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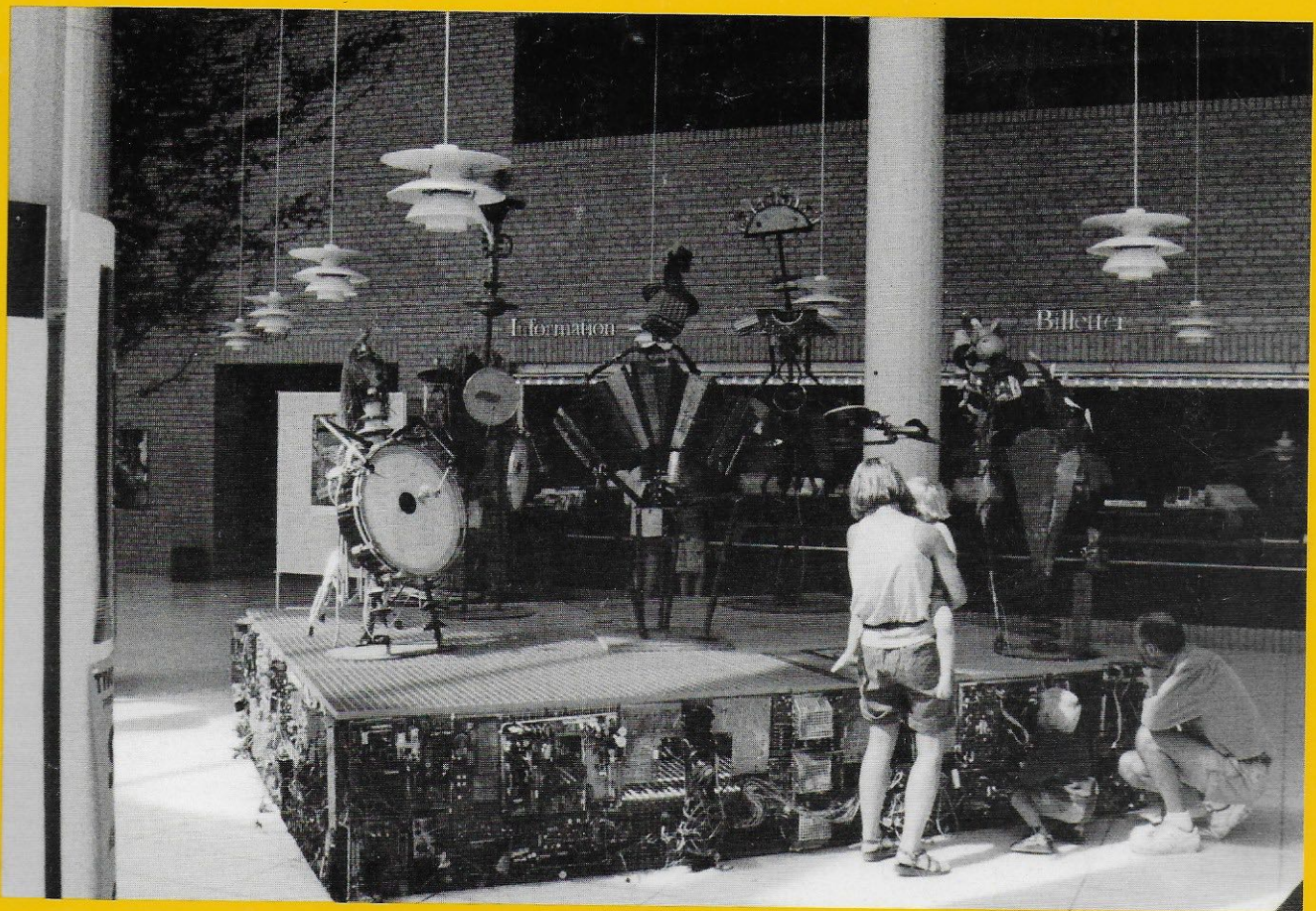
# Computer Music Journal

Volume 18, Number 2

ISSN 0148-9267 \$11.00

Summer 1994

**Composition and Performance in the 1990s—1**



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Published by the MIT Press

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# Composition and Performance in the 1990s

The following dialogue took place in the early 1990s. Originally, three specialists were invited: a musician (didactically busy for bread, an artist at heart, called "Art" for short), a musicologist (a diehard researcher, called "Res" for short), and a developer (a computer music jack-of-all-trades, called "CMJ" for short). The developer "CMJ" canceled at the last moment. Typical of the computer music world of the 1990s, all three invited participants were one single person.

