BEYOND THE VALLEY OF THE *FALSCH*:

MEGO (AND FRIENDS) REVITALIZE 'COMPUTER MUSIC'

PRELUDE: "A VIENNESE TRAGEDY"[1]

21st-century Vienna is an idyllic, smoothly functioning capital of a couple million residents, where a *U-Bahn* train can whisk you across the Danube with no more than a 5-minute wait between trains, shuttling you from St. Stephen's cathedral to the ultra-modern austerity of the city's diplomatic hub, 'UN city'. The city's past as an imperial epicenter of musical significance hardly needs to be recounted here- the titanically looming, archetypal figures of Beethoven, Mozart and Schubert are still never far from any informed discussion of Viennese cultural history, even if they hardly figure into the current discussion. What may be more relevant is the occasional flash of concentrated eccentricity which arises in opposition to the city's conservatism: sitting side by side with more traditional homes, you can find the undulating, children's storybook architectural novelties of Friedrich Hundertwasser, built around a unique biomorphic design and his personal maxim of "the straight line is Godless." During the reign of the embattled, ultra-rightist Austrian Freedom Party chairman Jörg Haider, the eye-popping façade of the Viennese *Hundertwasserhaus* could also be seen with draped in banners bearing anti-Haider slogans.

Sadly for Vienna, some of its more well-known cultural exports are also its most patently ridiculous- take the late Johann 'Falco' Hölcel, for example, whose unnerving bilingual synth-funk was once described as "…obnoxiously patronizing attempts at African-American lingo, accents and music, sung in a constipated gurgle as appealing as hearing someone vomit outside your window."[2]

Luckily, though, any small amount of scraping beneath the surface of commercially viable Viennese culture will reveal things much more gripping, albeit reserved for the brave (and even Falco, prior to his ascendancy to cocaine-pop stardom, was once a bassist in Drahdiwaberl, the media theorist Stefan Weber's humorous and controversy-courting socio-political rock spectacle.) As it is situated at the horizon which separates Western Europe from the still misunderstood and under-explored "East," Vienna has been blessed with relative "creative freedom and verve…undogged by the territorial back-biting of a larger and more competitive city like London."[3] Where the world's design and

lifestyle industries are concerned, Vienna is priveleged to be a key point on a network but not "*the* place to be", thus providing both the freedom to work without being watched by the eyes of the world and the ability to quickly access those geographical nodes more recognizable as proving grounds of global culture.

It is ironic, then, that such conditions would occasionally give rise to local subcultural movements that could, in terms of singularity and extremity, outclass their peers in these other "proving grounds." If you should find yourself walking through the city's world-renowned Museum Quarter, ignore for a moment the generous selection of elegant 18th-century architecture and the enticements to see Gustav Klimt's glittering Art Nouveau pieces, and make a straight line for the charcoal-colored futurist facade of the Museum Moderner Kunst (MOMUK), which houses a permanent collection of artifacts from the Viennese Aktionists in its basement. The illuminating archive of Aktionist films, photographs, texts and art objects circumscribes this group of artists that often used the body as just another form of 'material' in their works. This was an act that took the "action painting" of Jackson Pollock to a hitherto unrealized extreme, projecting the violence associated with this painting technique into theatrical situations that were psychic self-interrogations as much as they were performances. This merger of cultural production and purgation involved such superlative acts as self-mutilation by razor blade, lying blindfolded and passive beneath a cascade of animal blood, or exposing hidden or silenced bodily processes. All of this had a very sacrificial aspect to it, as Aktionist Hermann Nitsch was careful to point out in both word and deed (drama critic Herbert Blau points out that the Catholic Nitsch "in one early event, not quite ready for being nailed to the Cross, had himself impaled on a wall in Otto Mühl's apartment."[4])

The Aktionist artists sacrificed their flesh, sanity, and societal reputations so that the spectator could achieve some degree of individuation without submitting to the same level of trauma (although numerous 'participatory' *aktions* did integrate audiences into the ritual as well.) As for the aforementioned social reputations, arrests and police interference played no small part in the Aktionist story, especially after the infamous *Kunst und Revolution* event of June 1968- for which Günter Brus earned the maximum allowable penalty for acts of public indecency.

Originally a loose gathering of writers, poets, performers and painters, the Aktionist movement was eventually whittled down to four main personalities in the public eye: Hermann Nitsch, Günter Brus, Rudolf Schwarzkogler, and Otto Mühl. Nothing has really come along since to supplant their reputation as the most transgressive artists on the European continent, although the number of 'honorable mentions' has been significant. Unlike the Surrealists and other movements which had to occasionally go along with the demands of a megalomaniac 'leader' (Andre Breton in this case), the Aktionists were mainly a de-centralized group, united in aesthetic and method but completing a good deal of work while independent from each other. A thorough exploration of the

body's malleability was used to completely different ends by each: Nitsch used orgiastic encounters with flesh, blood, and cathartic noise for religious / transcendental purposes, while Mühl's work - significantly less informed by religious iconography - argued the case for perverts as they who "reveal society's vulnerable points." Elsewhere, the elusive, esoteric and comparitively withdrawn Schwarzkogler used the overwhelming and synesthetic nature of his work to achieve an Apollonian clarity and to annihilate base urges. On a side note, the Aktionist-affiliated philosopher Oswald Wiener (who lectured at *Kunst und Revolution,* among other events) has written prolifically on the subject of artificial intelligence.

Those searching for an explanation for the Aktionists' directness would do well to start with those artists' early brushes with death: Otto Mühl experienced his as a teenaged soldier fighting on the western front with the Wehrmacht, and particularly in the incomparable 'Battle of the Bulge' under Gerd von Rundstedt's command (135 of his comrades were reportedly numbered among the 85,000 German dead.) Hermann Nitsch, being Mühl's junior by 13 years, was far too young for frontline combat, but he recalls the bombing of Vienna in his early childhood as a transforming experience. While not entirely enraptured by the reality of war, Nitsch inadvertently echoes the sentiments of the Italian Futurists in the sense that "war can assume an aesthetic appearance" and that "the compulsion to live life intensely, albeit in a world of suffering, is also undeniable."[5]

Hinting that the work of the Aktionists is far from over (and mildly criticizing select unnamed members of the movement for their 'addiction to method'), Aktionist admirer Genesis P. Orridge closes his personal encomium on the subject as follows: "The wordless scream of fervent rage against a national (and international) system of authority, mediated as an institutionalised obscenity of violence and oppression, seems unnervingly appropriate and relevant once more."[6]

With this conclusion, though, come the inevitable follow-up questions- how, and why, to scream with more 'fervent rage' than the Aktionists? Obviously P. Orridge himself tried with similar explorations in COUM Transmissions, Throbbing Gristle and eventually with Psychic TV's 'modern primitive' program of piercing, body modification, ecstatic dancing etc.- but at some point the model of Viennese Aktionism could go no further without crossing over into a form of perverse entertainment for the benighted masses. This was already evident when Günter Brus, upon returning to 'normal' painting and de-emphasizing his, was vilified as a 'sellout' by audiences just beginning to warm up to his former modes of activity.

Overall, sound and music was less of a contribution to the Aktionist oeuvre than it was for previous manifestations of the European avant-garde. For the set pieces of Otto Mühl and Hermann Nitsch, though, sound did occasionally become an integral part of their sense-overwhelming presentations- beginning in 1966, Nitsch had a ten-piece 'scream choir' on hand to accompany the religious

ecstasy and spiritual purging of his choreographed bloodbaths, as well as a noise orchestra whose only scored instructions for performance were what level of intensity at which to play (there were three noise 'phases' in all.) Scores for Nitsch *aktions* also include instructions to play recordings of 'beat music' (whose music, exactly, is not made clear in the scores) at speaker shredding volume. In 1964 Otto Mühl held a whimsical 'balloon concert' and later, in 1972, recorded the *Ein Schreckliche Gedanke* [A Terrible Idea] LP, the penultimate statement of Mühl 's 'cesspool aesthetics' as a strategy against conformity. The …*Gedanke* LP is largely composed of Mühl lovingly languishing over German-language vulgarities and gleefully erupting into shock tantrums. Elsewhere, a record of James Brown's greatest hits was a puzzling partial soundtrack (not including the screams and laughing fits of the participants) to a spastic 'total aktion' of Mühl's entitled *Führt Direkte Kunst in den Wahnsinn* [Does Direct Art Lead to Madness?].

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Having already been the locus of one of the most demanding forms of 'body art' in the 20th century, it would make sense that one of the next artistic upheavals to come out of Vienna would be a non-corporeal one- and, in this case, one localized almost completely within computers. It was one that seemed to have no physical form at all, being incubated within hard drives, raised by software applications and sent out to the world through loudspeakers. And even though Viennese Aktionism of the late 1960s still remains a watershed movement, thorough examinations of the body would eventually move far beyond the Austrian borders, becoming *de rigeur* throughout the 1960s and 1970s. Players like Chris Burden, Marina Abramovic and Vito Acconci continued to raise questions about what constituted a transformative or abreactive act, and what was just sheer terror or torture (for themselves as well as their public.)

Several decades before meditations on institutional torture entered the mass consciousness via revelations about government agencies' brutal interrogative techniques in prosecuting the 'war on terror', the 1970s crop of body performerswere dragging themselves through glass, or forcing themselves to sit on an upright chair atop a sculpture pedestal until falling off from exhaustion. Even typically pleasurable acts like masturbating were, in pieces like Acconci's *Seedbed*, brought into the realm of confrontation and criminal threat- in this 1971 performance piece, Acconci committed said act underneath a gallery-wide ramp, fantasizing out loud about gallery patrons as they walked on top of him. Although there may still be some room for provoking the atypical reactions that can be provoked when, like in Acconci's piece, the private body becomes a social body, it seems difficult now to build on the work of these artists without eventually contorting the creative process into an insincere game of "one-upmanship".

