the set of its potential-causes-under-consideration.

[Overhead 16]:

Functional Aspects of Mediating Models

3. CORRESPONDENCES

a. raw subject matter, RS=$_{df}${all of the features of the phenomenal subject matter}

b. For convenience, define set "Cdump," the union of C, ∪C, the set obtained by dumping all the members of C into a single set. Cdump is just all the potential-causes-under-consideration for any effect-under-study pooled together.

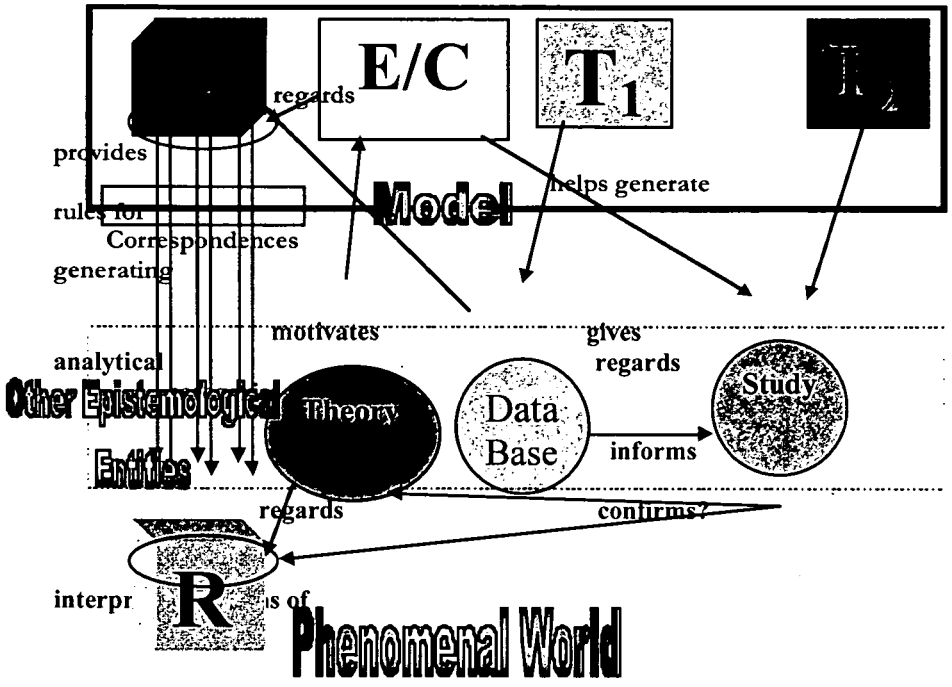
c. The correspondences that scientists erect between model and phenomenon modeled is the function COR: (E∪Cdump) [all of the effects-under-study and potential-causes-under-consideration pooled together] into RS.

d. The modeled phenomena, MS=$_{df}${those features of RS that appear in the range of COR}. MS comprises all of the features of phenomena that have a counterpart in the effects-under-study or potential-causes-under-consideration in the model.

e. COR maps (E∪Cdump) one-to-one onto MS

Scientists want to interpret the model in terms of the phenomenon. To do that, they need to decide which features in the set of effect/potential-cause pairs correspond to which features of the phenomenon. The model's correspondences embodies those decisions. The correspondences link each effect in the model with a feature of the phenomenon and each potential cause under consideration in the model with a feature of the phenomenon. The correspondences of Money's model are as follows. Money and his collaborators link gender transposition in an intersexed person with gender transposition in a non-intersexed person. They link a fetal history of a male-typical level of androgen in an intersexed person with the fetal hormonal history of a non-intersexed male. They link a fetal history *lacking* a male-typical level of androgen in an intersexed person with the fetal hormonal history of a non-intersexed woman. They do not address the possibility that the fetal hormonal history of an intersexed person could lie somewhere in-between the male-typical and female-typical patterns. In addition, Money and his colleagues assess the fetal hormonal history only by examining its presumed effects, such as upon genital tissues, not upon any carefully-devised scheme of measurement. The authors link early surgery or no "need" for surgery in an intersexed person with so-called "normal" genitals in an non-intersexed person of the appropriate sex. They presumably link late or absent surgery in an intersexed person with genital injury or mutilation before or during the critical early period of gender identity development in a non-intersexed person. As for surgery itself, the authors' silence suggests that they assume it is a factor only insofar as it affects the appearance of the genitals. That is, they presume that the experience of medicalization has no consequences for the development of gender identity. In a like manner, the authors suppose that the counseled silence around intersex conditions has no implications for gender identity development. In other words, they link parents' speaking and acting as though an intersexed child is *non*-intersexed to parents' speaking and acting as though a non-intersexed child is non-intersexed. The fact that such speaking and acting is a lie in the former case is taken to be inconsequential for the development of gender identity. And again, the authors do not address the fact that parents of intersexed children occasionally attempt to carry out doctors' orders by asking their children to hide any unusual anatomical features and/or not to talk about being intersexed; hence these factors are implicitly assumed to have no consequences for the development of gender identity. Money and his co-authors link gender-based stigmatization of an intersexed child with gender-based stigmatization of a non-intersexed child. Thus, they presume that being teased on account of having unusual genitals will have the same sort of effect as being teased for being unusually gendered in any other way—say, for being a boy who plays with Barbie dolls.

A model has two other parts. [Overhead 17]:



COMPONENTS OF A CLINICAL MODEL

'D' stands for the model's INTERNAL DYNAMIC, the features comprising the model's representational potential with respect to the phenomenon.

The CORRESPONDENCES: constructed linkages of meaning, between the representational subset of the model's dynamic (E∪Cdump) and the represented subset of the phenomenon's features (MS).

The first is the set of data-generating techniques, labeled T_1 on the overhead. The set of data-generating techniques contains rules for generating a data base. The data-generating techniques give rules for learning about the model with respect to its internal dynamic. For Money's model, they include techniques for conducting interviews. The remaining part is the set of data-analysis techniques, labeled T_2 on the overhead. The data-analysis techniques give rules for analyzing the data created by applying T_1. The data-analysis techniques give rules for selecting, preparing, and analyzing the data (including, in the case of Money's model, statistical analysis). Clearly, the data-generating and –analyzing techniques are no part of the raw model at all. However, I call them part of the model because without them there would be no way of describing relations between the model's relevant features and drawing conclusions about them. And scientists need to be able to draw conclusions about the model in order to interpret those conclusions in terms of the phenomena being modeled. Van Fraassen said a theory was empirically adequate if one of its models' features and relations bore the right kind of relation to the phenomena's features and relations. But actually that's not enough, if we apply that criterion directly to models. Not only must the correct relation prevail, but scientists must have routine way of *knowing* that the correct relation prevails. Models are only instruments of knowledge insofar as scientists know how to use them. The data-generating and –analyzing techniques are like how-to manuals for using models.

So what are the criteria of empirical adequacy for models?

[Overhead18]:

Criteria of Empirical Adequacy for Scientific Models

1. Behavioral Equivalence: isomorphism between the representational part of the model (E∪Cdump) and the modeled phenomena (MS, the range of COR).
2. Relevance of Links: the modeled phenomena (MS) includes all and only the features of the subject matter that are relevant with respect to the model's purposes.
3. Adequacy of Object Categories: categories used to identify features of model and phenomena make fine enough distinctions for the model's purposes.
4. Adequacy of Execution of the Data-generating and –analyzing techniques

I derive my criteria by looking at each part of the model and asking what must go right in order for the whole to function properly. On this basis, there are four criteria of empirical adequacy. The first criterion is behavioral equivalence between the model and the thing modeled. This is the requirement of isomorphism all over again. The isomorphism must hold between the representational part of the model and the subset of the observable phenomena that is actually being modeled. On this criterion, for example, it must actually be the case that stigmatization over one's unusual genitals produce the same effects on the development of gender identity as all other types of stigmatization based on non-normative gender, such as teasing a boy who plays with dolls.

The second and third criteria regard the adequacy of the correspondences and the object categories, *relative to the model's purposes.* The relevance of links criterion requires that the model models what it purports to model. That is, the model's correspondences should embody all and only those links between the representational part of the model and the modeled phenomenon that are relevant to the model's stated purpose. So for example, the stated purpose of Money's model was that it should identify all and only the causal determinants of gender transposition. Thus, relevance of links requires that the set of potential causes include all potentially relevant causal factors. Money is allowed to test factors that turn out to have no causal significance, but he cannot fail to test a factor that does have causal significance if the model is to fulfill its stated purpose. Hence it had better be the case that the fetal hormonal histories of intersexed people are rarely intermediate between the male- and female-typical patterns, as well as that the experience of medicalization, of the lies and the cover-ups, have no effect on gender identity development.

The adequacy of object categories criterion requires that categories used to pick out representational features of the model and their corresponding features of the phenomenon make distinctions that are fine enough for the model's purposes. The categories must not be too crude to shed light on the questions the model was designed to answer. For example, the category 'gender transposition' encompasses homosexuality, bisexuality, and the phenomenon that is called 'transsexuality' when it occurs in non-intersexed people. If it were the case that different factors cause bisexuality and homosexuality than cause transsexuality, the model would fail the adequacy of object category criterion. Money's model would not be empirically adequate because he would be lumping together what ought to remain separate.

I should like to say much more about the purpose-relativity of models in a future talk. The importance of the topic lies in the fact that the purposes for which models are designed can embody social and political values. For example, Money's study is motivated by a value of gender conformity: he states that given that our society only recognizes two categories of sex, it would be cruel *not* to alter so-called "abnormal" genitals as early as possible. He wants intersexed children to have a hope of fitting into society. The value of gender conformity manifests within his science in

at least two ways. First it justifies the surgery that allows him to use intersexed people as a model for non-intersexed people in the first place. That is, if all of his subjects retained their uncommon genitals—if none of them had surgery—and if the shape of one's genitals are indeed a factor in the development of gender identity, then he would not be able to learn about gender identity in non-intersexed people by studying only the intersexed. A second way the value of gender conformity enters is in what the model does *not* study. For example, Angela Moreno underwent genital surgery as an adolescent and can compare her pre- and post-surgery sexual experience. She mourns, not only her loss of clitoral sensitivity, but even more importantly her loss of something she felt was sacred: what she calls her "hermaphroditic eroticism." Although it is certainly unrealistic to expect science to capture the tremendous particularity of hermaphroditic experiences, Money's categories present unusual gender as inherently pathological and tragic, giving no hint that someone like Moreno could experience something positive that so-called "normal" people can never experience.

Returning to the fourth criterion of empirical adequacy, scientists must also *use* the model correctly. That is, they must adequately execute the data-generating and -analyzing techniques. For example, many of the data-generating techniques in Money's model address the purpose of getting the research subject to 'open up' during an interview. If the studies' research subjects did not typically feel comfortable talking with the interviewer, the model would be empirically inadequate with respect to its use. Likewise, among the data-analysis techniques are rules for statistical analysis. If Money failed to control for confounding factors, for example, the use of his model would be empirically inadequate.

I have not provided an exhaustive list of specific tests of empirical adequacy for Money's model. However, I hope I've given you a good idea about how one could generate such a list from the criteria of empirical adequacy in conjunction with a specification of the various parts of the model. The criteria of empirical adequacy for models derive from my account of models.

[Overhead 19]:

Virtues of My Account of Scientific Models

1. No metaphysical commitments: representational success not predicated on capturing "every" feature of phenomena, though it allows for the possibility.
2. Representational success relativized to purposes.
3. Can be applied to non-theoretical models and theoretical models alike.
4. Can be applied to tangible models as well as to paper and pencil models.

In summary, my account has several virtues. The account relativizes empirical adequacy to purposes. In doing so, it demands a clear accounting of in what respects—and to what ends—a particular model serves as a representation. The account also allows philosophers to talk, not only about theoretical models and paper and pencil models, but also about non-theoretical models and about tangible models. In doing so, the account invites philosophers of science to take a new look at experiments. Thinking about models in the way I have suggested allows philosophers to think of experiments as models, and thus to explore new questions about how experiments represent systems in the wider phenomenal world. Thank you very much.

Iannis Xenakis. A Personal Memorial.

James Harley

I had just one real composition lesson with Xenakis. It was in the summer of 1985, during the Centre Acanthes summer course. The place was the Conservatoire de musique in Aix-en-Provence named for Darius Milhaud, who hailed from there (and to whom Xenakis had looked for compositional guidance early on, without much success—as it turned out, that was probably for the best). I had been living in London for three years, and had been evolving in the direction of "algorithmic" composition, and toward greater complexity. These were not particularly popular trends at the Royal Academy of Music, where I was studying (even if Brian Ferneyhough had been a student there some years earlier). Still, in celebration of being awarded the Mendelssohn Scholarship (originally established on the proceeds from the British performances of *Elijah*, a strange funding source, but certainly not unwelcome for a young composer living the garret life) the Academy hosted a recital of my works, and we managed to present reasonable performances of some of this "difficult" music. (Strangely, Ferneyhough was awarded that very same scholarship to go off and study abroad, and he, like I, never returned.)

The highpoint of the concert would no doubt have been the premiere of my *String Quartet*, which was performed with the addition of a conductor and 4 page-turners. The music is elaborate, featuring sections of fast-moving glissandi, rhythmically layered bands of quarter-tone melodies, and so on. Some sort of conception of nonlinear form, derived, I believe, from Stravinsky and Beckett, led to a meta-structure in which the different sections were cut up and interspersed. You get the idea. It was fascinating to work on, and fascinating to put together with my string-playing friends at the Academy. The next day, or so, I headed off on the train to France for six weeks with Xenakis and a host of his favorite performers (such as the Arditti Quartet, whom I idolized; my first experience of hearing Xenakis's music live had been at a performance of theirs in Huddersfield in 1982, and their performance of his new quartet, *Tetras*, from 1983, had served as a direct inspiration for my own quartet—it was a dream come true to have them play it many years later). I had been browsing the scores at Universal Editions one day that spring (where but London could one cruise the music publishers' showrooms!), and had seen a brochure announcing a course featuring Xenakis and all these other stars, to be held in beautiful Provence (and not only that, it was going to shift to Salzburg and then to Delphi, places I had only dreamed about visiting). It was fate, obviously. Xenakis was also bringing his UPIC computer system, and I had already, in fact, been making plans to take my scholarship to Paris and work with the UPIC at CEMAMu in the coming fall. So, there I was, down near the Mediterranean, chipping the rust off my high-school French, and clutching the tape and score of my impressive new string quartet.

Xenakis was always gracious. If one only knew him through his writings and music and biography, one might imagine him to be rather fiercesome. But he wasn't. In the discussion of ideas, however, he was far from easy-going. He was demanding, and looked beyond the detail at hand to a more global perspective. No doubt it was his engineering/architectural experience. And his extraordinarily formidable intellect. So, there we were, he and I, listening to my piece. At the end, his main comment was that it was too simple. Too simple? It was the most complex thing anyone had seen at the Academy since, well, since Ferneyhough! (Probably not, but something like that.) I was shattered. But not in a damaging way. More in a quantum leap kind of way. Because, in a moment of epiphany, I understood what he meant. He was looking beyond the surface to the structure, to the development of the materials and the unfolding of the form. These complex textures that had taken so much work to compose were just gestures, and even if they were cut up, they didn't really change. At least not on more than one or a couple levels. And music has many levels and they all need to be shaped and interconnected. He went on to say that composing was hard work, and that if you weren't sure you wanted to be a composer, it would be better to do something else. And something about needing to not be afraid to go back and start over. Creating interesting music is *hard work*! (This is one point he and Morton Feldman were in absolute agreement on. They were, perhaps surprisingly, good friends. The only time I ever saw Xenakis wearing a suit and tie was at a memorial concert at the Centre Pompidou just after Feldman died where he had to make a speech. I seem to recall he even tried to tell a joke. He looked quite uncomfortable, but he did it for his friend.)

I'm so grateful for that little composition lesson. I went on to spend the summer attending his lectures, listening to a lot of his music, and thinking about some fundamental issues. Oh yes, and having a lot of fun. There was a great party in Delphi, in which we put together a pick-up band and Xenakis was dancing and he kept coming over to tell us to play louder (one can only bang an upright piano so loud, and Rohan de Saram could only pluck his cello so strongly) and the scent of the pine trees was picked up by the retsina and the shooting stars overhead were matched by the trilling of the cicadas... There is something savage about the countryside there (cliffs, heat), and something mystical and ancient. The same goats graze high in the mountains, the same olive groves spill down to the sea, as have been there for thousands of years. The oracle may still haunt the ruins. There's much in Xenakis's music that is wild and timeless, like Delphi.

I spent a couple of years in Paris, attending Dr. X.'s lectures, even studying finite mathematics as he recommended. I must admit, I never became fluent with probability theory, nor with juggling interlocking matrices. But the rigor of his thought posed a challenge that has certainly shaped the way I approach music. No one can really sound like Xenakis—who else has lived through what he did? He'll always be a model, though, and an inspiration. I'll never forget one discussion in his class. He had been going through the construction of a compositional mechanism using various probability functions. Eventually, we had an elaborate

flowchart outlining a procedure for generating music. A question came up relating to the initial impulse. If one can use such an algorithm to produce music, how does one determine what it is one wants to express? Is it possible for the music that comes out to be good or bad? Or some such concerns. Xenakis replied that the expression, or the necessity to create, is a given; it comes from inside. From where? From the subconscious (he said elsewhere). One tries to provide the means for it to come out. As he said after a concert of his music which included *Dämmerschein* (1994), an orchestral score of overwhelming acoustic energy and vitality, "I tried my best."

Would that we all tried as hard.

COLLOQUY AND REVIEW

TEN TEXTS

Elaine Barkin

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THE MARRIAGE OF HEAVEN AND EARTH. Music by Robert Reigle, Giacinto Scelsi, Albert Ayler; Poetry by Steven Koenig.

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EVERGREEN CLUB GAMELAN ENSEMBLE of Toronto, Ontario, Canada.

NORTH OF JAVA. Music by Paul Intson, Jon Siddall, Larry Lake, Andrew Timar, Mark Duggan.

PALACE. Music by Mark Duggan, Lou Harrison, John Wyre, Jon Siddall, Alain Thibault.

ROAD TO UBUD. Music by Gilles Tremblay, James Tenney, John Cage, & a group improvisation.

ROBERT MORRIS: Four Fold Heart Sutra.

DAVID DUNN: Angels and Insects; Language and Environment.

GALINA USTVOLSKAYA: Concerto for Piano, Strings, and Timpani; Trio for Clarinet, Violin, and Piano; Octet, for 2 Oboes, 4 Violins, Timpani, and Piano; Piano Sonata no. 3; 12 Piano Preludes; Grand Duet for Violoncello and Piano; "Dona nobis pacem"; "Dies Irae"; "Benedictus qui venit"; Symphony no. 4; Piano Sonata no. 5; Symphony no. 5.

ROBERT MORRIS: Four Computer Music Compositions: Night Sky Scroll (1984-5), Four or Five Mirrors (1990), Ma (1992), About the Same (1999). mris@mail.rochester.edu

> "Linguistic meaning is rooted in the felt experience induced by special sounds and sound-shapes as they echo and contrast with one another, each language a kind of song, a particular way of singing the world....In the expectation of a sensation, I give ear, and suddenly the sensible takes possession of my ear...and I surrender a part of, even my whole, body to this particular manner of vibrating and filling space...."
>
> Maurice Merleau-Ponty, from *Phenomenology of Perception,* 1962.

About *About the Same*

The first time around, it was the opening low low undulating low [F], coming in after a shaky thin high [B], that got to me, that I wanted to hear again; something about low's closeness to earth—deep, grounded, undergrounded, full, room-filling bottomsound—, way beneath the hovering floating high; and given the title I reckoned there'd be a recurrence in some how or other. At the start, low palpitates for less than 30 seconds; later on, in another guise, same-toned low resounds giant Mbira-like, as if hand slapped or plucked (and for a moment I think of Harry Partch). All through, there's a quasi-casualness (not quite the word I want, given the definitude and pitch-purposefulness with which the work sounds to have been composed), an ease about the way in which soundshapes morph in and out, shift up and down, fill in and come into sensate range, then fade from earshot; not much is ever still for long; chordal interlude-like single-threaded tunes spread out to reveal a vast turf; chromatic multi-directional arpeggios, soon overtaken as low ground gives way to high ground; at times all takes its time, at times too fast to catch up with; not confusing, but overflowing. Deep tones roll in and take hold intermittently, and I latch onto them as landmarks on a journey through sets of supple pillars or archways that yield to—or from which emanates—a converging, a massing of pent-up energy biding its time, just waiting to be given a chance to be heard. (During one listening an image cropped up of a pair of deaf folks having a super-animated conversation; I do often listen/hear with my fingers, all those years years back of piano playing producing a kinesthesia of fingered mind-sound-ear-play.) At other times I imagine Pollock in the act of hurling paint, RM's heavy intense symphonic onrushes almost always on the move, lapping at me; only rarely does something flit by too fast for me to get to hear it; only rarely is there too much going on, yet there's plenty happening all of the time; rare moments of stillness interrupt ever-widening expanses; opening dyad landmarks, journeyed-through, briefly sustained here and there, a third of the way in, just midway, and close to 2/3rds of the way through; holds on E or E-flat or F-sharp or a distinctive G-D fifth offer brief moments of respite rarely lasting longer than 5-7 seconds; multi-threaded, multi-dimensioned massings thicken but not totally impenetrably; the final eventfilled 3 1/2 minutes of this ca. 15-minute work come after the only real silence, a brief 2 seconds, rapid riffs, abrupt turns, superharmonies, traces of Free Jazz—maybe after many listenings I got to where I could hear through the shifts, could hear the wholeness, not easy to do; seriousness joined with composure never letting up or go; and clinching the close is mid-range

homebase B-F harmony, 'about the same' as the opening—with opening low F/high B outsides now flipped over—and after it hangs/they hang in for about 15 seconds, all finally holds still; it's quite a trip!

JOHN PSATHAS: Rhythm Spike (Spike, Calenture, Motet, Drum Dances, Waiting for the Aeroplane, Abhisheka, Stream 3.3).

Music from Aoteoroa New Zealand, Rattle Records D008 (1999).

www.rattle.co.nz

> "...to make sense is to enliven the senses...to release the body from the constraints imposed by outworn ways of speaking, to renew and rejuvenate one's felt awareness of the world."
>
> David Abram, from *The Spell of the Sensuous,* 1996.

About *Abhisheka* (1996)

One afternoon, March 1999, while I was staying in Wellington New Zealand with my younger buddy John Psathas and his family, I put on a CD of John's music, then still in the making. After lots of banging whamming piano & percussion music—which occupies the first 2/3rds of the CD—I was suddenly seized and, for the entire length of whatever it was I was now hearing, fully enmeshed in its grip. No, this was not that macho/discoheavy/ rockdriven/urgent/downright scary/percussedly throbbing/wild and crazy John Psathas music I was most familiar with. All senses transfixed, I played it over and over until whatever it was became something I could hear, became a bit clearer, began making sense. Neither an aberration nor a curiosity, *Abhisheka* veers from all else on the CD, surely a "composition", something for me to hear, to want to listen to, again. Coming out of nowhere, 'it' quivers, it whines, it pleads, it gets swamped over, it cajoles, alternately wailing utterances of uncertainty, of supplication, fuzzy harmonies ooze, and ornate tunes wail in turn asymmetrically, never rushed out of or into, no beat, no bar-lines, out of some remote place, resonating on and in its offness, precisely sitting in its midwayness, once somewhere spiraling way way deep down and out. Transfixed as I was, I didn't get what's making it, who's playing, nor wonder how John composed it to get it to sound that way, even when the ensemble—acoustic? or electroacoustic?—touched down right in the middle of a tone, on it in *its* world, off it in those more conventional milieus. Soon enough full consciousness of string quartet entered in, what/who else?, obviously!, playing squarely cleanly clearly 'between the cracks', right on the 'in betweens', not so easy to find on fretless strings. (The New Zealand String Quartet must have worked 'overtime' to make it all sound so smooth.) Of course that wail could only have come from a string instrument noodling about (well, maybe also from the Armenian double-reed doudouk), coming out of, after, and at the close with, the quivering, invaded by zooming darkness, never lightening up nor alleviating the solemnity (a side of John many of us know but one which he rarely lets us in on in his music).

August 2, 2000

In a recent e-mail John wrote: "Abhisheka, a Sanskrit word interpreted as "to anoint" or "to sprinkle", has to do with the transfer of knowledge from teacher to student. In order to be in a state to truly receive knowledge (to be anointed) one must "empty oneself like a vessel" and be in a state of readiness (from Chogyam Trungpa's "Cutting Through Spiritual Materialism"). At the time of composing *Abhisheka* I was worried that I might be stuck and could only conceive fast, upbeat, testosterone-ridden music, so this was a desperate experience for me, looking to empty myself, hoping to find that something else within."

MORTON FELDMAN: Crippled Symmetry (1983). The California EAR Unit. Bridge Records, Inc. 9092 (1999). www.bridgerecords.com

Three players on C & bass flutes, piano/celesta, vibraphone/glockenspiel play and replay their part never the same way. (Dorothy Stone, Vicki Ray, and Arthur Jarvinen manage to sound not as if they're 'Performing', rather that they are transmitting, conveying messages to us that come directly from somewhere inside Feldman.) "Stretch of old new never there always in time fixed sound...Never each time stretch in fixed sound of old when."* Over and over, in 2-5 minute modules—perhaps analogous to hyper-measures—, segments slide past and under and over and within each other, gently bumping into, as if oblivious of yet always in the same space, or as if each of the three players is in a cubbyhole, close by, not necessarily seeing but certainly hearing/listening in on one another, like a real-time interactive session albeit one that's been pre-patterned, pre-ordained, touching/not touching, inventing new ways to contemplate not togetherness but rather simultaneity of habitat, each participant sounding-up and then modifying the time or shape in which her/his sound sounds, now and then changing pitch pattern; with an abundance of sundry attacks and decays, each pretends it's one of its player-partners. Out-of-sync entanglements of somethings absolutely conceptual, ephemeral and free, with somethings always almost concrete and tightassed, and I swing between both ways of listening in; I allow myself to get taken in; at times I am swimming in a Jell-O pool, where I can fathom the feel, the texture of these Brownian movement-like sound particles whose entire milieu is continually reforming, deforming, crippling. And then they move on, all three, or a pair, sometimes just one, not truly evolving into another module, but suddenly there's an elsewhere. Or imagine being out in the bush or in the woods, where different creatures perch in different trees or bushes, each singing in its own voice, warning others off or hoping to be heard and answered by one of its kind. Yet no such hope obtains in Crippled Symmetry, no one really answers: each player is preoccupied with teeny shifts, trying 'it' over and over, an unrolling of the process of composing, "Ah not known when", and on they move to begin again. A module might consist of a series of low and high chords or a riff on piano, patches of single or

several tones on vibe, a 4 or 5-tone flute lick—practically always stretched-out semitones (perhaps I was born predisposed toward semitones; can there be a semitonal gene? I especially groove on Bach and Mozart's in between lines and on-the-way harmonies). Feldman's ever-mutating 12-note world has always 'spoken' to me, the more commonly extolled meditative minimalism labels erroneous in my view; sometimes I don't mind waiting for nothing to happen, although something is always happening. But my former soft-edged take on Feldman's 'pretty' and 'precious' surfaces has recently taken a sharp turn and I now think of these later long slow compositions (this work lasts 87 minutes, and his 2nd string quartet written in the same year lasts 6 hours)—and some earlier music as well—as having emerged from a fiercely chutzpah-dikka meticulous, perhaps even manipulative, individual enjoining us to pay attention to his sound, the more so in those nearly inaudible moments, someone who needs the largeness, the lengthiness of scale in order to achieve monumentality, in order to go on forever.

*from my Beckett-like text on Earl Kim's *Earthlight* in **e: an anthology**, OPEN SPACE, 1997.

August 12, 2000

KARIN REHNQVIST: David's Nimm (also Kast, Taromirs tid, Puksänger-lockrop, Lamento). Phono Suecia PSCD 85 (1996).*

Karin Rehnqvist's *Puksänger-lockrop* (Timpani songs-Herding calls, 1989) blew me away on first hearing several years ago; its impact remains strong, it still jolts. The work is fundamentally 'about' Woman, an affirmation of her power, strength, and spirit; 'about': being in and being part of the world, anima, animus, corporeality, giving breath to, standing firm. Composed for three women—two sopranos and timpanist-percussionist—the work reanimates and recalls earlier generations of Swedish women cow & goat herders—perhaps great-grandmothers of composer and performers—crudely yelling, shouting, howling, bellowing at their herds and to one another, making long-distance contact, reifying their—and my and maybe your—potent presence on Earth.