### Introduction

**Res:** Before we get into the meaty issues that these topical issues are all about, I just want the role model for this conversation straightened out.

**Art:** OK—you lead and I'll follow.

**Res:** I thought the easiest way to separate our various means of research—composing and musicology both involve research these days, don't they?—would be to abuse slightly two well-known Xenakis concepts.

You are the "inside of computer music" person and I am the "outside of computer music" person.

Ethnomusicologists would call us an emic and etic pair.

**Art:** I couldn't have said it better.

### Preliminaries

**Res:** We all learn at our universities that some defining and delineation have to take place before embarking on any discussion. You know—to avoid any miscomprehension.

**Art:** I know. That's why I never wanted to become a boring academic, but I suppose you're right. Go ahead. I'll break in if I disagree.

**Res:** Well, I hope I'm not going to step on any toes,

especially yours, but the first thing I want to straighten out is that I don't care to use the term *computer music* anymore. It's not a genre. It's not a method. Sometimes, it is used to refer to music research, which isn't even implicit in its name. All it really means is anything to do with music in which the computer plays a role, which is a lot these days. Would you mind if I suggested a few other terms that I find less messy?

**Art:** We probably have no other choice.

**Res:** I might add that we couldn't possibly discuss everything this so-called computer music covers in 25 double-spaced, liberally-margined, 12-point footnoteless pages. So let's begin by stating that we are talking about a subset of contemporary music.

**Art:** Certainly, but you as an intellectual should know Iannis Xenakis's famous borrowing from Pythagoras that music is nothing other than a combination of numbers and drama. So everything could belong to this area.

**Res:** True, true, but I suppose it's that sort of tautology the editors are subjecting to debate in this issue. I suggest the following. (1) The term *electroacoustic music*, originally used primarily with reference to the work of the French school of *musique concrète*, has now become common parlance for music in which analog (which is not dead, despite some stories I've been told) and/or digital sound synthesis and processing are involved. I believe this covers a big chunk of the subject at hand. You have all those MIDI instruments; can you tell me whether they are officially known as computers?

**Art:** That's just the type of discussion we artists have the right to ignore, so I've always done that gladly. I just use them when I need them.

**Res:** Now that sounds awfully wise. Anyway, I should continue. (2) For lack of a better method, I suggest that we choose a term randomly from our contemporary jargon. For all those who have the computer (co-)compose (parts of) their works, we'll speak of *algorithmic composition*. Obviously, electroacous-

tic music and algorithmic composition can overlap, but I believe this combination to be a reasonable starting point. They are equivalent to the old split between computers as instruments and computers as assistant composers.

Before going on, as a musicologist who has spent a good deal of his career learning that analysis does not consist only of analyzing patterns of ink on five lines, I must put the following question to you: Can you hear it—those algorithms, I mean?

**Art:** Well, I may lose some friends if I admit to you that I can't hear most everything I read in program notes these days. What I do hear can be summarized as follows: (1) What Denis Smalley calls "spectromorphological composition" (in Emmerson 1986, pp. 61-93). Here, the composer is essentially treating sounds in time. I admit that this can take place outside of electroacoustic music, but as you know, that is quite exceptional. (2) Then there is electroacoustic music and instrumental algorithmically-composed works that are in general more note-oriented. Most MIDI-based works are note-oriented.

These two things are by no means mutually exclusive, which is fine. It all boils down to your perceptual impression at a given moment in a piece. Most readers will have heard Jean-Claude Risset's *Sud* or Michael McNabb's *Dreamsong*, which both flip-flop from one to the other without being MIDI-based, or similarly one of Michel Waisvisz's works with *The Hands*, which are MIDI-based. Notes are sounds after all.

**Res:** You sound like one of us.

**Art:** What I'd truly like to be able to hear and better understand, but can't at times, is the architecture of those pieces that are partly or fully based on (pre-formed) structures, including those generated with the help of algorithms. What I mean is, in many works sounds are first collected, and then the composer molds them into a finished piece in which the ear has the final say. Although in such cases we may feel that we are in a relatively structureless world, we often have the materials to hold on to. In the class of pieces I am referring to here, though, an intellectual concept is first worked out and later filled in with sounds, similar to the model of a minuet and trio. Yet today, we have become so sophisticated that our

structures are often difficult to discern. Of course, I wouldn't mind this if my colleagues said, as did Schönberg: "It's only a method, not a system," but I fear on the other hand that, as was also the case with Schönberg, there is some expectation of our being able to hear the structure and/or the algorithm. All I can say to the composer who supports this claim is, make sure we can hear them.

