intrigued by these new toys that we willingly abandon many of the comforts of the more traditional world of music: we traded the quiet ambiance of the wood-and-draperied recital hall for the whirring motors, flat walls and grey colours of the computer room; the warmth of human breath in the ebony clarinet for the filtered noise band; the reflections on issues of analysis for reading of software manuals and list-servs about hardware configurations. What about those who were interested in the potentials of the new technologies, but thought that such a price – the drab and sterile rooms that kept out all but the boldest aficionados – too high? I propose that, rather than dismissing such sentiments as complaints, we should encourage them as being votes in favour of particular design options of a future world. While defending the field, we have often downplayed our own reservations. Music technology is now firmly entrenched in our world, so it is time for us to bring out our pet peeves as well as our preferences. I suspect that we would also benefit from

of the most precious characteristics of our world, and is an
aspect that I sometimes fear is threatened. Meanwhile, as more
diverse solutions to technological problems appear, the more
likely I am to find software, hardware and interfaces that appeal
to my compositional methods. However, when writing in
traditional notation, I enjoy the feel of pen and paper and the
degree of control that I have with them after years of being a
music scribe. I will switch to computer notation when I perceive
that it will provide the same pleasure and control.   I am
convinced that if I keep holding out, someone somewhere will
design a programme that I find appropriate, and not too time-
consuming to learn.
     I still believe very strongly that time is an important
factor in accomplishing something. This is not only for the sake
of the value of time itself, in calculating how many hours I can
afford to spend on composition, for example, but also because
during the compositional process, the longer the time between
concept and realization, the more opportunity for losing the
original idea, with its associated freshness. Of course, I am
all for the polishing and refining of an idea, but when a large
proportion of compositional time is spent in trying to process
the idea through unconducive channels of a programme, then the
energy is often deflected from the objective of creating an
artwork. Exactly the same thing can be said of notation:
composing music which is not organized mainly by pitch and metre
can be hindered by trying to use traditional notation systems
evolved for such priorities.   If, however, we persuade our
colleagues in technology and industry to develop tools which
promote playful investigation, the time spent on creating will
not be regretted. The present paper is a plea to take seriously
all complaints that are lodged against computers, electronics,
electroacoustic music, and related fields, and try to isolate the
unreasonable fears from the valid criticisms. If we can manage
to stimulate our more technologically-minded associates with the
sense of playfulness that is central to compositional endeavours,
then we may benefit from imaginative solutions to our problems.
     f1reasonaWefiyghte

altogether, we will need to rethink the speaker setup – will they
be scattered about the city and countryside, free-standing, for
anyone to diffuse to at will? And this, although it has a
certain appeal if we assume that only compatible musics are
emanating from nearby speakers at any one time, implies a drastic
rethinking of the studio – if the sounds are not going to be
diffused in a rectangular enclosed space, then the studio where
the composer works should not be an enclosed space either. So if
we were to settle for an array of speakers out in the open, they

cavern. The idea of a studio in a forest near a stream, for example, has long appealed to me. The birds, water, wind and rain would be a potentially integral part of each piece, with variations depending on the time of day, the season, and the particular state of the weather. For days when I preferred a more cocoon-like environment, I would like a studio where I can have rich tapestries around me, and candles, and comfortable chairs, and paintings on the walls, and woodwork, and richly-textured drapes. In this era of powerful laptop computers, such a dream is not very difficult to attain, although we seem to feel that within the context of a university, such designs would be inappropriate, or at least show a frivolous concern for irrelevant aspects. Are they so irrelevant? How many potential students do we lose by paying little attention to the physical environment of a sound studio? As a starting point to answering such questions, it would be interesting to conduct a survey of the physical characteristics of the studio where various works have been produced: this piece was composed using a Brand X synthesizer and software Y, in a small room with soft natural light from an upper window, drapes and carpet predominantly in blue, polished oak chair, and a view of the ocean through the door. Would it turn out that my favourite pieces were composed in studios where I would enjoy spending time, whereas works composed in studios which I consider sterile and unfriendly seemed less appealing?