> "We're stormy, and that which is ours breaks loose from us without our fearing any debilitation. Our glances, our smiles are spent, laughs exude from all our mouths; our blood flows and we extend ourselves without ever reaching an end...From now on, who, if we say so, can say no to us? We've come back from always."
>
> Helene Cixous, from "The Laugh of the Medusa", 1976.

Puksänger-lockrop is sensational in every conceivable sense of the word, laudatory and critical; its message is unmistakable. Calculated to shock and arouse, it assaults the senses, rocks the body, makes demands of its listeners; it's a political manifesto, an homage—Xena would love it—as it bursts out and forth, dispensing with stereotypes of female fragility or loveliness or subordination, composed and designed—as is all of KR's music—for performers

and listeners familiar with 'contemporary concert music'. Right away, timpani bombards us with 'schlags', closely followed by sopranos—whose intake of breath is heard—, loudly and harshly outcrying, each a timespeck apart from the other, lingering together (on high C-sharp/D-sharp), timpani ongoing, new breaths taken, voices in and hanging on again (now on high G-sharp/D-sharp), all this within less than 30 seconds. (KR's extraordinary soprano collaborators here are Susanne Rosenberg and Lena Willemark, both folk singers, and percussionist Helena Gabrielsson.) Performers interactively commune amongst themselves throughout, each not only speaks, sings, or plays her own thoughts but those of her associates as well; they split apart, come together, break out, go round and round; relentless mysterious free-spirits: witch, sorceress, goddess, hag, healer, Earthmother/daughter.

> If woman has always functioned "eithin" the discourse of man. . .it is time for her to dislocate this "within, to explode it, turn it around and seize it; to make it hers, containing it, taking it in her own mouth, biting that tongue with her very own teeth to invent for herself a lagnauge to get inside of. . . ."
>
> Helene Cixous, from "The Laugh of the Medusa", 1976.

Karin Rehnqvist reconceives preconceptions of women singing 'concert music'. Yes, 20th-century precedents abound: Schoenberg, Berio, Berberian, Scelsi, Gaburo, Stockhausen, Oliveros, Galás, Kavasch all invigorated (and extended) vocal possibilities; Janis Joplin, Riot Grrrls and cohorts are known for their *Geschrei*; women, worldwide, lament, keen, ululate. KR reinterprets folk-traditional within sophisticated contemporary practice; her women inhabit a dark untamed wilderness; they speak to nonhumans; they howl at the moon and sun; they sound as if they want to burst out of their bodies as they (re)enact ancient rituals in contemporary contexts; their ecstasy, joy, pain, fury, and exuberance is palpable. Swedish psalm texts, Oaxacan shamanic incantation (Maria Sabena), Finnish proverbs, and a William Blake line ("The Eternal Female groand! It was heard all over the Earth.") are entwined with nonsense syllables; real words can be grasped but they're often as unintelligible as the nonsensical (I don't know Swedish, but I did do a listening with the Swedish texts in hand in order to get some sense of how KR (re)composes others' words). Rehnqvist's wit and staunch feminism is especially evident in the hysteria and near unintelligibility of a 3-minute passage comprising 16 nasty Finnish proverbs, such as: "Woman has long hair and a short mind" and "A Woman's opinion, a dog's fart." Sopranos babble harpy-like rapidfire, subsiding lullaby-like midway and mumbling hastily (breath reclaimed after heavy pounding breathing, calm following frenzy). Subtlety here is unsuitable and irrelevant.

Rehnqvist's women personae are unabashedly defiant, strident, wild, and, once in a while, calm. Women of day and night, they grunt, groan, and cackle rapidly; they are earthbound, concrete creatures; sound and silence, ear-splitting louds and muffled whispers, obscurity and clarity, language and non- or pre-language, crudity and refinement alternate. In *David's Nimm* (1983), 3 women—collectively encompassing 3 octaves—sing/sound like a backwards tape recorder, nasally wheezing in and out, cutting themselves off, engaging in frenetic, glossolalic, non-verbal 'dys-course'; most of the time (I guess) each tells/yells her own part/side of whatever it is she is/they are telling; at every moment they are aware of each

other. Toward the close, their three continuous jaggedly braided storylines spasm, they fleetingly pause and then sing, way-high-up, real 3-note chords (rare events in KR's music)—after which they dip down and resume their multiple persona-hood. Are they intended to be heard as story-singing in primeval pre-human language, or as angry wildwomen?

The basic 'stuff' of Karin Rehnqvist's music is clear and simple: 4- or 5-note modal or diatonic scraps recycle, one starts, another comes in, one finishes, another tentatively speaks up, alone, together, apart. As if she wants to get "inside" a scrap, cut it apart, lay it out, reveal its guts, now and then opening the hatch and allowing a flicker of soft light in, but soon enough returning to an unrefined, rugged, dark world. Screechy string scratchings in *Kast* (1986) remind me of Bernard Hermann's *Psycho* shower-shriek; in *Taromirs tid* (1987) earth-anguished strings sound as if encumbered by lead weights, contrabass blanketed in cobwebs; subsidence, ever-present insubordinate voices, something way down there struggling to get out, to be heard, seen, to be allowed to be.

* A 1999 CD including Rehnqvist's *Puksänger-lockrop*, *Solsången* (Sun Song), and "When you walk on the ground" (1995) (for amateur mixed chorus and fairly mellow) is available on BIS: www.bis.se.

August 18, 2000

ROBERT REIGLE, tenor saxophone. The Marriage of Heaven and Earth. Acoustic Levitation, Surrealestate, UW Contemporary Improvising Ensemble. Music by Robert Reigle, Giacinto Scelsi, Albert Ayler; Poetry by Steven Koenig. AL 1002 (1999).

ROBERT REIGLE, tenor saxophone. Music by Giacinto Scelsi, Robert Reigle, Luigi Nono, Christian Asplund, Papua New Guinea, Albert Ayler. AL 1003 (2000).

SURREALESTATE. Contrafactum. Surrealestate. Music by Gustavo Aguilar, Robert Reigle, Jonathon Grasse, David Borgo, Charles Ives. AL 1004 (2000). AcousticLv@aol.com

> "This [Napster, et alia] isn't just about a bunch of kids stealing music. It's about an assault on everything that constitutes the cultural expression of our society. If we fail to protect and preserve our intellectual property system, the culture will atrophy. And corporations won't be the only ones hurt. Artists will have no incentive to create. Worst-case scenario: The country will end up in a sort of cultural Dark Ages."
>
> Time Warner President Richard Parsons, Los Angeles Times, July 17, 2000

File Acoustic Levitation under Jazz/Improvisation/Classical, but not under Dark Ages. Yes, you can buy their CDs, but they're not in it for the money (r.i.p. FZ); "incentive to create" can be pretty intense when commercial gain is *not* at stake, when just doing what you're doing is what sustains you and those simpatico, far-flung, inter-generational, multi-disciplinary old and new friends.

The Marriage of Heaven and Earth I kept thinking of as The Marriage of Heaven and Hell; mindset and Blake-memory took over; the sonic Hell imagery I summoned up fits Earth just fine. Acoustic Levitation's Earthsound is hardedged, dynamic, grounded, crowded, resilient, authentic, sensational, earthfolks blowbowbanging their guts and heart out, heavily and circularly breathing, inner and other mindedly; a 'material' music. Heaven I have trouble with but maybe that's where their clarity fits in. Swiftness, clarity, precision, endurance commingle; how to retain control over what you're doing, remain aware of who you are, who you're with and that you're actually playing when you're moving faster than you can think and stretching limits of the (im)possible, when you're also alert to potential audiences. Think of the many different levels of consciousness that are tapped into when ways are lost and found within several seconds or over the duration of a session; coming out of or going into the false front of chaos; ever on the wait to absorb and reinvent; what just happened, what did I hear, where am I now, now just listen; not thinking is undesirable, too much thinking imperils intuition; how to navigate smoothly within and between spontaneity and attentiveness. Does 'it' lay concealed within the mind, the body waiting for an invitation to come on out from beneath, down in there, waiting for, acceding to, opportune moments to be revealed, to take on fleshsound, to let others, yourself, the world know of its/your presence, no matter if it-all, you-all, I-all, we-all disconcert or disturb. Not for the dainty lily-livered set.

Worldmixes lurk within, many participants themselves border crossers, players of tabla, gamelan, sho, African and Afro-Caribbean percussion; their lineage includes Albert Ayler (AL 1002, track 5 and AL 1003, track 10), Sun Ra (all through), György Ligeti (AL 1004, track 7), Alfred Schnittke (AL 1004, track 7, in Jonathon Grasse's *Six Circles*), and Charles Ives (AL 1004, track 11); surreal indeed.

Grinding groaning grungy beastmachine uneffortlessly propels itself, every part of this monster assemblage dragging its clanging mass onwards, incrementally, faintly morphing into superjamsession which melts into a nearly unbearably high rendering of Scelsi's *Pfhat* (mvt. 4). (AL 1002/tracks 1 & 2.)

One of Robert Reigle's Giacinto Scelsi homages is his tenor sax performance of Scelsi's *Tre Pezzi* (1956) interspersed with Reigle's own *Two Tropes* (1996). Rather like overhearing someone in the process of talmudically dissecting microsound & tone, splitting clustered worlds apart down to the teeniest particle, Reigle's Cecil Taylor-like speed, demonic in-your-face delivery, faster than express. (AL 1003, tracks 1-5.) In Christian Asplund's *Breathspace* (1994), another sonic whirlwind, there's a meditative stretch which sounds like softened electric current, charged but danger-free, vibrant even when bordering on the inaudible. (AL 1003, track 8.) *Mekulela*, exuberant melody from Papua New Guinea, Augustine Yendi on tenor sax entwined with RR's tenor sax commentary, Reigle enfolding him/itself over and above and below and around and inside Yendi and the tune, each comfortable in his own space, always together, never together, oneness-twoness fastened symbiotically, synergically. (AL 1003, track 9.)

Contrafactum in the spirit of John Sheppard captures an essence of this 16th-century composer's sensibility, a rough hewn imitation, like a bunch of English

Renaissance guys on acid thinking about shape and limits and clarity of line. (AL 1004, track 5.) *FQP (faster and quieter than possible)* may really be the *pièce de résistance*, on the edge of extinguishing itself at every twitchy moment in its brief 1'10" life, as if 'it' can't be held in or onto any longer. (AL 1004, track 7.) In *Charlie Rutlage*, a collective improvisation on a Charles Ives song, the transmutation of Ives into 1920s-30s Kurt Weill is done with ease and wit; hard to say what Ives or Weill would think. (AL 1004, track 11.)

August 27, 2000

NEW MUSIC FOR ELECTRONIC AND RECORDED MEDIA / WOMEN IN ELECTRONIC MUSIC. Music by Johanna Beyer, Annea Lockwood, Pauline Oliveros, Laurie Spiegel, Megan Roberts, Ruth Anderson, Laurie Anderson. CRI 728 (1997). (First released on Arch 1750, 1977.)

LESBIAN AMERICAN COMPOSERS. Music by Pauline Oliveros, Nurit Tilles, Linda Montano, Lori Freedman/Marilyn Lerner, Paula Kimper, Jennifer Higdon, Annea Lockwood, Madelyn Byrne, Ruth Anderson. CRI 780 (1998). www.composersrecordings.com

I write this text on the occasion of the arrival of two CRI CDs both of which exclusively comprise music by American women. (CRI, since its inception decades ago, integrated women's work into its catalogue with no or little fem-fanfare.) In 1977, when New Music for Electronic and Recorded Media first came out (produced by Charles Amirkhanian for Arch 1750 LPs), there was no mention of women in the title. To be sure, it didn't take more than a few seconds to figure that one out and I appreciated the subtlety. Nowadays such subtlety is rare, more folks aggressively proclaim their multiple identities, and merchandisers and the media tap into such avowals. None of this is really new, yet now it's unavoidably ubiquitous. Identity and sexual politics rule many roosts. Secrets long held are unmasked or pried out. There's no doubt that awareness of role models is beneficial, even inspiring, makes you feel less freaky. Read the notes in the Lesbian American Composers CD. But the gulf that separates mode of presentation of these two CDs will affect how a buyer/listener will buy/tune in—or not. The covers and notes of the Electronic Music CD include a photo montage with an ear, an integrated circuit, butterflies, a riverbank, and old (Greek? Roman?) stone carved profiles. Hardly eyebrow raising. On the Lesbian CD, covers and notes show sepia photos of two nude women snuggling. Attention seeking. Most of the lesbian composers talk about sexual and identity politics, and community, but none of them acknowledges ways in which their sexuality is manifest in their music; label notwithstanding, their music—I am able to report—fits no sexual or gender profile.

Pauline Oliveros' *Bye Bye Butterfly* (1965), on the Electronic Music CD is an inspired work and holds up after more than three decades. Its socio-sexual-politico-musical underpinnings are subtle and potent, messages are woven into how the work was composed; it's witty, clean, and its timings are just right. In her *Poem of Change* (1992) on the Lesbian CD, message-making takes over as Oliveros asks: "Is sexism [racism] real?... Can we give up War?..." against a collage of war imagery—bombs, marching feet—, accordion drones, and a lick

of Frank Sinatra singing "These foolish things remind me of you." Given the disastrous consequences of war, racism, and sexism, the placidity of tone of PO's inquiry is a bit puzzling, but perhaps that's part of her strategy. The works of Annea Lockwood and Ruth Anderson are also stronger as "music" on the Electronic Music CD, where their subtexted messages—nature, healing—can be discreetly decoded. On the Lesbian CD, Madelyn Byrne's programmatically evocative, unpretentious, and deft computer-synthesized *Winter* (1997), with text by Basho, invites me in to its swirling milieu. No messages, 'just' music. And insofar as I am preoccupied with succumbing to the vicissitudes of my aging body, Linda Montano's *Portrait of Sappho* (1997), a music-performance-art text-sound piece, got to me, as she speaks—hollow-voiced, unsentimentally—of the properties of 'her' body: "Once I had 206 bones in my body...Once there were 3 million sweat glands in my body"..."Once I had 33 vertebrae", and of 'her' once skin, neurons, heart beats, ribs, brain cells, etc. along with in and out of sync—with 'her' and with each other—thumping and piano. A seemingly cool and detached compendium of aging, forceful enough to deepen awareness of my & our impermanence, ephemerality, and ultimate decay.

August 30, 2000

EVERGREEN CLUB GAMELAN ENSEMBLE of Toronto, Ontario, Canada.

NORTH OF JAVA. Music by Paul Intson, Jon Siddall, Larry Lake, Andrew Timar, Mark Duggan. Arjuna Records, Arjuna 291 (1992).

PALACE Music by Mark Duggan, Lou Harrison, John Wyre, Jon Siddall, Alain Thibault. Artifact Music, Art-012 (1995).

ROAD TO UBUD: CONTEMPORARY GAMELAN. Music by Gilles Tremblay, James Tenney, John Cage, & a group improvisation. Artifact Music, Art-021 (1999).

Contact the American Gamelan Institute: www.gamelan.org/AGI.

In North America there are well over 200 Indonesian—Balinese, Javanese, and Sundanese—gamelan ensembles: community or Indonesian consulate-based groups, and those affiliated with academic institutions. Moreover, gamelan groups can be found on almost every continent, many of which are led by Indonesians; as in Indonesia, many performers are also composers. Fact is, it's real easy to get 'hooked on' this exotic tradition; de- or re-contextualized gamelan performance is almost a non-issue nowadays. The ceremonial, life-cycle observance, and ritual history of the ensembles are acknowledged in tandem with the pursuit, development, and creation of new contexts and New Music. "Tradition is change" says Balinese composer I Wayan Sadra.

Gamelan-influenced music, which surfaced in the West more than a century ago, is still thriving; modal and interlocking repetitive patternings framed within hierarchically layered textures crept into the piano, chamber, and orchestral music of Debussy, McPhee, Britten, Bartók, Messiaen, Harrison, Reich, and Ligeti. Gertrude Rivers Robinson was the first American composer to mix

Balinese gamelan and Western instruments (*Bayangan*, 1972). Lou Harrison, in the late 1970s, began composing for his homemade Javanese-style American gamelan; at the same time a new generation of gamelan enthusiasts blossomed, a flowering that has continued unabated ever since. Most player-composers begin with traditional musics; the joy in playing is abetted by a pervasive communal spirit, a camaraderie; within a relatively short time, a sense of being involved in a supportive collective obtains. Many new works include non-Indonesian instruments, electro-acoustics, other tuning systems and mallet techniques, odd meters and disparate conjoinings; rock, jazz, folk, heavy metal influences are evident; improvisation (limited to superstar soloists in the traditional Indonesian milieu) and processive/phase techniques are common; ears wide open!

The Evergreen Club of Toronto, Canada, formed in 1983, plays Gamelan Degung, an ensemble originating in West Java (Sunda); their Gamelan is named *Si Pawit* (= the beginning). (In Sunda these days, it is common to have a largely female ensemble, but males, playing kendang (drum) and suling (bamboo flute), lead the ensemble, rhythmically, melodically, and administratively.) On the Evergreen Club's CDs, compositions evocative of Sundanese gamelan traditions sit side-by-side with works that avoid many of the standard Indonesian attributes, that combine non-Indonesian instrumental resources and compositional idiosyncrasies with gamelan. All players cohere/cohear at every moment and Andrew Timar's performances and improvisations on suling are mesmerizing.

On the North Of Java CD, Larry Lake's *Three Bagatelles* make the most of synthesizer keyboard in combination with gamelan instruments, producing enriched harmonies and wild orchestral sounds. Paul Intson's penchant for snappy, interlocking, metrically modulating patterns are especially evident in *Two Paths* where the inclusion of digital synthesizer and electric bass results in a far-out fusion of funky, slidey, wobbly harmonies, a super contrast to Andrew Timar's works which gently and genteelly evoke SouthEastAsian traditional-folky-natural sound milieus. Jon Siddall's *The Greenhouse* engages gamelan resources along with polymetric and often jazzy patterns in suling, gambang (wooden xylophone), bonang (metal pots), and sarons (keyed metallophones), that mix of bamboo, wood, and metal all sounding so comfortable in its New World environment.

Fans of Lou Harrison's idiosyncratic music for Sundanese gamelan will welcome the performances of *Ibu Trish* and *Threnody for Carlos Chavez* on the Palace CD. In *Islands of Silence* by John Wyre, pairings of Steel Pan with gamelan, and Darabuka with kendang gradually reveal their distinctiveness, as repetitive or cadenza-like rhythms alternate. The usually snappy and sparkly essence and feel of Jon Siddall's *Palace* derive from 'percussion ensemble' aesthetic as does Alain Thibault's *L'angoisses des machines*, where asymmetry and recurring offbeat rhythms reign, where motifs expand then chop themselves up, linearly and in layers. Mark Duggan's *Evocation* fuses Sundanese perkiness—non-cyclically and in triple time—with Western qualities of shape, variety, and continuity. His *Jali's Dream* is the hybrid *par excellence* as Steel Pan and kacapi (zither) syncopate in- and out-of-time, almost jam-sessiony, above gambang ostinato, multi-metric

layers, and toward the end a magical ripple (Marktree?, wind chimes?) that throws everything off-kilter for a few moments.

Works on the Road to Ubud CD also depart significantly from Sundanese tradition, again requiring intimate knowledge of Sundanese performance practice. Gilles Tremblay's *L'arbre de Borobudur* (1994) and James Tenney's *The Road to Ubud* (1986, rev. 1996) both 'give their show away' in the sense that sooner or later, albeit differently, listeners are clued in to what's going on. Tenney's cool world is super-determined, although it takes a while to figure that out; Tremblay's far more obstreperous world is right there for the taking; both works mix gamelan with other instruments and tuning systems. John Cage's *Haikai* (1986), for gamelan instruments only, is a study in restraint and withholding, attention focuses on sound and silence, as if suspended and floating. Cage gives nothing away. *Cortège for Si Pawit*, a group improvisation, flows seamlessly out of, and was no doubt 'inspired' by, their performance of *Haikai*.

Gilles Tremblay mixes bronze, wood, skin, strings (nylon, gut, steel), bamboo, plastic (whirlies), brass (French horn), tin, electricity (Ondes Martenot), the human voice; Sundanese 5-tone pelog world, chromaticism, swoopy in betweens, overt licks of the 'overtone series'; his 'temple-tree' spreads erratically, encountering opposition, a harmony of disharmony and dissolution, alternations, superimpositions, juxtapositions, an assertion of co-existence, a collage-mélange romp. Tenney's quite daring mix of prepared piano with gamelan reverses casual notions of 'temperament'; his prepared piano is dys-tempered, 'unisons' of piano and gamelan are un-unisonal, and, along with other intervals, they rub together like a pair of gamelan instruments intentionally tuned to produce an aberrant wave-sound known as *ombak*. Seemingly random at the start, shape and exactness come into earshot soon enough; a spacey, pointillistic, rather bumpy opening gradually becomes harmonically and rhythmically richer and fuller, and then—ca. 3/5ths of the way in—thins down and out. (Tenney's once-peaceful Peliatan to Ubud road, in Bali's highlands, is now crowded, noisy, filled with motorcycle repair and rental shops, restaurants, and cottage-industry stores.)

Cage explored—doubtlessly with great joy—unique sound possibilities with an ensemble he'd not composed for before: different kinds of mallets, kettle gongs turned upside down, keys and gongs bowed; dynamics, 'attacks', who comes in with, before, and after whom are rigorously specified (last year, a group of us at UCLA worked on *Haikai* for awhile, experiencing performance delights as well as pitfalls); durations, determined by how long a sound can last, are relative to the resonance of the gong-chimes and the performing space; fermatas, singly and in groupings are scattered throughout each of the 8 'movements' and visually cued to all by a player's body language, a turn of palm or head. Everything about *Haikai* originates out of gamelan; each sound, each twitch, each togetherness, each apartness, each silence is given a chance to be heard. A mix of rigor and durational flexibility for the players offers event-filled serendipity for the listeners; tones of bowed upside-down pots are fortuitous, thus enriching the harmony. Nothing goes to or comes from anywhere; all is purely in the present; silences are best heard—and 'seen'—as naturally occurring moments of stasis, as 'breathers'. (On the CD the silences are indeed silent.)

Cage, in his notes to *Haikai*, writes: "This music should have a peaceful quality", re-expressed by Robert Morris (in OPEN SPACE magazine issue 2) who writes: "Many of [Cage's last works] are of a serene and intimate character, not incommensurate with the ninth of the permanent emotions, *shanta*—peace."

Haikai is my all-time favorite Cage work, one I'd have enjoyed composing.

September 9, 2000

ROBERT MORRIS: Four Fold Heart Sutra, for baritone, men's chorus, piano & percussion (1984). mris@mail.rochester.edu

Long afterwards the choral chanting lingers in mind, in ear, in air. During its course, *Four Fold Heart Sutra* gradually amasses more of itself, intensifying, reinforcing with each restatement of the *sutra* text. As if the mind of the piece listening to itself becomes more aware of what it's saying and re-affirms its self in ever-varying timespans, sections ever so slightly shorter and shorter, and at the close ever so slightly longer than all prior incarnations. There is change, movement, subtle action; there is a beginning and an end; there are four repetitions of the text, each one reaching a discernible apex and then retrenching, each one heavier than what has preceded, the fourth and final 'setting' fully ripened, chorus exuberantly singing, shouting the mantra over and over, syllabic emphases shifting a bit, making a hullabaloo albeit tightly controlled, restrained but elated, acquiescent, harmonious.

As I listen I imagine *Four Fold Heart Sutra* as a deep-rooted plant, simultaneously flowering in differing stages of growth, some buds unopened, some buds nearing ripening, some flowers already open and bursting forth in full bloom. Baritone chantlike, arialike melodies, and open, organum-like choral harmonies recur, transform, quicken, revitalize. "Form is only emptiness, emptiness is only form...Feeling, thought and choice, consciousness itself are the same as this." sings the chorus alone, then with at-first barely-there piano & vibraphone, whose presence spreads gradually and ultimately takes over, embraces, and enwraps the voices into its chromatic, disjunct, dynamically and registrally rich, extended, lingering soundworld (as heard in a strong performance by Eastman School of Music performers).

The *Four Fold Heart Sutra* is a well-known Buddhist text (RM writes in his notes). Although my knowledge of Buddhism is scant I can appreciate some of the difficulties in setting and re-contextualizing such a text for a contemporary concert audience, a text which "stresses the functions of emptiness as the basis of wisdom". To drain oneself of desire demands discipline, diligence. Not an easy path to take.

> "From the intangible matter that pervades the universe, tangible shapes emerge as its ephemeral transformations."
> —a quote I found some years ago but can't recall the source.

Choral harmonies of 4ths, 5ths, tritones prevail; ultimately all intervallic combinations are heard. 'Emptiness' and 'allness'—or 'fullness'—paired; flower imagery re-obtains. (The opening choral harmony stresses D, G, E, G-sharp, and given Morris's evident proclivity for order, it was no surprise to read in his

notes that he'd based his "harmonies on all-interval tetrachords".) Here and there in the solemnity I hear, am drawn to matings of sound and word, his settings of "stained or pure", "withering", and "nirvana"; and to abating of exactitude during build-ups and soloist's glisses.

As *Four Fold Heart Sutra* continues on, the fullness of the encroaching instrumental ensemble is like a sound-bed in which the voices lie, at first so tentative, so occasional, as to make you almost unaware of them, but then they're there, they frame soloist and chorus and in betweens, they join in in their own time, and the ripeness of their flowering as they envelop the wildly ecstatic chorus rapidly chanting shouting the mantra text—all wisdom leading to these words "hear and know its truth"—, is a real grabber!

September 16, 2000

DAVID DUNN: Angels and Insects (1992). OO Discs. OO #49 (1997). Music, Language and Environment / Environmental Sound Works by David Dunn, Innova 508 (1996). www.oodiscs.com&www.composersforum.org

> "To the sensing body, *no* thing presents itself as utterly passive or inert. Only by affirming the animateness of perceived things do we allow our words to emerge directly from the depths of our ongoing reciprocity with the world.... Recuperation of the incarnate, sensorial dimension of experience brings with it recuperation of the living landscape in which we are corporeally embedded."
>
> David Abram, from *The Spell of the Sensuous,* 1996.

As I think about writing about David Dunn's Sound Works, I totter about: how and where to begin. How to listen to DD's work *as* music; how to reflect on it, listen to it as *more-than music*, and then tell about it. All of it wants and needs to be comprehended with its *all* in mind—intact, integral, undiminished, acknowledged—the worldview from which it has emerged critical to 'getting' as much of it as possible. How, where, with what, within what context, with 'whom', and out of what sort of urge has Dunn composed his music? His exactitudes, his pre- and post-compositional explanatory modes, his all-encompassing desire to engage and involve listeners and participants are deep rooted.

> "This is music which (mostly) doesn't sound like anybody else's. And which (mostly doesn't correspond to polite pop notions of musical propriety. . . This is music which is not absolute, which almost can't exist without its stories, contexts, politics, and responses. . . .Environment and social interaction are at the very core of this music."
>
> Warren Burt, notes to the Music, Language and Environment CD, 1995

The world in which we live resonates within us, without us. We look for ways to be in tune with or to acknowledge our place within a world not of our own devising or invention albeit one which we make every effort to comprehend and be in control of. But to what end? What sorts of reciprocities, mutual dependencies, co-dependencies, levels of awareness and consciousness obtain between us and outside of us, us as part of the 'natural' world, us as makers of our own factitious, mechanistic worlds? David Dunn wants us to re-experience his fervently 'geo(ro)mantic' views about re-integration, reconciliation,

intercommunication, synergy between art & technology, humans & nonhumans, thought-systems & eco-systems.

> "...it is humanity's task to comprehend and set in order the special case facts and to win therefrom knowledge of the a priori existence of a complex of generalized principles which apparently altogether govern all physically evolving phenomena of the universe."
>
> R. Buckminster Fuller, from *Operating Manual for Spaceship Earth,* 1969.