Like the above artists, the new computer music in question would never show things purely in a positive light. Although there was the sepia-toned,

daydreaming serenity of select pieces by artists like Christian Fennesz, and a separate clique of artists who swore by Brian Eno's brand of Zen ambience, there were also outlandish synthetic symphonies of choking, sputtering and shrieking. A new lexicon of abrasive, yet richly textured and meticulously mixed noises conjured nothing so much as modern history being redefined by its accidents; the unreliability of mechanical processes being the rule rather than the exception. Like Jean Tinguely's 'meta-mechanic' sculptures, which destroyed themselves after mimicking the utopian production line aesthetic of industrial cultures, a new kind of art was emerging that suggested the sound of the digital world collapsing upon itself. As the composer Nicholas Collins suggested, though, this was not reason for despair- such sound could be the sound of a "benevolent catastrophe."[7]

COMPUTER WELT

Before discussing the merits of this new genus of computer musicians, it would be useful to reflect on the development of 'traditional' computer music, in order to ascertain the significant differences between then and now. The ubiquity of personal computers, along with the introduction of newer "walled garden" digital devices that are essentially computers yet not advertised as such, has made it too easy to forget a simple fact: until very recently, it was radical to use them as sound performance tools, or as devices for sound *production* in addition to sound *reproduction.* With their current ability to do so, computerized or "laptop" music is heir to the avant-garde gramophone experiments of Laszlo Moholy-Nagy (by means of scratching vinyl record surfaces at certain intervals, Moholy-Nagy accomplished the same combination of production and reproduction with the record player.) Of course, this state of affairs was preceded by a good deal of pop-cultural speculation and fantasy.

If we keep this story focused on the German-speaking cultural sphere of which Vienna is a part, then its relation to the world of personal computing has been a long and storied one; fueled in no small part by foreign audiences' pre-conceptions of Teutonic peoples as cold, calculating, technologically precise automatons. Well before the advent of personal computers, the machines were relegated to the subject matter of pop song whimsy, such as teenybopper queen France Gall's "Der Computer Nummer Drei," a peppy frolic about a computer programmed to seek for her *den richtigen Boy* ['the perfect boy.']

Kraftwerk, of course, took the above pre-conceptions and ran with them to previously unimagined heights of popular acceptance. The band applied a slick, reductionist technique to both their music and their stylized, uniform appearance, replacing girl-meets-boy romance with a romance of electronics and

circuitry (going so far as appearing like gender-neutral robots), inhabiting a strangely asexual world in between rock 'n roll's preening masculinity and bubblegum pop's sighing femininity. This was done in addition to romanticizing, in songs like *Autobahn* and *Trans-Europe Express,* public institutions more associated with the European continent than with the Anglo-American sphere of affairs, with the ironic result of this being the enthusiastic absorption of the Kraftwerk aesthetic by that same Anglo-American culture industry. English synth-pop and American hip-hop, in particular, acknowledged Kraftwerk's influence (if only tacitly in some cases.)

However, by the time Kraftwerk had recorded *Computer Welt,* their unequivocal paean to the information age, there was still not anything resembling a personal computer in the group's sound studio. Their most acclaimed music was composed on analog, voltage-controlled synthesizers, and even their most convincingly 'computerized' sounds, like their deadpan vocoder incantations, were achieved using analog systems. Credit should be given the band, though, for sparking an argument about the human role in live performance of electronic sound: long before the first musician appeared on stage with only a laptop - calling into question who the true "performer" was - the band had performed concerts using automated dummies bearing the band members' likenesses.

The *Neue Deutsche Welle,* a German-speaking punk and new wave movement active during the late 70s and early 80s, also embraced computers while criticizing certain aspects of the rising inorganic and administered culture. In the case of the group Der Plan, they pointed out attributes of Germans' collective behavior that were more computer-like than computers themselves. This tendency can be seen in their single *Da Vorne Steht 'ne Ampel,* an incisive little number which ridiculed Germans' obsessive need to follow rules regarding traffic lights and crosswalks, even if there was no traffic in sight. NDW hits such as Abwärts' "Computerstaat" were jittering and spiky blasts of paranoia emanating from fears of an Orwellian surveillance state, of which the computer would be a prime enabler- this was already being evinced by contemporaneous events such as the computer-enabled, counter-terrorist *negativen Rasterfahndung* [negative dragnet] set up in Germany and overseen by the so-called "Kommissar Computer"[8] Horst Herold.

In most cases, though, a widespread interest in musician interface with computers would have to wait until the 1990s, whether in Germany, Austria or elsewhere. One of the main reasons for this was the now unimaginable amount of latency (noticeable lag between any kind of user input and any audible result) present in computers. This was to say nothing of the flaws that computers exhibited even before fingers took to the keypad: 'clunky' awkwardness or weightiness, impersonal command-line interfaces instead of the more customizable graphic user interfaces, and an unattractive design that did not lend itself well to an individualistic class of beings like musicians (although this may be a purely subjective judgment- it is possible that many still prefer the

beige and chocolate hues of a mid-80s Apple IIe to the clean, android silver of a 21st century PowerBook or MacBook.)

Out of all the above, though, the latency problem was perhaps the most pressing issue- one could still perform music on an ugly computer or one in which commands were carried out by typing lines of code rather than manipulating pictorial representations of instrument controls. Max V. Mathews, one of the founding fathers of the computer as a performance instrument (his 'Music I' program on the IBM 704 computer is credited with the first computerized micro-performance in 1957), touched on this issue when explaining the dilemma of using electronic instruments prior to the current digital age:

> Until recently, general-purpose music programs all had one major restriction- they could not be utilized for performance because computers were not fast enough to synthesize interesting music in real-time, that is to say it took more than one second to synthesize a second of sound. Special purpose computers called digital synthesizers overcame this limitation. But real-time synthesizers brought with them a new major problem- rapid obsolescence. The commercial lifetime of a new synthesizer is only a few years, and therefore music written by such machines cannot be expected to be playable in a decade.[9]

Matthews' predictions have so far turned out to be true, as evidenced by at least one software performance application - Miller Puckette's MAX/MSP - which has been utilized by sonic voyagers from Autechre to Merzbow. MAX/MSP and other applications like it - PureData, C Sound, SuperCollider - were practically unlimited in terms of what sounds they could synthesize, yet unlike keyboard synthesizers, they contained no preset instruments, relying on a musician's proficiency with coding skill in order to come up with the necessary algorithms.

It is often touted that these programs annihilate the need to "pay your way" into musicianship, because of this emphasis on ingenuity and intellectual dedication over gear accumulation. So, in a way, such software encouraged a continuation of the do-it-yourself ethic built up over the previous few decades of revolt against the music business, and permitted a massive increase in audio fidelity and timbral or tonal variety. Instruments which exhibited this astonishing variation in tone / timbre could be built up by musicians from scratch, with no equipment needed other than a conventional PC. The only real limitation, other than the processing speed and hard drive storage capacity of one's computer, was the amount of effort that the individual musician wanted to put into designing a patch. This may have still been too much of a "left brain" activity for those whose education was purely in the arts and humanities- but on the other hand, it was a validation for those innovative music producers who,

nevertheless, didn't have the dexterity or innate sense of rhythm to master "real" instruments- it must have been gratifying to, with a patronizing smirk, finally counter the nagging, dubious presumption "*anyone* can play guitar" with another one- "*anyone* can program a MAX patch."

Opponents of live computer music performance could, of course, fire back that this was a lazy capitulation to the 'law of least action,' e.g. if there is a choice between an escalator and a staircase, people will take the escalator every time. But is there really anything *wrong* with 'taking the escalator', provided that it doesn't leave a more effort-intensive option available, and doesn't deny others the choice of 'taking the stairs' if they so desire? This fear of being supplanted or is somewhat irrational when applied to music (rock bands are swelling in greater numbers than ever now, thanks to computer-based home recording environments like ProTools), and worse yet, it puts us in a position where the amount of physical exertion involved in a creative enterprise is the focal point of the art and *not* the end results. This, it would seem, takes us outside of the aims of music and into the realm of athletic competition.

Yet the prevalence of new computer music software has, according to Bob Ostertag in his 2001 paper *Why Computer Music Sucks,* also stirred the guardians of serious Computer Music (the capitals are Ostertag's own) to silence the more 'populist' musicians and exploratory amateurs[10], claiming exclusive rights to the methodology of computer-based sound. Ostertag comments acidly on this elitism, saying that the Computer Music of academia is mainly just the digital-era replacment for their previous plaything, serialist composition. According to Ostertag, "…it is a phenomenon seen time and time again in academia: the more an area of knowledge becomes diffused in the public, the louder become the claims of those within the tower to exclusive expertise in the field, and the narrower become the criteria become for determining who the 'experts' actually are."[11]

It is one thing to hear so-called Computer Music being denounced by the 'man on the street,' or by someone with clearly Luddite tendencies, but it is another thing entirely to hear incisive critiques from people like Ostertag, who have worked extensively with computers and are well aware of their technical specifications. Ostertag is especially well versed in the MAX/MSP language, having rigged up joysticks and computer drawing tablets as the real-time controllers of his patch designs. Speaking about his experience as a judge for the Prix Ars Electronica's coveted Digital Music prize in 1996, he admits that

> …after listening to the 287 pieces submitted to Ars Electronica, I would venture to say that the pieces created with today's cutting edge technology (spectral re-synthesis, sophisticated phase vocoding schemes, and so on) have an even greater uniformity of sound among them than the pieces done on MIDI modules available in any music store serving the popular music market. This fact was highlighted during the jury session when it was

> discovered that a piece whose timbral novelty was noted by the jury as being exceptional was discovered to have been created largely with old Buchla analogue gear.[12]

While suggesting that ancient electronic relics are still capable of producing striking music, Ostertag also suggests that the results coming out of more high-end digital equipment hardly justify the hours of coding and computer maintenance involved in making a simple etude (which may be no different from a thousand others of its kind.) Still, there are those who will insist that concessions to this kind of formalism are a necessary precursor to artistic greatness (or acceptance by one's peers, at the very least.) Psycho-acoustic sound artist John Duncan, who shares some kinship with the more radical new breed of computer musicians (thanks to releases on the U.K. record label Touch and elsewhere), suggests the opposite- that refusal of these formalist rites of passage provides the true creative spark:

> From what I know of history, this has always been so: academics reinforce tradition and frustrate change. The exceptions to this - frustrated outsiders creating change - are exciting. That's where the real inspiration is, the energy that drives the creative process.[13]

From the comments of Ostertag and Duncan, we can surmise that resistance is steadily mounting against the type of Computer Music that will only be enjoyed by a select clique of individuals, whose appreciation of compositions comes from an expert knowledge of the "system building" process, and from an ability to accurately note what sounds and timbres are being created by what algorithm within a larger piece. This is quite a different thing than the enjoyment of pieces for their actual sonic qualities, and music as a whole will be in dire straits if these qualities are ever fully subordinated to formalist concerns. However, lest this essay seem like a rote exercise in academy-bashing, it still has to be conceded that - as Janne VanHanen suggests - "the *tools* of laptop music […] are mainly derived from the academic community," though the "*methodology* of laptop music […] takes its cue from the low-budget, do-it-yourself production values of the bedroom community."[14]

Sadly, being exiled by the academy does not always mean that an artist will be greeted with open arms by the public at large, either: there still exist market forces to deal with, imposing their own constraints on creativity and allowing only token expressions of true threshold experience. Rejection by both academic culture and leisure-oriented culture can, of course, be a deathblow to many aspiring artists. But then again, numerous art movements of the 20th and 21st centuries - the Vienna-based *Direkte Kunst* being only one among them - made their impact without seeking either formal accreditation or financial gain.

