

Imaginary Landscape -- Electronics in Live Performance, 1989 and 1939

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Consider John Cage's *Imaginary Landscape #1*. Written in 1939 for two record players, test records of electronic tones, muted piano, and cymbal, it is one of the first pieces of live electronic music, and on this rests its fame. But less obvious aspects of the composition are worth noting as well. Instead of using any of the expensive electronic instruments of the time, such as the Ondes Martinot or Theremin, Cage chose the *record player* -- an affordable appliance, never before thought of as an "instrument," which could theoretically be played by anyone. With a prophetic eye toward alternative performance venues, the score specifically suggested that the piece be performed for "recording or broadcast." Finally, the sounds were indeed placed in a *landscape*, organized in a radical new way that mimicked the way sounds exist in life, rather than forcing them to "sound like some old instrument" (as Cage complained in his 1937 manifesto, *The Future of Music: Credo*). This intertwining of technology with its musical and social implications distinguished this piece from any other music of the time and also from any electronic music produced by other composers for over 25 years. *Imaginary Landscape* was truly New Music.

If 1939 can be declared the birthdate of Live Electronic Music, it was a birth that was in many ways premature. As a genre it did not come of age until the late 1960's and early 1970's, with the music of Alvin Lucier, David Behrman, Robert Ashley, Gordon Mumma, Pauline Oliveros, Steve Reich, Terry Riley, Phil Glass, Maryanne Amacher, LaMonte Young, David Tudor, and their contemporaries and students. Reich's tape loop pieces, Young's sine wave drones in *Dream House*, Tudor's *Rainforest* of sonically resonated found sculptures, Behrman's cargo-cult home-made synthesizer, Riley's tape delay performances, Mumma's "cyber-sonic" circuitry, and Lucier's landmark evocation of subjective acoustics, *I am sitting in a room*, can be seen as audible manifestations of the legacy of *Imaginary Landscape*. The intervening years of the 40's and 50's had witnessed the slow growth of tape music, with little attention paid to questions of performance. After 30 years the trickle-down of affordable *portable* electronic technology caught up with compositional visions. New instruments made their way into the concert hall in the hands of composers whose ambitions were no longer restricted to tapes recorded within institutional studios.

A unifying aesthetic of sorts emerged. It was post-Cageian, in that it could not have developed without the precedent of some of Cage's theoretical and sonic ground breaking, but anti-Cageian as well, since it rejected Indeterminacy -- the core of his compositional philosophy -- and several other basic Cageian precepts.

In 1988, by contrast, the term "Electronic Music" seems an anachronism. In the press, in the public's ear, and perhaps in reality, Pop music has displaced the avant-garde at the cutting edge of electronic innovation. Many of the major figures of that earlier era (Glass, Reich, Riley, Oliveros, Young, Lucier, Ashley), and most of the younger emerging composers, have shifted their attention back to more traditional instruments. Nobody wants the nerdy moniker of "Electronic Music Composer." This can be partly explained by technological and economic developments: in an era when the average teenager owns more sophisticated sound equipment than the average university, such a pointed emphasis on the technology seems redundant. Accessibility, which had been the impetus for Cage's orchestration of *Imaginary Landscape*, has superseded Electronic Music's once pugnacious and significant character. Looking around, it's clear that material alone obviously no longer defines the discipline. What happened, and, as Cage himself might ask, where are we going?

I would like to focus on three issues I see as being central to the rise and fall of Electronic Music: first, the "difficulties" and long-term implications of certain ideas of Cage's, like those first presented in *Imaginary Landscape*; second, the "bell curve" of the development of musical electronic technology; and third, the trajectory of the prevailing musical aesthetic of the 60's and 70's.

