NIME: A Mis-User's Manual

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ABSTRACT

Ever since the initiating workshop at the 2001 ACM CHI'01 Conference, annual New Interfaces for Musical Expression conferences have seen a proliferation of work featuring different forms of music, research values, philosophical, ethical and political standpoints. The 2025 'Entangled' theme celebrates this diversity of creative, technical, and social 'intelligencings' (Thrift [68, p153-154]). It is precisely the non- or pluri-paradigmatic character of NIME that is its strength.

Drawing on Maria Lugones [41], we characterise NIME less as an entangled weave—where threads maintain their separate yet assembled and interconnected character—than as a 'curdling' where relationships are more complex, varied, mutually interrupting and shaping, indeterminate and unknown without careful dialogue. We do not consider it appropriate to offer unifying frameworks or mappings with often hidden authoritarian implications. Rather, following Rancière [5], we prefer a radically democratic dissensus and, following Lugones, a spirit of 'festive resistance' where we poke at the limits of our inherited metaphors to undermine attempts to provide a fixed orderliness, (re)framing topics to kickstart exchange on new fertile grounds for collaboration. Multiple kinds and collisions of agency, and the lively openness of what some might deem 'failure' are prioritised over the often inhibiting closure and certainty of 'success' [e.g. 10, 11, 12, 40].

Our topics include: multiple ways of making as a means of maximising exposure to possible failure; shifting from interfaces to interfacing to create arenas for action rather than tools for purposes; foregrounding risk, inefficiency and forgetting; formulating improvisation as knowing-when and composing-the-now; performance practice, settings and contingencies; alternative resourcings/reframings for research; a wild spirit of tactical oppositionalism, dynamic uncompromise, and existential pluralism, to embrace the independence of divergent voices.

Author Keywords

curdling, performance, festive resistance, dissensus, existential pluralism, dynamic uncompromise, interfacing, failure, risk

1. INTRODUCTION

This paper relays a conversation between authors with multiple links to NIME and cognate research communities. NIME's diversification is exemplified by themes including *Accessibility of Musical Expression* (Birmingham, 2020), *Decolonising Musical Interfaces* (Auckland, 2022), and *Frugal Innovation* (Mexico, 2023), and by NIME-related publications emphasising the epistemological and political complexities our community seeks to address [e.g. 34, 40, 46]. These are made explicit by this year's theme, which evokes Barad's approach to entanglement [5] and diffraction, paying tribute to Haraway's description of diffraction as "a mapping of interference, not of replication, reflection, or reproduction. A diffraction pattern does not map where differences appear but rather maps where the *effects* of difference appear" [32, p466]. Haraway's and Barad's writings have spawned readership in areas relevant to NIME including feminist studies [69], cultural humanities [26], science and technology studies (STS) [42], and Human Computer Interaction (HCI) [23]. While such interdisciplinarity demonstrates the power of entanglement and diffraction concepts, diversity of approaches to these concepts also raises risks of weakly assured claims of consensus or shared interest, and of reluctantly avowed babelisation. Far from critiquing entanglement per se, we seek to uphold its values by addressing these risks in both form and content, maintaining our triad chords as notes of creative mis-use and productive interference. Different kinds of practice-based work, and writings of musicians and artists emphasising its unique importance, are referenced throughout this paper to exemplify the ethos and creative conduct we advocate, attending to our – and other – multiple voices in their diversity.