Returning to the question of speakers against walls, I have been thinking recently of the advantages of speakers that are like helium balloons, which could stay suspended wherever placed. In the earlier stages of the technology, this would simply permit the quick adjusting of multiple speaker placement for a concert . As the technology became more affordable, it would become a standard feature on all home systems, so that we could easily distribute them throughout the living room (and other parts of the house). Graduates from sound programmes would make money by visiting people's houses to fine-tune the balance and frequency response of each speaker, to maximize the effect of the music within the particular house architecture. Eventually, the speakers would be able to be moved around by remote control, and enterprising composers could add a data track to the CD recording of their works, specifying the appropriate motion of the speakers during the piece: speakers would swoop in towards the listener for certain gestures and chords, then retreat into the far corners of the room for calmer parts, and sometimes one or two would dance closer and farther away with a solo line, while a lone speaker up against the ceiling would play a little ostinato while circling.

What about metaphorical walls? Here, I am less sceptical, at least to some extent. Much of my favourite music is from different cultures and recently I have found artists who are successfully creating works which draw on different styles and aesthetics: Rabih Abou-Khalil, Ekova, Jon Hassell, among others. However, although I like such porosity, I do not envision with

any excitement a world where all the music is going to be a mishmash of all styles. I have definite tastes in sound configurations, and I would like to be able to sort through new additions to the sonic world by effective filtering. Although I agree that artificial "walls" may be unhealthy, I disagree with the argument that distinctions are somehow unfair. So, we might accept music without walls, conditionally.

What about music without instruments? One aspect that has been frequently ignored by composers and theorists in the last several decades is that, in the past, music was often an active sport. Audiences who sat passively to be entertained were rarer

currently some exploration of these movements and corresponding sounds by contemporary dancers using various means such as motion sensors and contact microphones. However, except in the most experimental stage, the dancer is by definition more concerned with the movement itself, and the sound more as a by-product. In music, we can focus more clearly on movements as appropriate triggers or manipulators for sound.

Imagine a platform with two poles, for instance, where a person could control certain parameters, such as timbre, by grasping the poles in the hands and working them like giant joysticks, with finger-controlled activators for fine tuning. The platform could be programmed for other parameters of the sounds, such as frequency and duration, according to an x/y graph, with a further z axis procurable by the force of the step (probably amplitude, to be intuitive). The platform floor could also have some storage areas around the side, so that sound configurations produced could be tapped for repetition later on in the piece. Those who wished to explore ensemble playing and social interaction could develop more complex models for two or more players.