Nexus I (1973), Grand Canyon enlivenment, 3 trumpeters echoing, reverberating deep in the Canyon ('Rollover Ferde Grofé'); wind, beating heart of the Canyon, palpably buffeting into, knocking against, microphones; no silence ever; crows respond to, interact with, and ultimately—territorially?—sonically intercept trumpeters; raw, slice-of-life sound installation-chronicle; who is responding to whom in this 15 minute excerpt from a three-day recording session, made around the time of summer solstice. *Mimus Polyglottos* (1976), in collaboration with Ric Cupples, is a gas from start to finish (a brief excerpt is on the CD). A mockingbird in San Diego's Balboa Park interactively jamming in the wee hours of the morning with electronically generated sounds and silences, and in the process augmenting, re-imagining its already remarkable imitative, incessant, sonic capabilities.

> "Towards the purpose of generating appropriate meta-language between human and environment, I have pursued the investigation of a phenomenology of transubjective communication where the patterns of mind and consciousness are recognized as immanent in the complex interactions of subsystems constituting their identity as cohesive social organisms or eco-systems....The sensitivity which musicians have to sound should be used for a larger purpose: the expansion of the communicative social fabric to include the environmentally interactive manifestation of the whole biosphere."
> David Dunn, from "Music, Memory, and the Holonomic Metaphor", 1985.

Skydrift (1977): out in the Anza Borrego desert east of San Diego, solitary and barren at first glance but teeming with Presence; desert life, in order to survive, re-invents itself, copes with and adapts to conditions of extremity. Ten voices, sixteen wood&brass-wind players, a graphic score, one sound engineer, four channels of electronic sound previously generated from the resonance of the site played back, giant portable desert-monster stereo equipment, on-site microphones—stationary aberrant outcroppings—looking like Meerkats, making every effort to hear, to listen; a massing of sound, tuneless, unpolished, predetermined and serendipitous, evocative of straining to retrieve something not easily found; wood&brass winds gradually recede from earshot, voices and site hum take over, in just over a 30-minute mix; although traces of human presence ultimately evanesce from the site, resonance for human participants endures and is recallable whenever they return.

> "A sense of place, as imbued with its own vitality, power, and consciousness, has been an assumption of people residing close to the earth. It is an awareness of an intrinsic interrelationship between all of the living parts which comprise what we now call environment. . . .{There's an] intuition that the complex interactions of an environment's subsystems form a larger organism, and that such organisms reflect thestructure of our own consciousness. . . [hence] contemporary descriptive language for such interconnectedness of mind and nature strikes me as a

> (re)collecting: we awaken from the amnesia of mechanistic reductionism to a memory of the whole and the wholeness that is memory. To contemplate a sense of place is to understand the planet as a mental structure. We interact with that larger mind, or subsystems of it, through memory and imagination, as if our mind/body states were points within a borad-spectrum simultaneity of ideas."
> David Dunn, "Music, Memory, and the Holonomic Metaphor"

Australian aboriginals 'sing' their territory in realtime, imprinting, fusing their song onto Dreamtime landscape during Walkabout; African bushmen know that there's magic in their forests; David Dunn inhabits remote and austere sites worldwide for short spells in order to get their feel, their sound in his body and mind. Dunn—with the aid of technology—then re-enacts, re-composes, re-creates that experience for others, with uncompromising, unsentimental fierceness.

> "My work has focussed upon using advanced audio technology as a tool to facilitate interaction with other living systems. Through combinations of analog, digital and traditional sound-generating devices, I [and other "artists as systems thinkers"] have designed real-time performance interactions in wilderness spaces where the resulting events are reflective of a larger system of mind...I [understand] the resultant sounds as evidence of purposeful, living systems with attributes of mind. [A metaphor] I have adopted to describe this work is that I am applying current technology toward a rediscovery of 'natural magic'.
> David Dunn, from "Wilderness as Reentrant Form: Thoughts on the Future of Electronic Art and Nature," 1989.

In *Espial* (1979), as wind bangs into the microphones, DD hangs onto his 21-tone just-intonation-tuned violin, solitary human, once again in the Anza Borrego, playing-sounding in order 'to be there', to witness, respond to, and participate in a "physically harsh environment", a self-imposed condition requiring endurance, control, and focus at each moment. Slow all-bowed slidings in and out and up and down, scrapings, scratchings, heavy arm pressure intensifying raspiness, strength dissipating now and then, long transmuting glides and pulls into and out of one microtone to another, intermittently ceasing and beginning again and again, making it almost possible to 'see' that person, that arm, that bow being drawn across a string as the fingers of the other hand creep their way up; occasional faster bow moves, a multistroke passage midway which I at first mistook for bird-chirping, unconcerned with "musical propriety" or refinement or chops-virtuosity, where 'style' is irrelevant but where concentrated intense violin-playing/music-making is the, is a, medium; hypnotic, Zen-like defiant, resolute, obsessive involvement; a 3 1/2-hour 'performance' divided into 7 equal segments simultaneously recorded on 7 cheap cassette recorders, and then it's over. Sound and shape of *Espial* the composition derive from the re-processing, from the art-technology linkage, still raw and unfinished sounding. Unlike most other music-listening experiences I've ever had.

> "...the timeless intimacy between memory, place, and imagination appears to be profoundly resonant. The ancient concept of the universe as a single vital organism comprised of mutually interpenetrating parts is an understanding to which we once again seem sympathetic. Paramount to such a view is the metaphor of tuning: the assumption of an harmonious interrelationship between the parts of things and the responsible role of the human as an agent of maintenance."
> David Dunn, "Music, Memory, and the Holonomic Metaphor", 1985.

Chaos and the Emergent Mind of the Pond (1991)—"Insects" of the What Next? CD—has been subtly shaped by/into two slow-moving composed wavelike sound-arcs over its ca. 25-minute span. During a first listening, my focus was on how 'insecty' it sounded, barely audible at the start, 'densely textured amplified computer-generated simulacrum'—or so I thought—, like little metal beads or balls rolling into one another, fractally irregular clops and taps and buzzes, water dripping and gushing, toy-percussion symphonic patternings far too complex to analyze. Afterwards I read DD's notes. Ha! In fact "a compilation of [DAT] recordings made in a variety of North American and African freshwater ponds." All the more extraordinary! Not entirely man-made after all! I listen again and move between my speakers, wanting to hear all that I can; I return to the center/back of the room, and close my eyes, even more caught up in this 'stranger than fiction' experience so meticulously organized to enable me/us to hear this world beneath, this

> "sonic multiverse of exquisite complexity...Steady state bands of sawtooth resonance waft across the distance between schools of insect thought that together form an emergent cognition...[producing] a dance between periodicity and chaotic swirl...not the mechanistic modeling of a chaotic system...real thing and its vitality speaks to me...My direct experience of nature convinces me that the worlds I hear are saturated with an intelligence emergent from the very *fullness* of interconnection which sustains them."
> David Dunn, notes to *Angels and Insects*, 1992.

September 26, 2000

GALINA USTVOLSKAYA: Concerto for Piano, String Orchestra, and Timpani; Octet, for 2 Oboes, 4 Violins, Timpani, and Piano; Piano Sonata no. 3; Grand Duet for Violoncello and Piano. BMG (Melodiya) 74321 49956 2 (1997).

AN INTRODUCTION TO GALINA USTVOLSKAYA: Trio for Clarinet, Violin, and Piano; Composition no. 2 "Dies Irae"; Symphony no. 4; Piano Sonata no. 5. Oleg Malov & the St. Petersburg Soloists. Megadisc Classics, MDC 7858 (1995).

GALINA USTVOLSKAYA: Octet; Composition. No. 3 "Benedictus qui venit"; Symphony no. 5; Shostakovich: Piano Quintet, op. 57. Conifer Classics 75605 51194 2 UK: CDCF 194 (1994).

> "I live in the twentieth century, in which thousands of musical streams are flowing around one...I devote all my powers, praying to God, for what I create: I have what I've created, my music, only mine!"
> Galina Ustvolskaya, from "My Thoughts on the Creative" (1994) (in *World New Music Magazine*, no. 10, September 2000).

In October 2000, I went to a concert at CalArts primarily to hear Renee Coulombe's *Satori,* a provocative, fanciful, and strenuous work for violin solo, stunningly performed by Mark Menzies. Also on the program was Octet by Galina Ustvolskaya. While I recognized her name I couldn't connect with it, so I

bought a CD with several of her works and a week later, during a cleanup of my shelves, found another GU CD, lurking in back; a friend lent me another CD. And I began to listen, at first all the way through each CD, then one work at a time in chronological order—which is how I retell the story below.

I listen to Galina Ustvolskaya's music: uncompromising, intense, persistent, hard as nails, insistent, battering, hammering, obsessive, no fooling around, aggressive, focussed, powerful, furious, serious, coherent, fierce, energetic, assured. In each work, a breath, an exhale, a few moments of 'release' enter in, neither tranquil nor unperturbed, rather a bit anxious, ready to move on, begin again, back to business. I imagine this woman—now in her 80s—depleting herself during the act of composing, pouring out from deep dark recesses, and exhausting auditors and performers as well.

In Concerto (1946), strident unswerving quarter-note motifs, playback between soloist and ensemble or between instruments, bombastic low registers and highest available tones on piano pecked at or trilled, hardly sounding like real notes (here and in other works, single tones in extreme registers are sustained for longer than 'expected'). Piano rudely interposes itself and overpowers strings and timpani; piano interludes begin, never end, begin again, fill in, go on, much sound and time for thought, the work of an educated young composer who knows her own mind and gets into its dark places—"...heavy-booted music" I thought. Wild and messy at the end, piano crashes, timpani rolls, a brief retrenchment in order to rebuild its semitonal-tritonal C-locrian world, closing with a short white-note tune repeated 8 times and then Beethovenian C-major chords, the real shockers!

> "My work," she has said, "can in no way be linked to whatever composer."

In Trio (1949), her penchant for independent multi-linearity takes over; instrument-lines attach, drop off, reattach—(sometimes I think that her pianists have 3 hands, but more likely there's lots of crossing-over going on)—, lines that don't seem to be "about" anything, like characters walking on and off stage, saying something we can hear but can't "get", and 8 minutes in, violin sustains its highest possible A for an extraordinary minute, demolished then by crass hammering timpani-like-piano spread over the keyboard, demolition-after-the-calm a lifelong attribute.

Octet (1950)—the work which kindled my GU fascination—begins innocently enough with motivic and 'harmonic' clarity, but soon timpani pounds, sounding like a malevolent take on the last movement of Stravinsky's Symphony of Psalms, then abrupt wild segments in piano, strings, everyone joins in, semitonal huddles, intentional dissonant nastiness, oboes playing high minor 2nds—even I wince a bit—, turmoil erupts, bits of lines, again going here and there, but where? (I think of Alice, running and being dragged by the Red Queen who says: "Now, *here*, you see, it takes all the running *you* can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that.") More booming strokes, claustrophobia momentarily gets me, then a pause, a sigh, Berlioz's executioner comes onstage and timpani pounding ends it all. Fiercely unrelenting, unbeautiful; no here, no there, no where yet all under control; time is placeless, something has happened in the world. Out of the

beating, the hammering and the unforgiving harshness, life and work and being in the world are re-affirmed, life goes on, is endured.

> "The thing to be played is the blow, not the notes."
> From Ustvolskaya's commentary to the performers.

Piano Sonata no. 3 (1952) also begins with casual simplicity, firm 'melodies' made up of (mostly minor) 2nds, 7ths, 9ths, tritones, 4ths, and 5ths congeal into harmonies, her *klangwelt* by now determined; stepwise tunes ascend, break off and apart, assemble and disperse like unexpected visitors, where they come from and go to nobody knows; all subsequently intercepted by what I hear as a malicious, in-your-face, 2-voice, 'wrong-note' interlude, then a clocklike-wind-up passage, and, as in all of her work, recurrent pattern-producing blocs. Although there's probably some flexibility for the performer, I imagine a pianist absolutely erect at the keyboard, like a hard-nosed Bach interpreter who doesn't breathe or swerve or pedal or change tempo, tone color, or volume. 15 minutes into this 17-minute work, moderately high parallel 4th chords cycle around and about fairly placidly, and then a brief loud version of the passage—couldn't she leave well enough alone?—after which placidity returns and all 'resolves' to benevolent, peacemaker Cs.

I think of Piranesi's *Le Carceri* (The Prisons) series, terrifying, dark interiors, staircases&ways going to and from no discernible place, arched brooding multi-terraced interiors, the viewer presented with and overwhelmed by the despair and horror of someone (we don't see) having been condemned to—or having condemned oneself to—interminable solitary confinement, or death.

In Duet for cello and piano—composed in 1959, premiered in 1977—again, nothing comes out of anywhere yet all coheres, ostinato-like design-creating recurrences now bordering on the obsessive. At the start, ungracious cello outbursts and gruff sawing, highest possible keyboard attacks—I can hear the wood!—, crashes down below, crafted to sound clumsy, stark bare dry regular quarter-note treads in both instruments—and it must be great to play! In movement 2, piano's simple stepwise line circles about filling in thirds while cello intermittently trills and shudders in semitones, timespans and repeats varying; it's hard to tell if there's a top and a bottom, focus shifting like Wittgenstein's duck-rabbit drawing. And a minute or so in, a slow nifty 2-octave half & whole step piano ascent. Toward the end of this short movement, cello and piano exchange roles, soft high piano trill at the close—nothing extraordinary, yet powerful and assertive—, immediately followed by movement 3's low ugly ogre-like opening, which I hear as manipulative but I'm not certain how I am being manipulated—and not (not here) a "benign" interval to be heard, unless inside and underneath where it can remain unheard—the days of C-major long gone. In movement 5, itself longer than the preceding 4 movements, all softens and yields momentarily; if prior movements were wild, movement 5 is almost mellow with silences and stretches of supple cello melody, qualities more often masked, eschewed or crushed. Halfway in, cello sustains high B for almost 2 minutes—occasional high piano pecks and chords above and below—, long drawn bows and radiant shivers, cello mesmerized by its own staying power, entranced by the sound of its voice, these sustaining moments the other side of the obsessing recurrent pounding coin. And for the end, as if especially invented

for this moment, cello pizzicato on G-flat(up)-F(down)-middle C, "modernist"'s favorite 3-noter, sounding naive, as if saying: who me?

> "These [silences] are not in fact moments of rest, of pausing, but acts of intensification, to progress from mere presence to immanence."
> Sigrid Neef, from BMG CD liner notes.

Yet even after listening to these earlier works I was unprepared for Composition no. 2, "Dies Irae" (1972-73), for piano, 8 contrabasses, drums—tenor, tom-tom?—no voices, and no ambivalence about her 'setting' of "day of wrath, day of sorrow, world in ashes, day of judgment..." Scratchy, dry, way high & low, loud (at least **fffff**), downbowed basses; hammered piano, isolated tones and clustered low chords banged out and furiously building tumultuously; hollow brittle drum being knocked and thumped with fingers, with sticks; place your hands on the piano keys, find the correct semitonal top note lick, and smash! (All is no doubt precisely notated, but my recipe sounds and feels great!) More than halfway in, silence intervenes, temporary retrenchment, then back to a rite of thrashing violence, subdued again, violence suppressed, violence repressed, violence always lurking back there awaiting an opportunity to take over, deliberately and unflinchingly calculated.

Composition no. 3, "Benedictus qui venit" (1975), for 4 flutes, 4 bassoons, and piano is yet another unique for-the-occasion ensemble. Stark and spare low-down heavy clustered harmonies 'try out' the voiceless 'text' in various registers and combinations, more like looking for a way to say something than actually saying it—or looking for a way not to speak but innerly compelled to want to keep trying (I think of Samuel Beckett, words outflowing from unseen bodies or body parts, 'saying' as little as possible, abstracting utterance from expression, removing words from text). All is, as always, heard, but murkiness prevails: the hazy mass of low flutes and low & midrange bassoons with or without piano clusters, an aberrant way to express 'blessed is he...'

Symphony no. 4 (1985-87), for piano, trumpet, tam-tam, and mezzo (or alto or countertenor?), is overtly methodical and finicky, not a sound out of place, plot thickening with recurrences and in between 'pauses', roles and lines constantly being exchanged with short, deliberate, slow 3-4-5 note 'tunes', piano crashes, elbow clusters, really high trumpet hanging on, and monodic sung segments of a prayer—I don't know Russian, but the work is called the "Prayer" symphony—not much light, although there's a softening of the edges midways and at the end. Mantra-like in its insistences, frugal in the sense that she's rid herself of anything that could remotely be considered superfluous—or sentimental. Suggestive of liturgical or tribal ceremonial practice, where repetition of short phrases is the way and the means of inculcating participants.

> When Symphony no. 4 was performed at the 1988 Hamburg Festival of Women Composers, GU suggested that she might "organize a Festival of Men Composers".

Piano Sonata no. 5 (1986) is even more 'abstracted', its 'text' laid bare, stripped away, in which what 'happens' next grows out of an unstoppable accumulation of wanting to continue with frequent returns to middle-D-sharp—something to hang onto—, bouncing back and forth as if on a long rubber string. New yet familiar patches crop up every minute or so and 2/3rds of the way in a long 11

second silence abruptly vitiated by loud cluster chords. As in much of her music it ends 'as it began'—not.

Symphony no. 5 (1989-90), known as the "Amen" symphony, includes reciter—here a Russian bass—, oboe, violin, trumpet, tuba, and percussion. Each participant has its 'text, its role', each holds its own, each recurs over and again, slow plodding stepwise scraps, intermittent **sfz** stabs, and most extraordinarily a frequent tapping on wood, maybe a box, which resounds, or perhaps someone is inside the box tapping to get out!! Weird, hardly likely, but that's the effect. And if indeed the reciter is speaking "The Lord's Prayer" someone's in trouble.

Although GU covets and is protective of her hermetic seclusion, she does—I presume—want to have her music performed—as do most composers—but also wants little or no contact with performers, critics, interviewers, etc. Such deeply embedded, and familiar conflicts and contradictions between the private and the public, between wanting to remain secluded, untouched, yet wanting others to know of her/our work are there to be heard in her/our music.

> Patricia Adkins Chiti, singer and President of Fondazione Donne in Musica, having performed and recorded a work of GU's, invited the composer to write something for her. GU replied that she "never write[s] works on invitation or upon commission" and that she was "not interested in having contact with performers".

I have little doubt that the fact that a woman has composed this fierce, aggressive, who knows wherefrom, music has been a factor both in its prior neglect and, since the 1980s, its enthusiastic reception among avant-gardists and women-in-music scholars worldwide. The authenticity of its force, aggression, and clarity of vision is absolute. Galina Ustvolskaya's music, once heard, is hard to forget, ignore, dismiss—or take: it's like the so-called fruit, flower of the cholla cactus bush, whose jointed segments detach easily, whose spines pierce the skin and draw blood through your shoes or sneakers, spines which are hard to remove. Called 'jumping' cholla for good reason: spiny joints seem to jump onto you if you come too close; similarly with 'teddybear' cholla, though hardly cuddly: you fall into their clutches without realizing it.

> "I have a completely individual [particular, unique] world and understand everything from my own point of view. I hear, see, and treat everything differently than other people do. I live my solitary life. Solitude [solitariness] is best since I can find out who I am in solitude and that is what gives me life."
> From a GU interview with Olga Gladkova, in *MusikTexte*, #83, 1999.

January 20, 2001

P.S. Many thanks to Patricia Adkins Chiti, the Kapralova Society, Helen Metzelaer, William Osborne, Robert Reigle, Rhian Samuel, Jeanne Shaffer, and Casper Sunn all of whom responded most graciously to my off- and online inquiry.

P.P.S. Shortly before submitting what I thought was the final version of this text I received yet another CD:

GALINA USTVOLSKAYA #2: Twelve Preludes for Piano; Grand Duet for Violoncello and Piano; Composition. no. 1, "Dona nobis pacem". Hat ART CD 6130 (1993).

The 12 Piano Preludes (1953), conceived as a continuous entity, ranging from 45" to less than 4 minutes each, might well be included in the repertory of more pianists. Each prelude is a brief pilgrimage, a keyboard peregrination—straightforward, self-referential, unfettered, each is over when it's over, either evaporating or just stopping, each circumscribing a distinct microcosm within the entirety. (I wish I had known of them way back when.) Composition no. 1 (1970-71) is for piccolo, tuba, and piano, thus encompassing the registral extremes of the symphony orchestra. As litany, "Give us peace", it is an *aus der Tiefe* behest rather than a mild-mannered request with its brutish intensity—tuba down below, piccolo often unbearable in its highest register, piano clusters whacked out in between the extremes—, its short omnipresent motives working overtime. Yet—given Ustvolskaya's own requirement for solitude—, moments of calm, time for reflection, time to catch one's breath, are included (as in all of her music), and always a boon for the listener. As theater for the mind's ear and body, the work compels and stuns.

Talking About Music:
A Little Song of Dissent

Linda Kernohan

At the beginning of an article I very much admire, musicologist Suzanne G. Cusick declares, "Ho grandissimo paura."[1] She goes on to address the reader in Italian for a full paragraph before revealing, to those of us who don't speak it, the meaning of that initial statement: "I have great fear." She is afraid because she is about to examine her relationship to music, on a personal level which includes, among other things, sexuality; in other words, to bring up issues outside of what has traditionally been deemed 'acceptable' and 'appropriate' in musicology.

I too have great fear. In the context in which I currently find myself - a graduate composition program in an academic music department - certain issues and modes of communication seem to fall into the range considered 'acceptable,' while others do not. The boundaries of this range might vary widely from one school to another; nevertheless, I would like to expand it, to shed light on what has historically been kept in the dark.

What is the purpose of being in a graduate degree program in composition,[2] in a university music department? Why are we here? Why do we write music, and how do we talk about it?

Graduate students in composition at the University of California at San Diego, where I currently study, enjoy many benefits: access to the wisdom and insight of the faculty; a community of fellow composition students with whom to share ideas; talented performance students with whom to collaborate; access to facilities, and opportunities to present performances of our music. Presumably, not only will the degrees we earn prepare and qualify us to work professionally in the field of composition, but they will have sufficient prestige attached to them to contribute decisively toward our future success. What could possibly be wrong with this picture?

I am in my fourth year as a doctoral student in composition, and I have not missed out on any of the benefits mentioned above - on the contrary, I have been extremely fortunate. But I have often found myself frustrated - because there is this thing called Academic Discourse (or so I'm told), and I have a big problem with it, and I have yet to make my peace with it.

I began writing about my thoughts on life in musical academia in response to a question posed by one of my professors as a call-to-arms for a research seminar: "Whose musical language is the real one?" A deliberately provocative question, challenging us - daring us - to make polemic declarations. "Whose musical language is the real one?" Indeed! It is obvious to me that there is no single correct answer, except among stylistic fundamentalists. But I have spent considerable time pondering this question and being bothered by it;

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[1]Suzanne G. Cusick, "Toward a Lesbian Relation to Music: A Serious Effort Not to Think Straight," Queering the Pitch: The New Gay and Lesbian Musicology, Philip Brett, Gary C. Thomas and Elizabeth Wood, eds. (New York: Routledge, 1994).

[2]I focus on the composition program in this essay not out of any desire to slight or ignore the other graduate programs at UCSD, nor should I fail to point out that many of us do more than one thing - performers compose, composers improvise, scholars perform, etc; rather I wish to address the area with which I am most familiar, in order to avoid making unproductive generalizations.

something has kept nagging at me as I've been thinking, like a child who tugs at your sleeve asking "Why, why?" Look at that original question again: "Whose musical language is THE REAL ONE." In his book *Historians' Fallacies* David Hackett-Fisher demonstrates how the nature of one's questions exerts a profound influence on the answers one finds. So if I ask whose musical language is the real one, I am assuming that there is one real (i.e. right) musical language, and that the others are not real (i.e. wrong). Dualism, my arch nemesis, the thing I'd like to wage a personal crusade against, rears its ugly head in these assumptions. Right/wrong, black/white, male/female, day/night. Competition. The idea of judging a piece of music and deeming it a 'success' or a 'failure.'

This question, with its hierarchizing, categorizing implications, also leads me to examine the way we, in musical academia, talk about music in general. Why is it that the most satisfying and helpful conversations about music that I have had took place outside the seminar room? These conversations happened spontaneously, at cafés, at parties, after concerts - in other words, when it didn't 'count.' Why don't we know how to talk to each other about music in the 'official' settings? We talk around music. We talk about form, structure, procedure - in a word, technique, but do we (can we) talk about those subjective, elusive areas that make what we do not just a craft, but an art? Don't get me wrong - I strongly believe that technique is very important, and I do not in any way mean to imply that we should stop talking about it. But why can't we talk about more than that?

I would like to take the approach that Suzanne G. Cusick takes in discussing her relationship to music:

> To speak publicly and truly about my own musicality... To speak not from what Luisa Muraro calls the state of 'faked being' (l'essere finta), whence the verisimilitude and credibility of one's topos and thesis are more important than the truth...[3]

Well, what is the truth, then? It seems to me that perhaps the truth is something we can only dance around. It can't be captured completely with words, and that, I believe, is one of the reasons we write music. And yet, we are here to learn with each other and from each other, and this process requires that we struggle to find ways to communicate about our whole musical selves, wherein art and craft function symbiotically.

What am I trying to say? I have noticed, during my ten years (and counting) of post-secondary music education, that there exists among composers a certain tacitly agreed-upon mode of communication for discussing what we do. It includes many five-dollar words and a few snazzy metaphors, but it always leaves me feeling vaguely dissatisfied, as if I had eaten a meal that was acceptable in the sense that it filled my stomach, but not in an aesthetically satisfying or memorable way - and dessert was not served. There are things you Can and Cannot say, which is annoying, but the worst part overall is that composers seem to feel they must maintain an air of detachment; if you demonstrate that you feel strongly about something, everyone gets embarrassed. But what is the point of writing music if you're not passionate about it? I suspect that some composers in academia adopt a detached pose in some misplaced attempt to justify (qualify?) themselves as intellectuals. Maybe we all have to do it in order to justify our presence as an academic department in a university. It is an act which exacts a high price.

Benjamin Boretz writes:

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[3]Cusick, op. cit.

> We cannot afford to deprive ourselves of our own expression by conventionalizing or institutionalizing our talk, or our thought, or our music... because [doing so] deprives us of what we most need from those outlets, what we lusted after in the first place so as to find ourselves energetically engaged, for life, with them.[4]

Our creativity is precious and must be treated accordingly; when we feel compelled by a narrowly defined academic 'tradition' to keep the part of our creative selves that most excites us 'in the closet' - marginalized, mystified - under the pretense of protecting it from public scrutiny, we confuse the protection of privacy with the imposition of shame. Boretz again:

> Status replaces identity, erudition replaces experience, technique replaces awareness. Discipline replaces engagement. Knowing replaces searching. Self-congratulation replaces self-fulfillment - and in the end it must be that cynicism replaces yearning... Where this is the case our thinking, which could be our most powerful self- liberating resource, may be our most powerful self-administered poison.[5]

Schoenberg retreated into the Ivory Tower not, I believe, because he thought using music as polemic was a great idea, or because he didn't care whether audiences appreciated his music. He did it because so many people reacted to his art with such hostility. I don't think he shrank from criticism, but constructive criticism is predicated on an assumed foundation of acceptance and respect, and there is no room in such a scenario for antagonism and knee-jerk dismissiveness. And so I am disturbed, because I don't think the community of musicians should be plagued by ideological division and status-seeking competition. Lately I have heard the view expressed that the stylistic plurality that exists today is something to worry about, and that the polar oppositions of the late nineteenth through the mid-twentieth centuries were good because they provided structure, grounding or orientation. I am very uncomfortable with this assertion. First of all, though it is common and convenient to look back on history and sort everything and everyone into rival camps, it is teleology and oversimplification. I speculate that plurality may well have been around longer than we are aware, and to a greater degree, but that the writers of history exercised their editorial muscle in ways that filtered out variety. But more importantly, I think that art occurs prior to rhetoric (or if it doesn't, it should!); many composers have succeeded in finding their voices and producing their work without the aid of a prefab artistic label or -ism; it's generally the critics and scholars who have come along afterwards to name everything.

I lose perspective easily - I must remind myself frequently that the academic atmosphere in which I currently reside is its own rather self-contained world, and it occupies a very, very small corner of the world as a whole. This self-containment has both positive and negative aspects. On the positive side, university music departments protect and support important activities about which I care deeply, and which are endangered species because they are not sufficiently marketable and profitable in the commercially-oriented world outside of academia (though as university administrations increasingly adopt the management techniques

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[4]Benjamin Boretz, *Talk: If I am a musical thinker* (Barrytown, N.Y., Station Hill Press, 1985).
[5]Ibid.

of for-profit corporations, anything that doesn't produce revenue becomes endangered). On the other hand, I have so often felt frustrated, disappointed and silenced in this atmosphere that I sometimes get the urge to flee. But I don't think it has to be this way. Schoenberg writes:

> It is not the heart alone which creates all that is beautiful... nor is it the brain alone which is able to produce the well-constructed, the soundly organized, the logical, and the complicated. First, everything of supreme value in art must show heart as well as brain.[6]

[6]Arnold Schoenberg, *Style and Idea: Selected Writings of Arnold Schoenberg,* Leonard Stein, ed., Leo Black, trans. (Berkeley:University of California Press, 1985).

