

## The Inner Voices of Simple Things: A Conversation with Paul Lansky

Jeffrey Perry

[This article is based on a conversation conducted on July 7, 1995 at Paul Lansky's home in Princeton Junction, New Jersey.]

### A Network Model of Music

JP: In a 1990 article in *Perspectives of New Music*, you consider music as a process of network building. Besides the three traditional nodes on this network -- composer, performer and audience -- you add two new ones: the "sound-giver" and the "instrument-builder". If I understand you, the topology of the resulting network is open, and any number of different pathways are possible. It is no longer necessarily a hierarchy organized in top-down fashion around a composer.

PL: I'm no longer so comfortable with this network model. There was an implicit assumption in my topology that technology was acting as an equalizer between people with different levels of skill. I think that's a slippery assumption. While I still think that the topology I described is interesting and suggestive, I've become a bit more skeptical about the hype that so often accompanies arguments about the freedom that technology brings to people who haven't undergone extensive musical training. There is a similar hype about "interactivity" -- that computers give you the ability to engage music and other things with a new freedom and flexibility. While it's true that a hypertext interface to a Beethoven symphony, for example, is an interesting thing to contemplate, so often the author of the links is imposing his or her vision on you, so in a way it's even less interactive.

I regard listening to a piece of music or reading a book as an intensely interactive activity, a communication between minds. I'm a little more hesitant these days about elevating the "sound giver" too much in that there are a lot of blurry boundaries between that node and the listener. I don't want to regard the "sound giver" as a node with equal weight to the performer or composer. "Instrument builder", however, is another matter. The design of an instrument will very often involve compositional decisions. To reduce it to a very simple-minded sense, it's as if I'm designing a piano which only plays C major chords, or which has a pedal that will always give you some particular resonance. So, the design process is actually like building an instrument that only plays a specific piece of music, and is perhaps synonymous with that piece.

### Music on Tape and CD

JP: Recently I was listening to your piece *Still Time*, in which I feel I can hear the internal network-building process going on. The piece is very strong on the sound-giver aspects, but in certain places you're being quite definitely a composer. How would a piece such as this one be different if it were a piece of performed music, rather than one that creates a special kind of environment and experience only possible to experience through a recorded medium?

PL: Let me back up a little and say that it's really a problem, writing music that essentially lives on tape or CD, because you're bypassing the whole performance process. My feeling about performance is that it creates a sense of danger and excitement in a piece of music. There is always a contest of some sort, and the piece and/or the performer is either going to win or lose. Early on in my work with computers, I noticed that pieces would often die on tape. Each time you'd listen to it something would be lost, so that ultimately it became meaningless blather. I didn't think about this at the time, but over the years, I suspect what I've tried to do is to come up with compositional strategies which ameliorate, and, I hope, eliminate this problem. One strategy is to build in a kind of distance so your relation with the music is oblique: it doesn't tell you right out what it is you're supposed to do with yourself as you listen to it. In the case of *Still Time*, I built an expansive and 'not-right-at-the-tip-of-your-nose' sort of continuity, which is modeled more on cinematic logic than on traditional notions of musical continuity. In other pieces, such as the *Chatter* pieces, the texture is so complicated that every time you listen to it, you can choose to pay attention to a different thread. In pieces like *Smalltalk* there is a similar difficulty in parsing the texture. You not only have to decide what to listen to, but you also have to strain to hear it. So, the mixing of natural and synthesized sounds in *Still Time* has more to do with the creation of an objective distance than anything else.

JP: Last year my four-year-old son went into a fun house at a carnival, and instead of going through it from start

to finish, he found ways to loop back and do some things out of order, do some things more than once, bypass other things all together. He spent half an hour in there. He didn't see it as a left-to-right experience at all -- I think he took the name "Fun House" literally, and decided to live in there for a while.

PL: That's an appropriate model for some of the things I've been trying to do over the years. *Idle Chatter*, for example, was a very enlightening experience for me. I was very startled at first by the responses I got to it. Nobody seemed to hear the same things. Everyone seemed to choose a different route through the fun house. That sort of clued me into the idea that in order to make stuff survive on tape, there has to be a different kind of relation between the material and the way in which people engage it. In the *Chatter* pieces this has a lot to do with the complexity of the surface, of course. *Still Time*, on the other hand, is trying to cash in on our experience of film. This is in explicit distinction from what you might call a discursive model of music in which the composer leads you along purposefully and skillfully, often by the nose. While film can do this as well, it is also a medium which invites a kind of detached observation, and often allows you to ruminate on the moment. In terms of my revised network, I think that what I'm trying to do is to work up new ways of connecting to the listener, rather than opening possibilities with new nodes. But, I suppose that this is what every composer does.