**Res:** Dear friend, you have just gotten into one of the fine areas of conflict in musicology, which can be summarized by the question, How relevant is what a composer says about his or her piece? There does seem to be a lot of talking about ideas these days. We could call that a sign of the times. But if you can't hear it, are they so important?

**Art:** If I were you, I'd leave the solution to that one to a panel discussion at a future ICMC. You know quite well that either side here would have its proponents and opponents.

**Res:** Right you are. Something else comes to mind about algorithmic approaches, be it a bit of an aside. Were you aware that our colleague in Amsterdam, Remko Scha, once said that scores and recordings of algorithmic composition should be withdrawn and that composers should, where possible, just offer the algorithms so that new versions of their compositions could be generated and performed on the spot in concert halls and at home? It must be admitted that to those interested, works like Xenakis's *ST/48* may prove to be cumbersome portable pieces, but Scha's idea is something to think about.

**Art:** True, it reminds me of the famed pair of best-selling Los Angeles recordings of Cage's *Variations IV*. I thought you had to have been there.

**Res:** Sorry, I don't think they're similar at all. Anyway, there's another point that's on my mind, which is quite pertinent to these preliminaries. Yours is said to be an experimental genre, but many believe the experimental era to be behind us to a great extent. Tony Myatt (1991) at University of York in the UK once said that he could hear whether a tape piece would have a good chance at the Bourges Festival. He wasn't speaking of all of their categories, of course, but admitted that there was a definite "Bourges sound," something you might call established electroacoustic composition. Although many makers

may tend to think differently, perhaps not so much of this music might be called experimental.

**Art:** Most of it isn't aurally, anyway, although admittedly a good deal of experimentation goes into the front end, if you don't mind my jargon.

**Res:** I don't at all, although I have no idea what you're referring to. You probably mean the concept and I agree fully.

**Art:** Maybe, Doctor, you should consider rewriting Schönberg's article (1933) and entitle it "New Electroacoustic Music, Outmoded Electroacoustic Music, Style, and Idea."

**Res:** I am glad you have so much confidence in me, but I'll leave that to someone else. I suppose what you are trying to say is that one way of looking at electroacoustic music is by searching for a work's newness, in Schönberg's sense, and its staying power.

**Art:** I can count on the fingers of my two hands the pieces that, in terms of performances, have demonstrated such staying power, but let's not get into that now. It might be useful, though, to research stylistic groupings within the multitudinous languages around today. Why don't we hear more about such things?

**Res:** Now that might be worth someone's time. It must be said, however, that even for those of us who should be in the know, trying to figure out what today's labyrinth looks like from above is a problem with more variables than equations.

**Art:** Now look who's sounding esoteric. May I remind you, dear Professor, that you've more or less ignored the performer so far? As you well know, performance is indeed part of most composers' careers these days. This gives them an excuse to be present at their concerts. Why, didn't Stravinsky have the right of first refusal as conductor of his works?

**Res:** I hope, Maestro, that you composers perform better than he conducted.

**Art:** And then there are all those musicians who don't compose at all but do participate in electroacoustic contexts.

**Res:** Indeed. I guess we musicologists just get carried away with our delineating, categorizing, defining, and redelineating. But you do have a point. We mustn't keep ignoring our performers during this chat. Nevertheless, I believe that questions of the performer's presence or absence don't influence our delineation

discussions (which we may forget about now by the way). What they do influence is the subject of electroacoustic music's presentation these days.

### **Presentation of Electroacoustic Music**

**Res:** To start the delineation in this part is easy—there are the differentiations of whether the music is for loudspeakers only, whether the venue is a normal concert space, whether there is some sense of sound diffusion, whether there are performers with acoustic instruments left untreated or producing sounds that are modified electroacoustically, whether there is the use of live-electronic instruments, or some other visualization.