Notes on Interaction and Computer Music

Martin Supper

"Trivial machines" are those that react unambiguously: a toaster is expected to toast; a washing machine is expected to wash. A "non-trivial machine" reacts in unexpected ways. Take, for instance, a student at school.

When a trivial machine reacts in an unexpected manner (for instance, a car), it is taken to a *trivialisateur*. School tests have the goal of measuring the degree to which students have been trivialized. A good test result points to perfect trivialization...[1]

Computer systems behave like trivial machines. When they do not do so, one speaks of "bugs in the system." Computers are there to calculate, to compute. Calculation implies bringing things in line, into order.

Computer systems may be interactive, computer-assisted compositions and may be used for interactive, computer-assisted Live Electronics. The term *interactive* refers, in this context, to the relation between humans and machines. The interface between the two is fundamental to the issue. Interfaces are the tools for interaction and communication between machines, between humans, and between humans and machines.

A simple example: the procedure of accompanying an instrumental ensemble with pre-recorded tape has the tremendous disadvantage that the conductor must strictly adhere to the tape's tempo, like one who is lamed. Computer systems, such as the IRCAM Signal Processing Workstation, can allow a digitally stored "tape" to be retrieved in real time, following the tempo of the ensemble and adapting its own tempo as needed.

The American composer Joel Chadabe introduced the term "Interactive Composing" in 1967. He used the phrase to describe the act of composing with a real time system during a concert. [2]

In interactive computer music systems, a trivial machine (the computer) acts together with a non-trivial machine (the musician, the composer). Together they form a closed system with mechanisms for feedback. To the observer outside this system, the trivial machine appears to trivialize the musician. The musician inside the system has, however, another perception. In this context one may be reminded of complex computer games.

The tools of the interactive musician have a variety of names: *Infrared-Based MIDI Event Generator*, *Light baton: a System for Conducting Computer Music Performance*, *JAM+: an Interactive System for Jazz Improvisation*, *PascalMusic: an Environment for Composition and Interaction*...

The nature of the tasks to which these techniques are applied can be represented as a sequence with three parts, regardless of how each part works and which goals are followed:

Input

Transformation

Output

Input:

Photo cell, motion sensor, keyboard (musical or typographic), data glove, microphone, electronic camera, graphic tablet, and more...

Transformation:

Time delay, spatialization, transposition, sound distortion, and more...

Output:

Loud speaker, automated acoustical instruments, light organ, synthesizer, sampler, and more...

The complexity of individual systems leads to unending possibilities. But the situation is similar to intelligent chess-playing programs: after a few games, the human player sees through the idioms of the system and adapts her behavior accordingly.

Systems that do not react trivially would be interesting. But Lady Lovelace would object: "... *the machine can only do what we tell it to do.*" [3].

Attempting a way out: Artificial Intelligence (AI) aims to detrivialize interactive systems (computation). There are primarily two fields of AI that have been used in musical applications: Expert Systems and Connectionism with Neural Nets.

In Expert Systems, also known as knowledge-based systems, knowledge in some particular field of specialization is represented in a computer in the form of facts and rules. A common example is the game of chess: not only are the formal rules of the game encoded, but developers also seek to simulate strategies, players' thought processes, etc. [4]

An assumption made in developing Expert Systems is that cognitive processes can be represented through a system of symbols. Correspondingly, musical activities, such as composition and musical interpretation are formalized in "cognitive musicology". [5]

The modeling of thought processes and the acquisition of knowledge, as required in Expert Systems, is not yet a mature science and the state of the art still hasn't cracked this nut.

AI research activities have moved towards the areas of Connectionism and Neural Networks since the end of the 80s. Briefly: this field of AI aims to render the structure of the human brain in a computer.

Musical research in Connectionism and Neural Networks is focussed almost exclusively on "extant" musical traditions, mostly functional tonality, from which models of composition are derived (model-based composition). On the other hand, knowledge-based systems allow new rules to be defined by the composer (rule-based composition).

The mathematician and philosopher John Myhill, since 1964 linked to the "Urbana School" and one of the spiritual fathers of Artificial Intelligence, hypothesized in 1952 that the entirety of musical thought might find a "crystal clear" formalization; nevertheless, not all aspects thereof are computable. In other words, according to Myhill, a finite automaton (i.e., a computer) can not simulate all that is outside of it.

This thesis could, to date, not be refuted. Even the most complex algorithms for interactive computer music systems do nothing more than what they were instructed to do. They behave trivially.

NOTES

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2. J. Chadabe: *Interactive Composing: An Overview,* in: *The Music Machine*, C. Roads, Editor. 1989, MIT: Cambridge, Mass. p. 143-148

3. A.M. Turing: *Computing Machinery and Intelligence : Learning Machines* (1950), in: *Mechanical Intelligence. Collected Works of A.M. Turing,* D.C. Ince, Editor. 1992, Elsevier Science Publishers B.V.: Amsterdam. p. 154

4. D. Münch: *Computermodelle des Geistes,* in: *Kognitionswissenschaft*, D. Münch, Editor. 1992, Surkamp: Frankfurt a.M. p. 7-53.

5. O.E. Laske: *Eine kurze Einführung in die Kognitive Musikwissenschaft: Folgen des Computers in der Musik*, in: *Computermusik*, G. Batel, G. Kleinen, and D. Salbert, Editors. 1987, Laaber-Verlag: Laaber. p. 169-194.

6. J. Myhill: *Some Philosophical Implications of Mathematical Logic: Three Classes of Ideas.* Review of Metaphysics, 1952. 6(2): p. 165-198.

Translation: Peter Castine

GAP6

one of those
2mvmt. middleBeethoven
pianosonatas in E/F/F#
not G

mvmt. I Untitled
mvmt. II *Time, Forward!*

—J. K. RANDALL

A recent English translation of Valentine Kataev's Stakhanovist novel *Time, Forward!* (1932) is published by Northwestern University Press.

remember that confirmation hearing—think back a ways—where some senator declared that "mediocrity, too, deserves representation"?
Well I've one-upped him.
Late on in mvmt.2, I aimed for stupid. (: the tired note; the flubbed gesture; the frumpy rhythm (—but deadpan; at low temperature; gentle; no horselaughs; no burlycue; with sympathy almost))
I even wrote "Quintessence of Stupid" into the score as a performance direction.
From day 1, Martin played it great.
But "Quintessence of Stupid" didn't click with him. So we talked it over.
We settled on "The Higher Doodling".
Months go by.
Concert.
Recording Session.
More months go by.
I play the edited tape for Steve Mackey.
Steve, unbidden, zeros in right there: "Ah! What a beautiful melody!—it's sort of got an antique flavor to it."
So we've got Me composing Q of S, Martin playing the HD, Steve hearing an AF, and me feeling no pain: a Cozy, Wholesome vignette.
In which all Philosophy is Immanent.
(Which stimulates speculation)
1.Music is vague.
2.Music is sharp as a tack. People differ.
3.These guys aren't smart enough to get the message.
4.These guys aren't Stupid enough.
5.I just don't have what it takes to deliver the message.

6.Ain't no message: just soundpatterns awaiting perception.
7.Ain't no message: just an airborne Material Being, requesting infusion of an Animating Soul (namely, Yours—or yours—or yours—or yours—)
(That "Stupid" headset still cuts the mustard with me: when I tried to delve back in & purge some flab, I almost
couldn't:—why?—because I couldn't quite re-enter that Stupid Feel. And without it I wasn't with it.)
You'll probably figure which passage we're talking about.
But don't worry about it.
What I mostly wanted to explain about was a pitchfreak.
(You tell yrself stories too, my friend: tell yrself y'r doing X because yr shaky psyche is scared to get caught doing Y—Y being what y'v wasted too much time at anyhow
—and anyhow y'r doing Z.)
(And what's worse, if I'm contriving to hear what I'm composing, I'm schizoid from the outset:
1.I'm the mobilized & engaged creator nurturing, and urging on into the unknown, a burgeoning organism;
2.I'm the omniscient critical listener (warped by what animus? judging from what pedestal?) poised to reaffirm, or
reject, or redirect, in detail, or in toto.)
(And if I'm supposed to stay awake 'til I get there—& if I can't sit still for humming to myself and taking it down at dictation—then the envisioned outcome had better seem fetchingly, intriguingly, elevatedly, even irritatingly, Other(—than Me).

}Me vs It{

(Let's face it, it's only when my Burgeoning Organism manages to separate itself from me, begins to Demand of me, becomes Other, that it seems Real.)
(and turns me into a Method Actor.)

(So the outcome will stand in no simple relationship to Me,
—is not directly expressive of Me in any uncomplicated sense. It's a distinct Being (in the sci-fi, not the Heideggerian, sense) which, however, will now cut loose from its animating, inspiriting force (namely, Me, party of the 1st part) and seek a serviceable Soul out there somewhere (e.g., You—or you—or you—or you—)
___And found Martin!
___Party of the 2nd part!
(What the performer delivers to you, companho, is to You just some more Incoming Airborne. (Brings you in range.)(Puts you in the picture.) Now you've got to Animate on your own, all over again(:___!Party of the 3rd part).
if You screw up, Martin is wasting his time.)
And you can't put music on like your one-size-fits-all socks.
Your sock just cuddles your foot all snuggly, be your foot ever so fat, ever so long, ever so corny, ever so dainty, ever so noisome, ever so twitchy.
And your foot comes out the same as it went in.
And your sock, if it's any good, resumes its sockshape.
But music can mess with your psyche bigtime.
(Close Listening?—That's not the half of it.)
Your psyche, while on duty animating Incoming, may actually, at least for the nonce, undergo some refinement, some corruption, some harrowing, some soothing; some filtering, some mellowing, some pulsating, some exaltation; some acquiescence; as indeed may the music.
(So whether some incoming airborne carries Deep Comfort or Deep Danger (or just Socks that Won't Fit) depends on You
—depends on Your Sillyputty Soul, on what Shape you're in, what shape you can Get Into, the shape of You(—or you—or you—or you—or you—)

}It vs You{

(Get it? Perceive the Pattern?)
(Sure, some music can't handle the traffic; can't get thru all those re-fittings without some sagging or some toning of essential tissue; some freshening or some staling of substance.)
(Like Hindemith's Whatchamacallit.
Don Martino claims it gets a little worse each time they play it.)
Never mind.
What you've got my word on is this:
I've spared nothing to sweat any dead tissue, any vapid substance, out of it:
All it asks of you is your soul.

}It vs All{

___Have you no regard for Your Audience, Sir?
(You want True Confessions, right?)
(OK. So I've moved on. Left GAP6 behind me. Right: I'm just a listener now. Like You(—or you—or—).

}It vs Me{

(So have I got what it takes? or what.)
These perspectives are presumably repugnant to biological science.
The NY Times (01/01) reveals that, for advanced researchers into animal behavior, music is "musical sounds".
Sounds that "entertain".
And there's a "limited number" of such sounds.
—of sounds that entertain "the vertebrate brain".
(Have you wondered why some music doesn't seem to get anywhere?)
All subject, of course, to the "laws" of composition—these laws being "similar" among whales, humans, and birds: pentatonic scales and ABA forms, that crowd.
___Hey folks!
___Your innocence Screeches.
You demean long recognized & celebrated musicalities among animals with your feeble (,not to say defunct)

music-analytic misapprehensions.—not to mention the dignity of human thought.—or the sanctity of newspaper space.
___Open your Face!
Do you get a buzz when whalesong goes pentatonic?
Well go blow your mind on Rob't Hall Lewis's whalesong symphony.
Do you get a buzz when birdsong reprises the A-section?
Well go blow your mind on Messiaen's Catalog.
(a Pitchfreak
!ignores!
Prefab. (: scales; forms; laws of composition)
!revels! enviously
in, &
!spurns! Detritus
from,
The Demise of Classical Tonality.
:Some composers—think back a ways again(—I go way back)—regretted the loss of the Referential Tonic.
(Not me.)
In response, they proceeded to 1.extend, loosen, or reformulate the principles of tonality to govern an enlarged harmonic inventory or 2.stomp the shit out of some complicit, but unresisting, note. Often C.
:Some regretted the loss of Harmonic (triadic) Homogeneity.
(Me too for a while.) (I cured myself)
In response, they proceeded to 1.proliferate some favored sonority, maybe sexier, maybe hardassed or 2.recirculate the 12, soon & often or 3.impregnate 2. with 1.
These responses yielded valued, seminal music.
:But what I most regretted in both the Demise and the Responses(—keep thinking back a ways—way, way back) was the loss of vividly individualized, distinctly (even multivalently) energized, pitches: of the "color" or "tendency" or "charge" accruing to a pitch thru its involvement in a pitch network (: Take the

supertonic's leadingtone, or a flarped 13th: you don't wait to smoke it out in college; it's right there in your face from cradle to grave): instead, we were left with an even distribution of neutral "free & equal" positions in a uniform space, uniformly lusting after stringbass harmonics and fluttertongued flute; a propensity for the sound of everything in general to bomb out the sound of anything in particular; and an exaggerated reliance on proliferation of structures (: keep in mind that the bite of tonal modulation lay not so much in "doing it at a different pitch"—which runs shallow—as in the concomitant recoloring of each pitch retained—which runs deep: Transformation outranks Transportation.).
(Alright already.)
___Could it be Gender-Specific?
(the Pitchfreak
!faces out! from Whatever nexus of cultural drift
!out breaks! " " " " " "
!transmutes! " " " " "
!trumps! " " " " "
You're damn straight!
an Animal Rights piece, maybe.
or a caper for Twisted Tutu?
Sure. Fine. You Bet. I'm Psyched!
except Nothing Happens:
like Shaking Hands with Myself. I don't get the Pitch.
(a lot of Elite types hang out at princeton)
___Post-Tonally. !CONTEMPLATES
___Post-Twelvetonally. !THE 88's
(by what authority?)
!Turns On!
!invokes! the innards & oddities, the inclusions & exclusions, the outreach & connectivities, of whatever small—Small is Good—groups of pitches out there evade, or solicit, attention. (Like the birds, like the whales, like the gods, their voices must be heard.) Don't "structure" them: Heed them: Interact, as with another person: listen; adjust; dispute;

assess; respond; support; undermine; absorb. (They will reciprocate.) You didn't create or shape the world. You're merely responsible for it.
(Krishnamurti, sort of)
___are you testing any Major Markets?
(Roger Sessions composed directly onto the transparents, in ink: "You see, I know what I want.")
(not Me.)
(I'll know what I want when my piece is done with me.)
!Whoop-de-damn-doo!
___Sir, this is unProfessional Conduct.
(wasn't classical tonality a Subtle Interlocutor?—not Rules; nor just a "resource")

___!infiltrates! (the unfamiliar)
___! " ! (" peculiar)
___! " ! (" repellent)
___!camps out! (on rough ground)
___!outGrows!

—faithful to Them.
—elucidative of Me.
(is Communication a Dirty Word you ask)
(is this Truly Reflective of the Post-Modern Predicament of Your Average Western Persons Baby?)
!Purports to Believe! that
out there in that not-all-that-limited number of various-sized(—large is ok—)groupings, and successions of groupings, of pitches; out there among their commontones & asymmetries;
lurks
a plethora of inklings
of textures, of tones of voice, of dimensionalities,
of temporalities, of trajectories,
special to each
& illuminatory of & illuminated by
each,
awaiting discovery and invention:
figments, waifs
lurking
to become beings

(—in the sci-fi, not the Heideggerian, sense—)
to seek your acquaintance—
to Suck your Soul.
(what I said, ma'am, was "incoming")
___It's Between I & Y'all
)on you

[JKR]

poetics . . . ?
. . . politics?

A Year from Monday?
Lament for the Victims of Hiroshima?

modalities of expressive behavior . . .
. . . modalities of interpersonal behavior?

Ancient Voices of Children?
Gesang der Jünglinge?

is there a difference ?. . .
. . . is there a relation?

Scratch Music?
Maledetto?

: politicizing the aesthetic . . .
: . . . aestheticizing the political . . .

Feminine Endings?
The People United Will Never Be Defeated?

. . . are they the same thing?
are they even anything
discriminable?. . . or meaningful?
—about expression? . . .
. . . or perhaps only about: 'art'?

Tibetan monks dancing on San Giorgio in Venice?
The Shaggs?
Tabuh-Tabuhan?
The Goleta Anarchist Music Ensemble?
Bulgarian village women chorusing on Nonesuch CDs?

or really perhaps only about discourse? . . .
(: in which the politicizing of the aesthetic . . .
signifies the subsumption of the expressive text
within the discourse,
as its instrument, its property?

Shostakovich?
The Futurist Manifesto?
"Twelve-Tone Rhythmic Structure and the Electronic Medium"?
"On Musical Performances of Gender and Sex"?

. . . or in which the aestheticizing of the political
signifies the adoption by the expressive text
of the condition, the identity, of discourse?

4'33"?
Apollon Musagètes?
Ein Heldenleben?
I am Sitting in a Room?
Pli selon pli?
. . . ?)

. . . at the edges,
doesn't politicizing sloganize politics
into ideological weaponry;
doesn't aestheticizing dysfunctionalize politics
into iconic imagery,
like a shot of stimulus energy spiking
a kicky entertainment . . .?

The Chairman Dances?
L's G.A.?
LA?
Bye Bye Butterfly?
Ode to Napoleon?
Different Trains?
For a Lasting Peace, for a People's Democracy?

still, don't both music as poetics
— in its corporealization as 'art'
— and music as politics —
in its mode of activity rather than theory
— share an originary need,
even an originary strategy
directed toward that need?
do they not arise within
the same human predicament,
as the usual diametrically opposing responses
to a common dilemma?
is not their common issue
the vulnerability, the anguish,
the fearful alienation
of ontological isolation,
the terrifying sense
of helpless imprisonment
within the vulnerable psychobody
with no perceivable possibility
of credible interpersonal connection
to mediate the enveloping alienation of being,
growing, metastasizing as being itself expands?

Das Lied von der Erde?
Turangalila?
Soundings?
Momente?
Smalltalk?
GAP6?
Fire Music?
Europera?

the reflexive tack of 'art', the interiorizing creative tactic,
is to reify solitude itself (to borrow an image of Maurice Blanchot),
to create an interior world as palpable and inhabitable as the external one,
to populate the loneness of being with fulness of substance and texture
approximating to the visionary fantasy of unalienated being;
as Maurice Blanchot says of the creative writer, where he is, only being is.

intimacy (a polemic)?
t-wmukl-d?
Visage?
"On the way to becoming"?
Sauh?
Wang Wei at the Piano?
Forgetting and Remembering?
Earthlight?
Steam?
Philomel?

the tack of 'politics', precisely inverse, is creative exteriorization,
reifies the exterior world as a multiplicative reproduction, a symbolic
objectification, of the self, producing a tangible, if self-induced,
interpersonal support system. appropriating representation appropriates
authority, ultimately appropriates the identity of the collective to the self.
the oracle effect, says Pierre Bourdieu, a...form of performativity, ...enables the
authorized spokesperson to take his authority from the group... I am an incarnation
of the collective, and by virtue of that fact, I am the one who manipulates the group
in the very name of the group ... the violence
that is part and parcel of the oracle effect can never be felt more strongly
than in *assembly situations* [— Elias Canetti would single out the symphony
concert —] in which ... the professional spokespersons who are authorized
can speak in the name of the entire group assembled...

"Against Plausibility"?
"Schoenberg is Dead"?
"Boola Boola"?
The Agony of Modern Music?
Der freie Satz?
Caliban Reborn?
Queering the Pitch?
Fluxus?
Soviet Iron Foundry?

but consider: who, what real person, am I talking about?
who is the pure expressor, who is the pure politicizer?
what there is, in fact, only all of us
— with different colorations and intensities,
all of us both expressors and demagogues;
self-explorers and self-asserters inextricably.
and so it is us, the creative musicians,

who can be observed, in varying modalities
of coloration and intensity,
to politicize our own poetics,
if only by betraying its non-negotiably non-verbal being
by circumscribing it with articulate discourse
— pre-empting the unmediated, unguaranteeable, uncontrollable intercourse
between the created expressive phenomenon and its recomposing receiver
to reframe the interface so as to include us,
personified, corporealized, as ourselves
— just at the site where we had, precisely, managed
to nullify just that oppression, the oppression
of being too much with our selves to be within ourselves,
so as to have a world to be in.
and it is us, ourselves, the creative musicians,
who aestheticize the politic,
who ferociously reach out to engage strangers with our performances,
who appropriate to our anonymous anomalous expressive phenomena
the rubrics of their anxious concerns,
including at the desperate extreme
the reductive abstractions which catalyze,
symbolize in the public space the primal issues,
their — and our — simultaneous needs for and terrors
of significance made bearable in the simulacrum of togetherness
enabled by the imagery of public outrages, causes, occasions for war, the whole
media-cultural array of "issues" and "phenomena" which we all addicted to the
mass-hysterical euphoria-schadenfreude credit as real, and their analyses or
descriptions as rational
— we, needing strenuously to engage strangers,
appropriate to the expressive work
the exogenous energy latent in these symbolic political things
even if they inflate the scale of our own expression
so as to obliterate those poignancies uniquely articulate
within the expressive language itself
which we have so seriously struggled
to bring into being.
and so we become strangers too.
in the expressive space we have created.

Futility?
Klinghoffer?
For the Uncommon Woman?
Intolleranza?
A War Requiem?
Kiva?
Golem?
Formfor piano?
Time's Encomium?

yet it cannot be questioned that in every musically
expressive act there is also an innate, indigenous politics

— but a politics which by its nature as music is not
susceptible to being restated with discourse, and
whose messages are therefore subverted
by the gratuitous public-verbal politics
to which they are assimilated.
I said already that our complicity in
undermining ourselves is an outcome
of a particular complexity of expressive artists,
of creative musicians: that we could not survive
permanently affixed to the interior worlds we create.
the very socialization of our sound,
its capacity to be meaningful to others,
is a painful reconfrontation with the essential alienation
and isolation the expressive act is needed to ameliorate.
so the musician-artist rages to join her own lost world,
the very one that she by releasing her work
has created for you, rages not only to be able
to inhabit it with you like you,
but to inhabit it in her own name,
on her own account, not
— not like you —
as an anonymity.
for her, anonymity
in the public audience space
is a cruel dissonant pun
on the originary expressive
erasure of identity:
isolation recycled,
by the very means
of its remedy.

Rothko Chapel?
Unit Structures?
Big Road Blues?
Vingt régards sur l'enfant Jesus?
Echoi?
Om?
Evocations?
Twisted Tutu?
Custer's Ghost?
Blue in Green?
Available Forms?
The Purposes and Politics of Engaging Strangers?
White Writing?
"Compose Yourself"?
The Cave?
Sticks/Stones?
Sonic Meditations?
Koyaanisqatsi?
Rainforest?
Musica Elettronica Viva?
"Rules of One's Own"?
The Roachville Project?
Meta + Hodos?
"Speaking and Singing"?
Noise?
"The Beauty of Irrelevant Music"?
Urban Bushmen?
Once?
Mutatis Mutandis?
Key?
Private Parts?
On Being Invisible?

but this treachery we practice upon our own expression cannot be evaded; it is equally essential to our survival as the expression it betrays; the betrayal, the alienation of expression, intrinsic to discourse and structure and exteriorization are the symptoms of the recognition that the interpersonal space may be real; or rather that the interpersonal space is real in its own specific way.

Ideas of Order?
Prometeo?

in that perspective, that political perspective, the molten mysticism of pure expression unmediated, released into the social space undelimited by these socializing dampers, is as likely to catalyze violence as to exorcise it.

Mobile for Shakespeare?
Mudgett?

our appropriation to our persons of the power of our expression may be deceitful and subversive, but the release of that expressive power in an undefined

interpersonal space untethered by names and faces and sets of social manners threatens the release of energies far more ominous: music has a thirst for destruction, say Deleuze and Guattari; every kind of destruction, extinction, breakage, dislocation. is that not its potential "fascism"?

from the seven days?

if music is ontologized in this atavistic way as pure expression, pure mysticism, as molten volcanic energy, then its release unmediated into the social space is a direct route to violence and chaos, as surely as political energy running unconstrained into the personal and interpersonal spaces is a direct route to absolute tyranny.

explosante-fixe?

and just as discourse and structure alienate and mediate pure expression, thereby making it survivable in the social space, so do liberated expression, empathy, self-awareness, reflection, mediate, constrain, loosen the politically constructed power-assertive spaces.

"it's all yours"?

make possible that uneasy self-contradictory fragile civil network within which we, along all our fellow-strangers, can realistically sustain a life pursuing significant expression; and without which, in some idealized world of extreme programmed politics or unleashed inchoate poetics, we could not.

Symphony of a Thousand?
ONE?

–February/May 2001

Written first as a solo reading for a symposium on "Music and Politics" conceived and led by Judy Klein at the March 2001 conference of SEAMUS (Society for ElectroAcoustic Music in the U.S.) in Baton Rouge whose other participants were Jon Appleton and Anna Rubin; rewritten for two voices and performed with Karen Eisenbrey at a meeting of the Washington Composers' Forum in Seattle, May 2001.

Music Universe, Music Mind: Revisiting the Creative Music Studio, Woodstock, New York, by Robert E. Sweet. Arborville Publishing, Box 2767, Ann Arbor, MI 48106. 1996. $14.95 plus $2 shipping. www.arborville.com/. 182 pages.

Robert Reigle

One of the problems facing students attending music schools is how to develop musical depth—the meaning/spirit dimensions of composition and performance, what Giacinto Scelsi calls "sphericity." Most American institutions build their curricula around the technical aspects of music, leaving students on their own to develop maturity, group rapport, integrity, and metaphysics in general. Such an approach contrasts dramatically with the integrated, whole-istic, family-like relationships that constituted the modus operandi of Karl and Ingrid Berger's Creative Music Studio (CMS).

In 1971, the Bergers started the Creative Music Foundation, and began giving workshops in the fall of 1972 (p. 28). Over the next twelve years, more than 150 of the world's finest jazz musicians, composers, performers, poets, and dancers taught students from all over the world. But "taught" is not the right word. Instructors, or "guiding artists," collaborated with students (p. 14). Based on my own experience (I attended the Cecil Taylor Unit's ten-day New Year's Intensive, 1979-80) and the ample testimony in the book, the mutual respect between artists and students was nothing short of extraordinary.

Although the activities all aimed at some sort of performance, the structure of the program also provided opportunities to learn about the social realities and spiritual demands of artistic life. Here is where CMS differed so radically from college-level teaching in the U.S. Robert Sweet includes many stories about the transformation of students' basic concepts of music and improvisation, and all of them, it seems, involve a change in either social interaction or metaphysical perspective. Students made lifelong friends, some with fellow students, and some with the guiding artists. Small class-size, a large number of contact hours concentrated within a short time-span, and living in close proximity to the students contributed to a kind of intimacy that few colleges can offer.

Sessions lasted from two days to eight weeks, with the faculty for a given session ranging from a unified performing ensemble (such as the Art Ensemble of Chicago), to a wildly diverse assemblage of masters spanning styles, genres, art-forms, and continents. Sweet lists 154 guiding artists (pp. 15-17) who taught at CMS over the years, and the number is actually a bit higher. Elsewhere in the book, but not included in the list, the author discusses the participation of Watazumido Doso Roshi, Gordon Mumma, Kalu Rinpoche, Musica Elettronica Viva, Charles Brackeen, James Blood Ulmer, Paul Motian, Michael Manieri, Jumma Santos, Muhal Richard Abrams, the Woodstock Dance Ensemble, etc.

By far, the largest number of this distinguished group are avant-garde jazz musicians, including the likes of Anthony Braxton, Don Cherry, Dave Holland, Steve Lacy, Sunny Murray, Evan Parker, and Sam Rivers. (Karl Berger gets around many of the problems and limitations of the term "avant-garde" by replacing it with "creative.") But, in addition to

Watazumido, some of the finest musicians from around the world also taught at CMS, including Z.M. Dagar, Jerry Gonzalez, Zakir Hussein, Alhaji Bai Konte, G.S. Sachdev, Ismet Siral, and Nana Vasconselos. Composers and poets included John Cage, Allen Ginsberg, John Giorno, Pauline Oliveros, Henri Pousseur, Steve Reich, and Frederic Rzewski. Many of the guiding artists spanned categories: Carla Bley, Joseph Celli, Anthony Davis, Robert Dick, George Lewis, George Russell, and Collin Walcott. During the third Composers' Colloquia, they even invited artificial intelligence expert Marvin Minsky (p. 101).