JP: What about the compact disc as a medium? In your most recent releases, the CD as a whole seems more a single unit, the individual pieces more parts of the whole. Is Lansky reinventing the concept album?

PL: I really think the CD is a great medium because it's like a book -- it's not just a repository. There was an implicit assumption in the days of the LP that the LP was kind of an archival medium. For a variety of reasons, such as its durability and fidelity, as well as the ease with which you can maneuver around in it, I think that the CD medium itself is opening up new musical possibilities. I do like to think of individual CDs in terms which will differentiate one from another. It's not always possible, but when you do have a group of pieces which go together well, it seems appropriate to group them together in a "concept album." It makes it like a book, or a movie. I like to think of a CD more like a book or a video than like a "concert in a box."

### **Musique Vérité**

JP: There were some composers in the '70s and early '80s doing what I think of as the electronic-music equivalent of *cinéma vérité*, for instance Luc Ferrari in *Presque rien no. 1*, where he records a day at the beach and mixes it down to album length, and Fritz Weiland's *Orient Express* [1982], ninety minutes of unprocessed train sounds. Such pieces really are almost documentary journalism, almost pure sound-giver.

PL: I think that these pieces are extremely interesting and suggestive. They do tend to suggest, however, a Cage-like dialectic in which you presume that what we traditionally call music is a rung on a ladder leading to a world view in which everything is music. My point of view inverts this, in that I feel that what is particularly interesting about music is the way in which it can build worlds on its own. My perspective is that rather than trying to liberate our musical perceptions from traditional notions of music, I'm interested in harnessing the world-building power of familiar musical conceptions to enhance our perceptions of the sounds of the world. Often, I take the sounds of the world and impose 'music' on them, or use them as excitation functions for music. In *Small Talk*, for example, I simply use speech to trigger musical filters, and so the speech itself becomes a much more traditional kind of music. I would hope that what happens is that it feeds back so that you can hear speech as musical. I guess I'm thinking of music as the top rung of the ladder.

There is also an implicit association that these pieces make between sound and sight -- if you can create a work of art by photographing a scene, why can't you do the same by recording it. I think there's an interesting distinction between photographic images of things in the world and recordings of world sounds, however. Photographs and film lose a lot in that they are in two dimensions and in a limited frame. I heard Martin Scorsese make an interesting observation that film presents the perspective of an unblinking eye, focused on one point. In the real world we are constantly turning our heads, blinking our eyes, focusing on different things, etc. Recorded sound, on the other hand, has the potential to completely recreate the sonic experience, to the limits of the reproduction equipment, which is improving all the time.

My feeling is that to the extent that we realize that it's a recording, we don't engage the kinds of sensory hooks that we do when we hear the sounds live. There are two ways you could look at this. One is that recording is creating an artificial frame which allows us to listen to the sounds with a different kind of appreciation, and this is what Luc Ferrari and others are cashing in on. The other point of view, which I think I believe, is that when

sound is stripped of its physical sources and environment, that we lose what I like to think of as a sense of danger. Lacking this kind of presence, the recorded sound ultimately loses its power. There is also an interesting analogy with Scorsese's observation. When we hear sounds in the real world we are constantly turning our head and focusing our ears on one thing or another. Recorded sound, like film, eliminates the need to do this. In the real world we need to know where the sound is coming from, and how to locate it in the environment. This can be a life and death issue, or just a matter of curiosity, but we localize automatically. So, a recording may be fun for the first listening or two, but after a while it becomes boring. This is where music comes in. I feel that music's world-building power allows one to restore the sense of danger in the world sound. It's as if we are creating a theater for the sounds and using the power of music to make them permanently threatening. When we enlist 'music' in this enterprise, we're creating a situation where the listener suspends disbelief -- you're investing in the theatrical experience. That's what's so wonderful about opera -- and cinema, in a sense, does the same thing --you recreate the danger of the real experience. That's what I tried to do in my piece *Night Traffic*, made from the sounds of the cars whizzing back and forth. At first I found the recorded sounds exciting by themselves but eventually they became kind of ugly and meaningless, so what I felt I had to do was to impose a musical context which puts one in a more theatrical relation to the traffic sounds. As a listener, then, when you hear that truck rumbling by, accompanied by a monster E flat chord that's getting louder and louder, distorting as it goes, you engage a different kind of relation with sound, and it remains terrifying, or perhaps becomes terrifying in a theatrical sense. (One of my friends described the piece as "*Tod und Verklärung* on Wheels"). But at least this allows me to experience some sort of danger on repeated hearing. I suspect that what I'm suggesting is closer to traditional notions of program music than to what Luc Ferrari and others are doing.