RISE OF THE TWISTED HARD DISK

One of the more consistently impressive organizations involved in the shaping of early 21st century digital music was Austria's Mego label. Other splinter groups doubtless arose around the same time (thanks to the technological advancements listed earlier in this chapter), and therefore giving Mego pride of place here may raise the hackles of some. But if they did not merely kickstart this scene, their collective aesthetic sensibility, more than the sum of its parts, has been instrumental in drawing attention towards the peculiar methods and maneuvers of a larger network of electronic artists.

The Mego label was originally an offshoot of the Austrian techno label Mainframe, the brainchild of Ramon Bauer and Andreas Peiper. The Mainframe label, while not reaching the same dizzy heights of un-compromise that came to define Mego, did deviate from the standard techno / rave template in some vibrant ways. The label's flagship act Ilsa Gold, for one, was known for fish-out-of-water experiments like combining distortion-fueled 'hardcore' techno elements with the sampled (and decidedly unfashionable) sounds of German-language folk relics like Karel Gott, or perhaps with the plaintive wailing of some 'alternative' coffeehouse rock leftover from the early 1990s. The pounding aggressiveness of Ilsa Gold's more anthemic numbers, combined with a sampling method that placed exuberant irreverence at center stage, would also be a harbinger of things to come.

The nucleus of the Mego label would eventually be formed when Peter 'Pita' Rehberg joined forces with Bauer and Peiper upon the dissolution of Mainframe. Rehberg, the most visibly active of the original trio today, keeps the archive of older Mego releases in print under the newer Editions Mego label (which, in spite of the name change, does not differ significantly in content or approach from its predecessor.) Rehberg transferred from London to Vienna in the late 80s, a musical omnivore previously busying himself with numerous rock-oriented groups, DJing, and fanzine writing- also taking time out from the scene for an extended visit to Minneapolis at the dawn of the 1990s (he now operates most frequently in Vienna, London and Paris.) Having previously subsisted on an eclectic musical diet of post-punk, industrial noise and the dub offerings from the On-U Sound label, Rehberg was somewhat skeptical of the new 'electronic dance music revolution' spreading through warehouse raves and a deluge of white-label vinyl releases. That is to say, it appeared to him as just another development in electronic music, rather than the clean wiping of the slate that - in their usual hysteric tones - culture observers and scene-makers were making it out to be.

Still, the 'electronic dance music revolution' provided some of the necessary cover for Mego to engage in its more intense and unmoored sonic experiments: with a thriving local techno scene to draw upon (proximity to hubs like Munich also helped in this respect), and the credibility that came from playing an

intimate role in that scene's growth, some deviation from the norm was permitted them. Simultaneously, the nascent Mego label had support from the more hazily defined post-Industrial and noise subculture in Vienna; local alliances with organizations like the Syntactic label (known for its collectible 7" single releases of the genre's leaders) gave the Mego team a rare opportunity to 'play both sides of the field', as it were- local connections even helped to secure gigs at unlikely venues like the hip youth hangout Chelsea (whose website boasts of it being "simply the best of indie, pop, and beats"), where Rehberg recalls blowing out the house speakers in a live collaboration with psycho-acoustic stalwart Zbigniew Karkowski.[15]

The up-front, blasting energy of such performances was, to say the least, unexpected in environments where electronic music had previously taken on a subservient "support role," a function much like that of mood lighting. Electronic dance music, in all its endless variations, had previously added color and exotic flourishes to the ongoing Continental European social drama, plugging the awkward silences that occurred in between flirting with strangers, or perhaps seeking out local varieties of pharmaceutical recreation. Now, here was an electronic music which manifested itself in unbelievably loud sheets of sound as techno did, yet forced passive bystanders not to divert their attention elsewhere (unless they just chose to flee from the performance venue altogther.) Though some may disagree, the physicality or immersiveness of this breed of computer music initially made for live events defying Tad Turner's claim in *Contemporary Music Review*, i.e. that "the laptop computer's business symbology is not transcended in the act of musical performance."[16] Reviewer Mark Harwood, reporting on Rehberg & Bauer's performances at the "What Is Music?" festival in Australia, accurately describes both poles of audience reaction when suddenly being sucked into this whirling vortex of disorientation:

> Pita thrilled the Melbourne crowd (one male witness reported to have shed tears, while other folk moved about in what can loosely be described as 'dancing') and diced the Sydney audience, shredding one of his tracks by cutting out every few seconds. At a safe distance, you could see numerous people exit, fingers firmly in ears.[17]

Reviews such as this one do much to contradict the otherwise well-considered opinions of critics like Turner. While he correctly identifies how "the metaphors of business computing and the performer's attention on an unknown screen location are no less a restructuring of the audience's expectations than the safety pins, torn shirts and swastikas of the Punks in 1976," there may be some reason to argue his conclusion that "post-digital music" is "not delivered with the same frontal assault" as punk (or any highly energetic musical subculture, for that matter.)[18] Moreover, many performers seem content to achieve a selfish ecstasy from full-volume live immersion in their own works, regardless of whether

audiences are moved by it or not. This rejection of certain performance-based anxieties is evident in the wolfish, screen-illuminated grin of Karkowski as his live music reaches a satisfying plateau of intensity, and in his own apparent suggestions that one can exude live energy in spite of one's humble live setup: "live performance is mainly about attitude and presence- it can even be more important than what is created…I am convinced that the performer's attitude and energy on stage is more important than the sound coming from the speakers."[19]

Andrew McKenzie of The Hafler Trio - who was not directly allied with Mego, but whose work maps a similar psychic terrain - also summarizes the performer-audience disconnect that could come about when listeners are forced to decode an incoming rush of mutated sound signals, often in the form of genuinely painful frequencies or tonalities, without any form of 'visual aid' to assist them:

> Focusing on output requires attention, practice, and a degree of consciousness. None of these come for free, and none of these can be assumed to be existing qualities of an audience. The best that can be done is to attempt to attract those qualities by means of developing them in oneself. What follows from that is feedback on the state of things as they are, not as we might like them to be.[20]

McKenzie has already dealt with the dilemma of being perceived as the "non-performing performer," having lived through earlier periods in which live appearances might be by powered by ADAT machines or arcane assemblages of table-mounted electronics (as employed by post-industrial groups like P.16.D4.) In fact, the prevalence of digital samplers in post-industrial performances also makes the "laptop concert" seem less like something that has its provenance in the 21st century: samplers, too, were "meta-instruments" that contained within them an infinitude of sounds, yet offered few options for performers to connect with audiences on a gestural level.

Confronted with these dilemmas, at least some of the "glitch"-oriented artists hanging around the Vienna scene decided to take advantage of the incongruity of these laptop-based live performances, rather than to be cowed by it. If the effect of this sound was jarring within a venue whose express purpose was to showcase music, then hearing it broadcast from more unorthodox locations took things to a whole other level of bewilderment. One such unorthodox location was the *Riesenrad* ferris wheel at the Prater amusement park in Vienna, which movie buffs will recognize as the site of a now-infamous Orson Welles monologue in *The Third Man.* Originally built to commemorate the golden jubilee of Franz Josef I in 1897, it was one of the first Ferris wheels ever built, and became a universally recognized landmark of the city. So, what better place to stage the defiantly outré sound of the local Mego-affiliated computer music group Farmers Manual than in one of the city's most beloved tourist attractions!

In the summer of 1997, Farmers Manual prepared a novel live set that would last the duration of one ferris wheel ride (about 15 minutes), conflating sentimentality and nationalistic pride with 'the shock of the new' and with the decidedly more alien.

Such high-concept performances (albeit 'high-concept' infused with playful mischievousness) may not have approached the spectacular overkill of Karlheinz Stockhausen's composition for a quartet of helicopters, but they did speak to the elasticity of this new music: its lack of lyrical dictation, its tendency to not be pinned into place by a metronomically perfect beat, and its use of portable electronic devices for both recording and playback meant that it could be performed in all variety of public places while generating the same polarized reactions of curiosity and hostility. In a nod to the clandestine punk rock concerts staged on riverboats during the period when certain Central European countries were Soviet satellites, Farmers Manual and several others have taken this approach to the waters on the 'Mego Love Boat.' The tongue-in-cheek whimsy of such actions extended even to the formation of a Mego go-kart racing team, with Mego catalog number 052 being assigned to a 2-stroke racing vehicle.

Farmers Manual in particular have been fanatical about documenting the live aspect of this music- one web archive features gigabytes worth of live material from themselves and allied Mego acts, while their *RLA* DVD catalogs every surviving live recording made of the group from 1995-2002. It is a brutally effective comment on just how much the music subculture has changed since the days of, say, The Grateful Dead: where once fans devoted years of their lives to tracking down and swapping bootlegged, "no-two-are-alike" cassettes of live performances by the torch-bearers of the psychedelic flame, now fans of such a computer music 'jam band' could have their every single performance delivered for a comparatively meager investment: only the cost of a commercial DVD, or the time and energy it would require to download all the shows from the Net.