The information that Robert Sweet has gathered suggests that the success of CMS depended not only on the profound respect musicians have for each other across their respective styles, but also on a kind of total musical-being, a musical way of interacting socially and spiritually. A single idea could function not only in each of the different art modalities of music-poetry-dance-visuals, but also in the realms of self, relationship, and spirit. For example, Dianne MacIntyre magnificently danced Cecil Taylor's _____ during the New Year's Intensive I attended, and that same _____ was also poetry-d among the musicians and between performers and audience, and that same _____ was music-ed in my metaphysical world. One of Karl Berger's brilliant insights is his ability to hear these different kinds of interconnectedness, and that ability seems to have enabled CMS to overcome the conflicts one might expect when such strong artistic minds gather together. (For a similar approach, designed to include younger students, see Dorothy Ling's *The Original Art of Music*, Lanham, MD: The Aspen Institute and University Press of America, Inc. 1989.)

Robert Sweet interviewed a hundred CMS artists and students (including myself) for this book, and organized the material in a very readable way, interspersing documentation with quotations from the artists and stories from the students. He covers the history of CMS, discusses financial difficulties and practical matters, and includes wonderful quotes about epiphanies and struggles. He generously illustrates the book with 42 photographs.

In addition to the documentary material, Sweet includes a number of musical insights. He discusses some of Karl Berger's methods / philosophy in Chapter 3, and quotes several of the artists throughout the book. The discussion about the relative merits of conceptualizing music as a unity rather than a conglomerate of assembled components (pp. 108-09) reminds me of Gregory Bateson's analog/digital distinction in *Steps to an Ecology of Mind*. Karl Berger's philosophy seems to lie somewhere towards the musician-as-empty-vessel end of things (p. 18). Contrary to Karl Berger, Guillermo Gregorio in the notes to his recent compact disc *Degrees of Iconicity* (Hat Hut 134) suggests that deferring to "the mystery of creation" is a pretense of "placing oneself above historical reality." Perhaps both views exist within each other, like the opposite-colored dots within the yin-yang symbol. Indeed, I suspect that the humility entailed in Karl Berger's view of the self as being empty, played an important role in the remarkable success of CMS.

Creative Music Studio shaped many lives. I don't know of any other institution that has offered students of all levels intimate access to a wide range of the music of the second half of the twentieth century through so many leading figures. Jazz, the foundation genre of CMS, is particularly

well suited for re-invigorating improvisation within notated traditions and for dialoging with musicians around the world. Through CMS, Karl Berger contributed to the cross-fertilization among musical genres that expanded in the 1980s, along the improvisation⇔ composition continuum and between different world musics. Robert Sweet has gathered together a great deal of information about the Creative Music Studio, and this book has much to offer jazz historians, music educators, music thinkers, and music players. Sweet brings alive the human element that characterized the CMS experience. This constitutes the most valuable lesson of all, and provides the key to *Music Universe, Music Mind.*

Reviews of three new recordings from Seattle-based labels:

Northwest Triptych: New Music for Orchestra
Present Sounds Recordings (www.presentsounds.com)

Walking, Stirring, Weaving
Periplum Records (herb@eskimo.com)

Oo-ee
Periplum Records

Gavin Borchert

Seattle's reputation in the world of classical music recording is dominated by the prolific Seattle Symphony and its devotion to the mainstream American symphonic tradition. *Northwest Triptych*, the debut disc on the Present Sounds label, seems to deliberately challenge this reputation by spotlighting orchestral works from adventurous local composers rather than from conservative East Coast ones. It includes two works played by the Seattle Creative Orchestra conducted by Roger Nelson, and a *concrete* piece made up of orchestral sounds.

Christian Asplund's half-hour Symphony No. 4 is cinematically episodic, a suite of "hooks," a series of little obsessions, in each of which Asplund sets up ostinatos and keeps them percolating much longer than a less courageous composer—one with less faith in the intrinsic interest of his or her material—would dare to. How good it is to hear musical ideas allowed to have their full say, especially in an age in which orchestral composers are preoccupied with "accessibility," a doctrine that usually indicates an insulting distrust of a listener's attention span. Only composers whose aural imagination is less rich than Asplund's (paper bags as percussion instruments!) have to worry about this. Asplund is also known for his music-theater pieces, reflective and unconventional works unapologetically designated "operas." Asked about his use of this term in an interview, he responded, "That's part of the reason I chose it, because it's so loaded. . . I'm always interested in reclaiming things that have become useless." Thus, too, his use of the term "symphony," with all its cultural baggage, for this idiosyncratic work.

There's a similar pomo irony in Chris DeLaurenti's title, a familiar nomenclature: _____ _____*s for Orchestra*, in this case *Three Camels*, as others have used *Two Movements, Four Etudes, Six Pieces*. This recycling spirit (to be expected from environmentally-conscious Seattle composers?) extends into the music; *Three Camels* is a dense, fast-moving, rather lurid tape collage of sounds. Among the fragments of other recordings heard here, bits from Mozart's Symphony No. 40, Adams' *Harmonielehre*, *Rhapsody in Blue* and the waltz from *Swan Lake* leap out, in addition to the E-minor chord, a split-second long but unmistakably recognizable, that opens Stravinsky's *Symphony of Psalms*. The listener's challenge is not to let the Name-That-Quote game distract from DeLaurenti's brilliantly skilled control of pacing and texture. The piece ends with a compilation of

endings—climactic final notes from other pieces that tumble over each other like exploding fireworks.

In Tom Baker's *Negative Space*, the solo guitar (Michael Partington) and the instruments of the orchestra float back and forth through a sonic void, creating uneasily, constantly shifting contexts for each other—a sense of mutual distance not just spatial but psychological. This effect is most chilling at the work's end, as the solo guitar noodles woozily along, ignoring the melodramatic orchestral screams which collapse out of exhaustion into convulsive shudders.

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This and two other Seattle-based releases mark a recent flowering of contemporary-music recording activity. The title of Byron AuYong's disc, *Walking, Stirring, Weaving*, is also the titles of the three works on it. The seven movements of the large-ensemble work *Walking*—"Entry," "Pilgrimage," "Mountain," "Kiva," "Inlet," "Tokpa," and "Grove"—suggest a narrative, which AuYong only hints at in the liner notes: "a nostalgic longing for nature. . . childhood memories that seem impossible yet are true." The work's hallmark is a masterful sort of sonic alchemy; AuYong plays brilliantly with similarities between timbres and explores their in-between spaces. In "Entry," vocal sounds—breathing, humming, singing—meld with a clay vessel flute and even with the shimmer of a struck gong. Later, the thump of a taiko drum in "Inlet" echoes the thud of a double-bass pizzicato from "Mountain." Within "Mountain" itself, the ten-minute centerpiece of the work, the sounds of trombone, euphonium, and Tibetan long horn circle each other in a long-tone, call-and-response meditation, seasoned with ethereal, overtone-y voices.

These voices become unsettling in "Kiva," tiny moans, exhalations, and murmured syllables heard from various spatial perspectives. "Tokpa" sets up a curious contrast between keening voices and dance-like percussion. "Grove" provides a minimalist coda—just a steady, approaching and retreating clip-clop from a lone tabla player.

Stirring uses many of these same delicate sounds in a sort of 11-minute précis of *Walking*; it includes a fresh-sounding interlude for Irish whistle and metal percussion and rises to an intense, trebly climax. *Weaving* is a solo for *shakuhachi*, played by Christopher Yohmei Blaisdel.

* * *

Predictably, there's lots of similar evocations of Asian flute idioms on *Oo-ee*, a disc commemorating Paul Taub's magnificent celebration of his 20th year in Seattle: he commissioned eleven works for solo flute—or, rather, for solo flutist and multiple flutes. Bun-Ching Lam's *Bittersweet Music III*, Roger Nelson's *Stalks in the Breeze*, and Jarrad Powell's *The Moon and Sun Are Eternal Travelers* all recall the *shakuhachi* or its Chinese and Indonesian analogues—very pretty and very familiar sounds. James Knapp's piece,

which provides the CD's title, is lightly jazz-flavored; Julian Priester's *Equanimity* falls interestingly somewhere in between these two idioms, and includes some magical (*not* overdubbed) counterpoint between Taub's flute playing and his singing voice.

One of the few up-tempo numbers on the disc is Roger Briggs's *Trailblazers*, a virtuosic etude for the tongue full of scurrying staccato notes in all registers. David Mahler's *One Banned Man* is a theater-piece, the story of Shoeless Joe Jackson and the 1919 "Black Sox" scandal in period ragtime rhythms. Performed live, the piece includes a little choreography, but it also requires Taub to alternate between the narration and the flute line; on disc he could overdub the speaking and playing to greater effect. The following piece, Bern Herbolsheimer's *Ashik Dances Before His Love*, seems to be theatrically inspired, too: wide differences in tempos and timbres among passages evoke some kind of multi-character narrative. Robin Holcomb's somber *Shiloh* is based on a Civil War ballad.

Stuart Dempster's *Alternate Realities* is a wholly improvisational work; he provided only a flow chart with evocative words (phrases from Joseph Rael's book *Being & Vibration*) in each box, oval, and diamond. (Dempster is a composer, Taub reports, who takes pride in not owning any staff paper.) Taub is free to interpret as he will phrases like "creative silence," "blow (away) an inversion," and "vibration of the lover." In this realization, Taub provides a nervous little tempest of shuddering sounds.

Vincent Plush's *The Little People of Mount Rainier* features an ensemble of overdubbed piccolos, tootling ornately like avian prima donnas trying to outdo each other in coloratura skill. Last on the CD is a revival, a piece Taub commissioned in 1996 from Cornish College of the Arts colleague Janice Giteck: *Agrarian Chants*, a tour de force requiring Taub to deftly handle all four flutes. The most attractive moments in this compelling piece are the chirping, spirited, slightly manic dance that opens and closes the second movement, and the astonishing way Taub shades flute sounds into vocal sounds in the third movement.

Songs In The Key of Z: The Curious Universe of Outsider Music, by Irwin Chusid. Acapella Books, distributed by Independent Booksellers Group
ISBN # 1-55652-372-6 271 pp

Tom Dill

Irwin Chusid is a writer for a number of New York-based publications, and a record producer and radio host. He has been a collector and promoter of "outsider music" for many years, and this book is an introduction to a strange and wonderful world that can sometimes veer off into some *very* dark corners...and usually does.

"Outsider music" is here defined as a sort of term derivative of "outsider art," which is inclusive of "naive art" and art made by the mentally ill, and, sometimes, the criminally insane. What it boils down to is music that is made either in defiance or ignorance of the established rules of music. There are outsiders detailed in "Songs" who are indeed mentally unstable, even sometimes violent, while others are downright cuddly and cute. Some are just afflicted with terminal cussedness, unable to stop themselves from marching to a different drummer. Still others will do almost anything to be in the spotlight, while others have an overriding need to make organized noise, technique, convention and recognition be damned. Ironically, the audience for this stuff is found among the very sophisticated — or the very perverse. People who don't know much about music invariably reject outsider music as simply "bad." The capacity for appreciating "outsider music" seems to arise from a profound intellectual weariness or boredom with "straight" musics, or a yearning for "authenticity." Consequently, there's a sizeable underground network of folks who collect, swap, and celebrate outsider music. "Songs in the Key of Z" gives us a glimpse into the lives of these furtive folk, too.

"Outsider" nearly always means that successful musicians, no matter how alien their conception, do not make the grade. Musicians who toil in obscurity who eventually gather some accolades (Charles Ives and Ornette Coleman are given as examples) are not classified by Chusid as outsiders. Nor are musicians who deliberately choose to be outsiders, "outsiders." "Folk" and "primitive" artists aren't outsiders, either. (Wow! Betcha never thunk it — It's not easy to be classed an outsider!) Many readers will take issue with his choices and/or omissions, but this is part of the fun, really. One gets drawn into the fray. I wondered for instance, why include Captain Beefheart and not Ornette? There are numerous commonalities in their careers, in their musics, and among their audiences. Is the dividing line that Beefheart couldn't play an instrument (not really true; he was a monster 'harpist, not to mention one of the all-time great blues singers), or that he was abusive and manipulative with his bandsmen, even paranoid, something of a tinhorn despot? (Charles Mingus and any number of old-school conductors come to mind.)

The book is divided into handy, easy-to-parse chapters, each dealing with a specific musician or musical group. A few of them pre-date the era of recording and mass media, like the Cherry Sisters, a stage act of several midwestern hardscrabble ladies who "hammered together an evening's worth of hokey, moralistic one-acts, derivative ballads, and awkward ethnic dialogue routines." They had no experience and no talent, but, by god, they had determination on their side — their goal was to make it to the Chicago World's Fair of 1896. They seemed to care more about just getting to the doggone fair than presenting a world-class act, once there. (Chusid is happy to report that they made it.) Their act was so bad that audiences howled in derision and consequently crammed the halls wherever they played. The Cherrys either chose to ignore the adverse reactions (and the rotten tomatoes flung their way), or they were immunized by their faith in what they were doing. Nobody knows for sure. This teasing ambiguity of purpose is one of the main themes running through *Songs in the Key of Z*: "Are they put-ons? or do they really mean it?"

"What were they thinking?" is how Chusid likes to put it, as he rambles on, touching down here and there in the odd musical universes of musical mavericks such as Tiny Tim, Joe Meek, Captain Beefheart, The Shaggs, Daniel Johnston, Harry Partch, Syd Barrett, The Legendary Stardust Cowboy, Jandek, Lucia Pamela, and Wild Man Fischer. The Shaggs are a much-celebrated case-study, having composed and practiced a set of 100% art-free rock songs in near-complete isolation for years before going on to record them on what has been called "the worst album in history." Their "Philosophy of the World" is undeniably sui generis, offering unforgettable ditties like "My Pal Foot Foot" (about a pet cat) and "Who Are Parents," with a clever call-and-response chorus that goes:

Who are parents?

Parents are the ones who really care

Who are parents?

Parents are the ones who are always there

"Always there" takes on a special meaning for the four farmgirl sisters who made up The Shaggs. Themselves lacking any ambition to be rock stars, it was instead their eccentric, starry-eyed dad who drove them relentlessly, bought them voice and instrumental lessons as well as coining their name (something to do with dogs and haircuts), and even pulled them out of school so they could practice and shovel together their loopy sounds for an album. One sister recalled, "He directed. We obeyed. Or did our best." "I want to get them while they're hot!" declared Dad-Shagg, upon entering the studio in March 1969. The engineer who made those original session tapes for "Philosophy" reports that the whole family smelled like cows. "Not a dirty smell — just smelled like cows." To some, cows might play better music. But for fans such as Bonnie Raitt, Jonathan Richman, and Carla Bley ("They bring my mind to a complete halt."), the Shaggs are nothing short of sublime. And for rock critics, they've become a sort of flashpoint for effusive, "I-dig-'em-more-than-you-dig-'em" writing. For many years, "Philosophy of the World" has charted high on numerous alt-rock lists for "most influential [this or that] release." We live in Shaggadelic times.

Chusid's writing is, at its best, humorous and evocative, and he conveys his enthusiasm for outsider music effectively and honestly, without being preachy about it. He doesn't spend a lot of time trying to psychoanalyze or account for the assorted crackpots he gathers together. Credit is also due Chusid for leaving not a single genre un-turned: he finds outsiders lurking everywhere, from opera to big bands to Christian C&W. However, he's not the most organized historian; perhaps he's consciously trying to avoid strict timelines, as a reflection of the cracks in his subjects' stories, but about halfway through "Songs" I grew a tad weary of the water-treading and the loops back to common themes, amplified by numerous redundant analogies and metaphors that attempt to describe the music for the reader from all kinds of different angles, most of them from the "Ha-ha-aren't-they-funny-but-weird" end of the spectrum. Colorful, yes, but some of these gems could have been weeded out to help speed the reader along her way. Thus, the book ends up being a long, detailed "my favorite outsiders" list, rather than a history of the music as it stands outside the larger culture, and, finally, what that larger culture and the "outsider" culture have to say about each other. Perhaps this is for the better, as any attempt to culturally pin down these delicate specimens might snap their gossamer wings

American Music in the Twentieth Century / Kyle Gann
Arcana: musicians on music / edited by John Zorn
Two Reviews
Mary Lee Roberts

I am probably not a good person to review these books. My predisposition for feeling alone, kind of like a lone pioneer in my own musical world doesn't lend me to having a dedication to any particular school of musical thought. And it seems like what is important in the musical world of the twentieth century is the ability to take sides, draw lines, and bear musical arms, or at least make strong distinctions about the value of contemporary musical states and tastes. I have felt aloneness at most of the music festivals I have attended (from the Lincoln Center blitzes to Bonk) and at all the academic conferences I have gone to. But what I haven't always realized was that there are musical cliques going on all around me and these purposefully homogenizing agents for music often dictate what I hear. There's the classic Cage/Babbitt division/clique enabler (one I have never understood – both composers have presented us with the most interesting musical processes, each tackling the same subject: the development of processes to control sound). There's the downtown/uptown thing, with both camps designing musical missiles to lob north/south, which always seemed like a media designed pseudo scandal just to keep the media in business. I mean really, just this winter the NY Times showed the *muy scandoloso* picture of John Zorn hobnobbing with the enemy at an uptown venue. And the famous NY Times music critic thought that what was of true interest was the fact that the enemy camps had managed to bury the hatchet. Come on, when do we get to discuss the sound, rather than the gossip. I have considered moving to a remote location in the desert West of the United States to escape from such hostilities; then I came across an advertisement for a music festival in Moab Utah that features some kind of group playing Mendelssohn and Beethoven and I can't believe my eyes. I think of Kyle Gann's book and I think, why import European monsters into the desert, why make sound in the desert at all? What makes people think that putting Beethoven in the desert does anything for the desert?

Kyle Gann's thesis for his book is a unique approach to studying musical phenomena: he says, "Stylistically, the approach of this book will be reductive, finding Americannes by taking the entirety of what American composers have done and subtracting from it the identifiably European, Asian, African, and Latin American elements. (Page xiv) I see this as a kind of subtractive synthesis for musical style study. Because Americans are famous for living in a so-called melting pot scene it seems that a study that concentrates on the antithesis of the kitchen sink phenomena is pretty radical. But really, most Americans do not live in a melting pot anyway, certainly suburbia is quite homogenized; most neighborhoods, schools, and many places of employment are segregated by cultural design, not to mention that these same places of employment are segregated by sex as well. So on second thought, Kyle Gann's approach seems to fit the American design quite well

where most of us are aware of what goes on in our hemisphere (mostly by media disseminated knowledge) but many of us live our whole lives never really experiencing a truly different-from-ourselves American culture.

Kyle Gann's argument for a study of purely American Music is tough. It seems hard to stick to the agenda of purity when things get messed up all the time: like, say, when his thorough discussion of the works of Colin McPhee reveal that this American composer was problematically (at least for this study) super influenced by Balinese music. I get the feeling that the real message that Kyle Gann is trying to express to the reader is that the extent of individuality presented by the musical ideas of the composers he mentions is what is typical of American style. The stress on the line drawn between "true" Americanness and the troublesome influences from other continents does not seem like an interesting thesis; what is interesting is the music (of course), the personalities, and the resource of Kyle Gann's vast knowledge of American-grown music. Kyle Gann is not interested in war horses and the well worn paths of inquiry. Instead, he digs deep; he finds avenues for discussion in and around all the regulars: Cage, Babbitt; and then turns to cover the music of virtual audio virtuoso Henry Gwiazda and lays out an enlightening discussion of some pieces by Michael Gordon. Kyle Gann provides more coverage for Robert Ashley when most survey type books meant to be college texts don't bother the step out at all. This book introduced me to a lot of music. I took this book shopping; I took it to Tower Records and I learned a lot and subsequently I listened a lot.

Most of Kyle Gann's book forgets about political distinctions between warring camps. When things become meaty in Kyle Gann's book, like his Totalism in the 1990s discussion, or his excellent section on Babbitt, I get inspired. Kyle Gann's stepping out includes a great section on the AACM (Association for the Advancement of Creative Musicians). It is in his discussion of the AACM artists that the lines of distinction that he laid out in the first half of the book can lend to an interesting reading. In his introduction to the AACM Kyle Gann discusses the "fully notated" composition style that many AACM composers work with. He says, "the instrumental style has the growling intensity of jazz, the cultural references include African music, but the composed forms achieve a level of European abstractness." (Page 309) Kyle Gann goes on to say that his emphasis for a study of the AACM will be on their "identifiably nonjazz contributions". (Page 309) I think that what Kyle Gann has done here is a dissection. He has done the legwork to point out to me that somebody makes distinctions, and that these distinctions can be a useful tool in learning to understand the whole. When I listen to the recordings of Muhal Richard Abrams I am now reminded of Kyle Gann's: "Abrams evolved a theory of spirituality in music, tied to melody and rhythm rather than harmony, that set the pattern for the AACM's atonal, multilinear idioms." (Page 309-310) Abrams divided existence into two aspects, the concrete and the abstract. Harmony he connected with emotion and therefore with the concrete; melody and rhythm were aspects of the abstract and were therefore spiritual. (Page 310) This is where Kyle Gann's book digs the deepest for me. I truly appreciate

the information regarding the artist's actual experience with sound. In contrast to what most survey texts offer, *American Music* takes the time to discuss the individual musical experience.

Interestingly enough, *Arcana* seems to take a similar tack to the one *American Music* strives for. Where Kyle Gann makes dissections that provoke a deeper analysis, *Arcana* works to delineate the expression of the individual from the masses. *Arcana* is a book of essays by composers; a group of people who, as far as I can tell, have the only commonality of being invited by John Zorn to contribute to the collection (though I suspect there is some underlying club of mutual admiration that all of the contributors belong to). In any case, *Arcana* is a rich collection of insights, a rare collection of writings where the pieces themselves have little in common except for their intense sense of self identification and dedication to the individual's mode of expression. I guess that I could say that the tie that binds *Arcana* composers together must be their militant dedication to the individual's self expression in whatever form it takes. Though it would be naive of me to continue on with this review and not mention that the second chapter of *Arcana*, a long, detailed article that seems to be a kind of flagship piece for the book: "The Counterpoint of Species" by Scott Johnson, spells out the influence of "Downtown Music" on the state of contemporary or "New Music".[1] I was truly amazed when I read Scott Johnson's article especially since, in his personal analysis of the failure of Western Art Music (Modernists), where Downtown Music has thrived, he explains that the Downtown Music success is due to its dedication to absorbing the music of surrounding cultures, especially popular styles, rather than pursue an abstract dedication (like the Modernists) to sound-making as research. This article gets more interesting as it proceeds to explain that:

- The High Modernists and their "prohibition of the steady pulse" just plainly flies in the face of what really needs to happen in music.

- Most successful music is based on dance forms, and a steady beat is implied in successful music.

Rarely have I read such master-of-fact writing, no beating around the bush.[2]

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[1] Did you ever wonder where this mythical "Downtown" supposedly starts when one travels north to south? This is difficult for us youngsters who have never experienced the cheap rents of yesteryear in "Downtown". The supposed delineating line must have been the geographical location where rents went down. But in these days where there are no affordable rents either downtown nor uptown I suggest that we start looking for the ever demanded geographical delineator on the Staten Island Ferry at a mid-trip location. Just to flog this silly issue even more, I'll point out that one of my favorite "Downtown" composers has spent most of his career living in Fargo, North Dakota.

[2] The only other place I have read this particular type of clear-to-the point writing was in *Perspectives of New Music* where the composer Rolv Yttrehus says that: "the ur-rhythm of mankind is 4/4 time and that all music is 4/4 unless otherwise indicated..." *Perspectives of New Music,* Volume 26, No. 2, Summer 1988, "An Interview with Rolv Yttrehus on the Occasion of *Gradus ad Parnassum*", James Boros interviewer, Page 250.

But where I can get the most out of *Arcana* is in the George Lewis piece, "Teaching Improvised Music: An Ethnographic Memoir". Here Mr. Lewis explains an insight that had never fully sunk in to my farm-bred mind: "the nature of Eurological music pedagogy, which perhaps more than other arts and humanities disciplines, tends toward the promotion of class-based antagonism toward popular culture." George Lewis tackles the controversial issues surrounding the academization of improvisational studies:

> "Thus, 'improvisations' which appear to consist mainly of unquestioning, rote regurgitation of preprepared patterns are viewed by many improvisers as failing to display the kind of independent creative investigation and spontaneous invention that can lead to the discovery of what jazz musicians often call 'one's own sound', or the original creation of one's own musical material and lexicon." (Page 83)

Following along the lines of much of *Arcana* there is biographical part to the Lewis article. But things are a bit different in this article: George Lewis presents his biographical information within the context of a history of a movement, particularly the AACM. George Lewis takes the time to lay out a history of the AACM and carefully document the complex development of the musical movement. Mr. Lewis then goes on to describe a curriculum syllabus for an alternative to Eurologically inclined musical study, particularly the study of non-Eurological improvised music, including jazz. This is very radical, and nothing ignites my interest more than radical approaches to education. Particularly interesting to me is his *Part Four: Music 133—a case study* where he documents the course of a performance project class that concentrates on "real-time music-making". It is here that George Lewis provides more detail concerning his thesis on the tyrannical nature of Eurological music pedagogy. He says: "My observation is that the students who had the most difficulty in adjusting to the novelty of their status as tyros were those who in other, more Eurologically oriented classes, had achieved some status as especially talented or advanced students." (Page 99) For Music 133 George Lewis and his assistants formulated "bands" of students that studied written and oral modes of musical communication. Exercises that, "emphasized listening, sensitivity to environment, form and structure, location and tradition, and awareness of internal dialogue" (Page 100) were formulated for the students and their bands.[3]

This George Lewis article is unique in the context of *Arcana* because the syllabus he describes for *Music 133*, in itself, is the only defined step-by-step offering for a radical musical movement herein, a movement designed to educate

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[3] Most interesting to me was the fact that Music 133 is a required course at UCSD, the institution that George Lewis teaches at. I am always amazed when I trip across a nesting of tyranny (what is more tyrannical than the "required course") in the auspices of non-tyranny (the expulsion of Eurological practices from a course of study). I remind myself that the degrees or tyranny and the applications of tyranny are what are usually interesting for me.

groups and individuals who need to interact in groups. I would be interested in hearing if *Arcana* readers see the whole book as a handbook for a radical musical movement of sorts (it's overall sense of itself implies that something new is in the air and that it, *Arcana*, is the document of this new thing), when, in fact, only the article by Mr. Lewis presents a practical schematic for creating the radical, a thought-from-the-bottom-up approach to where sound can go to be in a radical place.

It is appropriate to note that most of the pieces in *Arcana* (with the exception of the George Lewis piece and a later David Rosenboom piece), albeit engrossingly interesting, present mostly biographical information concerning the writer-of-the-article/composer. If I make any generalizations about *Arcana* and the musical culture that *Arcana* might represent, I might say that the stress is on the individual, the self-making, definitely not the research of the space unknown and alien to the individual, but the space within and self-made by the individual. Chapter 15 in *Arcana* is an article by Guy Klucevsek entitled, "Maim that Tune". It was in this chapter that I began to think about the importance of the individual finding a comfortable spot to express individuality. Mr. Klucevsek begins his article by explaining the inspiration he takes from minimalist composers: "I have always tried to emulate the minimalist's economy of material and means, and the search for the unknown inside the familiar." (Page 179)

Later on in the article by Larry Ochs, "Devices and Strategies for Structured Improvisations", I gained a further insight into the importance of the individual, in contrast to the importance of the group dynamic suggested by George Lewis. Larry Ochs provides a wealth of detail regarding his own compositional processes. He says: "It is always the primary goal in any piece to be musically coherent; to tell a story *and/or* to create a mood, feeling or environment."(Page 326) In all senses, after reading the George Lewis article the remainder of *Arcana* became a study in comparisons for me. As is obvious I began to read the entire book as a contrast to George Lewis's group dynamic oriented ideas, the contrast of the needs of the individual to that of the needs of the group. I certainly would be interested to know if other readers had a similar experience.