### **Electronic Music: Getting Hooked**

JP: Did any of the relatively few durable milestones of the early electronic (or pre-digital) era, for instance Varèse's *Poème électronique*, Stockhausen's *Gesang der Jünglinge*, or Berio's *Thema (Omaggio a Joyce)* steer you in the direction of electronic music?

PL: I was not one of those people who heard early electronic pieces and became convinced that this was the way to go. I have a lot of respect and admiration for those who forged the way, but they weren't what convinced me to give it a try. In fact when I first came to Princeton the graduate representative, Ken Levy, had to twist my arm to enroll in Godfrey Winham's course. The things I subsequently found most exciting about it, and still do, have to do with the musical economics of being your own performer (as a French Horn player my options were very limited...)

I found then, and still find now, wild electronic effects to be rather uninteresting. What is more interesting to me are the pieces which make new suggestions about how music might go. (I still love Milton Babbitt's saying: "No sound grows old faster than a new sound.") In this respect, one piece that really knocked me out much more than any of those pieces you mention was Jim Randall's film score for the movie *Eakins*. It basically consists of a lot of rather simple, sustained synthetic tones. But, when I first heard it I was bowled over by the way in which its musical elegance was so powerfully expressed by the capabilities of the machine. For me, this was much more suggestive than the well-known blockbusters. By their standards it was probably primitive and simple minded, but by my standards it opened a new world. It had a lot of influence on my first computer piece, *Mild und Leise*.

### **Ends And Means**

JP: In the 1983 interview you did with Curtis Roads, you said, "It would be nice in the future if the description of the piece's hardware and software resources became as relevant as an assertion that a pianist played on a Baldwin or a Steinway". Do you still feel this way?

PL: If a piece elicits more curiosity about its production methods than about its content it is essentially a failure. I don't want people to listen to my music as an example of the power of technology. I would prefer that they didn't even notice. There is a lot of commercial music which uses very powerful signal processing, but people are generally not enthralled by that. If the technology shouts louder than the music, it's over. I think we won't really get anywhere until the technology becomes utterly uninteresting. When you listen to beautiful violin playing you do sometimes marvel that the human race invented this incredible instrument, but usually you notice the music.

Vacuous virtuoso pieces are on the other side of the same coin. The music doesn't really matter, it's the technique. Unfortunately, a lot of computer music today is motivated by the pressure to show off the technology, to demonstrate technique.

### **The Computer and Notation**

JP: One of the things that stopped me cold at first about working with your programs on the IBM mainframe many years ago was the absence of anything resembling either musical notation or musical input devices.

Ultimately, though, it was very exciting to be freed from the grid imposed on one's musical thought by traditional music notation, and by the black and white keys of the piano keyboard. The cliché about sculpting directly with sounds repeatedly came to my mind back then, on those days when everything was going well.

PL: I have become increasingly aware of the conceptual prison created by notation, particularly in computer music. There are lots of different kinds of music which have little or no tradition of notation, and there are a vast variety of ways in which music relates to its notated form. On the computer, which is the ultimate instrument, after all, it seems a bit absurd to think in terms of traditional Western notation. This raises an interesting question, however, which concerns compositional methods in general. I think that there are two kinds of composers, to be a bit simplistic: those whose music originates in the notation, and those for whom notation is, at best, an attempt to capture something. When I look at scores by my colleague Steve Mackey, for example, I am struck by the fact that nobody could possibly invent music like this on the page. He is being very ingenious about finding ways to notate his conceptions, and essentially he's battling with notation. My experience with computer music is that notation is more like a diary, or mnemonic, or place holder. In addition, you generate megabytes of data files which can tell you everything about the music, down to the sample. Almost inevitably, when I begin a computer piece by writing some notes down on music staves, it ends in failure. It's lots of fun to look at the role of notation in popular culture. Commercial transcriptions of music by Pearl Jam, for example, consist of extraordinarily fastidious notations which give it the appearance of something quite complex, alongside guitar tablature.

JP: All this being so, I can see why you have said publicly that you don't like MIDI very much.

PL: While MIDI is tremendously useful for many things, and has revolutionized the music industry, its conceptual limitations are severe. It is a protocol based on a view of music in which the notated score is at the top of the hierarchy, rather than somewhere off to the side, where it belongs. I find it extremely limiting to work with, particularly because of the ways in which it detaches pitch from timbre, from rhythm, from expression. So much of what I find interesting about doing computer music has to do with musically realizing the potential of some acoustic event. In the limited work I've done with using synthesizers as sound generators (for instance, a piece called *TalkShow*) I found it very frustrating to invert the process and poke around some odd synthesizer for an appropriate timbre after I had written the piece (which was actually a piece of interactive software.) I really hope that something better and more intelligent, and faster, than MIDI comes along. I expect it will.