**Art:** You took care of that one pretty quickly. Should we just go on then?

**Res:** Absolutely not because there are a couple of major battles we must face head-on. Let me put it this way. We should compliment the editor of this Journal, who launched his "personal paradox" (dilemma) series because he's getting a lot of readers to think about some crucial issues. For example, if we do indeed live in an image culture, what are we to do with our acousmatic tape works? Obviously, anyone who, like both of us, has heard exceptional tape pieces knows that it is a question of "both/and" instead of "either/or," and yet the presentation of tape music is still seen to be problematic. And what about those CDs?

**Art:** Let me speak from the participant point of view. First, to each his or her own, even if that means three billion musical languages around the world these days, which is, for better or for worse, today's landscape more or less. But more relevant to what you just said, playing that CD at home is one way to appreciate this type of music, but to hear it spatially is much more enriching. (Parenthetically, I've never understood how people who have composed magnificent quadraphonic pieces can accept the compromise of stereo on their CD recordings. What do you think?) In any case, sound diffusion performances are certainly at least as exciting as watching four people uncomfortably dressed playing string instruments. On the other hand, and I am sure you will agree as

the author of a book that includes a chapter on audiovisual approaches to experimental music (Landy 1991), voluntarily creating audiovisual music in varying contexts can be extremely fruitful. It does indeed give the listener something to see; furthermore, in the cases of music plus dance, theater, etc., there is also the potential of gaining a much wider public. At the end of the day, though, the piece you want to make or the commission you receive dictates the medium, doesn't it?

**Res:** Well, one would have to speak of opportunism otherwise, I fear. Indeed, I fully agree with you. One cannot stress the audiovisual option enough these days. As I already wrote in this *Journal* in a reply to the first paradox, I consider tape music's being put to sleep "a major historic error" (*Computer Music Journal*, 16(1):4, but fortunately, that scenario is unlikely.

What do you think about the following idea? A good deal of pop musicians are now—and have been for years—making recordings that are too complex for live performance. Shouldn't members of our community consider making pieces for recording only? Making a small CD run is within many people's realm these days, including your own.

**Art:** Well, that's the least complimentary advertisement I've ever had. Thanks so much, but your point is well taken. Music for home, music for radio, and a few "music fors" we haven't even thought about are within our technology and much too little developed. If there are too few concerts, why not exploit the CD possibility? If we ever get the radio time we deserve—and we must really work on that, don't you think?—that would be another channel well worth exploring, but what about live performance?

**Res:** Yes, there's something I would like to bring up first concerning live performance, which I realize is yet another sensitive issue. Simon Emmerson, while discussing the concepts of instrumental gesture versus software gesture, has protested that in many live electronic contexts what you see is not what you get (Emmerson 1991, p. 135). You know—people playing keyboards and we hear banjos or even barking dogs, people playing their computer keyboards and we hear whatever, and there are those not quite real-time instruments in which a gesture is seen and sometimes what is (later) heard is completely cryptic in

terms of the visual performance. Isn't there something odd about this?

**Art:** Quite frankly, I still seem to enjoy good old-fashioned live music in which, in a sense, the visual image is part of the sound. I'm glad Emmerson got to this nasty issue first so he can take the blame. Having worked with theater a good deal, I can only suggest that today's composers and musicians bring in a theater director when doing investigative work with visual elements. Those visual performances you refer to can often be so disturbing.

**Res:** I bet you prefer the nonvisual recorded versions of such pieces.

**Art:** Indeed, and the CD is how most music is heard these days, but what about all those protesting audio-only tape compositions?

**Res:** I guess the circle is now round.

**Art:** By the way, since we seem to be categorizing everything that comes to mind, here's another pair concerning performed electroacoustic music that is quite important, but not always looked into. There are many pieces that are fully composed, calling only for traditional forms of expression or interpretation from the musicians, whereas in many cases today, new forms of freedom are open to live performance and are even present within live-generated algorithmic works. Here, interpretation and improvisation sometimes seem to merge as a good deal of decision making may be done during performance. I must admit that the freedom of the work during performance is something I don't always perceive, so what's the point in such cases? On the other hand, when composers and performers collaborate, a workshop situation is created of compose, play, evaluate, and continue developing the work. This type of music making can be extremely rewarding; the built-in forms of interpretation are usually easily noticeable to all interested listeners. The workshop approach is relevant to non-real-time contexts as well because the participants may be involved in the making of tape material used in their performances. Now, the reader following this discussion with a fine-tooth comb will have caught the hint that, within the workshop context, writing a piece for "anybody" is not the approach, at least not initially. Pieces are often exclusively written for their performers. The above

was a paragraph of idealism I just had to get off my mind.