Referencing Lugones 'curdling' and Rancière's 'dissensus', we begin by addressing openness to failure as a creative strategy, but one that also haunts the diehard ideals that tend to drive faith in scientific replication methods. The second section argues for interfacing as an *activity* charged with indeterminacy and ambiguity, dislodging the interface from its substantive status as an (all-too-)proper noun, to propose a new 'I' for NIME. We next draw attention to the creative wealth harboured by inefficient, forgetful ways of making, leading beyond functionalist over-purposing of tools to embrace the playfulness of unforeseeable creative encounters. 'Knowing-when' and 'composing-the-now' as improvisational strategies then reformulate the entanglings of rhythms and agencies, pleading for a reimagining of NIME settings to accommodate these lively creative energies. Our penultimate section considers research framings and re-framings, and the need for design spaces that do not merely accept, but encourage and value the dis-order and dissensus of work that is necessarily and constantly in progress. The demands of tactical oppositionalism, dynamic uncompromise, and existential pluralism, end these never-fully-curdled/ever-curdling textual aggregations and, as keywords, underpin conclusions that reinforce our call for diversity and multiplicity, evidenced by cited practices that are open to, and that open up, new kinds of creative endeavour.

Together with the NIME Mis-User's Manual zine, linked at the end of this paper and distributed at the conference, we hope that our un-easy, unorthodox effort is recognisable as a gesture of festive resistance, motivated by our deep desire to share and dialogue as part of the NIME community.

2. FAILURE, CURDLING, DISSENSUS, METHOD

"It's very likely that on the basis of the philosophy that every error has to be caught, explained, and corrected, a system of the complexity of the living organism would not run for a millisecond. Such a system is so well integrated that it can operate across errors." John Von Neumann [70, p71]

Von Neumann denounced the systematisation of error management that inhibits the re-organisational plasticity on which evolution depends. Re-organisational plasticity is key to the creative improvisation authors of this paper consider a determinant NIME activity. Incremental, optimised, technology product-focussed development at odds with NIME's creative values boils down to what Derrida calls a mere programmatics of invention [18], its lineages and path dependencies cleanly mapped out by fail-safe ways of making. NIME's socially shaped and experienced, human and technological-cum-computational encounters are however full of unpredictability, accidents, and the possible failure intrinsic to dynamically evolving processes. Performance practices are the work of purportedly intelligent, lively organisms playing with multiple kinds of agency ranging from the known to the inconceivable, and with their simultaneously operative temporalities. Potential failure is integral to the knife-edge enjoyment of performance and its creative responses to AI's encoded biases and thinly calibrated mimicry of humans, that risks turning us into stochastic parrots [7]. Insofar as errance means deviation from well-trodden paths, the unforeseen opportunities offered by multiple ways of making are necessarily offset by unforeseen instances of possible failure. "Try again. Fail again. Fail better." —as Samuel Beckett wrote [6].

In NIME, ideals of techno-scientific methodology sometimes inform notions of success and failure. The iterative improvement of a sensor technique or interface or instrument design might be seen as akin to the repeated testing and maturing of a scientific theory. The sustainability, longevity and uptake of a Digital Musical Instrument (DMI) might be seen as akin to scientific replication where published work is re-enacted as a test of its robustness and reliability. Yet these ideals of science and technology bump up uneasily against sociological and anthropological studies of scientists' and engineers' actual practice. Since the 1980s, Harry Collins [17] and others have pointed out that replications are rather rare—scientists and engineers prefer, on trust, to get on with new work of their own—and in none of the studies reported in [17] do we find a researcher replicating work on the basis of published accounts alone—direct contact on some or other detail of method seems essential, with much failure along the way. Donald MacKenzie [43] makes the striking claim that, other than the US Manhattan Project (1942-1946), no nation has ever successfully built and tested a nuclear weapon on published physics alone and without someone on the development project already having that experience. MacKenzie and Spinardi [44] thus draw the optimistic conclusion that it *is* possible to uninvent the Bomb through test and proliferation bans and waiting for expertise to die out. It is in the practice of making that differences are revealed. It is in interaction that troubles are navigated. It is through disseminated know-how that communities of practice support themselves. It is through forms of experimentation which continually expose themselves to risk and which are equally likely to treat failure as a friend as success an imposter that we might create vital cultures of musical making and technological excitement.