### **The Ivory Tower**

JP: The condition of the academic composer is the subject of much discussion. There are, for example, John Harbison's "Six Tanglewood Talks", Frank Zappa's infamous tirade to the composers of ASUC, and some less than complimentary words from Morton Feldman about the Princeton music department of old. Do you think about the oft-lamented quandary of the university composer very much? It seems to me that you're pretty much exactly where you want and need to be.

PL: I think the university is great. I see its problems very clearly, and I see its limitations. I see what you need to protect yourself from. I see the pressures it puts on people. Despite all these factors it enables things to happen, good things, which could never happen otherwise. If I had not been at a university all these years I would never have been able to do anything remotely like what I've accomplished. Computer music is entirely a product of universities. Frank Zappa certainly would never have been able to do a lot of his work if Jon Appleton and others around Dartmouth hadn't had the freedom to work on the Synclavier, and John Chowning, at Stanford, hadn't discovered the musical potential of frequency modulation. Bell Labs gave it the initial push, and Yamaha made some big bucks, but without all the work that went on at universities, the field simply wouldn't exist. On the other hand, I feel that people who are involved in the arts in the university have a real responsibility to be

aware of how the world at large perceives their efforts. It's very easy to lose touch, particularly in matters involving technology. Every once in a while I like to hop down to the local music store to see what's up. Music stores and guitar stores are incredible places, worlds of their own.

I suppose that universities are just like anything else in the sense that if you know how to work around their problems, you can really appreciate their virtues. Working at a healthy university with good students is an incredible luxury and privilege. Don't think that I don't appreciate it. I certainly don't take it for granted.

JP: Do you think things are changing? I know that a lot of university composers feel endangered right now.

PL: I think that there are a couple of things that have been happening. Federal cutbacks in research support for the sciences is ultimately going to bounce back to the humanities, because the sciences do support the humanities. The new retirement law is a real disaster. I recently read an article by Hillary Clinton in which she quoted John Adams (the president), who said something to the effect that "I have to study war so that my children can study math and science and philosophy, so that their children can study art, literature and music." The basic assumption at a university is that everything is valuable and everything is interesting: biology, math, music (although people in the humanities realize that they do not quite have the clout of those in the sciences).

JP: That requires a very long view.

PL: It's a position you have to constantly reiterate. University musicians have to be very careful not to succumb to physics envy. Our position has to be that nothing is as interesting as music, and that we need not justify it in any way other than asserting that knowing music is part of being human.

### **Eavesdropping, Speech and Song**

JP: There is something hopeful about your preoccupation with the sounds of human speech and human activity. This despite what you've said elsewhere about computer music being "a domain prone to great seriousness, sometimes bordering on despair."

PL: I was being partly sarcastic. So what was your question?

JP: I'm trying to get at the role of speech in your music. You've mentioned that you're out of sympathy with text setting or songwriting, as it's conventionally done -- that's not what you like to do with speech, setting speech to music.

PL: I would prefer to say it's not what I'm particularly good at. I wrote the *Six Fantasies on a Poem of Thomas Campion* because I really wanted to see what it would be like if I tried to write a song, and that was my way of writing a song. I just can't see myself writing songs.

JP: One of the things that everyone notices about the *Campion Fantasies* is the way that you coax the musicality out of the spoken word -- there's an appealing gentleness and respect for the recitation, for the sonnet.

PL: I would hope at the end of the piece that speech will sound like song. It has kind of a didactic function, to make you listen to the music in speech, or to explicate the implicit music in speech.

JP: The listener sits back at the end of the *Campion* piece and says, wow, all of those amazing sounds were hidden in the text all along! It's a bit of legerdemain on your part, because you are imposing things on the text, although it doesn't sound that way.

PL: I'm really interested in the inner voices of simple things. In a way, my ultimate interest is to make simple things seem more interesting and complicated rather than to make complicated things seem simpler. In *Smalltalk*, for instance, I want to make music from the rhythm, contours and feel of the conversation -- to make you notice that there's kind of an inner text in the conversation. What people are saying is sometimes not as important as how they're saying it.

### **The *Idle Chatter* Pieces**

JP: I want to talk about the *Idle Chatter* series. I remember you saying when you did the first piece that one of the things that inspired you to do *Idle Chatter* was the way the New Jersey Percussion Quartet moved, changing mallets constantly, moving from vibraphone to drums to glockenspiel, constantly in motion, in a sort of logistical counterpoint to what they played. What do you think now?