**Res:** But that idealism of yours, which really belongs to true pioneers in music education such as the likes of Murray Schafer (1976) in Canada and John Paynter (Paynter and Aston 1970; Paynter 1972, 1991) in Britain, was what made me write the follow-up to my first book on experimental music's poor dissemination. In the new one, the workshop approach to creativity and education proved to be the healthiest way of music making there is (Landy 1994).

**Art:** Speak for yourself. We composers are true individualists and take no musicological generalizations into account! But knowing you, you'll have to come back to that when you scream and yell about the marginalization of our *métier*, as you always do. I think we should talk about digital music instruments a bit before changing subjects again.

**Res:** Fair enough. But I thought this Journal already covers every instrument relevant to its readership.

**Art:** Indeed it does.

**Res:** Sometimes, I think there are more instruments and systems available than there are users these days.

**Art:** To be honest, I lost count. The fact is, I subscribe to your idea that faster, newer, and less expensive are less important than knowing a few or just one computer instrument or synthesis system well. I really enjoy reading about all these fine innovations and occasionally add one to my modest repertoire, but at the end of the day, I follow the advice of my old friend and teacher, Morton Feldman, who often said, "Write one piece and rewrite it forever. But you'd better make sure that that one piece is very good." Obviously, I am exaggerating for effect—as was he (he wrote at least three pieces and rewrote them a lot)—but I honestly believe that being a fractally neural Gesamt-synthesis composer is simply not my lot.

**Res:** I know what you mean. Marcuse would say that electroacoustic musicians are talking more about how much their systems can do and how fast they are than about the potential quality of what they produce. Granted, the nonmusician developers may be excluded here, but how many are there these days?

**Art:** Perhaps we have reached the point where there are so many ways to order and make sounds that we are biting off more tools than we can chew.

**Res:** We academically trained types are taught to avoid clichés whenever possible, especially when they are abused as crudely as you do it.

**Art:** Anyway, I'd rather spend my development time working on a system that encompasses my ways of treating sounds in a user-friendly fashion without having to jump from computer to computer, from studio to studio. If it were affordable to the individual user, it wouldn't be bad either, but I simply do not have the time to do this, and our third speaker, the developer "CMJ," couldn't come by today. I have noticed, though, that some articles have recently appeared that deal with where our tools fall short. Our Csounds, our Sound Designers, and the like all seem to have forgotten about or ignored a few laws of the nature of acoustics (see, for example, Desain and Honing 1992).

**Res:** There are even some established timbral manipulations that the older members of the readership still might have in their hands but not in their digital instruments.

**Art:** I know what you mean. For example, as Richard Orton asked me recently, "Can you easily change the pulsewidth of a square wave in Csound?" No, I can't. But what about the readers? Did you all throw away your old analog synthesizers? Or have you lost interest—or, for the younger readers, never become interested—in a particular timbral effect because it isn't available on many digital systems?

**Res:** I do hope, Maestro, that you realize that we have said virtually nothing about the music itself. I thought it was our goal to put that subject back on the map.

**Art:** You couldn't be more right, but discussing performance contexts is not synonymous with discussing content. You should know that. And I am already aware of which magic word you'll pull out of your "publish-or-perish" hat to worm your way out of that subject.

**Res:** Don't you worry. My publisher would murder me if I didn't bring up that subject. If you have read my publications as well as you tend to let on, you know I prefer to bring up content and compositional approach along with dissemination questions.

**Art:** But those two have little to do with one another.

**Res:** I hate to tell you, but are you ever so wrong.

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Apropos of this, let me say immediately that many useful opinions have been launched in the replies to Stephen Pope's paradoxes. Yet one exception, Steven M. Millers, will be mentioned here. He believes that we shouldn't keep talking about the poor state of our education and about problems concerning our lack of a public, but instead we should be creating a better cultural environment (*Computer Music Journal*, 16(2):5. With all respect, am I mistaken, or aren't those two more or less equivalent?

### Dissemination of Electroacoustic Music

**Res:** It's time for a quotation, "Ours is essentially a tragic age, so we refuse to take it tragically" (D. H. Lawrence).