To go back to 1939, the Serialist composers who were Cage's predecessors and contemporaries advocated formulaic control over compositional parameters that were generally accepted as being "musical": pitches within the 12-tone scale, the duration of notes, and, in some cases, dynamics. Most other factors -- such as the length of a piece, orchestration, amount of silence, etc. -- were decided as they always had been: intuitively or pragmatically. Cage went further. He tried to root out and eliminate the cult of personal decision from the process of composing music. He looked to percussion, prepared piano, electronics, and environmental sounds as a way to escape from the tyranny of the equal-tempered scale and the general dominance of pitch. And he developed a variety of now infamous methods of indeterminately deciding *all* parameters of a musical work: the *I Ching*, star maps, imperfections in

paper, transparent overlays to be arranged by the performers, computer selection.

Cage radically changed the *scale* of music. His concept of "acceptable" musical sounds went beyond pitch into what was generally regarded as "noise." Durations -- of both individual notes and entire compositions -- became much longer and much shorter. And rests -- the things between notes -- became as important as the notes themselves. There was no longer such a thing as "silence"; the term simply served to distinguish most of our noisy world from a few intentionally produced "musical" sounds.

Cage did this because he wanted people to listen and listen carefully. In both life and music we usually ignore sounds in familiar contexts. We soon sleep through the train that passes by our house every morning at 7 AM. When the record ends, ask yourself if its 520 snare beats were identical samples from a drum machine or a real drummer -- so long as they fell on beat they probably didn't attract your attention.

But in Cage's music you *have* to pay attention. The music jars. It seems too long, too short, too loud, too soft. It goes against intuition and instinct. You can't fit it into a frame of reference defined simply by harmony, melody, and rhythm. Outside you might ignore it altogether, but in the concert hall you are forced to listen -- closely, and in a new way. This always sounds like a cliché, but it is, after all, one of his avowed intentions.

And what you hear is different -- new and often amazing. There are textures in his electronic pieces that defy description and, seemingly, repetition: the multiple radio collages in *Imaginary Landscape #4*, the amplified slinkies and uncontrolled feedback in *Cartridge Music*, the density of acoustic and electronic sources in *Hpschd*. Cage's indeterminate compositional methods still strike many composers as being too extreme, authoritarian, and rigid. As Ron Kuivila once said, Cage's most radical innovation, and the only one that *no-one* else has adhered to, was the effective elimination of the composer. But one of the beauties of those methods is that they yield sounds that would probably never be produced by other means. Indeterminacy demands juxtapositions and transitions that are musically absurd, literally. Cage welcomes sonic "collisions" of the sort that other composers would reject out of hand. Even long-time collaborator Merce Cunningham has to filter his indeterminately-generated choreography to avoid dancers' injuries.

In a sense, Cage's methods are akin to the techniques of archaeological excavation. A layman's instinct might be to dig where the surface looks promising. But by gridding off the entire site and methodically removing each layer of soil with a teaspoon one is virtually

guaranteed of finding anything that's there. Agonizingly tedious, but effective. However, unlike archaeology, within Cage's aesthetic the wheelbarrows of circumstantial dirt are as meaningful as the shards themselves.

Cage's impact on other composers was traumatic -- a case of too much, too new, too fast. It took stunned composers years to assimilate the implications of his music and writings. It wasn't until the late 1960's that the first truly "post-Cageian" movements emerged, and they took the form of a *retreat* of sorts. Where Cage had sought to extend the musical spectrum, this new generation devised systems for *limiting* musical choices. These composers went after the new material and methods that Cage had revealed, but in a self-consciously circumscribed way. In the wake of the Cageian edict that "any sound can be music," many composers seemed at a loss to decide *what* sound to use *when*. They rejected both Indeterminacy and Serialism, but searched for new systems of composition that would absolve them of responsibility for decisions on a moment-to-moment, note-to-note level. They wanted to explore the new Cageian landscape, but by "remote control" -- as if in addition to being unfamiliar the turf just might be dangerous. To extend the earlier metaphor, it was as though each composer laid claim to one square of Cage's archaeological dig and came up with his or her own idiosyncratic tools for sifting through the detritus.