PL: I remember the concert, now that you mention it. I was quite attracted to the busy workshop-like atmosphere. It really generated a feeling of multi-tasking, and seemed to be quite suggestive for a computer piece. Another inspiration for the piece was rap music, which had just emerged from hip-hop, and sounded really interesting and outrageous. *Idle Chatter* was also a break-through for me in that it was the first piece of

mine that was specifically tonal.

Just as *Idle Chatter* was inspired by rap, *just\_more\_idle\_chatter* attempts to conjure up a lively group of background singers, all holding microphones and swaying from side to side, accompanying the main singers. In *Notjustmoreidlechatter*, I'm not sure what was going on, but I sure did indulge myself in writing fourth species counterpoint.

JP: And you mentioned someplace that you could almost understand what's going on at certain points, that there's almost a linguistic *dénouement*...

PL: Somebody described it as a piece which seems to consist of a bunch of monkeys chattering away, and at a certain point they almost begin to make sense, but return abruptly to unintelligibility, as reality is regained.

JP: In these pieces, instead of the usual Lanskyian eavesdropping on a more or less complete recitation or a continuous discourse, you're taking a slice of someone else's speech, and building something from the ground up with it. And in these pieces aren't you doing a lot with filtering, creating banks of formant filters...

PL: On those pieces? Those are very simple, actually. They're done with Linear Predictive Coding, which does amount to rapidly changing banks of formant filters. I just isolate words, sort of flatten the pitch contours a bit, and then transpose them. The sustained stuff is done with granular synthesis. And then the bulk of the detail work is done with a kind of algorithmic composition. I don't actually decide what note goes where, I use a random probability method that scatters them with a fair degree of consistency. That works pretty well -- I do it a lot.

### **Perle Jam: Implication and Reference**

JP: In your recent Perle article you talk about implication and reference, which suggest a very powerful way of examining what we mean when we say certain things about music. Let me quote you here:

Implication refers to the ability which a note, chord, passage, or some pitch/rhythm configuration has to imply some other notes, chords, etc., either consequently, simultaneously, or previously. Familiar examples of this are suspensions, resolutions, progressions, sequences, voice-leading rules, cadential patterns, motivic connections, etc. Whether or not the consequences of implications are realized is not important -- the absence of realization is often just as significant...By reference I mean the listener's ability to relate a note, chord, passage, etc. to a more abstract concept, such as a collection of pitches, or pitch-classes. The concepts of "key", "scale", and "collection" are familiar forms of reference.

Your implication/reference dichotomy is a way of making interpretive and editorial decisions, as well as a means of analysis: you use it to explore the E versus E flat issue in the third measure of Chopin's Prelude Op. 28 No. 20, to talk about Perle's music, Stravinsky's *Serenade in A*, and the blues. It seems to me that it's very hard to carry the concept of implication out of the realm of pitch-centered music.

PL: I think I'm able to extrapolate out of the pitch domain into recordings of real-world sounds. My sense of the implicative qualities of recordings of real-world sound, is that they entail a powerful sense of implication that is closely related to a sense of danger, as I mentioned. Our perception of sound in the real world is often used to tell us what is about to happen. We read the future by the sounds of the present. What I think I've been attempting to do is to use the power of music to enhance the implicative qualities of real-world sound. For example, I take the sound of cars passing, or the sound of wind in the garden -- sounds which have no implicative qualities in terms of pitch -- and somehow impose musically based implicative qualities. In my speech pieces I think that the same thing happens but in a slightly different sense. An interesting example is *Now and Then*. It consists of phrases from children's stories that have to do with time. The text implies a lot but is never explicit about content. The listener has to reconstruct the story inwardly. My sense of the implicative qualities of real-world sounds (particularly since I'm dealing with them as sound on tape) has to do a lot with what you actually end up doing in order to make the sounds on tape have as much power as they have in real life, or perhaps even more power. To be really convoluted about it, you might say that music gives you the power to suspend disbelief in a case in which belief has become inherently weak (i.e. you no longer really can absorb those recorded sounds as real sounds).

JP: So a timbre- or spectrum-oriented sound world can contain implication?

PL: Yes, absolutely.

JP: And that would be the case to the extent that there is a human presence in that sound world, footsteps...

PL: Yes, but once you've heard the recording of footsteps several times you no longer have the same response -- like a cat looking in a mirror.

JP: Let's get back to George Perle. He was a teacher of yours at Queens. What was your contribution to his book on serial music?