Maria Lugones' work helps think about the value of multiplicity as a form of festive resistance to monoculturalism's desire for sameness, a kind of *failure in purity* that Lugones articulates as "the act of curdling" [41, p478]. In her article *Purity, Impurity, and Separation*, curdling strategies include "playful reinvention of our names for things and people, multiple naming" [ibid]. There is a compelling resonance with Jacques Rancière's concept of dissensus [60]. For Rancière, since the real is always a matter of construction, "Political and artistic fictions introduce dissensus by hollowing out that 'real' and multiplying it in a polemical way. The practice of fiction undoes, and then re-articulates, connections between signs and images, images and times, and signs and spaces, framing a given sense of reality, a given 'commonsense'. It is a practice that invents new trajectories between what can be seen, what can be said and what can be done" [ibid. p148–9]. Design fiction and absurd making are approaches familiar to NIME artist-designers including Andersen and Wakkary [3], and Lepri et al [40]. It is this direction of travel that we explore, as a means of opening up and nurturing the possible. Elizabeth Grosz is insightful here, in bettering our understanding of how the future is dependent on *but not determined by* the past. "The future is that which overwrites or restructures the virtual that is the past. The future that emerges is only one of the lines of virtuality from the past. The past is the condition for infinite futures" [29 p18]. Grosz extends Henri Bergson's conception of time as duration—in contrast to smooth and continuous growth, duration proceeds through "division, bifurcation, dissociation—by difference" [30, p53]. Crucially, not all (indeed, not most) of the virtual lines afforded by the past are necessarily ever realised, but by multiplying the manifold possible conditions for failure, we can become more agile and less easy to predict and control. And while this position has obvious political implications, it goes to the heart of what is meaningful in our attempts at designing and improvising with new musical instruments [e.g. 11, 12, 28, 40].

3. INTERFACING, ECOLOGIES, ARENAS FOR ACTION

The concept of interface was key to the emergence of HCI as a distinct body of research, evolving from orientations to computer systems development encountered in ergonomics or software engineering. The interface is the meeting ground between two entities taken as bounded and separate but in need of bringing together—the user and the system. Early HCI researchers who were formative and programmatic including Card, Moran and Newell [16] saw cognitive psychology as the key to understanding action at the interface, and informing good technical design. This picture began to creak through the 1980s with growing sensitivity to the organisational and workplace contexts of computer use, networking technologies, and considerations of social organisation of the workplace and the politics of automation—as expressed in the Computer Supported Cooperative Work (CSCW) conferences of that time. While this history is familiar, two contributions from the early 1990s are instructive for NIME today. Grudin [31] saw HCI's historical developments as suggesting that the computer was 'reaching out' such that 'the interface' was now a mobile boundary of concern rather than something that could be located at the 'skin' of the machine. Bowers and Rodden [9] took this still further and argued for the 'explosion' of the interface so that distributed fragments of interface-work could be seen wherever ontologically distinguished entities bump up against each other—be they traditional HCI's user and system, or early CSCW's networked system and worker—or, as we might say

now, wherever matters of entanglement are encountered in whatever situated form they have. A turn to interfacing as a primary research topic, as a new I for NIME, shifts focus to under-investigated topics. Rather than somehow mend (or make seamless) separations through good design, how do we create arenas for action in which complex and variable relations between elements can be explored (performing interfacing)? Rather than making tools for purposes, how do we mobilise ambiguity and indeterminacy such that multiple relationships and identities can be engendered (not just those where intentions are realised within an ontologically fixed schema of user on the one hand, system on the other, and interface between)? Perhaps we should, adapting a slogan of J. J. Gibson's, "Ask not what's in the machine but what the machine is in" and explore what becomes of the machine and those who ask when we think this way, that is, ecologically.