It was the era of Systems and Processes. Composers looked for compositional methods that could be set into motion and then abandoned to complete the work -- like a chain of dominoes or some Rube Goldberg machine. Composers like Reich, Glass, Riley, and Young subjected small amounts of carefully chosen material to methodical, comprehensive, quasi-automatic variation. In their use of rigid permutational systems these composers were curiously reminiscent of the pre-Cageian Serialists. But in a break with both those earlier approaches, these "minimal" composers stressed tonality, repetition, and focus over the stochastic, fragmented distribution of events and attention. Also in contrast to Cage and the Serialists, they were obsessed with making their systems and processes audible -- to the point that the musical material itself often seemed of secondary importance, chosen primarily for the purpose of articulating the method.

Others, like Alvin Lucier, rejected this strict methodology and took a more "exploratory" approach to articulating the musical details of acoustical phenomena. This was not improvisation: prose scores prescribed limits of acceptable performance behavior, and demanded that the players concentrate on a carefully defined "task;" actions not necessitated by that task were deemed superfluous and inappropriate. The task itself was

usually not inherently "musical," and often rather pedestrian. The sounds of a piece were the by-product of this task, rather than the focus of the performers' attention.

Some composers extended this method into intricate, game-like sets of instructions, and directed the audience's attention to the structure of the rules -- just as Reich or Glass might focus it on the process --, similarly reducing the sounds of a piece to the role of "markers." This was particularly characteristic of the music of Gavin Bryars and the other English composers associated with The Experimental Music Catalog, who raised the technique of the task-score to its zenith. (This style can be seen as a link between the "co-ordination" scores of Christian Wolff (from the late 1950's and early 1960's) and the "Tactics" period of John Zorn's music (early 1980's)).

This period also witnessed the blossoming of Live Electronic Music. As a by-product of some very distasteful industries, the tools of electronic music -- from complete synthesizers down to integrated circuits -- became cheaper and easier to understand. They provided access to a whole new world of sonic possibilities hinted at in Cage's electronic pieces. And they were self-limiting in ways that dovetailed neatly with the prevailing aesthetic. It is ironic: from the beginning synthesizers were supposed to be powerful and flexible enough to "imitate any instrument," and integrated circuits were designed as universal building blocks, but in reality each electronic device seemed to come equipped with its own "compositional suggestions," often very specific. Circuits were seen as being imbued with a sense of "score." Moog synthesizer modules were patched together, sans keyboard, and left to run their course with a minimum of human intervention. Composers like David Behrman, Gordon Mumma, and David Tudor designed hoards of circuits that could only function in one specific composition.

Electronic Music became a common ground for composers of widely divergent styles but similar interests in both the new sonic possibilities and the compositional implications of electronics. In retrospect it was one of those perfectly timed moments in the history of music, when the emergence of an aesthetic coincided with just the right point in the evolution of technology -- like the invention of the pianoforte.

But because the aesthetic was tied to design quirks and initial transitory crudeness, rather than to the apex of technological development, the moment was fleeting. The "scores" contained in most synthesizers and home-made circuits were usually linked to certain technical limitations or compromises that were designed out as the cost of materials went down and their quality went up: instability, distortion, narrow range of behavior, limited number of controls, limited patching

options, etc. all these stood in the way of commercial success but they gave the instruments "character." The drive to produce "better" instruments for use by any and every musician culminated in the Yamaha DX7 -- now as ubiquitous in pop music as the electric guitar, and heard on nearly every commercial and TV show. As its makers intended, the DX7 is the musician's friend, but not necessarily the composer's. Being equally open to all scores it therefor contains none. The very power and flexibility that makes it successful within one aesthetic makes it useless within another. It is too "generic." It lets you do anything but it suggests nothing.

To pick on one detail of the implication of technological progress, I think that the decline of the tradition of Electronic Music can be directly correlated to disappearance of patchcords and knobs from synthesizers. By the end of the 70's the "sound" of electronics lost its longstanding association with the avant garde and became firmly identified with Pop.

If the change in technology was having a debilitating effect on one subgroup of post-Cageian composers, the movement as a whole was slowly being fragmented by a more fundamental aesthetic issue: the subject, neatly bypassed for so many years in the concentration on medium and process, had begun to rear its disconcerting head.