**Art:** Good heavens. Where do you get off bringing up someone like that in a Journal like this?

**Res:** Oh dear, you know how we PhDs love to impress our readers with our quotation base. All I was trying to put through your head is that we are essentially a completely marginal, almost self-serving electroacoustic music squad, which is nothing other than tragic. Our perpetual avoidance of confronting the status quo is exactly what our unwelcome novelist was talking about.

**Art:** No he wasn't.

**Res:** Look, I'm trying to provide you and your fellow musicians with some food for thought, yet you've continually tried to demoralize musicologists as being failed musicians.

**Art:** No comment. In any event, we musicians don't like to be told what we're to do. We are prima donnas after all.

**Res:** I thought in my case I was doing all this work to earn enough bread for your career. But if you people won't do the necessary talking and philosophizing about the lot of electroacoustic music and the like, who will?

**Art:** Don't you think you should summarize what you believe to be relevant to dissemination instead of complaining about our common problem of having to be a centipede these days to be able to afford being in this community?

**Res:** Fair enough. The dissemination questions boil

down to making available relevant information to any and all people of all ages who are potentially interested in our areas. It seems like the technological information is pretty omnipresent, yet our music and the information pertinent to music appreciation aren't getting out there. The reason for this concerns the acquired taste syndrome that most contemporary music is suffering from. This syndrome continues to plague us due to our music's receiving too little attention at all levels of education as well as too little attention from the mass media, especially from radio and television, but also including written media.

Now, although most of us are neither primary or secondary school teachers nor radio producers, we are nevertheless in part to blame for this state of affairs. If electroacoustic and related music is, as I believe, worthy of being demarginalized, then we must do something about it. Doing something includes our fighting for more radio and television time and for more acceptance and therefore more attention from our schools. It also involves our participating in developments, leading toward a better presentation of electroacoustic works on the media and analogously toward new creative educational approaches in music appreciation (also known as music taking) and music making (performance and composition) for all ages, including extended education. Together, these activities form what I believe to be one of the two main areas of concentration for you people, believe it or not. This, more than anything, will be of direct influence to the reception of your music and might even influence composition and performance in this decade. The fact is, if we do not all get involved in solving these problems, our contested quotation will remain our credo for the time being.

The second area that, independent as it may seem, walks hand in hand with the above socio-political standpoint, has to do with what I've called the dramaturgy of music.

**Art:** I'm keeping quiet, but I knew you'd get that word in sooner or later.

**Res:** You composers are all amazingly eloquent when it comes to the *whats* and *hows* of your technological approaches to today's audio art. Excuse me, but I sometimes think of this as "recipe-itis," a sort of must-be-said to prove your universal uniqueness. But

with all due respect, given all those musical languages out there today and the public's mass confusion, shouldn't a helping hand be offered? This does not necessarily mean writing simpler, more accessible music, but it does mean offering interested people something to hold on to so that they can better appreciate your musical approaches, many of which are awfully complex and difficult for first-time listeners—in general, the vast majority of any audience. Instead, today's reality has composers working without any sense of a feedback (evaluation) mechanism and therefore continuing along parallel individual subsidized paths—usually by way of teaching institutions—of research, development, and composition.

In contrast, this dramaturgy concept, taken from the theater world, is more involved with *why* composers do things. I realize that virtually no one has ever been taught how to articulate a musical vision—this is not the same as his or her chosen techniques—but there is no time like the present to work on this. Shouldn't composers be able to offer their potential listeners a helping hand these days in terms of how to deal with music the likes of which they may never have heard before? Or are we to simply stimulate our aging isolation? The same thing holds true for people who, like our absent dialogue partner "CMJ," are involved with important technological developments. Shouldn't each development be accompanied by some sort of description of potential musical relevancy? As naïve as many listeners are in terms of today's music, that's how naïve some less-trained yet highly interested musicians and musicologists are in terms of, well, the contents of 99 percent of the ICMC papers each year.

This is not the place to reiterate the ways and means of creating various podia for dramaturgic discussions of electroacoustic and algorithmic music, but as long as most potential listeners have difficulty in finding a key to open the door to this music—assuming they already know the door exists—stasis will continue to describe the dynamic of this musical world. Of course, our fasters and betters will continue to appear at the lightning pace we've so gotten used to, but we're now talking about the end musical product, something very precious to musicologists and musicians.