"What's important is creating spaces for inspiration, spaces where contentious thinking can be productive. Ways to take those energies beyond the perimeters of closed communities." Simon Waters, personal correspondence with the authors

Like musicking, interfacing has the potency of a verb. We engage with the action-laden, time-hungry efforts of *interfacing* rather than the constituted—albeit relational—tools that are *interfaces*, and with performance practices committed to ethico-onto-epistem-ology's intertwining of ethics, knowing, and being [5, p185]. Side-stepping separations between ontology and epistemology, we subscribe to the narrative processes of ontography: "investigations of particular world-making and world-sustaining practices that do not begin by assuming a general picture of the world…" as defined by Lynch [42, p444]. Our tools are engendered, used, and misused in arenas of festive resistance which welcome the quirkiness, redundancy, and oddity of idiosyncratic encounters that condition deep diversity evoked by Thrift [68, p119] and Agre [1, p281].

4. INEFFICIENCY, FORGETTING, GESTURAL ABUNDANCE

"Inefficiency and forgetting are threatened species in our creative ecology." Waters [73, p59] [paraphrased]

In his durably relevant text, Waters evokes information overload—driven by the constant quest for enhanced storage of and access to data—as a threat to inefficiency and forgetting, which he names as preconditions for creativity. Yet we need these threatened species, just as we need dithering, errance, tinkering, and choosing to tackle unnecessary obstacles as useful if not optimal courses of action where situations are not amenable to quick-fix, one-track, goal-focussed approaches, as recounted by Kirsh and Maglio [35], Law [38], Suits [67]. Such approaches are at loggerheads with those sometimes witnessed at NIME, where systematic demonstrations of successive sensors or programmed functions, however technically impressive and intriguing, rarely make for the most exciting creative experiences. Improvisational performance, on the other hand, involves riskily live, crafted encounters of multiple species and temporalities. In short, NIME activities demand a trade-off between being open to the propensity of things and timescapes, and re-membering models of encounter that can inspire further creative work. Gauging this trade-off is risky, but to underestimate its significance is to make live performance either a questionably memorable cry in the wilderness or a mechanistic exercise in iterative prototyping.

Recognition of the inherent politics and diverse legacies of musical instruments evoked by Morreale et al [56] beyond western innovation-centrist tendencies, incites reflection on the roles and influences of memory in our work. By providing insights into musicking's social and technical affordances, NIME media archaeological investigation of instruments from different parts of the globe, exemplified by practices of Cadavid [15] and Armitage et al [4], opens up exciting terrain for 21st century explorer developers and performers. In parallel, the swift obsolescence of recent technologies— programmed or unplanned—reinforces the need to rethink our notions of technological time [20]. The drive to prolong, adapt, reuse, or repurpose instruments and DMIs, acknowledging maintainability and sustainability issues as a community [47, 53], is prompting appreciable creative responses [21]. The wicked question that then arises is whether recycling and updating might not turn NIME's infamous DMI graveyard into a land of zombies.

Regardless of the cultural importance of memory and legacies, of archives and historically charged objects, the social value of live performance energies risks being overridden by preservationist agendas and by zeal to digitise everything—willfully or unconscionably generating resources for AI. Such zeal might overlook the human need to forget (at the very least, to avoid cognitive overload), and the fact that ill recalled or misconstrued readings of past events have opened up unexpected creative avenues (flawed renaissance understandings of the Aristotelian unities inspired writers including Shakespeare). NIME explorations of legacy practices and artefacts may productively err, misread, and misinterpret in a context of live creation, not museification.

A practice-grounded example of the value of errance is illuminated by Conor McAuley's description of learning the *one-handed roll* technique on the drum kit while studying the playing of Chris Corsano [49]. Over time, McAuley's approach diverged from the original technique in a way that could be described as less efficient, causing him at one stage to think he "was employing the wrong technique entirely" [ibid, Section 2.3]. Later, he recognised that his failure to precisely imitate the conventional version of the one-handed roll was in many ways a positive—a realisation that occurred while watching Mark Sanders' performance of the technique—similarly less focused on optimisation and more about opening up new musical pathways. "It was simply a different way of getting my hands around the drum, another nod to motor abundance" [ibid]. Here McAuley is referencing a recent shift in the study of skillful movement in psychology, from "motor redundancy" as excessive and undesirable, to what Latash calls "motor abundance" [37] as multiplicity providing for greater adaptability and resilience. This point has been developed in the context of ecological aesthetics and musical interaction by Rodger et al [61].