PL: What actually happened was that he published *Serial Composition and Atonality* while I was a student at Queens. There was a confusing chapter about his so-called twelve-tone modal system. George didn't feel that it was proper for him to talk about his own music. But, he was an inspiring teacher and I took it on faith that there was something substantial going on there, even though he was hesitant to go into it. After I graduated from Queens and came to Princeton, I decided I would try to do something with his twelve-tone modal system, and in '69 I wrote a piece using it and then wrote to George to tell him about some new twists I had used -- I combined two primes -- and assumed that he would be horrified. Instead he wrote back saying, "My God, in thirty years I've never thought of doing that." So we started a huge correspondence, and worked together very closely for about three years, constantly expanding the system. I basically see it as a multi-dimensional system of cyclic arrays. George sees it in a much more complicated and rich way. I wrote my dissertation on it, and I developed a mathematical model of the thing using linear algebra, which sort of had the effect of making me lose interest in it, to the extent that all the mystery was gone. George, on the other hand, is working with it more intensely than ever. He's just published the second edition of "Twelve-Tone Tonality".

JP: You mentioned somewhere that one of the things you thought you wanted to do with the computer early on was explore serial relationships with it. A lot of people seemed to have that idea in the '60s.

PL: That was a big thing back in those days. Milton Babbitt had a set of tapes which he played to demonstrate that you could hear things which were, however, very difficult to perform. The idea was that a really powerful use of the computer was to do a lot of things that would be easy to do on the machine and would be really hard to do in real life, but which would, however, make perfectly clear aural sense. That was the first reason I went to the computer in '66 when I first came to Princeton. My first computer piece used combinatorial tetrachords. I had the spectrum of each tetrachord tuned in major thirds, which are excluded in a combinatorial tetrachord, with the result that the timbre would always uniquely define the tetrachord. I worked on it for about a year and a half and finally trashed it. I very quickly moved to use the computer as an aural camera on the sounds of the world. Coming from an orientation in which pitch and pitch class played a central role, this led me to what I consider an interesting issue, namely the different meanings of pitch in computer music and instrumental music.

I feel that in instrumental pieces, as in the piece I just played for you [*HOP* for violin and marimba], that pitch really functions as a predicate -- you're constantly tinkering with pitches and doing things with them in an interesting way that defines the logic of the piece. This doesn't work the same way in computer music. On the other hand, while some people certainly turn to the computer to create a sonic landscape in which pitch is vaguely defined, I seem to still want to make pitch an active player. But I seem to use it in a way which allows other aspects of the piece to become focal, while still functioning in a way which engenders implicative qualities.

JP: Pitch is sort of a carrier wave?

PL: Perhaps, and then the information is decoded by demodulating that package rather than letting the pitch itself lead you along. So, for example, when I started to do *Idle Chatter*, I was still doing the Perle-type stuff, and the way I got to B flat major in that piece was by just simplifying my cyclic arrays until all of a sudden I was just sustaining an F for a long time, and then I added a D, and then a B flat, and that seemed to be all I needed. So I really backed into tonal music. I didn't decide that I was going to write using tonal syntax. I still don't think of it that way as much as letting the pitch contours and context occupy a certain relatively uncomplicated niche. It often seems to me as if telling complicated pitch stories is something that performers do so well, while machines have other capabilities, to create worlds and landscapes which have very different agendas.

JP: I heard a North African drum ensemble once where the drumming was in the foreground and a flute was accompanying the drummers.

PL: Perhaps that's the way I'm thinking. I may be deceiving myself, because it occurs to me that one thing I may be doing is investing very heavily in a lot of musical experience that people have, so using triads and tonal content is not necessarily simplifying things in that sense.

JP: It suggests to me that at one point you had a real love of system.

PL: That was the way things were back in the 60s, and even the 70s to a certain extent, especially around

Princeton. It was very exciting. In recent years, however, I've come to think of the whole "system thing" as a particular kind of mythology. Everything is a system, and nothing is a system.

JP: Your article on Perle suggests to me that no matter how far afield you've moved from serialism and high-tech musical modernism, all along you've been thinking about the sorts of issues that Joseph Straus deals with in his book *Remaking the Past* --namely, finding commonalities in the ways we can talk about very different dialects within the twentieth century musical repertoire, and what they have in common with earlier music. Finding a common vocabulary to deal with these different kinds of music seems to have been occupying you under the surface for quite a while.

PL: Yes, a big issue for me, which I tried to get at in the Perle article, was that I think we've developed bad thinking habits concerning the distinctions between what we think of as "tonality" and whatever followed it. In general, I consider the traditional practice of regarding some music as tonal or not tonal to be very simplistic and probably due to our reliance on the machinery of music theory. I was really interested in this notion that a lot of what music does is to tell you where you are and where you're going. Different kinds of music have different ways of expressing implication and reference, but nevertheless you see them in all kinds of music.