All innovations in live performance aside, Mego is a label mostly judged on the merit of its recorded output. Mego's initial foray into the world of conceptual music, and away from techno as we now know it, was the *Fridge Trax* collaborative effort between Peter Rehberg and General Magic, itself an alias for the Bauer / Peiper creative duo. The latter duo is also responsible for the mind-bending 1997 computerized song cycle *Rechenkönig,* a surprisingly cohesive collection of shimmering and strobing audio debris. This particular album epitomizes the 'Mego style's' emphasis on the primacy of the abstract sound assemblage rather than linear narrative, yet with the same good-natured irreverence that informed the earlier Mainframe releases (note the familiar cloying patter of Barney the purple dinosaur on the album's opening track.) In a description that reminds us Farmers Manual's mischievous appropriation of the Riesenrad, reviewer Alois Bitterdorf states that "…much of this sounds like the amusement park rides were left to run, and run around, on their own a little too long, and in the meantime some of them have gotten into the medicine cabinet again, oh no, heavens!" [21]

In many ways *Rechenkönig* is a culmination of the work begun earlier on *Fridge Trax,* itself an intriguing study in the sampling and manipulation of household appliances' hidden sound world. The album ranks with Frieder Butzmann's mid-80s curio *Waschsalon Berlin* (a recording of the unique, churning rhythmic activity of Berlin laundromats) as a slickly listenable attempt at humanizing the apparently inert and voiceless. At once an alluring piece of music and a possible joke directed at those who complain of electronic music's "frigidity", *Fridge Trax* capably threw down the gauntlet, which would be picked up in turn by the lush, uncannily organic computer compositions of guitarist and laptop manipulator Christian Fennesz, and by a whole supporting cast of other wild brains, whose work will be reviewed here soon enough.

Meanwhile, the aforementioned problem of presenting this music live was partially solved as the 'bar modern' Rhiz opened for business beneath the overhead train tracks of the city's U6 *U-Bahn* line. Specializing in presentation of 'new media,' and partially immune to noise complaints by virtue of being situated along a major traffic thoroughfare, Rhiz became the default venue for much of the Mego label's live presentation. The rumble of the overhead trains and chatter of passerby (who are free to peer in at the live proceedings, thanks to floor-to-ceiling glass windows on either side of the venue) might occasionally intrude upon the more contemplative moments of live performances, but all in all the venue has done a fine job of allowing this music to be itself.

However, support from other quarters - namely, the Austrian arts funding organizations - has been somewhat more tepid, As Peter Rehberg recalls:

> I'm one of the few Austrian / Viennese labels that doesn't get any support or funding from the funding bodies here, whatever they call themselves…which, on one hand, is a bit of a bummer because it's all got to be financed by myself, but on the other hand it gives you the independence to act on your own- you don't have to be obliged to be nice to anyone [laughs]. And I kind of like that kind of independence. It would be nice to get funding, but they obviously don't recognize my label as a worthy cause. It's a bit of a joke because every other scratchy label here gets funded, but I don't care, because I actually sell records- so I can get the money back. [22]

Acquiescing a little, though, Rehberg also admits that he is "…not anti-funding, as places like the Rhiz couldn't exist without. Although I do get annoyed with labels getting money for a release, and then they package it in the cheapest way possible….. ah, don't get me started.."[23]

ENDLESS SUMMER, GET OUT: A TALE OF TWO SOUND CARDS

It is tempting, in retrospect, to see Mego's progress as eventually coalescing around the prolific efforts of Peter Rehberg and Christian Fennesz. Consequently, it is also tempting for some to pit these two against each other in an adversarial struggle between aesthetic polarities: one reviewer, in a scathing review of Pita's 2004 release *Get Off,* even likens the two to being the "Lennon and McCartney of electronica", implying an absolute stylistic and ideological divergence between Rehberg's caustic, unfeeling experimentalism and Fennesz' aspirations towards melodic pop and pastoral simplicity. This rivalry exists more in the minds of such reviewers than it does in reality, though, as can be surmised by the number of live collaborations between the two (they have reunited in 2010, with Jim O'Rourke, as two thirds of the Fenn O'Berg trio) and by other shared traits: neither claim exclusive allegiance to the Mego label, and both are capable, when necessary, of making occasional breaks from their 'signature' style.

Although Christian Fennesz' contributions to this music are well deserving of their landmark status (his *Endless Summer* tops both the sales charts and critics' lists for the Mego label), it is Peter Rehberg's work which has most caught this author's attention. Fennesz' most noted works, with their blissful and asynchronous clouds of sound, are rife with references to idealistic worlds come and gone (see the sunny, utopian Beach Boys quotations of theaforementioned album), and as such it is difficult to divorce them from being either a critique of, or tribute to, past music. Stripped of the nostalgic aspect, or really of any human quality whatsoever, Rehberg's solo work as Pita has no easily identifiable cultural precedent with which to connect it, and thus makes this sentimentality nearly impossible- yet, in spite of this, some Pita works are striking in the emotional depths that they can plumb while maintaining their uncanny post-human edge (Pita compositions in particular are mostly based on patches and virtual instrumentation localized within the computer, with a minimum of sampled or environmental sounds.)

The 1999 release *Get Out* is one of the first and best examples of this approach: an unforgivingly stark and jolting montage of sonic atmospheres which, crossing the threshold into near-total unfamiliarity, serves as a nice extended fanfare for the death of the previous millennium. Without even track titles to base it in the world of consensus reality, it is a demanding listening experience for all but those who would intentionally seek it out, and one so highly subjective that even this author's assessment of it should not be understood as definitive.

Perhaps the linchpin moment of *Get Out* (and consequentially, one of the more canonical moments of computer music of the past decade) proceeds as follows: a ghostly inaudible murmur of filtered melody on the 2nd untitled track, seductive by way of its elusiveness and obscured by steely pinpricks of clipped, high-register sound, becomes resurrected on the 3rd track as a backwards orchestral loop of uncertain origin (playing the LP release of *Get Out* backwards helps somewhat, though the sourced music will still not be familiar to most.) The listener is lured into a false sense of calm contentedness, perhaps expecting that this track will play out as a balmy piece of oceanic ambience. This is clearly not the case, as the orchestration is abruptly overtaken by an exceptionally bracing form of digital decimation. For those who survive this unexpected ambush, the rewards are great, as the distortion causes all kinds of harmonics and auditory hallucinations to emerge from the simple looped phrase- which, at this point, is so laden with overdrive effects that you can no longer tell easily if the original sound source is being looped, or if gradual modifications are being made to the time axis. The track's technique of 'constant crescendo' seems borrowed from earlier forms of techno dance music, but, transposed to different instrumentation, could just as easily be a blast of white light from Swans, one of Rehberg's many influences in the post-industrial landscape of the 80s. A mish-mash of genre leaders like Merzbow and Terry Riley would be another way to describe this, although this scathing 11-minute beast seems less concerned with paying homage than with spawning new mutations of itself.

The remainder of the *Get Out* album plays out as a less epic, but still absorbing, set of viscera-tickling noise episodes and alluring disturbances, the kinds of things that are referred to as a 'mindfuck' in music fanzine parlance: maybe a lowbrow summation of a very complex compositional style, but an apt one nonetheless. After wandering through a sonic terrain so twisting and non-linear that it would put a smile on the face of even a hippie mystic like Friedrich Hundertwasser, we come at last to another lengthy track looping a single gliding bass tone alongside the restless rhythmic sputtering of a Geiger counter (a comparison which has been made perhaps too many times now when attempting to describe Mego-variety music, but, again, an apt one.) The un-emotive artlessness of this send-off is exquisite, and reminds us of how far society has 'progressed' since Industrial music first began to make its critique of mass media's indoctrination methods. It conjures images of blank sedation under brand-name soporifics and / or row upon row of modern, uniform office cubicles cooled by the pallid glow of computer screens, with only the alternation in the rate of the screens' flickering offering any hope of differentiation from one cubicle to the next. The dystopian sci-fi promise heralded by Throbbing Gristle's 1980 track 'IBM' - that of the computer's 'voice' dictating coded orders to spellbound and pliant humans - has been fulfilled here in a most unequivocal way.

And while this new form of computer music could have satisfactorily ended with the disembodied pastiche that was *Get Out*, it was really just getting started,

and was growing too rhoizomatically for one to accurately chart its progress in linear terms of "who did what when": to see Peter Rehberg, Farmers Manual's occasional spokesman Matthias Gmachl, or any other individual affiliate of Mego and its companion labels as an ideological "center" or key "signifier" would be erroneous. An international scene of sorts was nevertheless born, which culture scribes - with their penchant for easily digested, monosyllabic tags like 'punk' and 'grunge' - were quick to catch in their butterfly nets and designate as glitch'. Musical taxonomy still refers to this music as such, perhaps giving too much credit to the generative computer music of Oval (a.k.a. Markus Popp) as the 'scene leader' within this milieu, and also assuming that the accidental composition inferred by the name is the *only* means utilized in making this music. More important than the unstable sounds known as glitches (which, again, could be deliberately sculpted and not "unintentional" excresences) were the music's philosophical vagueness, and its refusal as a 'movement' to uniformly romanticize or condemn digital virtual culture. This was, and is, a refreshing departure in an age of insubstantial yet dangerous territorial claims.

DIGITAL CHISELING

The Lettrist movement of poetry, initiated in Paris shortly after the second World War by Romanian expatriate Isidore Isou and Gabriel Pomerand (and with a notable early supporter in the Situationist Guy DeBord), proposed that every art form goes through a tidal ebb and flow of technique known as the *amplique* [amplic] phase and the *ciselante* [chiseling] phase. In the *phase amplique*, the form is refined and made more ornamental until, at last, the day finally comes when nothing more can be done to enhance that form- it is filled to bursting with ornamental flourishes, with grandeur and opulence, and it adequately encapsulates the spirit of its particular era.

Once this saturation point is reached, the 'chiseling' point begins, in which a critical summary is made of all the form's most distinctive characteristics, and afterwards the entire structure is 'chiseled' away at and destroyed. Or, as Andrew Uroskie suggests, "an advanced art practice ceases to employ the medium as a means to represent external subject and themes, taking up instead the very conventions and vocabularies of the medium itself as its subject"[24] - an interesting point to consider in light of how "glitch" either explicitly or implicitly critiques the digital age. It may be equally interesting to note, in the midst of this very computer-centric discussion, the etymological similarities between "chisel" and "hack," the latter being a devious means of manipulating computer code (and now a colloquial term for merely accomplishing any kind of complex 'work-around' within a computer's software, operating system, etc.)

That digression aside, those who most vigorously take part in the 'chiseling' also have the distinction of laying the foundations for the next amplic period. In

his Lettrist manifesto of 1947 *("Introduction a une Nouvelle Poesie et a une Nouvelle Musique"),* Isidore Isou comically insisted, despite little public renown, that he was one of the key 'chiselers' of his day, and that he was already respected as part of a grand tradition- see chapter titles like "From Charles Baudelaire to Isidore Isou" for a giggle-inducing idea of Isou's exaggerated self-appraisal. While seeing oneself as a legend in one's own time is more than a little preposterous, Isou and his compatriots did indeed contribute to a post-war trend of 'breaking down the word,' which would see multi-disciplinary icons like Brion Gysin carrying the torch directly to the current generation of artists. In Isou's estimation, letters were the atomic particles of poetry- since the Dadaists and Futurists had already obliterated 'the word' through their experiments, all that remained was for the sounds and symbols associated with letters to be examined.