On related lines, David Sudnow's *The Ways of The Hand* [66] is an account of his development as an improvising jazz pianist. He discusses pianists who notably accompany their playing with swaying, quietly singing to themselves, holding a hand poised in the air, all manner of what Wanderley et al describe as 'ancillary gestures' [72]—gestures which do not seem, on first inspection, to matter to the piano's striking of strings by hammers propelled by fingers. Sudnow started experimenting with introducing these activities into his own playing and experienced considerable benefit. Rather than being 'ancillary' adornments to performance they enabled him to ready his body and parts of it to what might happen next in the unfolding music or what needs response, for example, a co-performer's contribution or an unexpected resonance from a complex chord he had found himself playing. A hand poised in the air could fall down to

parts of the keyboard that a hand still resting on the last keys played might stumble over. A swaying, humming body might give a literal sway to the music that a taut, silent body would not—and so forth. Rather than separate ancillary from functional gestures, or think about what's efficient and inefficient, or what's risky and safe, or what's remembered and what's forgotten, or right or wrong, we prefer to ask about the potential musicality of all these matters. Inefficient machines and performers that take ridiculous risks, forget all that is trusted, true and worthy, amidst a flurry of camp ancillary gestures may well rock hard.

5. KNOWING-WHEN, COMPOSING-THE-NOW: IMPROVISATION AND PERFORMANCE

Joel Ryan describes "Knowing when" in his *Music and Machines IX* seminar [62] as a knowledge that is as articulate as language: performance actions mobilise an acute sense of precision and immediate awareness, where reaction times are often much faster than self-conscious thinking or action. Tangible and intangible things with which we engage in performance are more than just sensitively placed: they are opportunistic agents in a collaborative process. "Knowing when" seminar conversations raised knotty (entangled) questions, regarding the paucity of our imaginations in applying logical/digital knowledge with its necessarily discretised parameters to the necessarily intersensory, physical, sensible, embodied experience of musicking. And as a corollary or counterweight, questions regarding the viability of our all-too-human quest to match discretised abstractions of computational processes onto the grainy resistance of our embodied experience. Ryan's "Knowing when" is anchored in performance practice informed by his deeply interdisciplinary interests, and longstanding collaboration with STEIM and the late Michel Waisvisz.

Waisvisz introduced his 2006 "On composing the now" NIME performance as "a live electronic performance of musical thoughts about immediacy, involvement, touch, energy, engagement, grooves, narrative sound, reckless jumps, modest anticipation, desired change, intention space, absent-minded play, gamble, instinct, and disaster executed by leaving these words behind and diving into sound" [71, p423]. Improvisation curdles multiple forms of existence and entangles threads of dialogue, generating performance experienced as exuberantly overflowing, as poignant bearer of what Thrift calls "the precarious 'emptiness' of the now" [68, p135], or as anything and everything else implied by "knowing-when".

Let's add two further ways to think about temporality in relation to improvisation, one inspired by Elizabeth Grosz and another by Mark Fisher. First, an extract from a film essay by Stapleton et al that references Grosz's approach to futurity: "But all the while the virtual remained material, mattering in the multiple senses of that word, providing resistance, confronting me bodily, co-constituting virtual lines from the past into the condition of infinite futures (after Elizabeth Grosz)" [65]. Entanglements are what we investigate and that is our improvisatory *prima materia*. Improvisation, after Grosz, might be understood as emerging from a lived laboratory of material possibilities in which open futures are made through improvisatory acts, entangled in the present by the virtual threads of the past and the future [29, p18]. Improvisation is an acceptance or even a celebration of coevalness. A shared now. Crucially, for Grosz, duration is qualitative, structured by specific and unique rhythms, which are only rendered quantitative through the spatialisation of time into discrete and standardised units [29, p17]. Many musicians are intimately familiar with the distinction between the quantitative timing of 'the grid' in step sequencers and DAW timelines, in contrast to the qualitative nature of felt time which makes possible groove and swing. *Knowing when* in qualitative musical time thus requires intersubjective negotiation.