In the blues, for example, there is a fascinating friction between our ability to comfortably locate ourselves at any moment in a familiar pattern, and our anticipation of the next step as a result of our clear view of where we are in the big picture. In a sense, you are flipping back and forth between a referential and an implicative perspective. I suspect the blues is more like Vivaldi than Brahms in this respect. A leading tone, for example, derives its qualities from our referential perception of it as the seventh degree of the scale, while at the same time implying a resolution. The two concepts then coexist and add dimensionality to the experience. Twelve-tone music seems to me to invest much more heavily in reference than implication, and for this reason I am disappointed at the lack of friction, or interaction, between the two.

### **Loudspeakers: Windows Or Instruments?**

JP: You mentioned that you used granular synthesis in the *Idle Chatter* pieces. The granular synthesis essay *par excellence* is Barry Truax's *Riverrun*. That piece is one that people unfamiliar with contemporary music have trouble acknowledging as music, because, like a river, it doesn't breathe.

PL: In a way, the issue seems to me to be more one of acknowledging loudspeaker music as music. Some people, like Miller Puckette in a CMJ article a few years ago, are quite explicit in denying it this status. The interesting question in this regard is whether you consider loudspeakers to be windows or instruments. Most people are accustomed to thinking of them as windows in that they usually listen to recordings of a live event, and the loudspeakers attempt to approximate something of the acoustics of the original sound location. I suspect Truax, Xenakis and others would rather regard them as instruments. In my case, however, I prefer to regard them as being windows into a (you'll pardon the expression) virtual reality that the computer creates. In pieces like *just\_more\_idle\_chatter*, I want to create the illusion that there is a virtual band of girl singers in the background, and in *Still Time* the illusion that there is somebody back there actually doing something, and also that the space of the speakers is being subtly manipulated by a larger cinematic presence. In these cases, however, the virtual reality is probably somewhat unfamiliar and the listener has to do some work to parse the space.

I regard this as one of the real potentials of computer music, the ability to create worlds which need to be fleshed out by the listener. When you have a recording of somebody speaking or of somebody playing an instrument, you have a pretty good mental model of what it is, but when it's not quite clear what's going on, the listener has to do a lot of work. That's why, for example, a lot of the early reaction to electronic music was that it was "outer space music". People were trying to find some physical correlate of the sound. They were trying to find some way in which they could imagine the sound's origin, and the most likely scenario was outer space, because it seemed to have no earthly source. But they were doing interesting things with their heads as they derived this scenario. I think that the real power of the medium is to create a world in which the listener has to work to imagine what's going on. The listener becomes his or her own story-teller, in a way. What I find the computer so good at is manipulating all kinds of familiar sounds to stimulate our consciousness in an endless variety of ways.

## The Audience And Computer Music

JP: Computer music seems to be a medium that targets itself very specifically to the individual, to an audience of one listener at a time. There doesn't seem to be much of a role for the mass audience now, all sitting together in one place and listening to your music en masse. It's best experienced in your own armchair, through your own speakers or headphones.

PL: It's great fun to listen to music with other people, on the other hand one thing I've become sensitive to is the way in which a given piece programs its listening environment. To take a really simple example think of the ending of Brahms' Second Symphony, where there are series of big chords while the horns hold a sustained D major triad. At that moment you actually hear the audience exploding with applause, or perhaps anticipating a huge ovation. Brahms really mastered the large concert hall. There are some electro-acoustic composers -- several Canadians and Swedes come to mind -- who seem to be working in the same environment. They write pieces for dozens of large speakers in a large space and attempt to create a sensational effect for a large audience -- and they do. Some of my pieces fall absolutely flat in a large public space -- *Memory Pages* in particular -- in that they are very private and intimate pieces, while others, such as *Still Time* seem to work better.

One thing that I discussed in the *Soundout* interview was that shibboleth about how hard it is to put on concerts of tape music because people have nothing to look at. The more significant problem is that there is no intermediary between the listener and the composer. In this situation you essentially have the composer screaming in your ear -- and there's no escape. You're just much too close to the composer: you smell his breath, etc.

This is an interesting problem, because one of the things I like to think about in tape music are ways to give the listener a chance to maneuver, or, as I mentioned earlier, a kind of objective distance. Perhaps it's a lesson from minimalism that it's interesting to relinquish control for a while and let the listener wander about, perhaps changing levels of focus and concentration. When you have a piece for live performers, you don't quite have that problem because they essentially provide an alternative point of focus. I suspect that this hasn't really dawned on a lot of people who do electronic music. They still use the conceptual model of the performer, and they don't realize that they're essentially shouting in somebody's ear.

## Found Objects and Filters

JP: In many of your tape pieces, you tend to respect the internal chronology of your chosen sound source, and use filtration techniques to process the source as a whole. Filtration seems to be important to you, to have an almost metaphorical value.