Along these lines, it is tempting to see the computer music of the Mego label and its fellow travelers as an aggressive but knowingly transitional "chiseling" phase of electronic music, simultaneously abrading away at the venerated technical accomplishments of previous styles and offering clues about how to proceed with the next artistic undertaking (even the emphasis on 'atomic particles' of creative material is carried over here, given much of the composition that is done using 'granular' synthesis techniques.) At the very least, this music consolidates the gains made by the more visceral forms of electronic sound coming at the waning of the last millennium: it often outdoes the Industrial music of Throbbing Gristle or Whitehouse for sheer intensity and (ironically, given the state-of-the-art technology being used) succeeds in connecting with the listener on a more primordial or pre-rational "animal" level. The 'Mego generation' also streamlined or helped to contextualize the formative works that were created long before the proclamation of a subcultural genre known as "glitch," such as Yasunao Tone's "wounded CD" compositions from the mid-1980s and Nicholas Collins' CD player surgeries[25], (neither artist relied on the personal computers considered as the driving engine of this genre, but on the clever customization of compact disc software and hardware.) Meanwhile, at the other end of the pole from Industrial harshness, the sound can be reduced to tiny pixelated flakes floating about the listener's headspace- inviting listeners to hear the world in a grain of sand, as it were.

The act of 'tearing down', though, is not something that can hold the attention of the general listening public for long, and eventually needs to be supplemented by something other than the demonstration of clearing away dead cultural waste. While a handful of 'chiselers' have a definite plan in mind for how to improve on the cultural landscape once they have reached a new 'zero point,' many are are assuredly along only for the chance to be "big fish" in the "small pond" of a sparsely populated subculture, or are just caught up in the admittedly intoxicating thrill of destroying P.A. systems and frying unsuspecting minds. Kenneth Goldsmith, in his editorial *"It Was a Bug, Dave: The Dawn of Glitchwerks,"*

warned against the deceitful instant gratification that can come from the simple act of plugging in and tearing down:

> …as is generally the case with new technologies, most artists are simply exploring what sounds the computer is capable of when it's programmed to go apeshit. As a result, there've been scads of discs released recently that make for worthless listening experiences; most seem to be little more than musicians flexing their muscles, trying to establish the parameters of a vocabulary. In hindsight, it took an awful lot of aimless experimentation before the vision of a Stockhausen or a Pierre Henry emerged to give shape to the then-new forms of electronic music or music concrete.[26]

Goldsmith is correct in suggesting that this kind of thing does take time to refine- the "less is more" maxim of architect Mies Van Der Rohe is something too often ignored by novices in any field, who are so delighted with the new functions a new device or technology has to offer, that they use them indiscriminately and to the detriment of other equally useful tools.

Composer Kim Casone, known for innovations his with programming tools such as CSound, also proposes that the 'failure as evolutionary mechanism' ethic of the newer computer music is nothing new, although he does add one crucial distinction between then and now:

> Much work had previously been done in this area, such as the optical soundtrack work of Laszlo Moholy-Nagy and Oskar Fischinger, as well as the vinyl record manipulations of John Cage and Christian Marclay, to name a few. What is new is that ideas now travel at the speed of light, and can spawn entire musical genres in a relatively short period of time.[27]

Further downplaying the need to play by any one set of rules, Cascone continues:

> The technical requirements for being a musician in the information age may be more rigorous than ever before, but - compared to the depth of university computer music studies - it is still rather light. Most of the tools being used today have a layer of abstraction that enables artists to explore without demanding excessive technical knowledge…more often than not, with little care or regard for the technical details of DSP [digital signal processing] theory, and more as an aesthetic wandering through the sounds that these modern tools can create.[28]

Inviting suggestions like Cascone's have encouraged a slew of young experimenters to begin wielding chiseling tools of their own- and the elder statesmen of this new intensity haven't completely discouraged them from doing so. Lettrism itself made direct appeals to the youth of the day, especially the so-called 'externs' who felt that the social system of the time presented them with no clear function or political voice. In the same respect, computer music innovators have had encouraging things to say, such as this from Zbigniew Karkowski:

> …I think that today all the art and music schools are absolutely obsolete, they are not necessary. There is no need for people to go to art school anymore. You can find access to all the necessary tools you need on the Internet. If you want to use digital technology, you can download the applications you need and learn how to use them in a rather short time […] Young creative people don't go to schools, they buy a computer, a small, portable home studio, they travel, make some records and become millionaires after six months [laughs]! [29]

To hear this kind of encouragement from a self-educated D.I.Y. artist is one thing, but it is more interesting coming from the lips of someone who, according to the *curriculum vitae* laid out in *Computer Music Journal*, "studied composition at the State College of Music in Gothenburg, Sweden, aesthetics of modern music at the University of Gothenburg's Department of Musicology, and computer music at the Chalmers University of Technology" (Karkowski is also credited as "studying with Iannis Xenakis, Olivier Messiaen, Pierre Boulez, and Georges Aperghis, among others.")[30] And while many will undoubtedly read this as an example of "*do as I say…not as I do*" that conceals some ulterior motive, these comments are in keeping with a larger trend in which Karkowski sees personal discipline and cultural enrichment as an extra-institutional affair.

Peter Rehberg, at least, has made good on Karkowski's advice: although not a university graduate, he still claims he has been into music "since I was about 12"[31] and was one of the many beneficiaries of gradually more affordable electronic music equipment in the 1980s (evidence of this is available on the Spanish Alku label's *82-84 Early Works*.) One of the successes of digital music constellations like Mego is their simultaneous appeal to a younger, more anxious (and, as per Karkowski's quote, non-academic) audience of digital age 'externs', as well as the more established and studied avant-garde. Take for example Mego ally and Tokyo improviser Otomo Yoshihide, who likened the Austrian label's 'computers on auto-destruct' abrasion of to an amalgam of electro-acoustic music and punk rock.

While the total noise wash of a Mego disc like Kevin Drumm's *Sheer Hellish Miasma* might appeal to the 'externs', the 'wounded CD' experiments of Yasunao Tone (who shares a Mego disc in collaboration with Florian Hecker) might

resonate with those students of earlier avant-garde lineages- Kenneth Goldsmith, for one, is an admitted fan of the aesthetic that Tone fraternally co-developed with the intermedia artists of Japanese Fluxus. Since the music is not bound to a corresponding visual (read: fashion) culture, as earlier music-based subcultures have been, the audiences for the above artists could change with relative ease, and with a minimum of squabbling as to who 'represents' or even 'deserves' the culture more. And so, an interesting paradox arises from all this: a music that has so much of the perceptibly 'human' element vacuumed out of it, yet refuses to make its 'target demographic' known and thus ends up addressing a broader section of humanity than many other genres you could name.

The wide-ranging audience for Mego likely would not have happened, though, without a cast of music producers who themselves came from divergent backgrounds and creative perspectives. For every street-level Peter Rehberg, there is a mathematically-minded *wunderkind* like Florian Hecker, trained in the stochastic technique of modernist mastermind Xenakis and offering CD liner notes that will make the technical layman's head explode with their references to pulsars, particle synthesis and spatio-temporal confusion (with this in mind, EVOL's Roc Jiménez de Cisneros deviates a little from Cascone's statement above, i.e. "the relative popularisation [of computer music] has little to do with ease of use.")[32] Hecker is also noticeable for using the Pulsar Generator software of Curtis Roads, editor of the *Computer Music Journal* and author of the very left-brain oriented (though not aesthetically uninspiring) audio manual *Microsound.*

Both Hecker and Rehberg, regardless of how their training and methodology may diverge or overlap, often come to the same conclusions with their sounds themselves: they are equally capable of wringing intense shrapnel storms and more delicate, sparkling sound artifacts out of their computers. It is also telling that both have a habit of using the word 'acid' in the titles of their pieces (see 'Acid Udon' from Pita's *Get Down,* or 'Stocha Acid Vlook' from Hecker's bracing *Sun Pandaemonium*)- although it is not clear if this is a mutual nod to the disorienting, dissolving properties of LSD (and the similar effects delivered by the music), a self-referential nod to the overdriven 'acid sound' of Roland's TB-303 bassline generator, or some other devious in joke cooked up between the two.

Dig deeper into the Mego back catalog, and you can find episodes of teeth-shaking, elemental noise from Russell Haswell alongside the bittersweet digital cloud gazing of Tujiko Noriko. Still more faces of the label emerge in the multi-media synergy of Farmers Manual, the alternatingly cruel and hilarious stage dramas of Fuckhead, and Merzbow, who puts in at least one appearance on the label (the inclusion of Merzbow invites an interesting parallel between Masami Akita's reassessment of urban detritus and the other Mego artists' willful embrace of the computer error.)

Finally, no overview of Mego is complete without considering the visual design and layouts of house artist Tina Frank, who did much to validate Mego's claim of being a platform for all electronically-conveyed information (not "only"

music.) Her special oversized CD folders helped the label's releases to stand out amidst the standard CD jewel cases on store shelves- a shrewd move that often forced retailers to place Mego music in a privileged position before having even heard it. Frank's designs are also notable for their playful use of patchwork assemblages and toxic colors, certainly a deviation from the geometric puzzles and sterile schematics which graced the covers of the first generation of 'computer music' LPs. Her work, though claimed as a collaborative endeavor between recording artists and herself (i.e. "never 100% Tina Frank"[33]), would come to be utilized by the first Austrian Internet provider (EUnet.) While much of her design would be modulated by the needs of corporate clients, she would retain a purer form of expressivity working in the video field- a 2006 video collaboration with General Magic, *Chronomops,* is a dizzying but energizing race through a forest of light columns.