Second, Fisher. In the context of networked forms of improvised music making (geographically separate but connected online), it can become more difficult to develop a shared sense of the here and now. Improvising at a distance can be *eerie*, as Fisher (after Sigmund Freud) describes the absence of that which should be present [22]. We are together, but apart, often feeling and falling in and out of time at the same time. While latency is a reality in any acoustic environment due to the speed of sound, it is more pronounced the greater the separation between players, and even the speed of the light used in optical cables to transmit audio data online is bound by physical limits based on distance. While this is not a significant issue for many forms of remote communication, it poses challenges for certain forms of real-time music making. The sense of eerie temporal separation that is amplified by the spatiotemporal distances of network musicking can bring both micro- and macro- temporal discontinuities to the fore. However, in our experience [65], even in such conditions, with enough care, a shared sense of time is possible—a coevalness no matter how fractured, layered, desynchronised, proleptic or analeptic. Such care-ful navigation of discontinuity has aspects in common with the concept of *charity* in Umberto Eco's semiotics [19], i.e. we never really know precisely what other people mean when they utter a specific word (your 'green' is not identical to my 'green'), but we still manage to communicate through paying attention to resonances that can bridge these differences. *Knowing when* in improvisation requires focused attention, but also something like this form of charity, where shared resonances can articulate dissensual grooves.

In her studies of jazz improvisation, Ingrid Monson takes as her starting point the collective production of rhythm and how this is accomplished by the bass, piano and drums [54, p26-72]. She introduces each instrument before discussing soloists' melodic activities. Indeed, Monson's informants insist on the melodic and harmonic potential of each instrument in the rhythm section. A 'walking' bassist can break the pattern to echo or vary one of the 'front line's' melodies. A 'comping' pianist can bring out right hand melodies from an otherwise chordal accompaniment. A drummer can select particular drums to shift the harmonic register of the ensemble or can play short sequences of pitches (e.g. on tuned toms). In short, each instrumentalist has a melodic-rhythmic flexibility which enables varied relationships to be taken to each other and to any soloist who might be playing at the time. For nearly all of Monson's informants it is the collective production of a groove which makes for effective jazz ensemble playing. The groove is an aesthetic ideal but also a matter of practical coordination between players—real-time achievement of coevalness, not any kind of enactment on a grid—where players maintain a dynamic flexibility of identity with heterogeneous means at their disposal to create hooks or handles for others to latch onto. Coevalness and knowing-when, when time is non-gridded, curdled.

Marquez-Borbon and Stapleton in the *The NIME Reader* [46] argue that "performance is the biggest casualty" at NIME. While "NIME's mix of disciplines, methodologies, outputs and proclaimed openness to diversity has been widely celebrated […] Not all actors in NIME are speaking from the same position of power, and an openness to diversity does not automatically result in other voices being heard" [46]. In the past decade, there have been improvements in this area, exemplified by Federico

Visi's efforts to increase access to conference performances through greater attention to peer-reviewed Music Proceedings for NIME 2019. These efforts have unfortunately been inconsistent, and pragmatic issues remain, such as the pay-to-play conference fee model which disincentivises freelance musician participation, as well as the bizarre requirement to anonymise music submissions resulting in the censoring of performers' submitted video documentation. More fundamentally, Owen Green's observations on NIME's lack of engagement with "wider issues" of performance practice continue to ring true [27]. As Green points out, and demonstrates through his practice [e.g. 28], practice-led research can be "complementary to quantitative, controlled-condition methods" by augmenting the "generality of observation" found in these methods "in order to contend with musical practice in local, socially entangled, contentious and noisy complexity" [27]. But what would this look and sound like? What structures need to be bent, or reimagined entirely, to encourage all NIME participants to attentively engage with the messiness of performance practice?