PL: I spend all day, every day, working with filters, and that's essentially what it's all about, so I think of filters metaphorically in that any time you experience something, you're experiencing it through a filter, whether it's the filter of your own experience, or whatever...

JP: Although early electronic music developed around additive synthesis.

PL: Well, I think it was just that we hadn't caught up the engineers yet, and in the early days it was much more expensive to use a 64th-order filter than a simple lookup-table.

JP: That brings me to another point. A fairly early work of yours, *Crossworks*, is sort of indicative to me of where you were headed because you're already taking a musical found object and coaxing some latencies out of it, the way that you were to do a little while later in the *Campion Fantasies* and some of your other tape pieces. With *Crossworks*, of course, you make use of a musical object laden with such baggage and freight, it almost seems to me that you're trying to exorcise some demons.

PL: I think a particular demon I'm talking to there is the incredible ability a good piece of music has to invest one moment with the resonance of the entire piece. The opening chord of Schoenberg's Op. 16 No. 2, for example, just rings with the sound of the entire movement, as does the opening chord of Beethoven's Op. 110, etc. I took a specific challenge in *Crossworks*, to liberate that chord from Schoenberg. It's such a great chord and I resented the extent to which he came to own it... But of course the reason it's such a great chord, is because of what Schoenberg did with it. (I'm stuck in a circle here.)

JP: It's interesting to hear you say this, because I always assumed from hearing all the work you've done with human speech that you really wanted in some way to free yourself of even-tempered tuning.

PL: I think that as much as I try to escape it, I've got an equal-tempered grid in my subconscious. I've denied it for years, and I still do, but I think that it's fundamentally where I end up, no matter how hard I try to escape -- and I do try to escape. I do believe that there's a lot a mythology about it, that there's not really any such thing as a true equal-tempered system, because the only machine that can ever really do it is the computer, and then when you do it on the computer, it's always really awful. I find myself constantly detuning things on the computer. A curious by-product of working with a digital system is the integer loop length problem. Comb filters, for example, are inherently out of tune because their memory is in an integer-length loop and their resonant frequencies are thus equal to the sampling rate divided by the size of the loop. The higher you go the worse it gets. You can fine tune them with all pass filters, but it never seems to work quite right.

### **Saying Things With A Computer**

JP: "Expression" is a term eschewed by many composers in this century. Does it punch any buttons for you? Is your music expressive, or anti-expressive, or does musical expression not involve you as a composer?

PL: I see the sense in which it's a pejorative term --to the extent that it's synonymous with "effusive". But the way in which a piece of music tries to make a point, if you use the term "expressive" in that sense, it's certainly something I'm interested in. I can think of some peoples' pieces which one would not regard as expressive because of the extent to which they're asserting their own idiosyncrasies without too much concern about what one makes of them. Perhaps this has something to do with the ways in which a piece negotiates its terms with the listeners. Some pieces are like those buses in New York City that bow down to politely let passengers off and on, while others are moving trains which barely stop, and force you to leap on and off at your own risk. I definitely think of my pieces in the former category, although I love a lot of pieces in the latter.

JP: In fact, I'd go so far as to say that most people would find remarkable the extent to which your music is expressive, in that it is electronic music.

PL: Without meaning to seem arrogant I'd like to say that a lot of people doing electronic music are attracted to it by the advertisement that says that it's going to make it easier for you to do dazzling things. In fact, I regard the medium as one which makes it hard to do anything, and I consider it more like a musical instrument which you have to learn how to play, slowly and with great patience. There is a wonderful moment in learning to play an instrument, when after years of practice you suddenly get some positive feedback. At that point, the process accelerates as you and the instrument start to really hit it off. One of the problems with electronic music is that very early on, anybody can get stuff out which is going to sound sort of like music, but it is essentially not feedback, but rather communication between you and the software designer (this is why I think people should write their own software). You are not getting your own head and heart into the act.

The real threat to computer music is in the extent to which it's deceptively easy. Technology is moving so fast that musicians are discouraged from spending the time really learning to master an instrument. The pressures come from several sources: in the commercial music industry, new products with very different characteristics are constantly being offered while older technologies are made obsolete -- in the research/academic community, the pressure is there which encourages one to demonstrate the superiority of your latest software or hardware. The IRCAM ISPW, for example, was not around long enough for most people to do more than demonstrate its signal processing power, and if you were entrusted with one, the implicit understanding was that this was your main responsibility.

JP: "What have you done with our grant money?"

PL: The other thing I'm feeling concerned about these days is that I'm noticing more and more that it's really important to make a lot of music while you're growing up, play an instrument and make sounds. There is certainly no shortcut in learning to play tennis, for example. You have to get out on the courts and spend a lot of time hitting the ball into the net. Music is no different.

### **NOTES**