This colorful cast of characters that made up the original Mego roster is not uniquely a product of the aforementioned geographical particularities of Vienna, nor the social invention of a single charismatic personality, nor even the creation of taste-making journalists (Peter Rehberg routinely denies that there is even "a genre of 'laptop music.'"[34]) If it seems otherwise, it is maybe because our communications media has a predilection for suggesting sensational 'Big Bang' cultural events, in which new paradigms are created *ex nihilo* with one brave *fiat* declaration or happy accident, either of which is oblivious to past historical developments. The truth is usually a comparitively more mundane, long-term, and invisible accretion of separate cultural micro-events. Disillusionment with the academic music circuit, the "access principle" of new recording and duplicating technologies, the "horizontal" method of forging bonds with peers in distant locations instead of proving one's usefulness to higher-ranked entities in one's local environment: all of these societal trends were bound to converge with a little luck and patience. That the Mego aesthetic appeared completely "new" in the late 1990s was just a testament to how naturally and imperceptibly these factors converged. And, in that moment of convergence, it seemed to validate even the most romantic assumptions of tech-utopians like *Wired* magazine investor Nicholas Negroponte: "Like a force of nature, the digital age cannot be denied or stopped. It has four very powerful qualities that will result in its ultimate triumph: de-centralizing, globalizing, harmonizing, and empowering"[35]

There is much to refute in Negroponte's overly sunny reckoning, but if we play along with that for now, it is worth noting that these techno-utopian conditions have enabled numerous other organizations similar in scope to Mego.

ELECTRIC FRIENDS

The open-minded ethos of "available to anyone who understands it" is not, by any means, an exclusive Mego property: several other record labels and

organizations have such an overlap with the artists represented by the Mego label, that it is counter-productive to use that label as a metonym for the stylistic innovations that it represents. The OR label, for example, which was organized around Russell Haswell and erstwhile Touch boss Mike Harding in London, features releases by Karkowski, Hecker, and Farmers Manual (whose *Explorers_We* sits alongside Pita's *Get Out* as a *pièce de résistance* of the genre) alongside the more free-form, noisy, and non-computerized entries from Daniel Menche and Incapacitants. One 2003 omnibus release - *OR MD Comp* - offers some trenchant humor in the form of a surreptitioulsy recorded Farmers Manual audience member in Sheffield, who offers a dissenting view on the new computer music phenomenon (e.g. vulgarly expressing his bewilderment that the trio can manufacture neither bassline nor backbeat with multiple computers on stage.)

Like Mego releases, OR releases distinguished themselves from the outset by dint of their unique packaging. OR CDs came packed in jewel cases without corresponding booklets, the printed graphics on the CD surface substituting for 'covers' in a skeletal form of graphic presentation that was rife with interpretations, any of which could be correct: were the CDs released in this manner as an ecological consideration (saving paper), an economical necessity (printing costs would be severely reduced), or as a revolt against commodity fetishists who demanded that all their consumer products come in pointlessly ornate packages? Whatever the case, it was a shrewdly simple move in which the CDs' exceptionality was multiplied through the subtraction of a very 'standard' component.

Other OR compilations, designed by Haswell, would feature the inverse of this design: a clear CD jewel case with an austere graphic-stripped booklet (text and UPC code only), but with the CD laid bare by a missing tray card. The audio of select OR CDs was likewise 'subtractive' in its method: the *Datastream* release by Edwin van der Heide and Zbigniew Karkowski simply converted digital data from the Microsoft Word program into audio signals, with no real attempt to 'play' or edit the results. This subtractive aesthetic was taken to one logical endpoint when GESCOM (a portmanteau of 'Gestalt Communications'[36] featuring members of Autechre, Russell Haswell, and a rotating cast of other players) released the first non-Sony album in the *world* to be commercially available on that company's Mini Disc format. The only problem? A very small segment of music consumers outside of Japan had the equipment to play it on, although the Mini Disc format had existed since 1992. It was one thing to pare down graphics and audio content to the bone, it was another entirely to consciously cut the art off from its target audience. Although there is some humor involved in the way this release confused and inverted typical patterns of consumption: fans would be forced to buy a new piece of playback equipment to play a single album, instead of stocking up on albums to feed the hungry home stereo equipment which they already owned.

The Falsch label was another unique outpost for all the above-mentioned digital quirks and disruptions: this time Florian Hecker and Oswald Berthold were the sound curators, with "hyper-music on purpose" being their apt slogan. Running from 2000-2005, Falsch offered music in a much more minimally packaged format than even OR: that is to say, hardly any physical objects at all. Falsch was basically an outlet for 'releasing' downloadable sound files of the now-familiar artists in this chapter, along with unclassifiable mavericks like Voice Crack and CoH. Compilations eventually appeared in CD form (such as *FB25,* a 3" MP3 CD that celebrated the disk space-maximizing potential of said audio algorithm.) This was only done, however, after a good deal of material had been relayed across the fiber-optic pathways of the Internet.

Spain's Alku features a familiar cast of characters: Messrs. Hecker, Rehberg and Tone all feature in their catalog, along with the often scathingly loud combo EVOL, consisting of Anna Ramos and Roc Jiménez de Cisneros. What the label also offers in spades is fun at the expense of orthodox technology: Alku's commentaries on the fragility and frustration of our relationship with technology having taken the form of numerous prank-infused conceptual releases. One Alku CD-R release, *El Formato is The Challenge* (a wry poke at a McLuhan-ism which still haunts us), features only a couple tracks in 'conventional' music formats, while the rest of the release is given over to computer files with file extensions varying in degrees of usability and obscurity. Most amusing of the contributions on this disc may be V/VM's track, *Scanner, Wire Magazine August 1999.* This is a play on words using both the name of the British sound artist Scanner, and the method used to make the track- according to one net review, "V/Vm have scanned music-mag *The Wire*'s front cover image of Scanner to see if the music sounds as pretentious as Mr. Scanner does."[37]

Another Alku release, *Imbecil,* contains no music at all, but a series of ridiculous computer programs which range from the amusing to the simply useless. It is a kind of micro-rebellion in itself against the unquestioning adoration of computers' "smooth functionality"- via *Imbecil* you can make a 'kernel panic' (a sudden unexpected shutdown exclusive to Macintosh computers) happen on your expensive machine at any time you like; and if that isn't enough of a tip of the hat to Tinguely's 'auto-destructing' art, you also have an option to have a special Microsoft Word script write a suicide note for you. Yet another *Imbecil* side project, a curious Macintosh UNIX script called 'foofoofoo,' is not useless at all, and is actually quite convenient for those wanting to make 'automatic' compositions which can later be edited. Foofoofoo will raid a user's hard drive for sound files, taking miniscule clips from each one and reassembling them into one unpredictable juggernaut of a non-linear digital composition (the more soundfiles one has, the more epic the effect, obviously.)

Meanwhile, the titles of essays by Alku flagship act EVOL reveal a more serious and ponderous approach that mines chaos theory and fractal geometry, and questions the perceived use of computers as randomizing machines- in one short yet revealing essay from the computer art exhibition *e* +, the Alku team

answers the question "can a computer come up with a random number?" as such:

> Technically, NO. Practically, there are hundreds of computer programs and computer-driven algorithms out there that -at least- claim to do it. But when it comes to the philosophical part of it, things get trickier: if a computer is a deterministic machine (that is, all it does is completely determined by its current state), it certainly cannot do something "by chance". You can do it, your friends can do it, but not a computer.[38]

It is an interesting conclusion for those who compose 'computer music' while quoting from John Cage on indeterminacy, yet is also a much-needed rebuke of what Nick Collins and A.R. Brown refer to as "algorithmically uneducated critics," who have "often derided much digital art as exhibiting 'randomness', though this view is essentially naive, showing an ignorance of probability theory."[39]

The Alku team seems very eager to show us, as do so many other 'glitch' musicians, that computers are still somewhat imperfect even in areas where we deem them to be already superior to humans. In fact, we are still far from being overtaken by artificial intelligence, for those who take comfort in this fact. Consider the 'Turing Test': in this famous test, a human judge monitors a conversation between a human and machine, with both attempting to have a typically 'human' conversation (marked such 'exclusively' human traits as irony and a sense of humor.) If the judge cannot tell human from machine over the course of the conversation, the machine is said to have passed the test. No computer system has done this as of this writing, and many are often prone to hilarious (or at least tragicomic) communication breakdowns. It is not this ongoing irreconcilability between man and machine that frustrates Cisneros, but rather the attempt to give a human face to phenomena that may be more aesthetically inspiring without one: "It's amazing how academia is still trying really hard to make computers play music like human beings. I thought the whole point of using computers to make music was to do things you cannot do without them…not [to] pass musical Turing tests."[40]

It is also an interesting fact for those who think music of the kind represented on Mego, Fals.ch, Alku etc. is a form of brazen computer idolatry (for what it's worth, the latter of the three has released records using primarily the sounds of air horns or small balloons, both of which manage to have sonic signatures oddly similar to those of computer-generated "timbral novelties.") The work of the so-called 'glitch' squad shows us that we often give computers more power as omniscient devices than they really deserve, and so maybe Otomo Yoshihide was not that far off in calling this music a kind of computerized 'punk': it, too, is a musical form celebrating the fact that the power structure - and the technology

enabling it- cannot function perfectly all of the time; occasionally things just happen to slip through the cracks.

Even as this has been said, though, another of the Alku label's releases from 2007, *Less-Lethal Vol. 1,* abruptly dispenses with the humor and compiles tracks meant to be used as 'sonic weapons,' giving a musical voice to the dark suspicions swirling around the clandestine activity of the military-industrial complex. Hannah Arendt's famous proclamation of the "banality of evil" does not apply to the mean, bracing tracks on this CD, with the artists intent on portraying the very non-banal, spectacular destructive capabilities of the global military machine. As the mass media discusses brainwashing and torture (re-branded for the squeamish as "enhanced interrogation technique") in a manner as detached and methodical as the pain dealers whose resumés are padded with these activities, it is up to artists to once again provide a more convincing running commentary. Lasse Marhaug and Zbigniew Karkowski contribute some of their noisiest, direct work here, while Dave Phillips' steadily rising and claustrophobically multiplying spoken mantra of "*there is no right or wrong*" need only be played under the influence of the right psychoactive pharmaceuticals in order to turn the listener into an impressionable zombie / berserker hybrid. It is a release which leaves a distinctly unpleasant aftertaste, warning us that, even as we make Negroponte-like claims of technology empowering us as citizens, a vast network of military, security, and 'intelligence community' officials earn their pay by fashioning that same technology into a digital straitjacket. The unique performative violence of this music, in fact, raises some questions about how it might really be used by coercive authorities if they were aware of it. Perhaps the fact that this music has always has some degree of "untranslatability" built into it - a fact that we will turn to now - has kept it out of the hands of those who would use it for the worst.