Whether a composer intends it or not, the material of a piece lives within certain unavoidable musical and cultural contexts. After the excitement of the new materials, technology, and methodology wore off, the question of context became increasingly difficult to ignore. The relationship of material to process possessed the figure-ground tension of certain optical puzzles, and material suddenly flipped into the foreground. And that material, which composers had been treating for years as a phenomenological object, was revealed as text.

Composing became more difficult, more complex, more confusing. A whole new class of decisions demanded attention. There was a major shakedown in the music community. Composers retrenched and strategized. For several years it was as though the "new" had gone out of New Music: no new composers, no really new pieces, no new performance spaces. Then gradually several distinct groups of people emerged from the wreckage.

The aesthetics of the movement had attracted many artists from other fields, whose skills and background in music were often minimal. Secure, competent, and even creative when working at the "system" level of Process, Tasks, or Circuits, they simply lacked the tools needed to handle musical details directly. The *casualties* of this transition couldn't cope and ceased composing altogether, while the *stalwarts* stuck to their conceptual guns and carried on as they always had.

The dissolution and failure of the neat conceptual model and the "art of the nifty idea" scared off both composers who had already been working in the genre and emerging composers who otherwise might have embraced it. The *deserters* fled to other areas of art and music. Those interested in process and technology often went into video, where the presence of the subject was already clearly established and there were tools and traditions available to deal with it; or into high-tech computer music, which represented a retreat to the old tape music studio under the guise of attaining greater control or extending the sophistication and complexity of the "score in a circuit" into the realm of neo-Serialist programs. Performance Art drew off the followers of Fluxus, "Happenings," and Multi-Media; it attracted those of a theatrical bent, and the exhibitionists. Improvisational Music, whose most recent resurgence coincided with New Music's decline and the flowering of Punk, attracted the *players*, who were tired of systems and ready to actively acknowledge and incorporate references to other styles of music. This latter deceptively innocent activity was accepted in many other musical movements (most noticeably Jazz) but was shunned in the heyday of New Music.

The explosion of Punk in 1977 pulled those who were interested in the more visceral aspects of sound, the theater of performance, and the social and political implications of material. Electric guitars reintroduced sonic complexity and unpredictability to the stable world of modern synthesizers. The theatre of rock and roll had evolved simultaneously with the music, and exaggerated posturing that seemed entirely inappropriate to New Music was fully integrated into rock. As Cornelius Cardew and others discovered earlier, it was very difficult, if not impossible, to express a political sentiment in music that refused to acknowledge its own subject material. But Punk re-politicized music, if only momentarily.

Economics was having a direct effect on American music. Alternative art spaces across America were folding, universities and museums were cutting back New Music programming in the wake of budgetary reversals and lack of interest, and performer fees had leveled off or were even beginning to decline. But rock provided venues: clubs and bars. They were commercial, had pretensions of being anti-elitist, and provided reasonably steady, repeatable performance possibilities.

After 25 years rock and roll had established itself as an economically and culturally powerful musical movement. It was seductive. It both drew talent from the pool of potential "Art" composers, and asserted an increasing populist influence on "serious" music. From the late 70's onward this influence created a major rift and polarization within the New Music

community -- a group always notoriously hyper-sensitive to the conflict between "high" and "low" culture.

Finally, there are the *Survivors*, the New Music composers that made the transition out of the prevailing post-Cageian aesthetic into new styles that built on that tradition but acknowledged -- and tried to get beyond -- its shortcomings. At one extreme there are the instrumental composers who were gradually absorbed into, and accepted within, the mainstream of instrumental music: Reich, Riley, Glass, Young, Adams. Most of these composers' methodical systems of composition evolved into more flexible, but nonetheless identifiable, personal styles. In Electronic Music, composers continue to search for new instruments whose quirks of musical character have somehow escaped being "designed out." Or they make the step to microcomputers, and write programs that blur the distinctions between score, instrument, conductor, performer, and ensemble. There are still systems and circuits that make decisions, but there are more of them, and there is more interference from composers and performers.

In my opinion the most successful current, "post-post-Cageian" music balances systems and subject, reveals variations on the implications of both, acknowledges New Music's traditions, and shows something new. Let me mention a few examples.