It was interesting for me to re-read the last two chapters of Kyle Gann's *American Music* after I had finished *Arcana*. It is here in *American Music* where the discussions of the most up-to-the-minute musics are presented. These are lovely chapters, obviously discussions of music that Kyle Gann has a special place for in his heart, "Were I forced to choose the decades that I thought were the most fertile in American Music, in terms of excellence and beauty, I would quickly pick the 1920s and 1990s..."(page 384) Kyle Gann goes on to say,

> "American music has been reforming itself, building up a new, firmer, more solidly indigenous tradition. That frustrating gap between composers and audiences? It's gone, or else kept alive only by virtue of an artificial life support system that our institutions keep it on. There is nothing complicated or off-putting or opaque about the musics of Eve Beglarian, Mikel Rouse,

> Glenn Branca, John Luther Adams, Peter Garland, William Duckworth, Pamela Z, Joshua Fried. Anyone who's curious can comprehend their musics *more* easily than they can understand Mozart." (Page 384).

I'd like to make one last suggestion for thought here: can I assume that the concentration on the individualistic expression and the individual's experience (as outlined by most of the writings in *Arcana*) is what is keeping "New Music" alive? Is it the single person, the composer, who has a well-defined need for biographical expression (much of the writing in *Arcana* presents this) and the audience who can identify with the biography and the importance of the individual's need for self-expression that made the music of the 1990s successful? Does the 1990s individualized expression present a more user-friendly music? Are we able to identify with music more easily when musical expression is presented with an individual's identifying features?

Certainly the thesis provided by Kyle Gann and many of the writings in *Arcana* suggest that New Music's dedication to including references to indigenous music is part of its (New Music's) success. I'll make one last suggestion for thought: since indigenous music is now primarily based on the expression of the individual (one hardly ever speaks of one's favorite band anymore, we now discuss our favorite artist be it a hip-hop star, or a popular music star, or composer) it is no wonder that the group dynamic for art music expression has disappeared. Even the Kronos Quartet, the band for the '90s New Music clan, expends much of its energy glorifying the individual composers they play for. This is all very interesting to me, and I am thankful for these texts and how they have provoked me to have a more thorough consciousness regarding the musical world around me. I'll just mention before I stop, that I am still the most inspired by George Lewis and his ideas for group musical dynamics. It seems that I am still stuck in the old mode of cooperative music making that is often coupled with the denial of the singular expression.

INTRODUCTION

for Music Inside Out, *an anthology of texts by John Rahn*•

Benjamin Boretz

Many who read this book will know of John Rahn: who he is, perhaps what he's done, perhaps even something about where his work is 'situated'. His activity as a composer-theorist-teacher, inventor of important computer sound-synthesis software, Editor of *Perspectives of New Music* during the 1980s and 90s, author of an exemplary text on atonal theory, are conspicuous in the foreground of the academic music-intellectual world. But it's likely that he will not have been *visible* to you, at least not in the sense in which he becomes visible in this book. What is visible here is a highly individualistic thinker, idiosyncratic in his stubborn rational integrity and scholarly probity co-existing on almost equal terms with anthropophilic generosity and visceral attraction to radically re-constructive visions, restlessly self-enlarging and self-evolving by way of rigorously reasoned and researched experiments in musical ideation. Superficially at least, John Rahn has taken the journey recommended twenty or so years ago by the eminent musicologist Joseph Kerman, from 'analysis' to 'criticism' — but he has pursued both of those practices in ways and forms unrecognizable as the designata of Kerman's polemical provocation. For John's relation to 'analysis' was always conceptually and philosophically inflected; and his practice of 'critical theory' is always analytically and contextually grounded. In both, his work stands in categorical contrast to the unconceptual jargonized technical data-processing which has often been offered as 'analysis' (or, indeed, as 'theory'), and to the unsupported jargonized ideological positing which more recently has been offered as 'critical thought' (Godfrey Winham once said, talking about some contemporary-music history-theory books, "They can *say* these things, but why should anyone *believe* them?").

Only a musician, probably, could harbor the particular amalgam of scholasticism and psychedelia cohabiting vibrantly in John's intellectual soul. Or, only a musician who was chronologically destined to be a child of the Sixties but who was also environmentally produced by a fiercely liberal midwestern American clerical family could combine so much unshakable integrity with so much readiness to leap into perilous uncharted places. The product, too, of a high-profile liberal and music-compositional education (at Pomona College — significantly, on the West Coast), a conservatory instrumental training (as a bassoonist, at Juilliard, significantly on the other coast), a stretch of time in the army playing in the West Point band — a sequence which produced, by 1970, a classically learned practical composer-performer with an intense interest in theory and philosophy in both a general and a musical sense, and a powerful orientation to the then-current European intellectual avant-garde, in particular Xenakis and Stockhausen and the thinkers of *Die Reihe* —

•*music inside out: going too far in musical essays;* essays by John Rahn; introduction and commentary by Benjamin Boretz. Amsrerdam: G&B Arts International, 2001.

who decided, then, to pursue graduate studies in music at Princeton with, primarily, Milton Babbitt. He arrived at the Princeton music department during a time that everybody who was involved with it still regards, I think, as a rare moment — whatever their final judgment of it. Typically for academe, the critical lessons of the Sixties were only then beginning to be reflected in the department's social and curricular configurations. It was precisely at this time that there converged there a mixture of people and attitudes which conjoined the established radicalism in theory and composition invented and embodied by Milton Babbitt; the radical traditionalism impressively articulated by Edward T. Cone (with Peter Westergaard firmly bilocated in both of those positions); the powerful technological/theoretical radicalism of the brave new world of digital sound synthesis, with Godfrey Winham as its theoretical guru and Jim Randall as its compositional master, and Paul Lansky its emerging postmodernist rebel; the radical relativistic reconstruction of music theory, philosophy and description represented by my *Meta-Variations,* and by the astounding fusion of wildly imaginative rigorous musical visions, totally plugged-in socio-political-cultural alertness, powerful sophisticated literary and locutary virtuosity and intramurally activist energy erupting in this community in the person and exertions of Jim Randall. And John Rahn's fellow graduate students too were a group of people whose interests intersected and spilled over significantly beyond the boundaries of this array of radicalisms.

For John, as for the others, this was not an environment to be a 'product' of, it was an environment there to be produced. And John's own dissertation *Lines (of and about music)* was, regardless of its roots and affinities, not so much an evolution of existing ideas derived from Babbitt, Boretz, Randall, and Westergaard, as it was a leap into an assertive self-repositioning and a revisionary reconstruction of existing formalist music theories, most dramatically in its radical way of imaging and structuring the musical time dimension. Those independent modes of conceptualizing and formalizing are conspicuously in view in this book in the article on Milton Babbitt's *Du* and in "Logic, Set Theory, Music Theory". John's preoccupation with the formalization of time-dimensions is evident in the conceptual-hierarchical parity he assigns to the predicates 'note' and 'rest', 'pitch-adjacency' and 'time-adjacency' in "Logic", for example; and in the quasi-formal discussion of "de-arpeggiation" and "pitch elimination" in "*Du*". Like *Lines,* "Logic" wants to extend formalization to the foreground limits of individual compositions and to the analytic predicates of Schenker-derived 'levels' — in explicit contrast to the purposes and strategies of, say, *Meta-Variations*, and, particularly, as against the purely classificatory data-mapping "set" theories proliferating elsewhere at that time. John's goal was to formalize tonal *structure,* rather than just *syntax*, so as to represent and theorize tonal music as comprehensively as Michael Kassler did his version of "the twelve note-class system". But alongside of this formalist fervor, there is in both the "*Du*" and the "Logic" texts a nascent, evolving awareness of the predestined shortfall of any formalized pitch-time theory in reaching its own music-explanatory aspirations, because of its essential indeterminacy with respect to the experiential ontology of perceived music — at minimum in the Wittgensteinian sense in which the logicized rational reconstruction of cognition actually occupies a cognitive territory incoherent with respect to what it wishes to explicate. And, too,

an awareness that the issues those texts so complexly and comprehensively aspire to handle occupy a domain completely inaccessible to the aesthetic and expressive issues and qualities for which music is most immediately compelling to its most avid consumers and practitioners. So the poignant question about what that 'music' is which is being explicated arises monstrously, and John's texts are increasingly responsible to it. ("How do you *Du...*" says "...we may...find that our very precision entails trading precision for concision..."; "Logic" speaks of "the desirability of an attitude of pluralism toward music theories"; but in both cases the context is still pitch-structural properties of the kind addressed in Babbitt-type and Schenker-type theories.)

"Aspects of Musical Explanation" (1979) may, in particular, be perceived as expressing John's appreciation for the vitalizing opening of new modes of music perceiving and describing revealed by Jim Randall's teaching and writing, especially the path-breaking *Compose Yourself—A Manual for the Young*, as well as texts by others inspired by Jim's example. Characteristically, John invents his own independent metatheory to explicate such phenomena; characteristically, he does so by invoking covering concepts ("top-down/bottom-up"; "analog/digital") which not only create a secure observation point from which to assimilate these otherwise anomalous exertions, but also 'place' and 'regularize' them by bridging them to the world of existing discourse by way of a classificatory ordering strategy, constructing a normalizing complementarity mediating between the two worlds. Ten years later, "New Research Paradigms" pursues a comparable, multiple, purpose: to legitimize admired but marginalized work by bringing it into the professional consensus, thereby also demonstrating the way to restore that consensus after that deviant work seemed to threaten to destabilize it. And, with those reassurances, John was also positioning himself to expand his own work in unexplored directions secure in their defensibility as non-frivolous.

But John's real personal breakout from his metatheoretical confinements, his breakthrough into a theoretical mode in which to interface with the phenomena of sensibility and affect, came by way of a thorough and careful engagement with the works of a constellation of postwar European thinkers: existentialist, phenomenological, structuralist, post-structuralist..., converging particularly on the literary/linguistic writing of Julia Kristeva; the psycho-socio-political-expressive constructs of Gilles Deleuze's and Felix Guattari's *A Thousand Plateaus* (especially fertile for "Differences" and "Centers; Dissenters"); and the "generative anthropological" discourses of Eric Gans, an American scholar of French literature who has extended the work of the French anthropolgist René Girard ("Centers; Dissenters" is largely engaged with their ideas). Post-existentialist psyche-deconstruction, akin to aspects of the work of Maurice Blanchot and Jacques Lacan, infuse the passages in "Repetition" where a formalized-logic language is employed to deconstruct the geography of musical time experience, and those in which an existential psyche-metaphor ("Death") elucidates the field of psychic action by which music produces the illusion of enlivenment, the 'virtual life' into which it draws its receivers.

Ultimately, John Rahn's progression from the construal of music's 'data structures' to the articulation of its 'experiential structures' leads implicatively to the

question of its 'moral' infrastructures, its place in the value systems of the internal and external worlds. "What is Valuable in Art, and Can Music Still Achieve It?" begins this inquiry by a characteristic winnowing out of the appropriate subject matter, devolving into a meditation (in the ambiance of Girard and Gans) on the sacral residue in contemporary art music (viewed in the large through the theater pieces of Philip Glass). "Centers: Dissenters" relocates the sacral action in the suprapersonal — sociopolitical — domain, exploring in its own way territory opened by Jacques Attali's *Noise;* and engaging the problematics of identity and social power proposed, for one, by Judith Butler. The intriguing moment in this latest of the texts in this book is the suggestion that just as Art is always Dissent, so Dissent is always Art — at least in the realm of the logos, of the meta-expressive or theoretical utterance.

Intriguing especially because it's the last stage of the remarkable evolution which this collection makes visible; it leaves a need to know where it's going from here. But it seems that John's 'advanced' thinking since 1994 has largely been formulated in musiclanguage directly, rather than theorized verbally. And that impresses me as not just an interesting life-choice, but rather constitutes in itself a radical developmental assertion, a recognition that the pressure bearing on discourse in the aftermath of the conclusions of "Centers; Dissenters" can only be contained by thought formulated in the non-referential languages of the arts themselves, by, essentially, the radical dissolution of the *autonomous* metalanguage.

This collection also indexes the special luminousness which John Rahn's work radiates in the public world of musical thought. At every stage, with each subject and context and source-text they touch, these writings reanimate a unique seam along the boundaries of discourses, histories, philosophies, ideologies, creative phenomena, positioning themselves observationally, reflectively, propadeutically, interrogatively: finality is never an issue; conclusions are left to be implicit in the fissures within a complex of considerations. What these texts do politically is propagate a cumulative awareness of the depth and gravity which can be accessed through a serious address to subjects such as they examine. That is what is rare in them, why they carry so much weight in their community, to any reader who engages interlocutively with them, without that weight ever bearing down as hegemonic oppression. The power of John's texts remains contained within the texts themselves; they don't emanate any cult-defining generality projecting itself competitively into the professional world. That is an important part of their special integrity; their containment within the scale of one-personhood reflects John Rahn's particular intellectual and expressive and social personality and capacity, but it is also the most vivid possible signifier of the immediate and permanent value of his work.

Barrytown, New York, November 1998

REFLECTIONS OF AN AMERICAN COMPOSER IN THE LATE TWENTIETH CENTURY

Alvin Curran

I

"THE NEW COMMON PRACTICE"

East West North South Tonal Atonal Analog Epilogue Dialogue Digital Order Chaos Notated Improvised Coded Encoded Welltempered Distempered Harmonic Series World Series Free Aggregate Closed Cosmic Solar Lunar Urban Suburban Minimal Maximal Post Trans National Global Universal Local Mythological Microbal Macroevolutionary Fractal Viral Semiotic Ontologic Static Dynamic Dada Dado Dea Deus Druid Dravidian Appolonian Dyonisian Form Content Collage Assemblage Implosive Explosive Tranquil Steady State Turbulent Meltdown In-Time On-Time Beyond-Time Before-Time Aztec Biblical Hieroglyphic Sumerian Hebraic Paleolithic Monogenesis Identity Uncertainty Mesoamerican Protoindoeuropean Postcontrapuntal Tribal Multitracked Periodic Lyric Entropic Programmed Aperiodic Systemic Linear Random Lydian Cyclical Cretan Fragmented Unending Flowing Hocketed Repeated Additive Subtractive Timbral Spectral Phased Feedback Set Reset Fission Fusion Fibonacci Golden Mean 19-Tone Golden Arched Noah's Arc Trajan's Arch Neobalkanized Hypertextual MetaRomantic Retro Virtual Transcendental Accidental Fascist Metaphor Socialist Paradigm Democratic Parable Anarchic Alchemical Agnostic Androgynous Lingual Glottal Gagaku Gulag Babel Gulasch Beethoven Bach Josquin Thelonius Tibetan Stochastic Genetic Environmental Evangelical Erotic Sweet Sour Painful Equilibrium Bondage Pathalogical Biodegradable Cellular Luminous Purgative Continuum Persian Coptic Ukrainian Ugandan Ur Armageddon Aboriginal Bebop Zydeco Hip-Hop Doo-Wop Dravidian Mongolian Argentinian Polish Electronic Heaven Hell Metal Mystical Georgian Jurassic Chance Cuban Quatsch Silent. These are our themes - drawn like water from a common well; these are the compositions that everyone everywhere writes in their dreams, the rich broth that we nourish ourselves with: THIS IS THE NEW COMMON PRACTICE—The 21st century Theme Park.

While only a short generic list, this is a kind of beginner's guide (for surely it would take all the words in all the languages to begin to describe what composers really do in the name of music in the late twentieth century) and I trust a guide that would have much in common with any other list of "themes" (concepts, ideas, structures, maps, inspirations, aspirations, etc) put forth by any other living composer of contemporary Western concert music. In my typically "american" way one can see that my selection of "themes" veers in all di-

rections at once, like contemporary life itself, like a baby learning to walk. Perhaps today's music is, in fact, learning to walk for the second or even third time. After decades of unfulfilled modernist Utopias in an uncertain and violent present, where some say that "the end of music" looms over the horizon (as does the "End of History"), we are now confronted with the immense task of handling, storing, destroying and recycling the massive formless quantity of barely digested matter (the entirety of the human collective mind), which, while continuing to grow non-stop, already contains everything that ever was known and is known of our origins, histories, sciences, geographies, cosmologies, languages, religions, arts and the musics of all times and places. To this we must add the speculations about what we will know of the knowing in the future.

I would like, however, to redirect the discourse to those few things I do know something about - namely my own music - a music which in its directionless direction and multifarious forms of expression is, after all, just one music of one composer - and perhaps one who's work might even exemplify the THE NEW COMMON PRACTICE - Let me further clarify my proposition and give some identity to this amorphous bag of ancient Greek and Latin words listed above. Let's start with a definition: THE NEW COMMON PRACTICE is the direct unmediated embracing of sound, all and any sound, as well as the connecting links between sounds, regardless of their origins, histories or specific meanings; by extension, it is the self-guided compositional structuring of any number of sound objects of whatever kind sequentially and/or simultaneously in time and in space with any available means. Here, THE ALL and ONE are equal and interchangeable.

In the brief history of Western Art Music we can safely assume that at any given moment the composers, performers, theorists and public were all in relative agreement about that which they called "the music of their time." This music was always based on a set of generally accepted principles and codified practices - in Machaut's time as in Mozart's for example, but nonetheless, all subject to the mysterious laws of human creativity, variation and evolution. Today for a number of reasons, as complex as contemporary life itself, we in 1994 a.d. no longer have a single codified musical language and practice but 100, 1000, 1.....n, or possibly as many languages as there are composers. Such has the near exponential and centrifugal expansion of musical languages developed in the last 100 years. Perhaps the Messiah has already arrived; perhaps we are already "speaking in tongues" and are not yet aware of it. But however my illogical metastasizes, one thing is certain and that is, as my dear colleague Frederic Rzewski demonstrated at a recent Mills College seminar: today nobody agrees exactly what music is. This may be or has been true for all times and places but as far as we know there has never been such an overwhelming amount of diverse musics existing and employed contemporaneously anywhere before our present times. Here I am not speaking only about so called new music but all the musics that fill our concert halls, radios, tv's, airports, streets, shopping centers, circuses and our lives. In short, I am speaking about the near viral epidemic and round the clock diffusion of all music of any time and origin. And we, the composers of the NEW, in our somewhat myopic missionary zeal carry on our experimental work at the very center of this phenomenon, as in

the eye of the storm, scarcely noticed except by those of our immediate or larger musical family who instinctively know us by our look, smell and sound. Meanwhile we scarcely notice the raging storm around us. The NEW COMMON PRACTICE is, in fact, the inevitable result of our being at last freed of all rules, stylistic conventions, codes, and even ethics (the recycling of anyone's music without their consent is currently becoming tacitly legal, through sampling, collage, computer internets and other means); and hence, free (or condemned as some believe) to choose as our own any musical path, language or compositional model that has ever been or will ever be. A kind of Heaven and Hell, ambiguously perched both in and outside of History, where we operate with little else but our meager bag of pseudo-scientific words to sustain us and inspire us - like our colleagues the Particle Physicists - hoping to uncover the ultimate origins of musical matter and to know its meaning once and for all. HERE, ALL MUSICS SHOULD BE POSSIBLE, WHERE ARE THEY?

It is from this perspective that I compose. My music is very simple. It consists of Melody, Harmony, Rhythm, Space, Time and Nature, very much like most of the Western Music that preceded it. But unlike the music of the past and of other places near and far, where these elements function in precise interrelated and codified ways, my compositions utilize these basic musical elements individually as musics themselves - isolated and very often presented alone, as just melody or just harmony etc. They often appear musically in unpredictable sequences or in independently layered structures where say Harmony, Melody and Rhythm have no plausible connections except those created by chance simultaneities. Occasionally these elements are even presented in their older "interrelated, functionally interdependent" ways as a kind of Hypermusical Gestalt. As these musical "objects" appear, disappear and reappear at different times with varied identities they suggest a multiplicity of meanings. Such purposeful ambiguity is the locus of my musical workplace, my spiritual address.

Connecting these brief personal observations to my developing thesis of The New Common Practice, I wish to illustrate these ideas with a few simple musical examples. The solo piano composition FOR CORNELIUS (1982) is an 18 minute work in three distinct sections, which in many ways defines many of my past and present musical interests and objectives. Section I is dominated from the start by a slow sweeping melody which occasionally twists and jumps in unexpected ways but somehow regains its solemn poise and balance. Harmonized to a pseudo-Satiesque, pseudo-waltz, it gives off an odor of some latter day "furniture music." This is repeated three times "senza expressione." At its conclusion a totally different music begins based on a single repeated chord, played in a "strumming-tremolo style. To This chord are gradually added new tones in an upward scalar direction until its harmonic journey is ended when the pianist can no longer sustain the intensity of the prescribed crescendo to fffff. As this iterative but additive process is set in motion, constantly alternating patterns of icti are used to add inner rhythmic structure to this otherwise monotonous gesture. As a natural byproduct, huge waves of sound fill the space. And within these "waves" one begins to hear things that aren't really there - like ghostly choruses and orchestras. In any case, this section of

exhausting rhythmic intensity is followed by chorale-like ending in 3 part triadic harmony with constantly shifting tonal centers. This is a typical ending signature which I have used in many compositions and improvisations and is in a style that will be further analyzed here by the music theorist David W. Bernstein in the latter part of this article. There is nothing new here, as nothing new will be found in any of my music -there are only three very different musics composed on one long musical breath.

In the recent trio SCHTYX, 1992, for Violin, Piano and Percussion, the music encompasses a much broader, richer but apparently less unified set of fundamental musical objects than the tripartite FOR CORNELIUS. Here, odd remnants of all kinds of originally composed music are thrown with abandon into a common cooking pot: childlike melodies - like the one that opens the piece; long sections of random intersecting minamalist patterns; waltzes ; Ferociously fragmented Post-serial tumult; Passages of Feldmanesque repeated tranquility and warmth; Irish folk songs; improvised explosions of percussion, thrown objects, dog whistles and moving furniture; and a typically harmonic but dissonant hymnlike chorale at the end. This piece is no collage nor is it a virtuoso demonstration of irony. It is, rather, one continuous disjunct text - a history of chaotic jokes and sublime tendencies - a kind of portrait of everybody.

In the first 24 minutes of, CRYSTAL PSALMS 1988, (See Lowy's "From Fog Horn to Shofar") scored for 7 mixed choruses tape and 6 quartets of :Bass Flutes, Bass Clarinets, Bass Trombones, Viole, Celli, Tubas and Sax each with accordion and percussion,(with each ensemble and Chorus performing independently via Radio from 6 European Capitals) isolated minor triads, melodic fragments and simple percussive rhythms, appear regularly in a number of fixed cycles situated between 41 and 63 seconds long - like in a miniature Keplerian Universe. While in principle totally predictable, the product of the shifting relationships of these fixed objects creates a most unpredictable series of musical collisions, which momentarily mask their utter and indifferent independence but offer no way out of their eternal state as non-functional orbiting triads.

While so much of my music is thought to derive from the use of natural sounds, electronics and other so-called experimental developments, I am pleased to be able to consider some of my acoustic concert music, through which I reaffirm my links to the world community of musical artisans who compose for the simple joy inherent in this art, in particular to those of the great traditions of European, Asian and Afroamerican Art Musics which have so enriched all of our lives. It is clear that the NEW COMMON PRACTICE is, as I intend it, our entire contemporary musical environment, and one which ultimately derives from the increasingly changing and challenging equilibrium between these dominant musical traditions.

Mills College, 15.III.94

II

program notes for THE TWENTIETH CENTURY sound installation written for the Donaueschingen New Music Festival, 1996.

My TWENTIETH CENTURY is simply what you see and hear. Not a pro memoria for the future, nor an "apologia" for the present, nor a critique of the past; there are no coded secrets here, no welcoming messages for the extraterrestrials. It is a simple work born out of our current use of multiple technologies and commonly-shared concerns of the present. But allow yourself a leap into the future. Imagine for a moment some distant time when archeologists begin to "unearth" our century. Among the myriad artifacts (of our time) they will bring to light nearly everywhere on our planet will be: our sea ships, aircraft, automobiles, TV's, radios, espresso machines, toothbrushes, gas masks, knapsacks, contact lenses, pacemakers, lethal weapons, marconi cables, satellite dishes, footballs, computers, suntan oils, running shoes, LP's. CD's, T-Shirts, vibrators, credit cards, etc etc. etc. Spread here and there they will also find our harps, triangles, kotos, saxophones, cembalons, violins, dumbegs, mbiras, electric guitars, hi-hats, synthesizers, sitars, dijeridoos, tubas and kazoos, etc. But of these sounding things, the most prominent and widespread will likely be our "modern" pianos - large rugged musical instruments whose very presence was once synonymous with the word "home," and to many people, like my father, synonymous with the very essence of music itself. These will be found anywhere the archeologists look - on every pacific atoll, on land from Murmansk to Tierra del Fuego, at the bottoms of oceans and on mountain tops. Inside of rotting dirigibes if such are found. These ubiquitous objects could be the key to decoding a whole epoch. An instrument, like no other that enabled any and all musics to come to life: a miraculous invention of pure pleasure, noble sentiments and paranoia; of high art, cheap entertainment, seduction, torture, spirituality, night-life, low-life; of aristocrats, Bourgeoises, and plebians, of geniuses, fools, criminals and the insane; of cowboys, anarchists, countesses, and utopian experimentalists; of love, fear, ecstasy, despair, and transcendence... and if, amidst all our cultural artifacts, it were only our pianos, that survived, imagine how much of our story these mute, half-worm-eaten, rusted black boxes could tell, if they were once again made to speak. Could these skilled scientists of the future then, be able to reconstruct not only what we called music, but everything in our lives that our music revealed about us? would thay be able through this heap of rotting wood, steel and ivory to decode our era? Much as we have "read" past cultural histories in the Tablets of Ebla, the Rosetta Stone, in the Dead Sea Scrolls or in so called "prehistoric" Cave paintings. amd rock drawings ..... So what would it mean to our future archeologists to find pianos (very often replicas of the same instrument) in such

diverse places as a Siberian Prison, a Roccoco Orangerie in Darmstadt, at a huge outdoor Stadium in Hollywood, a miners hut in south Africa, on an open seacliff in Canada, in a garage in Mexico City. And would they know that this instrument contained the entire history of the 19th century as well? Could these same archeologists imagine what infinite and passionate acts of creativity these instruments inspired in the 20th century, when musicians and artists used them not only to "play music" as it were, but played them with herrings, set them on fire, made love in them, buried them, blew them up, plucked them with crow bars, beat them with whips and toilet brushes, bled on them, played them with their elbows and baseball bats, feet and sex organs, gave them digital implants, poured alcoholic drinks into them, hung them from cranes, dropped them from planes, pushed them into the sea, and made swimming pools in their shape - extreme acts of ritualized devotion, creative indifference and violence just to prove that this instrument had infinite sonic capabilities and meanings, and perhaps was indestructable. In short, these scientific discoverers would quickly see that our piano was not only a universally acknowledged musical icon, but became in our time an infinite source of human invention, extending far beyond anything any one in the previous (19th) century (excepting satie) could have ever imagined. What amazing histories this instrument would reveal if they reconstruct what the artists of the time did with it: Rubenstein, Ruth Crawford, Scelsi, Busoni, Scott Joplin, Feldman, Rachmaninoff, Annea Lockwood, Art Tatum, Joseph Beuys, Glenn Gould, The Kontarsky's, Gershwin, Cowell, Cecil Taylor, Marion McPartland, Cardini, Gurdjieff, Lamonte Young, Liberace, Cardew, Viznagradski, Elton John, Horowitz, Fats Waller, David Tudor, Antonello Salis, Myra Hess, Rzewski, Memphis Slim, Giuseppe Chiari, Charlemagne Palestine, Thelonius Monk, Mischa Mengelberg, Bela Bartók, Rebecca Horn, John Cage, Michelangelo Benedetti, Jerry Lee Lewis, Richter, Chris Newman, Ursula Oppens, Dollar Brand, Buster Keaton, Alvin Lucier... Is the piano "tout court," the history book of our time and will these archeologists be able to appreciate the subtle expressions and differences implicit in this small number of diverse pianists? Will any of these distinguishing terms: "E, " "U," Highbrow Lowbrow, elite, Bourgeoise, Avantgarde, Futurist, folk, pop, expressionist, impressionist, classical, postmodern, Hollywood, Darmstadt, ragtime, quartertone, 12 tone, 19 tone, bebop, Baroque, Rococo, Romantic, stride, Shuffle, rock, Swing, stochastic, new age, electroacoustic, digital, welltempered, meantempered, midi, bad tempered, Kansas City, Vienna, 52nd Street, Minsk, free and prepared and unprepared, composed improvised, have any meaning to these future researchers? In a word , will they be able to tell us what it was that we were doing musically in 1908 or in 1998 or any time between? Fanciful speculations, as these, have in fact little to do directly with my TWENTIETH CENTURY, for this is a work of extreme transparency and accesibility; it harbors no paradigms, agendas, or metaphors . It is simply my story at this moment and now, yours as well.