EMBRACING THE ALIEN

> For years one of my main activities was making music with computers. I remember when the first music software for personal computers became available in the 1980s. The music created with this technology played with an electronically precise meter (the time between beats), making it sound radically different from the rhythm of music made by humans. Most musicians working with computers at the time had the same response I did: 'Well, this is sort of cool, but it sounds so *machine-like,* no one will ever listen to it. To be really interesting, this technology is going to have to evolve to sound more human.' And software engineers busied themselves trying to make computer music sound human. But before they could solve the problem, a new generation of kids had

come up who *preferred* the machine-like quality of computer music. Music with an electronically precise, not-humanly-possible meter has now flooded the world.[41]

-Bob Ostertag

In the essay from which the above excerpt is taken –Bob Ostertag's "*Are Two Dimensions Enough? The Networked Screen and the Human Imagination*"- the author puts forth the argument that supposedly 'second best' virtual experiences, like playing a game of video football rather than watching it live, are actually more appealing to many people than the "real life" equivalent, owing to a greater degree of control placed in the user's hands (as the argument goes, why would one want to watch a TV football broadcast cut through with advertisements and other diversions, when they can command a virtual copy of their favorite team and have some direct effect on steering the game's results?) Internet pornography is also an obvious and prevalent example of this, what with its possible use as a 'testing ground' for certain fantasies, and its low risk factor when compared with interpersonal contact and intimacy: Ostertag proposes that "pornography was previously something that one looked at while fantasizing about being with another person...pornography has moved from being the substitute to being the ideal."[42]

John Cage once noted, of the theremin, that though it was "an instrument with genuinely new possibilities," its first players nonetheless "did their utmost to make the instrument sound like some old instrument, giving it a sickeningly sweet vibrato, and performing upon it, with difficulty, masterpieces from the past."[43] Along similar lines, it is interesting to consider how much the developers of computer-based instrumentation once fretted over its inability to reproduce the unique timbres of naturally occurring sounds. Kim Ryrie, who co-founded the company responsible for the groundbreaking Fairlight CMI [Computer Music Instrument], eventually decided to try building a microprocessor-based synthesizer after some disappointments in the 1970s. "My frustration set in because of my ability to produce more natural sounds,"[44] Ryrie sighs. Elsewhere, the promotional material for the E-mu Emulator sampler, released in 1981, asked "how would you like to play a turkey?" proudly mentioning the ability to accurately reproduce a plethora of other natural sounds (dogs, violins, etc.)[45]

Nowadays, the presets on digital synthesizers and the sample banks included with music software tend to do the opposite of what Ryrie and the E-mu staff hoped to accomplish: to make synthetic sounds distinctly at odds with the realm of the natural, sounds which intrigue through their distance from reality and not their closeness to it. Moreover, in a culture where sampling technology can now easily imitate organic sounds, the real hallmark of sophistication has become sounds that are 'neither here nor there'- sounds whose sources cannot be easily discerned as a sampling of "real life" or as a computer-created chimera. The

curiosity surrounding these novel sounds bypasses the realm of the sentimental and directly stimulates the imagination of the listener.

The generation gap indubitably plays some role in computer music of the day: the older generation often seeks a reinforcement of tradition and a vindication of their past culture-shaping victories, and most young people are invigorated by a 'cool noise' whose brightness and novelty can be attributed to *their* era and none other, while convincing them that their generation is helping to dismantle the orthodoxy of previous generations. But this argument is somewhat flawed when we consider that the generation of Peter Rehberg, Ramon Bauer, Zbigniew Karkowski, Russell Haswell et. Al. is in its 40s already (to say nothing of the nearly octogenarian Yasunao Tone.) Although there are a slew of younger counterparts to these musicians, their creations are, so far, not much more radical than the works of their seniors. The middle-aged segment of the new digital music milieu came of age just in time to see the failures of the hippie counter-culture, with its reliance on absolutist exhortations like "never trust anyone over 30!!!" Nor were these musicians ever an ideal representation of the *zeitgeist* of their own generation, functioning mostly as intellectual outsiders whose dual immersion into artistic and scientific concerns did not always mean appreciation by the specialists of either sphere. The present speed and omnipresence of electronic communications once again plays a role in bringing together and extracting the common motives from the myriad of differences between the post-1960s generation, Generation 'X', and Generation 'Y'.

If imbibing alien sounds is a demanding experience for the traditionally minded music consumer, continually eluding attempts to connect them with familiar events and memories, then *talking about* these sounds is even more of a challenge. A certain amount of "shut up and listen" attitude, or a certain degree of refusal to explain that which remains partially unkown to the artists themselves, does permeate this scene, clearly separating this artistic subculture from the text-based experiments of much Conceptual art. Nevertheless, a linguistic component does exist within it that is not merely an exigency of music releasing (e.g. the requirement for albums and individual tracks to be titled for ease of location and indexing.) Some lexical analysis of the texts connected with the music shows them to be an integral part of the music's adventure in disorientation, and to also be informed by much of the historical avant-garde.

For example, the idiosyncratic project names and track names of these computer musicians have more in common with F.T. Marinetti's Futurist poetry (or, again, with the atomized creations of the Lettrists) than they do with any kind of instrumental conversational exchange. Impossible-to-pronounce project names like GCTTCATT are like onomatapeia for the incomprehensible speed of computer processes, or at least bring to mind the explosive neologisms used in comic books to give readers an idea of the sound accompanying a sudden action. Likewise, Florian Hecker's habit of using those very processes as track titles borders on the infuriating: tracks / albums like 'Femtoje Helical', 'Ciz-Glemp 2' or *[OT] Xackpy Breakpoint* are so unlike the phonemes normally heard in human

languages, that one can only compare them to instructions fed into a machine- or, stranger still, as the undecipherable, time-distorted, and polyglot communications which take place in one's dreams.

Even the Futurists, in their mania for smashing traditions, still had conventional titles for their sound and poetry works. However, Russian Futurist poet Alexei Kruchenykh may have been a century ahead of his time when he formulated *zaum* poetry in 1911- built from the phonemes *za* (beyond) and *um* (mind), Mel Gordon describes this phenomenon as follows, offering some clues as to the possibilities of the strange new digital-age neologisms:

> According to Kruchenykh, the Futurist poet has at his disposal this other form of vocalization, one rich with private associations and new sound ideas: *zaum.* The secret of primordial creation, that is, the trans-rational language, could lead the artist far beyond the restraints of socially sanctioned patterns and the vise of national vocabularies.[46]

As the linguist Roman Jakobson observed, Kruchenykh also viewed his laundry list as alphabet as a great work of poetry, putting him in the company of those who "admired the poetic quality of a wine list (Vjazemskij), an inventory of the tzar's clothes (Gogol), [and] a timetable (Pasternak)."[47] Seen in this way, the Heckers and GCTTCATTS of the world - who are developing their own "poetry of processes" - are simply involved in a positive enterprise of finding aesthetic pleasure within the stuff of formulae and algorithms, and swapping out their utility for a sense of real mystery.

Having said this, it is worth returning for a while to the audio techniques that figure into this program of "inspiration through de-familiarization." Heavy distortion, bit degradation, and convolution (a technique in which the 'acoustic signature' of one sound is mapped onto another sound, resulting in strange new hybrids), all work in concert with other forms of digital signal processing to create music which is enticingly *unlike* one's immediate surroundings. As words like 'degradation' might imply, the axiom 'cleanliness is next to godliness' has little value here: clean, hi-fidelity sound samples are often ignored in favor of wading through the digital murk. The music appearing on Mego-style recordings often features sounds that could be likened to the jagged-edged or lossy 'raster' versions of graphics, rather than smooth vector images that maintain their resolution no matter how much they are expanded (a point not lost on the German label Raster / Noton.) There is a high preponderance of low-resolution sound within new computer music, and in one instance - the Rehberg & Bauer CD *Faßt* - the final mix of the album was inexplicably reduced to an inferior 8-bit resolution instead of the 16-bit resolution common for commercial CDs. Much as the "glitch" has become a celebrated part of computerized music's toolkit, so too has the aliased "digital artifact" or the sound that represents a

compression algorithm's failure to make a perfect facsimile of uncompressed sound.

The creation of deliberately junky, "lo-bit" sound artifacts using state-of-the-art equipment and complex coding was a novel move that has since spawned its own sub-sub-genre[48]: and this, once again, confirms Otomo Yoshihide's claim that Mego music is a computer-based upgrade of at least some punk rock ideals. Out-of-control punk musicians destroyed their own equipment as the apotheosis of their stylized "I don't care" nihilism, hinting that such gear was ultimately mass-produced and expendable, without the spiritual value conferred on it by the previous generation of 'dinosaur' musicians (of course, there was also the underlying hint that the musicians themselves were seen as expendable in the urban landscape.) Computer musicians, using their laptops for a number of functions beyond music production and performance, were not so quick to smash their equipment (I have still not seen such a gesture at even the most violent concerts of laptop-generated noise), but they could still resort to smashing the bits themselves, taking streams of 'clean' audio and trashing it with ingenuous software plug-ins. This, then, fulfills the dual purpose of criticizing the utopian elements of digital culture in a unique, non-verbal way, and also of providing the Mego niche audience with something enjoyably alien. Whether it is a biting critique, or just a 'cool noise,' depends only on the listener's personal inclinations towards technology.

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It remains uncertain whether the music generated in the wake of the 21st century computer music 'boom' will ever reach a mainstream audience. Certainly music styles that were once thought too sonically extreme, socially confrontational for public consumption - punk, thrash metal, hip hop - are now fused to the grid of commercial culture. One thing is certain, though, and that is that the critics of computer-based performance and composition will have even more contentious developments to face with music interfaces becoming even more compact and farther removed from the realms of technical skill exhibition: patches for open-source programs like Pure Data have already been ported to tiny devices like the iPod, making real-time performances possible from within the most squalid of personal spaces and making composition something which can be done on commutes by train (a practice which Christian Fennesz has already admitted to.)

More radical, far-flung developments, like the implementation of wireless, antenna-transmitted electricity, would even overcome the battery power constraints faced by these portable devices, if the studies of researches like MIT's Marin Soljačíč bear fruit (apparently Soljačíč has already sold a conference populated by 18 Nobel Prize winners on the subject.)[49] More importantly, time that would otherwise be spent transitioning from one activity to another could be spent on at least some rudimentary form of creative work. For better or worse,

the shrinkage of electronic musical interfaces may also lead to more unprecedented occurrences: another step in the direction of an eventual 'first-level cyborg' symbiosis between flesh and synthetic material- music generated by a direct brain-computer interface, or by means of special sub-dermal implants hooked up to amplification.