6. REFRAMING RESEARCH, INTERPRETATIVE MULTIPLICITY, MANY MAKINGS

Diversification of NIME research is borne out by responses to thematic shifts, and solicitations for contributions from beyond the self-perpetuating expertise of academic communities. The need nevertheless remains to durably and equitably strengthen NIME research links, internally and externally. While financial means and access to infrastructure are prominent research enablers or inhibitors, focus on specific kinds of environments may inhibit the multiplicity of research avenues, if not their potential linkages. For Pelinski et al, while "most practice research contributions in NIME do not address the technical phases of instrument building […] Technical processes are still mainly discussed from linear, goal-oriented narratives focused on technical implementation." [59, p11]. Proposing critical practice as their locus of knowledge production, they assert scientific legitimacy while acknowledging the messy complexities of art-design-engineering type inquiry. Beyond institutional disciplinary or interdisciplinary nexūs, and beyond the dictates of material resources, alternative research reframings might more broadly reference the communicability and affective contagion of live performance as a force that exceeds and binds communities. This is what Simondon calls the transductive power of aesthetic intention: leading "from one domain to another; it is the exigency of an overflowing and of the passage to the limit; it is the opposite of the sense of propriety, of the limit, of the essence contained in a definition…" [63, p210]

Another curdling strategy proposed by Lugones is: "undermining the orderliness of the social ordering; marking our cultural mixtures as we move" [41, p478]. This strategic move against order and clarity is reminiscent of Gaver et al's framing of 'ambiguity as a resource for design' [24]. Those authors argue that 'things themselves are not inherently ambiguous' but rather ambiguity is created through an 'interpretative relationship between people and artefacts' [ibid. p235], an argument that opens out a design space for artefacts that have ambiguity built in or themselves afford polyphonic interpretation [ibid]. Lugones' perspective is helpful in pointing to how marking heterogeneity in social (dis-)ordering is a primary source for creating meaningful ambiguities.

If we are serious about enabling curdled cultural mixtures, then many of our approaches to research, making and musicking, need not so much adjustment as multiplication. That is, our methods, musics, and knowings become legion. But, in the face of democratic dissensus, we cannot do this naively in the hope that some peaceful rationalism will even everything out. Entanglement becomes less a phenomenon, more a way of being. And it may well be awkward and painful as much as elegant and joyful.

Through work in NIME and adjacent fields over the last 15 years, John Bowers and colleagues [e.g. 10, 12, 13] have staged multi-participant making sessions which are thematised, typically abstractly or poetically, sometimes around a design 'provocation', more rarely in terms directly derived from an academic research preoccupation. Multiple responses are invited, proposed, compared and contrasted, and worked on, in varying patterns of collaboration, emphasising breadth rather than depth, usually over the course of a few days ending with a public showing. If these making sessions are hosted by an institution, the aim is to make a bona fide contribution to their concert or exhibition program, or however they engage with their publics. The philosophy is one where everything made is treated as fully-(or equally-)fledged, not a prototype or demo. This is not work-in-progress (because all work is in progress). Similarities and differences between things made are discussed and annotated. These annotations may be used to, say, structure a performance and, subsequently perhaps, to organise documentation or, even, research implications. But consensus is not assumed, nor is convergence hoped for. Rather, a multi-lateral exploration of possibility is anticipated—*Many Makings* in the title of [10]—where disciplinary, conceptual, and practical affairs are taken together.