Long a maker of acoustic and electronic concert music, my composing has taken on a distinct character shaped by the sounds and spaces of the environment. I have created works for sites such as rivers, ports, gardens, wells, caves and quarries - a kind of natural theater is common to my work and the TWENTIETH CENTURY is very much in this line of thinking. The essential tech-

nical ingredients here are a computer-playable piano (a Yamaha "Disclavier," no doubt created with the same home entertainment potential that earlier mechanical pianos were constructed), a Computer, software written (in "Max") by Chris Dobrian, Scot Gresham-Lancaster and Stefan Tiedje, a simple feedback system consisting of a microphone, digital sound effects processor and loudspeaker (inside the piano). and of course the beautiful natural setting of the Schlosspark Pavilion. This work is originally proposed as a duo with a companion piece titled the TWENTY-FIRST CENTURY shown as a piano suspended precariously from the ceiling. The two instruments performing independently but simultaneously are to be included in an opening exhibition of the KLANGTURM in St. Poelten Austria in the spring of 97. So here is a special one sided version of the whole. And in this occasion I was inspired by Alban Berg's extraordinary and eloquent comment on the 20th Century, in his "verstimmtes Klavier" solo in Act III of *Wozzeck*. Like all gifts from above, this came to me watching a recent television production of the opera, late at night in a hotel room in Schwetzingen. To me, this little nasty but poignant fragment of music said everything one could say about the 20th century, so I felt it could further be elaborated (de and reconstructed) by computers to see what might lie beyond it. But without going into a lot of technical warble, the Berg fragment, while a main catalyst, is one among many musical elements, which the computer is called upon to compose with, n a process akin to musical quilting. Where all kinds of "algorithmic" designs are woven and rewoven into an unending musical tapestry: A mindless, limitless, rational process of moving electrons and mathematics made audible (computer software), on an exquisitely crafted but aging acoustic machine or great rational and irrational design (a concert piano). Will this experimental surgery of neural networks - some already over 200 years old - lead us safely out of here or are we destined to stay in the 20th century forever - taking piano lessons on the Internet?

July 28 1996

III

program notes for the solo concert ENDANGERED SPECIES
Roulette, March 1998

"In John Cage's wake one could see a plastic bottle bobbing and floating. There were strange things inside: A stone from Knossos, a manzanita leaf, a Dr. Peppers bottle cap, a cactus needle and a page from Schoenberg's *Harmonielehre*. We scooped it from the sea and reported our findings to the local authorities - they concluded, knowledgeably that it was the makings of a new piece, but in any case perfectly safe for children. As I wrote this, a solar-powered Spotted Owl flew over the Crimea River, so far off course that it caused all the music in the world in that moment to go flat by about 50 cents, or a half tempered tone. On the banks of the river sat the Sierra Club - the hottest joint in the area - and that night they were featuring evolutionary music from the Devonian Period: at the piano bar, Jerry Hunt and Maria Callas, In the main Ballroom Braxton and LaMonte Young, and mixing in upstairs discothèque, Maryanne Amacher and Karlheinz. The erudite DJ, Frederic Rzewski was being interviewed by Carl Stone:...". According to Homer the five endangered spices are Mandrake, New York Dill, Icelandic Roquette, Creeping Lemon Thyme and Pigswort....." Everybody was there: Bird, Mack the Knife, Duckworth, Fats, Christian Wolff, Moondog, Saints Ursula and Cecilia, Suzuki Akio, Wadada Leo, Dreyblatt, Big Ludwig, Pavarotten, Elton Johnson, The Mongolians, Dog No More, Oliver Lake, The Albanian Mafia, Hildegard Bingo, Carl Stallings, Rubenstein, The Denpasar English horn quartet, Kosugi, Monk, The Pines of Rome, Billie, Mama La Mozart, Bald Eagle Arnold, Waltzing Matilda, The Rova, The Oakland Exhaust and Muffler Co., Fernet Branca, Spike Jones, The Minnesota Dumbeg Union, The Sorelle Sisters, Xenakis and the Edible Weeds...It was one hundred percent natural, upgraded to Midi - a mix of raw and cooked Anthropology, long before Kosher became legal. It was like in a Fake Book. Pistoletto walked into a mirror like he was dancing in a sound-pool of wet concrete. In the corner was a big pile of Electric Rags. Satie dressed as a furniture salesman and uttered 5 monosyllabic words on a fog horn. Rzewski was seen again tuning his acetelyne torch to Teitelbaum's tibetan bowls, for a new version of Attica, where he once studied with Pythagoras. Teitelbaum in turn sampled a Golem's heart with his defibrillator. Just then A quick brown fox jumped over the lazy dog; a lion Roared in Tuscany, an elephant danced in eleven-four time, Aki Takahashi fitted a catalytic converter to her grand-piano, and Steve lacy found an abandoned Intonarumori on an empty lot in Riga fixed it up and began writing a Futurist Opera. Tickets to this performance are available at the excess baggage counter opposite the Pathological Air Terminal, Bring your Luge and organic pulses.

Friday March 27 1996

Franz Kamin

Colors

A Performance Poem

for
Narrator & 12 Readers (6m, 6f)
Surrounding the Audience

Introduction & Performance Instructions:

The performance-poem Colors is a 'Mass Sound' piece, indicating that many activities are often going on simultaneously, as in a 'pre-concert' audience (with warm-up) or a forest in the late afternoon (without people), and also has elements of (directional) Behavioral Drift. A Behavioral Drift is an operation on a Mass Sound wherein the various audibly recognizable components of the Mass Sound are separately locable relative to some auditor as coming from a specific direction (rear, front, right, left, etc.); a single such composite of direction oriented elements is a Behavior; such a Behavior may then Drift, which means that the same set of distinct elements (possibly varied or altered – but recognizable) shift or morphize so that these elements are now emanating from a different set of directions (what was at the rear may now be at the middle right, etc.) with the overall behavior being 'recognizably' the same (homeomorphic.) In such a case there are also in-between or transition states in which the movement from place to place or the transformation of one element into another (the Drift itself) also becomes audible. Thus generally, the audience is placed inside a 'sonic landscape' which transforms its basic shape all around them.

This particular performance-poem is also a type of 'hypno-poetic' device in which the 'poetry' is constituted of the mental imagery and its activities as envisioned by each individual audience member, rather than either the 'sound-construct' or (especially) the textualization.

'Colors' is to be performed by a Narrator (N) with 'room' amplification, who is situated in front and somewhat stage-right of the audience, and who also functions as Timer and therefor needs to be equipped with a stop-watch, plus six Groups of two performers (a male and a female) each. These Groups

are to be situated around the outside of the audience in the following locations (called Stations): 1. Front-audience-left (FLm,f) 2. Front-audience-right (FRm,f) 3. Mid-audience-left (MLm,f) 4. Mid-audience right (MRm,f) 5. Rear-audience-left (RLm,f) 6. Rear-audience-right (RRm,f). Each Station is to have it own 'local' (near their location) amplification – a bass or guitar amp. with one or (preferably) two microphones, thus converting it to a small P.A., will suffice. The six Station amplifiers are to be in balance with each other, and slightly below the level of the Narrator amplification. Each Station will also have a music stand to hold parts.

All parts are to be blown up to 11 x 17. The Narrator part (4 pages) contains all parts for the purposes of rehearsal, timing and cueing. All other parts (2 pages or 1 double-sided each) contain a Narrator column from which text many cues are to be gotten; such cues are are notated by the symbol 'Q-N: ...' with the dots being replaced by the cueing word or phrase. Other cues are gotten from Narrator hand signals; these are indicated by the symbol 'Q-Nq:'. Still other cues are gotten either from other Stations or even from within one's own Station; these are exemplified in the following cases (in each case, the dots would be replaced by the appropriate cueing words or phrase):

1. 'Q-FRm: ...': this means that the cue comes from the Front-Right male. 2. 'Q-front-f's: ...': this means that the cue comes from the front females. 3. 'Q-f: ...': this means that the cue comes from the female within one's own Station. Sometimes a cue is followed by a 'waiting time', such as '+3"': this means to respond 3 seconds after the given cue. A cue-symbol may also be followed by a 'dynamic' indication, such as 'p' (soft), 'f' (loud), '<<' (grow louder), '>>' (grow softer), 'fade', etc. Upon hearing or seeing any given cue, continue the process or words you are currently doing until you understand the new instruction, then change to the new process or words.

Vocal processes:

1. 'AlphaNonsense' (AlphNS): The rapid saying of letters of the alphabet in any random order (with repeats). A performer may create a list for use in a performance if desired. This process often comes with the instruction to 'mumble' or 'whisper'.
2. One or more Words (e.g. 'Blue' & 'Disk') may be given to repeat continuously, this often occurs with the instruction to 'mumble' (thus, one may deduce 'repetition' from context if the repeat sign (':| |:') is not given.) A repeat sign, ':| |:' or ':| |:', means to repeat a phrase or even a whole 'speech' once, whereas ':| |:cont' or ':| |:c' means to repeat continuously. Sometimes the symbolized instruction 'Prm.' is given: this means to continuously randomize the order of the given words.
3. 'flat tone': this indicates a continuous 'not-too-musical' (non-singing) tone produced on some vowel in a comfortable register. This is often accompanied by the instruction 'with occasional 1 – 2" wavers': This means that on random occasions, the pitch level of

the 'flat tone' is caused to move more-or-less rapidly up and down for a second or two.

4. Occasionally two processes are given with percentages ('%'). For example: '75% AlphNS and 25% flat-tone' indicates that the performer randomly shifts back and forth between these two processes in such a fashion that there is proportionately 50% more AlphNS than flat-tone over all.
5. On occasion an instruction to Transform (symbolized 'trnsfm') from one process to another is given; for example, "mumble'Blue-Disk': gradually 'trnsfrm'to'Shhh" means to gradually insert fragments of a shushing sound (Shhh) into the continuous mumbling of 'Blue-Disk', which segments lengthen and grow more frequent until 'Blue-Disk' has been supplanted by 'Shhh'. Other more sophisticated methods of Transformation may be invented by the individual performer.
6. Certain other vocal processes such as 'short flurries of Laughter' are self-explanatory.
7. Some processes or phrases are given in Alternation with other Stations and/or performers (usually symbolized 'Alt.w/...') These areas may need extra practice for performance. The most complicated of these, the 'Spike-Spire' alternation, needs to be isolated and practiced separately. It is therefor given in chart form at the end of each Station part, and as an addendum page to the Narrator part. In the 'Spike-Spire' alternation, the numbers (1 – 12) given along with the words 'Spike' or 'Spire' are not to be read, they are solely for the purpose of keeping one's place.
8. '00' indicates silence.

On the non-Narrator parts, a Time-Line' (read downwards) is given to the left of each part column, but all Timing is to be done and cued by the Narrator; the Time-Line columns being given on the other parts for the purpose of locating areas in rehearsal and giving a general idea of how long various activities last. There are two part columns on each page or side. All of the 'Rear' performers (4) are given on a single part, as are all the Middle and all the Front performers.

Time	Narrator (N)	Front–Left (FL m,f)	Front–Right (FR m,f)	Middle–Left (ML m,f)	Middle–Right (ML m,f)	Rear–Left (RL m,f)	Rear–Right (RR m,f)
0'00"	{-OO- 4"}	M:{mumble AlphaNon-Sense, *pp*}	M:{mumble AlphaNon-Sense, *pp*}	M:{mumble AlphaNon-Sense, *pp*}	M:{mumble AlphaNon-Sense, *pp*}	M:{mumble AlphaNon-Sense, *pp*}	M:{mumble AlphaNon-Sense, *pp*}
0'04"	You... If you had your eyes closed ... ?Would you see a blackness of inner space? ... (wait for echo from RRf)	|	|+F: {O-N: 'inner space', *mf*): | | See an inner space | F: {00...}	|	|	|	|
0'14"	...and I said 'a Blue Disk'... ?Can you see a Blue Disk in your inner space? ... ?Can you see a Blue Disk if you have your eyes closed, and I say 'a Blue Disk'...	M:{O-N: 'Blue Disk': mumble:trnsfm to 50% 'blue', 'blue disk' 50% AlphNS, *pp*}	M:{O-N: 'Blue Disk': mumble:trnsfm to 50% 'blue', 'blue disk' 50% AlphNS, *pp*}	M:{O-N: 'Blue Disk': mumble:trnsfm to 50% 'blue', 'blue disk' 50% AlphNS, *pp*}	M:{O-N: 'Blue Disk': mumble:trnsfm to 50% 'blue', 'blue disk' 50% AlphNS, *pp*}	M:{O-N: 'Blue Disk': mumble;trnsfm to 50% 'blue', 'blue disk' 50% AlphNS, *pp*}	M:{O-N: 'Blue Disk': mumble:trnsfm to 50% 'blue', 'blue disk' 50% AlphNS, *pp*}
0'36"	{-OO- 5"}	|	|	|	|	|	|
0'41"	?Is it some other Blue Disk now? ... When a Blue Disk begins to dissolve: ?Can you replace it with a different one? ...or do you reconstruct it?...	M:{O-N: 'Disk now': mumble: gradually trnsfm to 'flat-tone' with occasional 1-2" 'wavers'...	M:{O-N: 'Disk now': mumble: gradually trnsfm to 'flat-tone' with occasional 1-2" 'wavers'...	M:{O-N: 'Disk now': mumble: gradually trnsfm to 'flat-tone' with occasional 1-2" 'wavers'...	M:{O-N: 'Disk now': mumble: gradually trnsfm to 'flat-tone' with occasional 1-2" 'wavers'...	M:{O-N: 'Disk now': mumble: gradually trnsfm to 'flat-tone' with occasional 1-2" 'wavers'...	M:{O-N: 'Disk now': mumble: gradually trnsfm to 'flat-tone' with occasional 1-2" 'wavers'...
0'57"	{-OO- 3"}	|	|	|	|	|	|
1'00	?What size is This one? ... ?Where in the blackness of your inner space is the Blue Disk located? ...	M:{O-N: 'What size': mumble: gradually trnsfm to 50% 'blue' + 'disk' and 50% AlphNS	M:{O-N: 'What size': mumble: gradually trnsfm to 50% 'blue' + 'disk' and 50% AlphNS	M:{O-N: 'What size': mumble: gradually trnsfm to 50% 'blue' + 'disk' and 50% AlphNS	M:{O-N: 'What size': mumble: gradually trnsfm to 50% 'blue' + 'disk' and 50% AlphNS	M:{O-N: 'What size': mumble: gradually trnsfm to 50% 'blue' + 'disk' and 50% AlphNS	M:{O-N: 'What size': mumble: gradually trnsfm to 50% 'blue' + 'disk' and 50% AlphNS
1'10"	{-OO- 2"}	|	|	|	|	|	|
1'12"	If you clearly hear a voice coming from a specific direction (relative to you inner space) – a voice coming from a 'Certain Corner' of space, Announcing the Presence of a Blue Disk ?Can you Move the disk to That Corner of your inner space?...	M+F:{O-N: 'If you': mumble: gradually trnsfm to 75% AlphNS and 25% 'flat-tones'	M+F:{O-N: 'If you': mumble: gradually trnsfm to 75% AlphNS and 25% 'flat-tones'	M+F:{O-N: 'If you': mumble: gradually trnsfm to 75% AlphNS and 25% 'flat-tones'	M+F:{O-N: 'If you': mumble: gradually trnsfm to 75% AlphNS and 25% 'flat-tones'	M+F:{O-N: 'If you': mumble: gradually trnsfm to 75% AlphNS and 25% 'flat-tones'	M+F:{O-N: 'If you': mumble: gradually trnsfm to 75% AlphNS and 25% 'flat-tones' F:{cont.} M:{O-N: 'presence of a': join, *mf*}: 'Blue Disk', Nearing This Corner ... A Blue Disk ... Nearing This Station ... a Blue Disk in this Corner {:||:} | {soften} |+F:{O-M: :||:} F: See a Blue Disk in this Corner {:||:cont, *mp*}
1'29"		M:{O-N: 'a blue disk': fade out within 7"} F:{cont.}	M:{O-N: 'a blue disk': fade out within 7"} F:{cont.}	M:{O-N: 'a blue disk': fade out within 7"} F:{cont.}	M:{O-N: 'a blue disk': fade out within 7"} F:{cont.}	M:{O-N: 'a blue disk': fade out within 7"} F:{cont.}	
1'36"	Move the Disk to That Corner of your inner space...	M:{O-N: 'Move': -OO} F:{cont.}	M:{O-N: 'Move': -OO} F:{cont.}	M:{O-N: 'Move': -OO} F:{cont.}	M:{O-N: 'Move': -OO} F:{cont.}	M:{O-N: 'Move': -OO} F:{cont.}	
1'42"	{-OO- ...}	|	|	|	|	|	
1'44"	|						
1'45"	|	F:{O-N: 'inner space' +3": gradually trnsfm to 'Shhh'}	F:{O-N: 'inner space' +3": gradually trnsfm to 'Shhh'}	F:{O-N: 'inner space' +3": gradually trnsfm to 'Shhh'}	F:{O-N: 'inner space' +3": gradually trnsfm to 'Shhh'}	F:{O-N: 'inner space' +3": gradually trnsfm to 'Shhh'}	|
2'00"	—{NOq: for all: 2'00"}	M+F:{O-Nq} F:{fade out within 5"} +M: flat tone ('ee') with some wavers	M+F:{O-Nq} F:{fade out within 5"} +M: flat tone ('ee') with some wavers	F:{O-Nq: fade out within 5"}	F:{O-Nq: fade out within 5"}	M+F:{O-Nq} F:{fade out within 5"} +M: flat tone ('ee') with some wavers	M+F:{O-Nq,*mf*>>}:See a Blue Disk in this corner... M+F: M:{:||:cont &fade} F:Now its moving toward theCenter & fading away (fading)..Now it's moving toward the center & fading away ...fading away...
2'05"	|	|+F :{-OO-}	|	F:{-OO-}	F:{-OO-}	|+F :{-OO-}	
2'10"	Whenever an Object is Called from a Certain Corner or Edge: ?Can you See that Object in the Corresponding	|	|			|	
2'15"		|	|	F:{O-N:'Corner', fade} Now its moving toward the Center & fading	M:{O-N:'Corner', fade} Now it's moving toward the Center & fading	|	

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Time	Narrator (N)	Front–Left (FL m,f)	Front–Right (FR m,f)	Middle–Left (ML m,f)	Middle–Right (MR m,f)	Rear–Left (RL m,f)	Rear–Right (RR m,f)
2'20"	Location – in your inner	M+F: M:{cont.}+F:{OO}	M:{O-N:'location', *mf*}:	F: away ...{*fading*}...fa-	M: away ...{*fading*}...fa-	M+F: M:{cont.}+F:{OO}	M+F:{OO}
2'23"	space? ... {{*softer*} When an Object is Announced from a Certain Station, See the Object in that		Low-lying Green Mist – covers the entire floor of the space... {:‖:^{1}, >>}	ding away ... fading a- way ... {-OO-} M:{O-FRm:'entire floor} Low-lying Green Mist –	ding away ... fading a- way ... {-OO-}		M:{O-FRm:'green mist} Low-lying Green Mist – covers the entire floor of the space... {*f*>>, :‖:^{1}}
2'33"	Location... {{*softer*}... An Object Called from a certain Direction can be seen in that region...	M:{O-N:'location': OO}		covers the entire floor of the space... {*f*>>, :‖:^{1}}	M:{O-MLm:'low-lying} Low-lying Green Mist – covers the entire floor of the space... {*mf*>>, :‖:^{1}}	M+F:{O-N:'location'}: +F:{echo some M words} +M:{*f*}: Three Dark Red Pillars, Upright ... 3 Dark Red Pillars of different sizes moving Slowly on a Diagonal toward the Front ... 3 Dark Red Pillars of different sizes are moving Slo-wl-y on a diagonal toward the Front-Right... {*mf*} 3 Dark Red Moving slowly across the center now... {*mp*} 3 darker red pillars... slowly... slowly... {-OO-} (M+F):{-OO-}	M:{ON:'regeon'+6" *pp*} low-lying green mists {:‖: , Prm.}
2'42"	{-OO- ...}		M:{O-N:'regeon', *pp*}: low-lying green mists {:‖: , Prm.}	M:{O-N:'regeon'+3" *pp*}: low-lying green mists {:‖: , Prm.}	M:{ON:'regeon'+8" *pp*} low-lying green mists {:‖: , Prm.}		
3'03"	?Which one is Tallest? {-OO-}	F:{O-N:'tallest', *mf*>>}: Low-lying Green Mist, covers the entire floor of the space... {-OO-}	M:{O-N:'tallest'; -OO} (M+F):{-OO-}	M:{O-N:'arranged', *mf*}: 3 Dark Red Pillars passing across the Center ... passing across toward the front...just past {:‖:2, *pp*}	M:{QMLm:'passing', *p*} Passing across the Center... passing across toward the front... 3 Dark Red Pillars, just past the Center... {:‖: , *pp*}		M:{O-N:'arranged: OO} (M+F): {-OO-}
3'08"	?How are they arranged?						
3'10"	{-OO-}	(M+F):{-OO-}					
3'23"	—{NOq: MLf}			F:{O-Nq, *f*+}: I have a Shiney Yellow Ball, small & hard – I have a small hard shiney yellow ball – I toss it quickly Across the Middle to the other Side... {OO}	F:{O-MLf:'across', *f*}: The Middle to the other Side ... Where I catch it & quickly toss it Back...		
3'35"	—{NOq: Front f's}	F:{O-Nq; gossipyAlphNS for 2": *pp*<<*mp*+>>*pp*, then 2" OO, then :‖:} {cont. –Alt. w/ Rear}	F{ONq; gossipyAlphNS for 2": *pp*<<*mp*+>>*pp*, then 2" OO, then :‖:} {cont. –Alt. w/ Rear}			F:{O-Nq; gossipyAlphNS for 2": *pp*<<*mp*+>>*pp*, then 2" OO, then :‖:} {cont. –Alt. w/ Front}	F:{O-Nq; gossipyAlphNS for 2": *pp*<<*mp*+>>*pp*, then 2" OO, then :‖:} {cont. –Alt. w/ Front}
3'37	—{NOq: Rear f's}			F:{O-MRf:' back' + 1"}: I catch & toss back... {cont. Last process}	F:{O-MLf:'back' + 1"}: I catch & toss back... {cont. Last process}		
3'39"	—{NOq: Front f's}			+M:{-OO-}	+M:{-OO-}		+M:{-OO-}
3'47"	—&c.			F:{O-MRf:'toss'}: Toss+- ...Catch...{QMRf:'catch} Toss... {QMRf:'catch} Catch... {cont. Last process}	F:{O-N:'now', *f*}: Toss... {O-MLf:'catch}Catch ...+-{QMLf:'toss'}:Toss ....Catch... {cont. Last process}		
3'57"	Now, there are 2(!) shiney yellow balls, being tossed across the Center at almost the same time ... 2 yellow balls simultaneously in the air above the middle ... ? Can you See both Them and the 3 dark-red pillars moving slowly toward the front?	(F: cont.) M:{O-N:'the front': 3" Cell: AlphNS: wide-spaced, staccato, *pp*<<*mf*+,+7"OO:‖:}	M:{ON:'the front'+5"*f*} As the 3 dark red pillars approach the front, they Grow Larger & Larger In size. Larger & Larger, becoming immense, huge... & Toppling, toppling Slowly Over ... Slowly Over... {1"-OO}			(F: cont.) +M:{O-N:'the front': 3" Cell: AlphNS: wide-spaced, staccato, *pp*<<*mf*+,+7"OO:‖:}	(F: cont.) +M:{O-N:'the front': 3" Cell: AlphNS: wide-spaced, staccato, *pp*<<*mf*+,+7"OO:‖:}
4'23"	{-OO-}						
4'28"		(M+F: cont.)	M+F:{mumble:'topple'}	M+F:{O-FRm:'toppling' + 2": mumble:'topple', *p*}	M+F:{OFRm:'toppling' + 8" mumble:'topple' *p*}	(M+F: cont.)	(M+F: cont.)
4'52"	Toppling Slowly Over... Slowly Over...	M+F:{O-FRm:'toppling': Mumble:'toppling' *p*}				M+F:{O-FRm:'toppling' + 4": mumble:'topple', *p*}	M+F:{OFRm:'toppling' + 6" mumble:'topple' *p*}

time	Narrator	Front – Left	Front – Right	Middle – Left	Middle – Right	Rear – Left	Rear – Right
5'04" 5'06" 5'10"	Down into the Green Mist... and the yellow balls have rolled a-way to somewhere... {-OO-}	M+F:{cont. to Q-N:'green' :trnsfm to Whisper: 'topple – toppling'} M+F:{Q-N:'somewhere': Whisper AlphNS}	M+F:{cont. to Q-N:'green' :trnsfm to Whisper: 'topple – toppling'} M+F:{Q-N:'somewhere': Whisper AlphNS}	M+F:{cont.to QN:'green' :trnsfm to Whisper: 'topple – toppling'} M+F:{Q-N:'somewhere': Whisper AlphNS}	M+F:{cont.to QN:'green' :trnsfm to Whisper: 'topple – toppling'} M+F:{Q-N:'somewhere': Whisper AlphNS}	M+F:{cont.to QN:'green' :trnsfm to Whisper: 'topple – toppling'} M+F:{Q-N:'somewhere': Whisper AlphNS}	M+F:{cont.to QN:'green' :trnsfm to Whisper: 'topple – toppling'} M+F:{Q-N:'somewhere': Whisper AlphNS}
5'14"	Empty now... {-OO-}	M+F:{Q-N:'empty': Shh_ w/some rises &falls}	M+F:{Q-N:'empty': Shh_ w/some rises &falls}	M+F:{Q-N:'empty': Shh_ w/some rises &falls}	M+F:{QN:'empty': Shh_ w/some rises &falls}	M+F:{QN:'empty': Shh_ w/some rises &falls}	M+F: F:{QN:'empty'}: Shh___ M:{QN:'empty: stacc, p} Huh – Huh – Huh {-OO-}
5'17"	Blackness... {-OO-}	+M:{Q-N:'blackness': stacc, wide, p}: Huh – Huh – Huh {-OO-}	M+F:{QN:'blackness': Sss w/some rises &falls}	M+F:{QN:'blackness': Sss w/some rises &falls}	M+F:{QN:'blackness: Ss w/some rises &falls} +M:{cont.}	M+F:{QN:'blackness: Ss w/some rises &falls}	
5'21"	! and yet, far far at the back, 2 long thin Spires or Lances are beginning to Gyre & Romp...	F:{QN:'& yet': mp}Spike! M+F: {-OO-}			F:{QFL-1+ 1.5"}: Spike-2	F:{QMR-2+1.5"}: Spike-3	
5'29"				M:{QRR:-4+1.5"}:Spike-5		F:Q-N:'beginning',f}: A Long thin Bright Orange	M:{QRL-3+1.5"}:Spike-4
5'32"	{-OO-}		M:{QML-5+1.5"}: Spike-6 +F{Q'M':S6+1"}:Spire-7	F:{QFR:-7+ 1"}: Spike-8		Spike or Spire is Dancing M:QR-9+1"}: Spike 10	F:{QML-8+ 1"}:Spire-9
5'41"		M:{QM-11+ 1"}: Spike-12 F:{Q'M'-12 + .5"}: Spike-1 F:{cont. 1-2-3-4, accel, p}	M:{QML-3 + .5"}: Spike-4 M:{cont. 1-2-3-4, accel, p}	M:{QMR-2 + .5"}: Spike-3 M:{cont. 1-2-3-4, accel, p}	M:{QR-10+1"}:Spike-11 F:{FL-1 + .5"}: Spike-2 F:{cont. 1-2-3-4, accel, p}	-Upright, gyrating in-tri-cate-ly, twir-ling faster & faster...	F:{QRLf:'intricately: f+} Another long thin Spire or Lance, electric blue, Upright, Dances wildly toward the Orange one. {:||:, stacc, p}
5'44"		M+F:{RRf:'upright': vary p, fast: spike,,spikey}	M+F:{RRf:'upright': vary p, fast: spike,,spikey}	M+F:{RRf:'upright': vary p, fast: spike,,spikey}	M+F:{RRf'upright':vary p, fast: spike,,spikey}	{:||: slower & accel, mp}	
5'52"	The rear 2 spires in-tertwine their dance, As 2 more appear at the Front...		(F:{cont.})				
6'00"	{-OO-}	(F:{cont.}) M:{Q-FRm:'dance', f+}: Violent Violet Number 4 {:||:c, softer}	M:{Q-N:'front', f+}: A Vi-brant Green Lance, Madly Dance, Madly Dance {:||:c, softer}			M+F:{Q-N:'front', out of phase, mp+}: Bright Orange Spike, Gy-Rate, Twirl. {:||:c. Prm}	M+F:{Q-N:'front'+5": out of phase, mp+}: Electric Blue Spire, spin, Prance. {:||:c, Prm}
6'05"			(F:{cont.})				
6'08"	Now, 2 More quickly appear – joined in the Center...	(F:{cont.})			(M:{cont.})		
6'13"	{-OO-}			(F:{cont.}) M:{Q-MRf:'silver, silver', F+}: Gold, Gold, Gold {:||:c, single word 'gold', sporadically, mp+}	F:{Q-N:'center', f+}: Silver! Silver! {:||:c, sporadically, mp+}		
6'19"	More & more of the entire Space is Filled with the Prancing of different spikes spires Lances Needles Rods & Pipes ... All elon-gating&turning Flex-able like hoses tubes & worms... Narrow-ing... becoming com-pressed & Darkened: Black Worms, a wri-thing black Mass, Shrinking & Sinking slowly toward the Center of the floor...	(M:{cont..}) F{Q-N:'more&more':mp+, Prm.s: 75% on any col-ors not yet used & 25% 'dance, hop, gyre, romp, jump, etc.} (M;{cont.})	(M:{cont..}) F{Q-N:'more&more':mp+, Prm.s: 75% on any col-ors not yet used & 25% 'dance, hop, gyre, romp, jump, etc.} (M;{cont.})	F{Q-N:'more&more':mp+, Prm.s: 75% on any col-ors not yet used & 25% 'dance, hop, gyre, romp, jump, etc.} (M;{cont.})	(F:{cont.}) M{QN:'more&more':mp . Prm.s: 75% on any col-ors not yet used & 25% 'dance, hop, gyre, romp, jump, etc..} (F:{cont.})	(F:{cont.}) M{QN:'more &more':mp Prms: 75% any colors not yet used, and 25% 'dance, gyre, hop, romp jump, etc. } (F:{cont.})	(F;{cont.}) M{QN:'more &more':mp Prms: 75% any colors not yet used, and 25% 'dance, gyre, hop, romp, jump, etc.} (F:{cont.})
6'41" 6'59"		F+M:{Q-N:'narrowing': Gradually trnsfm the colors to "black','dark &'darken – and all else to 'writhing','wriggle', 'squirm','flail','slide', 'slip', etc.} + { trnsfm to pp mumble}	F+M:{Q-N:'narrowing': Gradually trnsfm the colors to "black','dark &'darken – and all else to 'writhing','wriggle', 'squirm','flail','slide', 'slip', etc.} + { trnsfm to pp mumble}	F+M:{Q-N:'narrowing': Gradually trnsfm the colors to "black','dark &'darken – and all else to 'writhing','wriggle', 'squirm','flail','slide', 'slip', etc.} + { trnsfm to pp mumble}	F+M:{Q-N:'narrowing': Gradually trnsfm the colors to "black','dark &'darken – and all else to 'writhing','wriggle', 'squirm','flail','slide', 'slip', etc.} + { trnsfm to pp mumble}	F+M:{Q-N:'narrowing': Gradually trnsfm the colors to "black','dark &'darken – and all else to 'writhing','wriggle', 'squirm','flail','slide', 'slip', etc.} + { trnsfm to pp mumble}	F+M:{Q-N:'narrowing': Gradually trnsfm the colors to "black','dark &'darken – and all else to 'writhing','wriggle', 'squirm','flail','slide', 'slip', etc.} + { trnsfm to pp mumble}