Before any of this speculative activity comes to pass, though, there is still the issue mentioned above- whether this music will be accepted by the general public as a stimulating distillation of the increasingly complex human experience, or whether it will be rejected as just more willful obscurantism and aesthetic nihilism from increasingly disliked 'contemporary artists'. If we chart the progress of previous forms of extreme electronic music, though, the most likely result is that elements of it will be assimilated by and used as the ornamentation for more standard musical fare- maybe a "glitchy" introduction to add exoticism, or a looped sample of static electricity buried underneath a lovelorn, pining vocal. And, of course, thanks to the voracious and mutable nature of advertising and marketing culture, and its propensity to censor itself far less than the music business proper, there are always plentiful opportunities to sneak these materials in through a back door.

VanHanen suggests that the dilution and commercialization of the "glitch" aesthetic is already upon us, in fact, as evinced by "…car adverts, MTV inserts and music videos […] now decorated with glitchy filigree, in the domain of graphic design as well as in the audio sphere…it seems that glitch has lost all its 'power of the false' and become another stylistic choice."[50] Terre Thaemlitz, in a fairly dour accounting of 'electronica' politics at the millenium's dawn, goes further still, disapprovingly noting "Calvin Klein's use of Markus Popp" and making the sweeping statement that "electronica liberated digital synthesis from the tedium of academia…[only] to fill our lives with video game and movie soundtrack filler, product tie-ins and football anthems."[51] While I imagine Thaemlitz would attribute this to capitalism's insidious need to subsume any and all potentially radicalizing cultural forces, there is a simpler, more banal explanation for the advertising world's capture of this music. This kind of assimilation has already occurred with the electronic dance music from which artists like Peter Rehberg and EVOL have claimed some influence: the mostly non-verbal, atmospheric nature of that music (along with the relative ease of crafting a passable facsimile of its signature sounds) made it an attractive proposition for advertising departments, and the same would seem to hold true for a more domesticated, subdued or carefully abridged version of the music discussed in this chapter.

Yet time will tell whether this state of affairs is a triumph or a tragedy, and whether or not a state of widespread dilution will prevent individuals from seeking out the "purer" forms of this music, unsullied by the motives of its appropriators. In the meantime, it would be wise to ditch the romantic fiction that of radical computer music being "brainwashed" or hoodwinked into commercial distillations and abridgements of their sound. Besides, it may be

worth simply enjoying the humorous incongruity of such a situation. That is to say, it would be worth re-imagining situations in which it appears that these appropriators are laughing at the artists that they have supposedly subdued: seen from another angle, it could be these "domesticated" artists who are indeed laughing at their hosts. It was not too long ago that one Austrian bank perfectly exemplified the possibility for almost anything to be re-assimilated into the daily functions of commerce. Their reward to new bank account holders upon signing up? Bank books and ATM cards adorned with aesthetic representations of spilt blood, courtesy of Viennese Aktionist Hermann Nitsch.

The foregoing text is excerpted from the revised (2012) version of _Micro Bionic: Radical Electronic Music & Sound Art in the 21st Century_, by Thomas Bey William Bailey.

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[1] With apologies to Fenn O' Berg, from whose 2002 Mego CD *the Return of Fenn O' Berg* this heading is taken from.

[2] Jim Green and Ira Robbins quoted in *Trouser Press Record Guide 4th Edition,* p. 243- ed. Ira Robbins, Coller Books, New York NY, 1991

[3] Lucien Roberts, "Profile: To Be Frank." *Design Week,* May 1 2003, p. 15.

[4] Herbert Blau, "From the Dreamwork of Secession to Orgies Mysteries Theatre." *Modern Drama,* Vol. 52 No. 3 (Fall 2009), pp. 263-282 (p. 277.)

[5] Hermann Nitsch, *Atlas Arkhiv Documents of the Avant-Garde 7: Writings of the Vienna Actionists*, p. 129. Ed. Malcolm Green. Atlas Press, London, 1999.

[6] Genesis P. Orridge, review of *Atlas Arkhiv Documents of the Avant-Garde 7: Writings of the Viennese Aktionists*. Unpublished essay, 2000.

[7] Caleb Stuart, "Glitching and Skipping Compact Discs in the Audio of Yasunao Tone, Nicolas Collins and Oval." *Leonardo Music Journal,* Vol. 13 (2003), pp. 47-52 (p. 50.)

[8] See http://www.heise.de/newsticker/meldung/Kommissar-Computer-Horst-Herold-zum-85-Geburtstag-212459.html. Retrieved October 28, 2012.

[9] Max V. Mathews quoted in The C-Sound Book, p. xxxi. Ed. Richard Boulanger. MIT Press, Cambridge MA, 2000.

[10] In my book *Unofficial Release* (2012)*,* I have expanded on how the word "amateur" has evolved to mean not a "lover" or enthusiast of something (as is implied in the word's Latin root of *amare*)*,* but a reckless trifler whose quickly-assembled works show more concern with public recognition than joy from engaging in the creative process.

[11] http://www.bobostertag.com/writings-articles-computer-music-sucks.htm. Retrieved October 25, 2012.

[12] *Ibid.*

[13] John Duncan quoted in liner notes to *Our Telluric Conversation* CD, p. 6- 23five, San Francisco, 2006

[14] Janne Vanhanen, "Virtual Sound: Examining Glitch and Production." *Contemporary Music Review,* 22:4, pp. 45-52 (p. 45.)

[15] The duo in question has released a 2001 LP on the Tochnit Aleph label as P.O.P. ["Product of Power."]

[16] Tad Turner, "The Resonance of the Cubicle: Laptop Performance in Post-Digital Musics." *Contemporary Music Review,* 22:4, pp. 81-92 (p. 83.) Since the performance venues I refer to in this chapter are generally clubs, bars, and concert halls, I recommend locating a copy of this article for further insight into the reception of "post-digital" music as it is performed in art galleries and elsewhere. This topic will also be returned to in this book's chapter on Francisco López.

[17] Mark Harwood, review of "What is Music?" festival. *Wire* #194 (April 2000), p. 85.

[18] Turner, p. 85.

[19] Quoted in Bert Bongers, "Interview With Sensorband." *Computer Music Journal,* 22:1, pp. 13-24 (p. 20.)

[20] Email correspondence with the author, February 2008.

[21] http://www.mego.at/mego032.html. No longer available.

[22] Personal conversation with the author, April 2006.

[23] Email correspondence with the author, July 2008.

[24] Andrew V. Uroskie, " Beyond the Black Box: The Lettrist Cinema of Disjunction." *October* #135 (Winter 2011), pp. 21-48 (p. 25.)

[25] Collins' method is described by Caleb Stuart as follows: "Without any real knowledge of the workings of the technology, Collins as-sumed correctly that the CD player's laser never left the disc's surface, reading not only audio information but 'hidden' information such as error-detection and information-coverage data, as well as data defining track locations, lengths and so on. Locating the player's control chip, Collins came across a 'mute' pin, which he removed, resulting in a constantly chattering playback.**"** Stuart, p. 49.

[26] http://www.wfmu.org/~kennyg/popular/articles/glitchwerks.html. Retrieved October 24, 2012.

[27] Kim Cascone, "The Aesthetics of Failure: 'Post-Digital' Tendencies in Contemporary Computer Music." *Computer Music Journal,* Vol. 24, No. 4 (Winter, 2000), pp. 12-18 (p. 13.)

[28] *Ibid.,* p. 17.

[29] Zbigniew Karkowski quoted in *Substantials #01,* p. 8. Ed. Akiko Miyake. CCA KitaKyushu, KitaKyushu, 2003.

[30] Bongers, p. 13.

[31] Personal conversation with the author, April 2006.

[32] email correspondence with the author, December 9 2010.

[33] Roberts, p. 15.

[34] Erik Morse, "Music Box." *Modern Painters,* March 2010, pp. 30-31 (p. 31.)

[35] Nicholas Negroponte, *Being Digital* p. 229, Alfred A Knopf, New York, 1995

[36] Also an acronym for the unaffiliated *Groupe d'Etudes Sociotechniques pour les Télécommunications.*

[37] User 'tine' quoted at http://www.discogs.com/release/97472, July 12, 2006

[38] Notes for E+ installation by Alku / Imbecil- part of the *rand()%lab* exhibition at Medialounge, The Media Centre, Huddersfield, UK, 04.11.04 - 07.01.05.

[39] Nick Collins & Andrew R. Brown, "Generative Music Editorial." *Contemporary Music Review,* 28:1, pp. 1-4 (p. 2.)

[40] Email correspondence with the author, December 10 2010.

[41] Bob Ostertag, *Are Two Screens Enough? The Networked Screen and The Human Imagination,* p. 10, unpublished manuscript, 2008

[42] *Ibid.,* p. 7

[43] John Cage, *Silence,* p. 3. Wesleyan University Press, Middleton CT, 1973.

[44] Kim Ryrie quoted in *Vintage Synthesizers* by Mark Vail, p. 190. Miller Freeman, San Francisco, 1993.

[45] *Ibid.,* p. 196.

[46] Mel Gordon, *Songs From the Museum of the Future: Russian Sound Creation (1910-1930). Wireless Imagination: Sound, Radio, and the Avant Garde,* p. 212. Ed. Douglas Kahn and Gregory Whitehead, MIT Press, Cambridge MA., 1992

[47] Roman Jakobson, *Language in Literature,* pp. 369-370. Harvard University / Belknap Press, Cambridge MA, 1990.

[48] See http://www.vagueterrain.net/content/2011/09/new-high-low-adventures-low-bitrate-audio. Retrieved November 1, 2012.

[49] Davide Castelvechhi, "The Power of Induction: Cutting the Last Cord Could Resonate with Our Increasingly Gadget-Dependent Lives." *Science News,* Vol. 172, No. 3 (Jul. 21, 2007), pp. 40-41 (p. 40).

[50] VanHanen, p. 47.

[51] Terre Thaemlitz, "Operating in Musical Economies of Compromise (Or . . . When Do I Get Paid For Writing This?)" *Organised Sound,* Vol. 6 No. 3 (December 2001), pp 177-184 (p. 182.)