One aspect of much electroacoustic music that I feel has not been sufficiently considered is the frequent abandonment of discrete steps. Many instruments favour the production of sound in non-continuous grains. The glissando was used quite sparingly until recently. I believe that the growing interest in granular synthesis is due in part to the possibility of having sound which is somewhat continuous but with distinct, if minuscule, breaks between each grain. The effect of continuous sound is tedious for many listeners; I think it is a major cause of the typical first reaction of many people to electroacoustics: science fiction. In our world, continuously-sliding sounds are much rarer than discrete ones. Our bodies (and thus our musical instruments) tend to produce discrete contact points – footsteps, finger-tapping, speech – even skating, though it produces long sliding sounds, is made up of alternating foot slides. The effect in many electroacoustic pieces where a single sound undergoes constant shifting over many seconds is often one of slithering around on an unstable surface: sufficient to distress all but the hardiest of ea fans. Perhaps the development of instruments / interfaces which involve finger- and toe-tapping would promote a more natural balance of discrete with continuously- transient sounds. The more continuous sounds might be contributed by whole body movements, affecting the frequencies, timbres and dynamics through interaction with sensors. I think that we would tend to distinguish readily between the sounds produced by a supple and sensuous bend of the body and those produced through quick, sharp and rather stiff movements.
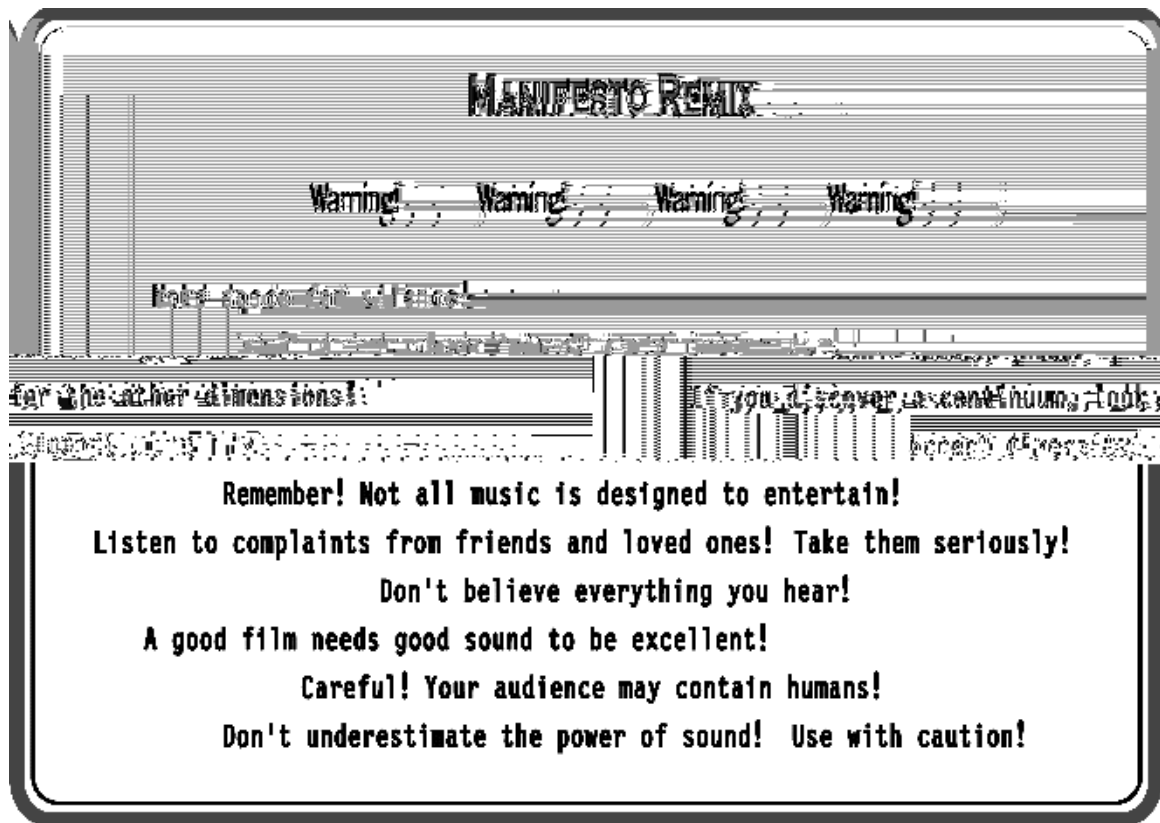
If you disagree with me about the benefit of discrete steps in electronic sound, then you are adding weight to another argument about innovation in technology. We do not in fact have to agree as a collective community before encouraging the

MANIFESTO REMIX

Warning! Warning! Warning! Warning!

Remember! Not all music is designed to entertain!
Listen to complaints from friends and loved ones! Take them seriously!
Don't believe everything you hear!
A good film needs good sound to be excellent!
Careful! Your audience may contain humans!
Don't underestimate the power of sound! Use with caution!

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[1] Credit for the idea of "reverse speakers" goes to Harry Mountain, who contributed it on hearing a draft of this article.