**Art:** Now you're talking.

**Res:** Let's put it another way. Are the members of our community interested in the size of our public and how well informed they are? Why or why not? What about what might be called the simultaneous coexistence of very separate publics within our area and within contemporary music in general? There are those who have a lifetime subscription to algorithmic thinking who are pretty uninterested in spectro-morphological composition and those, of course, who can't stand the sight of an acoustic instrument any more. You can well imagine how excited people who regularly attend chamber music recitals of contemporary music are in terms of what we've been talking about. And all these types of contemporary music are ridiculously marginal! This is obviously not a plea to have a GRM piece thrown in between Mozart and U2, but, as said, we tend to accept the status quo, which might not represent the best of all worlds.

**Art:** I for one must admit that, as far as the larger public is concerned, there is a feeling of excitement when, in a theater context, for example, your music is played in a large, well-attended hall several dozens of times and occasionally appears on television as well. Admittedly, my work is but a part of the whole of a theater interpretation. Still, those tapes are often just as radical as any piece I've made. Of course, I have never had that sort of exposure with any composition I ever wrote.

**Res:** I'm sure, but do stop degrading your loss of autonomy as a composer. Intermedia isn't our enemy after all. In any case, the theater public, at least in Europe, is willing to give some experimentation a go. Don't forget, the dramaturge has informed the press about the why of the performance so that interested people have access to relevant information beforehand when they so desire. The same could easily become reality in a musical context if those involved helped the press to give a better impression of what things are all about. For example, what do you think about more announcements before and fewer reviews after one-shot concerts?

**Art:** But you realize how we composers are ill-equipped to discuss our music. The members of the press aren't any better off. As so many have said, the terminology situation is a mess. By the way, I've of-



ten been told how much trouble you musicologists have in finding ways to analyze our works.

**Res:** Thank you for a small contribution to the proof that poor, at best one-sided, education has contributed vastly to our downfall. If we were better able to talk about the music, there would be a way for potentially interested people to find the above-mentioned key. Instead of this, during many lectures internationally I've recently heard the complaint that some members of our community occasionally come across as being arrogant, too sophisticated for the interested potential listener. This is not only counter-productive, it reminds me of what might be called a 1990s' "uptown school" that subscribes to very clever *whats* and *hows* and floats on a tiny magic carpet of inaccessibility. And I haven't even mentioned the only too often experienced more-fun-to-play-than-to-hear syndrome; I'm sure all readers have experienced what that's all about. The above does not imply that you have to write friendly-to-the-user music, but you might be more user-friendly, which in turn might stimulate a wider dissemination of your music, a constructive approach in most anyone's book.

**Art:** But don't you think this coexistence of so many musical languages remains difficult, even with all your dramaturgic problems solved?

**Res:** Quite frankly, I don't know. We are currently moving along a wave of musical developments that accelerated a bit in the beginning of the century, really sped up in the 50s to early 70s and is now at its fastest pace yet at least as far as music technology is concerned.

**Art:** I suppose what I'm driving at is, are we missing a few figureheads these days? Is the range of musical languages something that by definition demands marginalized separate publics?

**Res:** Well, we've all participated in hundreds of discussions concerning the lot of the entire music of the 20th century—how few heroes we have produced along with the rest of the well-known sob story of contemporary music's isolation. What we haven't admitted is the fact that if we're looking for mass heroes in the late 20th century, they will be found in pop culture. There are thousands of electroacoustic musicians around the world today, many very talented, swarming around their own private or local

islands with few exceptions. With all respect, our most famous figures are not necessarily always our best composers. Don't ask me to exemplify that remark, please.

**Art:** I wouldn't dare.

**Res:** So, new superheroes aren't the solution. As far as your much more interesting second question is concerned, I believe we need to create circumstances so that we have sufficient possibilities internationally to hear what is being composed. If it were to be done in the manner suggested above, more people might be interested in openly discussing which musical languages are more enticing to whom and why. At the moment, a supersaturated dying "European" ("serious"?) culture presents about 67 percent of the premieres at any concert of importance, making the rehearing of most pieces that haven't made it onto a CD virtually impossible. Isn't that a problem?

**Art:** Undoubtedly, especially for those composers who don't believe in that "premiere-itis" you just referred to and those works that are better appreciated by the listener through repeated hearings. Of course, when there are just those few gigs, we composers have to accept those offered, don't we?