Gordon Monahan's *Speaker Swinging*. On one level an exploration of the acoustical phenomenon of Doppler Shift -- a classic New Music obsession. But instead using a single pure sine tone to articulate the effect most clearly, the composition moves through a series of different sound textures that not only satisfy the phenomenon, but evoke a range of associations, and form a musically interesting sequence. Where an earlier composer might have built a machine to rotate speakers precisely and remotely, Monahan has three performers sweating as they twirl the speakers, imperfectly but expressively, for half an hour. Music here is hard work. Lighting confuses the message: the simple "analytical" stage lighting in the opening section is later replaced by floodlights and strobelights in the speakers, conjuring up tacky but powerful images of disaster that reinforce the "real world" associations with Doppler.

Alvin Lucier's *Fidelio Trio* (1988) is an important transitional piece for a composer long known for his sparse, elegant electronic pursuit of acoustical phantoms. For several years he wrote pieces in which acoustic instruments held notes against swept sine tones, filling the room with moving waves of beating patterns. *Fidelio Trio* is his first purely acoustic piece: no sine waves, just carefully timed close tunings between piano, viola, and cello. The rhythmic articulation of the notes reinforces the swell of the beating, or creates the illusion of beating. We don't know what

we're hearing anymore: the exposition of a phenomenon or a piece of chamber music almost Weberian in its delicacy.

My own *Devil's Music* subverts the basic mechanism of Phase Music, as most clearly expressed in Reich's tape loop pieces (*It's Gonna Rain, Come Out To Show Them*). But instead of letting two loops of the same material slowly and linearly drift through 360 degrees of phase relationships, the samples in *Devil's Music* are constantly resetting and reversing in response to an unheard rhythm. The rhythm comes from the radio that the performer dips into any time he wants a new sample -- a typical New Music trick of decision-avoiding by extracting structure and material from the same source. A cheap shot, perhaps, but effective: it gives a *sense* of rhythm without the predictability of pulse (a fellow composer once likened it to an intro that never settles into a groove). And the material comes from the world's biggest, if most difficult to control, synthesizer: radio. Cage used 12 in *Imaginary Landscape #4*, but ruled out personal choice. In *Devil's Music* the choice is personal but limited: the virtuosity lies in knowing *when* to change sample and finding *what* to use at that time. It is, as Cage suggested, about listening to the world in a new way: discovering fresh material at each new performance location, making new music out of the old (rather than making new sounds). But, as Cage did *not* advise, it is about textural indulgence: learning just how great Muzak strings can sound.

Finally, consider Christian Marclay. He plays records. As a performer, he is the virtuoso of the turntables that Cage may have fantasized about when he wrote *Imaginary Landscape #1*. But as a composer he belongs to the new generation. There are touches of Cage, Duchamp, the Futurists, Spike Jones, and Grandmaster Flash in his work. A few self-adhesive labels stuck to the record's surface yields the phasing loops of Reich, but Marclay abruptly breaks them off in mid-pattern. He uses found material -- thousands of records of music, speech, and test tones -- but also makes his own by sawing up and scratching discs. He is obsessed with the sound, the iconography, and the references of records, and he combines all these aspects into each performance. He plays something we all play, but many would never recognize as a musical instrument. He humanizes music. He takes the precious object of a precious art form and shows us it is there to be used, re-used, and abused. He re-plays music, he re-works music. He uses electronics, but what is important is not the technical properties of the equipment he's chosen, but its associations, which he constantly acknowledges and which ultimately propel his music.

Looking back to 1939, it now seems clear that the importance of Electronic Music lies not in the instruments themselves, nor even in what

can be done with them. Electronic Music is significant for what it has opened up to us compositionally. Electronics let Cage get beyond the Serialists, let Behrman get beyond Cage, let Monahan get beyond Lucier. It is even electronics that lets Lucier get beyond Lucier: the purely acoustic *Fidelio Trio* had oscillators as training wheels. And it is electronics that lets so many musics merge into Christian Marclay's imaginary landscape.