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3A

Kamin: Colors -3A

1- FLf: (ON: 'and yet') Spike (1)
2- MRf: (+1.5") Spike (2)
3- RLf: (+1.5") Spike (3)
4- RRm: (+1.5") Spike (4) +
5- MLm: (+1.5") Spike (5)
6- FRm: (+1.5") Spike (6)
7- FRf: (+1.5") Spire (7)
8- MLf: (+1") Spire (8)
9- RRf: (+1") Spire (9)
10- RLm: (+1") Spike (10)
11- MRm: (+1") Spike (11)
12- FLm: (+1") Spike (12)

1- FLf: (+0.5") Spike (1)
2- MRf: (+0.5") Spike (2)
3- MLm: (+0.5") Spike (3)
4- FRm: (+0.5") Spike (4)

4

time	Narrator	Front – Left (FL m,f)	Front – Right (FR m,f)	Middle – Left (ML m,f)	Middle – Right (MR m,f)	Rear – Left (ML m,f)	Rear – Right (RR m,f)
7'00"	{-OO-}	(M+F:{cont.})	(M+F:{cont.})	(M+F:{cont.})	(M+F:{cont.})	(M+F:{cont.})	(M+F:{cont.})
7'04"	...and way off in a rear corner – there is a forbidden						+M:{cont.}
7'09"	Sexual Object... {-OO-}	M+F:{Q-N:'sexual': Add 'Sexual Object' to cont. Mumbled words & remove 'black', + soon add in a variety of quick flurries Laughter, *pp*, with occasional 1" 'fluke-cells' at *mp*+}	M+F:{Q-N:'sexual': Add 'Sexual Object' to cont. Mumbled words & remove 'black', + soon add in a variety of quick flurries Laughter, *pp*, with occasional 1" 'fluke-cells' at *mp*+}	M+F:{Q-N:'sexual': Add 'Sexual Object' to cont. Mumbled words & remove 'black', + soon add in a variety of quick flurries Laughter, *pp*, with occasional 1" 'fluke-cells' at *mp*+}	M+F:{Q-N:'sexual': Add 'Sexual Object' to cont. Mumbled words & remove 'black', + soon add in a variety of quick flurries Laughter, *pp*, with occasional 1" 'fluke-cells' at *mp*+}	M+F:{Q-N:'sexual': Add 'Sexual Object' to cont. Mumbled words & remove 'black', + soon add in a variety of quick flurries Laughter, *pp*, with occasional 1" 'fluke-cells' at *mp*+}	F:{Q-N:'forbidden', *mf*}: ...Sexual Object, that You Alone know the existence of, and keep hidden both from yourself & from others... No-one must ever find out that you keep this object.
7'26"							{-OO-} +M:{cont.}
7'29"	Do not worry ... They don't Know, & All ends well ... All Ends Well....	M+F:{Q-N:'ends well': Trnsfm to Mumble on 'all-ends-well', Prm, & *pp<mp>pp* (6")	M+F:{Q-N:'ends well': Trnsfm to Mumble on 'all-ends-well', Prm, & *pp<mp>pp* (6")	M+F:{Q-N:'ends well': Trnsfm to Mumble on 'all-ends-well', Prm, & *pp<mp>pp* (6")	M+F:{Q-N:'ends well': Trnsfm to Mumble on 'all-ends-well', Prm, & *pp<mp>pp* (6")	M+F:{Q-N:'ends well': Trnsfm to Mumble on 'all-ends-well', Prm, & *pp<mp>pp* (6")	M+F:{Q-N:'ends well': Trnsfm to Mumble on 'all-ends-well', Prm, & *pp<mp>pp* (6")
7'38"	{-OO-}						
7'41"	Fading, Fading, & Soon all traces of the variously colored objects are Gone...	M+F:{Q-N:'fading':trn-Sfm to Whispered Mum-ble 50% all-ends-well & 50% AlphNS, *pp*} –	M+F:{Q-N:'fading':trn-Sfm to Whispered Mum-ble 50% all-ends-well & 50% AlphNS, *pp*} –	M+F:{Q-N:'fading':trn-Sfm to Whispered Mum-ble 50% all-ends-well & 50% AlphNS, *pp*} –	M+F:{Q-N:'fading':trn-Sfm to Whispered Mum-ble 50% all-ends-well & 50% AlphNS, *pp*} –	M+F:{Q-N:'fading':trn-Sfm to Whispered Mum-ble 50% all-ends-well & 50% AlphNS, *pp*} –	M+F:{Q-N:'fading':trn-Sfm to Whispered Mum-ble 50% all-ends-well & 50% AlphNS, *pp*} –
7'50"	{-OO-}						
7'52"	If, you have had your Eyes closed: you may now Open them, in order to Watch with	M+F:{Q-N:'If'}: Shhh M+F:{Q-N: 'Open' : change to various rapid Clicks, ticks & pops: very Fast, very Soft} – M+F:{Q-N:'interest': Stop suddenly.} {-OOO-}	M+F:{Q-N:'If'}: Shhh M+F:{Q-N: 'Open' : change to various rapid Clicks, ticks & pops: very Fast, very Soft} – M+F:{Q-N:'interest': Stop suddenly.} {-OOO-}	M+F:{Q-N:'If'}: Shhh M+F:{Q-N: 'Open' : change to various rapid Clicks, ticks & pops: very Fast, very Soft} – M+F:{Q-N:'interest': Stop suddenly.} {-OOO-}	M+F:{Q-N:'If'}: Shhh M+F:{Q-N: 'Open' : change to various rapid Clicks, ticks & pops: very Fast, very Soft} – M+F:{Q-N:'interest': Stop suddenly.} {-OOO-}	M+F:{Q-N:'If'}: Shhh M+F:{Q-N: 'Open' : change to various rapid Clicks, ticks & pops: very Fast, very Soft} – M+F:{Q-N:'interest': Stop suddenly.} {-OOO-}	M+F:{Q-N:'If'}: Shhh M+F:{Q-N: 'Open' : change to various rapid Clicks, ticks & pops: very Fast, very Soft} – M+F:{Q-N:'interest': Stop suddenly.} {-OOO-}
8'07"	renewed interest. {-OOO-}						

KAMIN - Colours 4

Princeton Township Committee meeting
September 28, 1998

Madame Mayor:

For the past week I've been racking my brain to come up with some words which might adequately convey to the Committee the feelings of dismay and violation which afflict some of us, now that our governing body endorses, in fact solicits, a massacre.

But as this massacre begins to loom in its definitive monstrous shape, I find my thoughts turning away from argumentation, and toward my doomed friends, the deer:

toward the young buck with the superlong tongue, who cleans out my birdfeeder;

toward the confident fawns who trail their timid mother thru my underbrush;

toward the deep-eyed wonder with which they look thru my window to watch me watch them.

And then the realization hits me with full force: in the Godlike name of Scientific Ecosystem Management, our Municipal Government proposes to dissolve such scenes in blood. My doomed friends will die.

Our Officials claim public demand:

But Madame Mayor,

my annoyance over my tulips and tomatoes, and birdseed, is no excuse for a massacre;

that dent in someone's fender, put there by that corpse at the roadside, is no excuse for a massacre;

ambiguously supported allegations about Lyme Disease are no excuse for a massacre;

the depletion of understory in some stand of trees that we, in our need for condos and office parks, have not quite got around to destroying entirely, is no excuse for a massacre;

these things taken all together are no excuse for a massacre;

in fact, there is no excuse at all for this devastating, selfishly-inspired, violence.

Yet our Officials, in their pursuit of perfect—and perfectly concealed—violence, are now conferring with ever-so-disciplined Virtuosos of the Floodlit, Silenced, Midnight Centerfired Headshot:

We will be able to wake up some morning without even knowing that a so-called Wildlife Refuge—in Herrontown Woods or Mountain Lakes—was, in the Bosnian sense of the term, "cleansed" while we slept;

we can wake up without even knowing that scores of our valued semi-domesticated neighbors—or rather former neighbors—have been baited, then betrayed; and are now hung up, gutted, on some meathook somewhere;—a triumph of civilized, technologized, efficiency in the stealthy implementation of a barbaric policy.

These Midnight Rambozos are Real Professionals.

What a disgusting profession.

Madame Mayor:

You and your Colleagues are deficient in Empathy.

That not a single member of this Committee, or of the Environmental Commission, has seen fit to denounce this murderous, government-empowered, violence, is a disgrace to our community.

May all of you be voted Out at our earliest opportunity.

—Jim Randall
Gulick Road
Princeton Township

Statement to the NJ State Assembly Environment Committee, 8/5/93

[SCRIPT (as read from):]

Legislators!

My Name is Jim Randall. This Statement takes 4 minutes.

My Son, And one of my best friends, in Separate accidents, had their Cars Totaled by Deer.

Another good friend was incapacitated for Months with Lyme disease.

My backyard Tulips disappeared Years ago. As Deerfood.

I'm a Longtime Resident of New Jersey, and I've got Something I'd Like you to Do.

Not right Now; but Soon. And Especially while Wildlife is an issue, Repeatedly.

What it Is, is a Spiritual Exercise.

You Do it with a Deer.

(don't Worry: no Guns. No Bow & Arrow. Not Even a Camera.)

you Do it Whenever you catch a Deer Watching you.

In your back yard. In the woods. In a field. At the edge of the road. They're All Fine.

What I'd Like you to Do is Hold Still. Freeze,

My Friend: Keep looking In to Those Eyes.

(those're Deep Pools. And I Mean Deep.)

lock In. what do you See there?

(go On: Be a little Sappy, if That's what it Takes:

Bring your head to a Point: Put your Soul Into this.)

Don't Fidget: be as Quiet, as Still, as Deep, as That Deer.

Don't Glare or Stare: Look. Gaze.

Do you Connect? Not Just Eyeball-to-Eyeball, but Core-to-Core?

Is there Something like Trust? Or Equivalence? Or Mutuality? In the air?

The Sense that you're Both Here?

An intuition that That Creature – which Leaps in front of Cars, hosts Lyme-ticks, and Eats your
Tulips – is every Bit the Marvel that You are?

If Yes: Please Cherish this moment – over Anger, or Distaste, or Indifference. If Yes:

Please Cherish this moment – over Killing for Fun. (or Revenue). If Yes:

Please Cherish this moment – over Pest Control. If Yes:

Please Cherish this moment – over Killing as Public Service.

And If Yes: let your Laws Nurture this Fragile, very Human, Stake in Felt, Resonant, coexistence.

BUT: if our Spiritual Exercise strikes you as Unseemly, or Silly, or a Mere Sentimental Wallow;

If nothing Clicked;

Then I'm Concerned For you:

Then it's You, above All, who Need it Bad.

Then it's You who should Not Engage a wildlife issue Quite Yet:

You're Not Ready.

{LONG PAUSE}

I thank you for your attention.

NOTES[1]

Charles Stein

The thinking that *goes in* to a poem or that can be *awakened* as its "further life"[2]—like the fuzzy temporal location of particles in quantum reality—exists more like a cloud than a thing. Do these thoughts precede or succeed their poems? But the poems themselves do not have unique temporal onset: they link on to each other and to the texts and thoughts that environ them, in the problematic temporal topology of textuality itself, appearing after the fact yet in the guise of that which grounds, explicates, uncovers "meanings" in, of, and from them.

These notes, then, are the "further life," in my own thinking, of the poems themselves. I certainly could not have produced the thought in the poems anterior to the work—but they show the poems to be the "further life" of texts and thoughts that, in a literally "cymatic" sense, have "influenced" them—i.e., flowed *in* them, or flowed them *in*.

Something From An Outside

There is no single "outside"—only singular outsides—whose incursions within conventional reality are paradoxical, unassimilable; yet the "potential" awakened by their difference from all we take to be real animates the boundary of an "ontological set" and restores a dynamic polarity to apparent being that normalcy holds in flaccid depotentiation.

The aliens with their almond-eyes, as image, might signal this paradox—the sense of an unwitnessed witness—a consciousness whose ontological dimensions cannot be assessed; whose interactions with us can neither be evaded nor conceptually integrated.

According to John Clarke, for the cosmological poet, the incursion of that which is outside the thralldom or closure of one's sense of reality—whether the incursion manifests in dream, meditation, or through social or physical encounters—imparts a charge of creative potential. "Manifests of Momentary Incursion" must be stashed away for later expenditure in the poem.

Unless so-anchored in a work, reality is enchantment—incursion breaks the spell, but does so by delivering the possibility of enchantment renewed or new enchantment. The transformation or re-charging of one's reality set may, sadly, appear as a deepening of the reality to which one has always been enthralled.

---

[1] This text is a draft of some notes to be appended to my forthcoming book, *From Mimir's Head: New Poems from theforestforthetrees*, to be published by Station Hill /Barrytown, Ltd.

[2] In our collaborative, "dialogical" writings, George Quasha and I frequently use the phrase "the future life of the work" to characterize discourse, art, work, conversation, or any vital experience arising from some work, that "furthers" its creative impulse(s).

Possibility itself is then but the play of ontological possession—possession by the real or a limited view of the real.

To break the spell, there are Tibetan and Indian practices requiring long retreats in complete seclusion, silence, and darkness, where awareness finds itself disoriented with respect to night and day, dream and reality, sleep and waking, and the presence and absence of that which appears to appear; for all that appears in the dense vacuity of prolonged optical and auditory deprivation is the creation of one's somatic life and active mind. As this activity settles into quiescence or reveals aspects of its structure, deep layers of one's tendencies to form a world arise and dissolve.

The dream in this poem refers to another dream that occurred during such a "dark retreat" in which an identity from another time and life seemed mine, articulating some old familial drama. My father's "blood line" was implicated in a "cult" that *was* a certain "song": its singers or pop fans belonged to it, and the song sang itself to be "the essence of love." This cult had an enemy, and I was to understand that my identity—the deep structure of its boundaries, its conflicts—was shaped by the saga of its cultic struggles.

The Sampo

A "Sampo" in the *Kalevala* is a "world frame." My poem works a multi-cultural myth developed by John Clarke in one of the great works of advanced mythopoetic imagination of the century just gone by, *From Feathers to Iron.* [Tombouctou / Convivio, 1987, Bolinas]. Clarke's book is an edited transcription of a series of lectures (with questions from the audience), richly annotated by Clarke himself. Clarke thinks, here, of the poet's work in this way:

> Clarke: You make a replica of what the *Kalevala* calls a "Sampo." The problem, cosmologically, is that a given Sampo runs down, which you know from the story of Sampson in *Judges*, under the image of his hair being cut and his subsequent loss of strength.... in time he regains his strength and pulls down the pillars of the old world frame.
>
> Audience: What's a Sampo?
>
> Clarke: *Hamlet's Mill*[3], "the setting and the scansion of time." Going back to the original idea of the Flood, you

[3] *Hamlet's Mill: An Essay on Myth and the Frame of Time*, Giorgio de Santillana and Hertha von Dechend (Bioston: David R. Godine, 1969).

> find that the Deluge isn't in the literal meaning of a flood, but is an inundation of a world frame, "water" having to do with the currents of time and so forth. All of a sudden you can see the kind of move the pre-Socratics were attempting to make on Hesiod and Homer: how posit the cosmological ground of mythology so it doesn't simply refer back to a lost Sampo?
>
> The *Kalevala* poets say that once a given Sampo runs down the only thing to do is make it into a harp, string it and sing songs of sadness at its passing and songs of joy heralding the new: a double-voiced song that looks equally both ways, like Janus.

The Sampo is apparently a mill, the axel of whose mill wheel is the World Axis of Northern European poetry, and associated with Yggdrasill. A note to the above text quotes *Hamlet's Mill* (pp.217-218), in which this mythologem is linked to several others from different ethnic sources :

> Proceeding with the labour of felling the miraculous tree, he [the hero Sigu] discovered that the *stump was hollow and full of water.... The water in the cavity,* being *connected with the great reservoir* somewhere in the bowels of the earth, *began to overflow,* and to arrest the rising flood Sigu covered the stump with a *closely woven basket.*

The hero of this tale of the Ackawois of British Guiana has (as Prometheus, Pandora) an earthly counterpart, a "brown *monkey*" whose

> curiosity being aroused by the sight of the basket turned upside down ...imagined that it must conceal something good to eat. So he cautiously lifted it and peeped beneath, and *out poured the flood.*

Something nervous at the tend of the line...

Before the current diaspora of Tibetan teachings and the opening of their secrets to all who wish to know them, the practice kept most secret and regarded with most awe, if consummated, yeilded visions of a chain or string of visually accessible spherettes, containing all the possibilities of experience itself. I image these here as a sequentially realized combinatorial matrix, the apprehension of which unblocks an ultimate concern that percolates beyond/within them.

Like pure Parmenidean Being that can neither be experienced phenomenally or differentiated conceptually, yet adheres like a resin to all that comes to apparency or comes to mind—the enlightened function in the Dzogpa Chenpo lineage in Tibetan Bonpo and Nyingmapa Lamaism outrides the experiences that issue from it. A certain Master, when asked about his experience of enlightenment, pointedly remarked, "I experience nothing."

The term for this enlightened function is frequently translated as "presence" or "presence in the instant," but its work beyond the phenomenal and the conceptual surely suggests a sense of "presence" not clearly folded in the closure of the "metaphysics of presence" so copiously deconstructed in recent philosophy. In fact "presence" here is neither a subject constituted by and correlated with what can become present to it, nor any sort of object that might be so presented. Rather it would be *that for which* what comes to presence might do so, but which is not limited either by what presences or its presencing.

Canto

I have a project in photography—concerned with various registrations of light on water. If I ever have the money, I will reproduce a series of these images in a further edition of this book. The photographs belong to the same "region" of the *"forest"* as this group of poems; they were made during the same years, and often at the sites at which any number of the poems were composed—Heart Lake, Harris Lake, and Newcomb Lake in the Adirondacks, various streams in the Catskills; and they issued from states of meditation that they were in fact the extensions of.

My practice was to sit by the side of the water for some time, and, guided by the altered time sense and body sense the meditation opened, set-up to photograph the water surface, the fleeting luminous phenomena occurring on it, and whatever objects—mostly stones and leaves—were apparent to the camera lenses through it. The photographic images do seem, as I say, to be the extension of the meditation itself, uncannily suggesting a luminous sentience inhabiting the interior of the body—a world of liquid functions, transposing and registering transitory beings of palpable light.

Recently I read of developments in the physiology of somatic energy, wherein the propagation of waves of internal sentience happens as luminous piezoelectric currents along the liquid crystal surface of the fascia—the sheet of connective tissue enfolding all muscles, tendons, organs, and linking the grosser movements of the body to the intricate webwork of tissue and cell.

Phenomenal mind might be an exfoliation of inner light on inner water; a webwork sensitive to our most intimate concerns; and when those concerns in practiced meditation "field" questions of the intimate character of being itself as it unfolds in embodied thought—well, just so.

Crow's Head Run (The Order Type of the Continuum)
Also, **Now I can do anything...**

The undifferentiated continuum, one might say, is a primordial intuition that suggestively ingresses in many regions of mathematical, physical, mystical, cosmological, and ontological thinking. Parmenides says that Being is One Continuum, and it is precisely its undifferentiable character—that it can neither be distinguished from what *outside it* is *NOT* it, nor subdivided internally—that his disciple Zeno was paradoxically concerned to articulate in his famous paradoxes. Einstein-Minkowsky Space/Time is the Space-Time *Continuum*, and it is this characteristic of the theories of relativity that brings them into conflict with Quantum Theory; the latter being essentially a *dis*continuity Theory. At dispute is whether material reality is modeled by the continuum.

In mathematics, "order type" refers to the hierarchy of infinite magnitudes due to Georg Cantor, the founder of set theory and the originator of the theory of transfinite number. Cantor burnt out trying to demonstrate that the "order type" of the continuum is the smallest infinite collection that *cannot* be put into an order measured by the natural numbers. In the '60s it was demonstrated that Cantor's "continuum hypothesis" was arbitrary and that a set theory could be constructed either on its basis or on its contrary. Indeed, one could have different set theories, depending on the choice of which infinity, if any, were to be construed as denoting the "power" of the continuum.

The calculus is the study of continua, and after the work of Dedekind and Cantor it has the peculiarity of defining the continuum itself in terms of infinite classes of divisions or *cuts*: each number—rational or real—is a discrete division of the continuum. The question of the continuum hypothesis becomes a question of how many ways the continuum—the undivided and indivisible whole—can be divided! Different answers to this question are the different "order types." If the continuum itself is subject to arbitrary variation, the application of the calculus to model the physical universe raises the question referred to in my poem.

For me, the paradox of the infinite divisibility of the indivisible profoundly resonates the primordial question at the root of most traditional cosmogonies, gathered by Heidigger in his question about "Ontological Difference" and generalized succinctly by G. Spencer Brown in his Calculus of Indications. How can undifferentiated and indeterminate Being proliferate the multiplicity of articulated beings?

The Tower

In the Western esoteric system I studied in the early 1960s, the Tarot card called The Lightning Struck Tower symbolically encodes the following symbolic nexus: The Tower, built of discrete building blocks, is both the human body with its cellular construction, and human language with its phonemes, morphemes, parts of speech etc. As the body encodes its own genealogy within its cells, language introjects the social origin of thought through the common nature of linguistic convention and meaning. Language is thus complexly inextricable from embodiment.

In the tradition, the human being inhabits this language/body as a dyadic principle of sentience and energy, a male/female dyad, and comes to build its own body-tower through accumulating self-cognition as mediated by the language at its disposal. In the end one comes to live within the prison-tower of embodied language as trapped energy and conditioned consciousness. But affinity with energy promises release in the form of adventitious dynamic incursions: bolts from the blue—lightning striking, tossing the little people from the tower top, liberating energy and mind.

In *The Hat Rack Tree* a poem called "The Tower" celebrated this myth of cosmically sourced, salutary, if violent eviction. The Tower, here, suggests an inversion of this process.

The Parmenidean Poet[4]

Gotlob Frege says somewhere, that even the most assertive of poems actually asserts nothing. Its formulations may be extracted to express assertions, but that is a different matter. This may seem to enervate the ontological relevance of poetry, yet poetry harbors *the possible* by being the modality of utterance in which being is *suspended* just where it appears to be *asserted.*

*

Nothing is so, in a final sense; but the need to utter our take on what is so is inalienable—we do it all the time in our gestures, our cogitations, our idle talk, the negotiation of our relationships, our dreams. Either all such activity is futile and enclosed within a nature whose reality is forever alien from its motivating desire—or in this very inalienableness, the well-nigh continuous emission of ontological assertiveness nests an authentic link onto being: not that our assertions are true—but that in the actuality of our need to utter them there is an adhesion in/to being that we glance over in our haste to complete our gesture or our discourse.

*

The philosopher should be discouraged in his metaphysical pretension, but the metaphysician encouraged in his poetic need.

*

No assertion is uniquely true, but all modalities of assertion link onto truth. In this, poetry, music, theology, speculative philosophy, scientific theory, and deconstructive discourse are in the same boat. Their claims to truth rest on something in their processes that run on authentic concern. They betray this concern when the need for finality, certainty, authority, or probity overrides their impulse.

Authenticity no doubt operates differently in each case, but surely the will to mendacity or deception does not manifest being, except insofar as it is itself a mode of being, and insofar as even the intended falsehood intends to deceive about what is so. The licentious practice of utterance in poetry is of another order than mendacity. Here assertiveness is suspended without its root impulse being cut or suppressed. The positive pretense of logical coherence is suspended down to its smallest particle— which serves to loosen the tongue.

*

Rhyme is speculative analogy; rhyme, that is, in the sense of heard equivalence—wherever it occurs.

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[4] The following notes do not refer to a specific single poem but are more general remarks.

A rhyme is a speculation on an identity: a connection is proffered, not asserted. If the conceptual analogy is uncovered by further reflection, this reflection in any case belongs to the mind of the reader. If the analogy is felt nevertheless to be essential to the poem, then it must be said that the reader's subsequent reflection is essential to it too.

Science wishes its analogies to be taken seriously, not speculatively. And scientific thought abounds in analogy. Physics strives to unify diverse phenomena through the articulation of relatively universal laws. Particularly the new sciences of complexity and far-from-equilibrium thermodynamics discover abundant analogies between diverse scales and domains of phenomena. But the bases of such analogies are simply the mathematical structures elicited to describe the phenomena; and if we reflect upon the ontological status of these mathematical descriptions, we find that any determination of such status is in fact speculative, so that the strong contrast between speculative and positive analogy breaks down. Scientific analogy turns out to be rhyme too.

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