**Res:** Dealing with that mess is fortunately none of my business. An idealist would choose carefully and probably die of hunger.

**Art:** You academics ironically do have the luxury of leaning on your fantasy much more than we artists do.

**Res:** Wrong. We academics end up spending a good deal of creative energy on our writings as it is part of a *modus operandi*, but as many of us are also composers, we end up feeling a sense of conflict of interest.

**Art:** I do believe I've noticed that. Then again, we started off this discussion with the remark that composition and musicology both call for loads of research in our field. So maybe the combination can work to our advantage. If only there were enough hours in the day.

**Res:** And then, I hate to admit it, but there are these education questions that we keep referring to, which are so crucial.

**Art:** Well, despite the fact that this seems to be turning into a monologue, you did just write a book about it. Can you summarize it briefly?

**Res:** Most likely, no, but I can choose a couple of

relevant points for readers. First and foremost, I am of the belief—as was Zoltan Kodály in the 20s, but he didn't yet have electroacoustic music to offer—that when young children are presented with as wide a scale of music as possible, they will be better prepared at a later age to choose what they truly appreciate. Furthermore, as some of our music is not per se virtuosity-oriented, children can easily learn to enjoy the discovery of ordering sounds, including those involving music technology. I am sure that you are aware of the fact that the young have already shown a great deal of dexterity as mouse-ists, synthesizer wizards, joy stick virtuosos, and so on.

Then there are the schools. Until recently, we have passively tolerated the common problem of disinterest, especially in primary and secondary education. Even in more open-minded schools, many teachers have had no idea how to present children with musical experimentation with sounds. Fortunately, along with the major books by Schafer, Paynter, and their colleagues, there is now courseware available, including Myatt's "Sound Experience," made independently of any instrument, computer, or recording equipment manufacturer's products, that offer children—and their teachers—ways to discover paths of interest at their own speeds and levels within our field. When today's pupils, who have been introduced to such materials, arrive at the schools of higher learning, assuming they can regularly develop their interest, they will become the highest educated students of electroacoustic music ever. They will already be acquainted with some of the repertoire and have a means of talking about and evaluating relevant works, and they will also be composing and performing at their own levels. Knowledge is gained in terms of appreciation, the basis of a better dissemination, as well as in terms of content. These are the two areas we started out with.

**Art:** What you are suggesting, therefore, is first the development of educational tools at all levels that allow evaluation to take place in terms of music making and music taking, and second that we all lobby for more attention to be given to our field in schools—as is now the case in Britain—to raise knowledge and interest.

**Res:** Exactly. Of course, none of this would have been possible without the combined efforts of music educators and the top-of-the-line research of several people mentioned already as well as Trevor Wishart (1985), Michel Chion (1983), who has helped us understand what Pierre Schaeffer was driving at, and Barry Truax (1984), just to name a few who are high on my list. The majority of these specialists are artists, music researchers, and technology developers all in one like we are.

**Art:** But I fear you're avoiding the main subject of this topical issue yet again. What about the music?

**Res:** Not at all. The discussion is dependent on our feedback mechanisms. If we create channels of evaluation—within the classroom, within our ensembles, or even within the electroacoustic community—especially through a workshop approach, then (1) our future might find us less isolated, (2) perhaps the number of musical languages will drop (we can only speak so many; I suppose we can appreciate more, but not that many), and (3) we will probably have musicians not only discussing and evaluating their musical ideas, but also their finished products, which is as good a way toward discovery as any other I can think of.

**Art:** Well, I for one will avoid the expression, "My music speaks for itself," from now on.

**Res:** That's wonderful, but might you also consider adding the expression, "The idea speaks for the music," to those ready for the garbage disposal?

**Art:** I have never said that myself. Still, in all fairness, I don't think algorithmic composition has been given enough critical attention one way or the other, allowing you to conclude anything about its insides or outsides of time through generalizations. I would say that the day just might come when the expression, "The idea and the dramaturgy speak for the algorithm," will not sound ridiculous.

**Res:** Then we won't need the *Computer Music Journal's* topical issues anymore about this subject; we will have volumes filled with descriptions, evaluations, and analyses of the music. And the slightly negative and sometimes sarcastic tone of our dialogue will belong to the past.

**Art:** I'll drink to that.

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