7. TACTICAL OPPOSITIONALISM, DYNAMIC UNCOMPROMISE, EXISTENTIAL PLURALISM

"Personally, over the years, I have absolutely been driven by an oppositional stance: 'lots of people do this, so let's not'. And, I confess, much like early STS, this was motivated by the belief that 'science', whatever that is, was over-believed and over-privileged— in the era of vaccine and climate scepticism this is of course disastrous and all of Latour, Haraway and me [cough] have completely changed our minds. My oppositionalism is now more tactical. When Owen Green and I wrote our piece a few years ago it was to open out 'design spaces', create new topics and ways of thinking about research performatively—not just to take the piss. Taking the piss is indeed a viable research strategy but only taking the piss, less so. You need other methods too!" [Bowers self-interview, 2024].

Continuing with curdling strategies from Lugones: "announcing the impurity of the pure by ridiculing his inability at self-maintenance" [41, p478]. The false promise of self-sufficiency has been critiqued by many, not least by Donna Haraway: 'Nothing makes itself; nothing is really autopoietic or self-organizing' [33, p58]. While this can be (mis-)interpreted as a jab at the enactivist concept of autopoiesis developed by Maturana and Varela [48], Haraway advocates for a way of understanding systems that is less focused on boundary making and more on interaction: 'Sympoiesis is a word proper to complex, dynamic, responsive, situated, historical systems. It is a word for worlding-with, in company'" [33, p58]. Lugones is also wise to the sympoietic and relational dimensions of curdling, taking frictions in our interactions a step further: "We not only create ourselves and each other through curdling but

also announce ourselves to each other through this art, our curdled expression. Thus curdled behavior is not only creative but also constitutes itself as a social commentary" [41]. Lugones' argument gives weight to the view that NIME's creative contributions should be subjected to a similar level of tactical oppositionalism and criticality as other forms of social discourse, and that such a process can create meaningful intersections and interdependencies. Performance making at NIME, often misunderstood and under-supported, would benefit—like all NIME facets—from thoughtful, rigorous critique from its multiple constituencies. This interference of angles, like those relayed by a diffraction grating, would yield multiple beams—views—that illuminate and provide fresh colour to our endeavours as a community.

NIME's openings onto feminist, postcolonial, relational philosophies, and onto Malafouris' and Hodder's theories of material engagement [45, 35], are timely. We are well placed to develop a privileged perspective as a community embracing musicking described by Waters as a social system with distinctive practices [74], and as a platform whose history we are uniquely competent to explore and creatively exploit. Etienne Souriau affirms that a historical review of philosophy lets us embrace existential pluralism: Aristotle's identification of actual and potential being, the status of imaginaries and of future contingents, resulted in the "extreme plurality of modes of existence" developed throughout the Middle Ages [64, p104]. Whether dealing with technical artefacts or social and cognitive transformations (all inextricably entangled), we can draw on a wealth of references from beyond familiar modern/post-modern western techniques and bodies of knowledge, as inspiration for radically 'new' work.

Terms employed by indigenous authors including Māori philosopher Carl Mika, testifying to the violence to which their philosophies are subject, resonate with those of us engaged in willfully non-normative, academically problematic performance practices: "*While all walks of colonised life encourage concussion (a violent shaking)—in which the self is launched out from a ground of unity into one of disconnected illusion—the one we have to deal with most frequently as academics is the university. It is an interesting observation that, under the guise of objectivity, we often set out to 'dis-cuss' (shake apart) things as academics."* [52, p48]. In asking whether the western tradition has the intellectual resources to overcome its philosophical blindness, Mika and Peters note a phenomenon that, "*in the fashion of Barad, needs to be cut out and defined just momentarily as a 'local resolution within… inherent ontological indeterminacy'. (...) this temporary encapsulation must occur, it seems, so that we do not fall victim to any perceived grandiosity (and hence unassailability) of Western philosophy.*" [51, p1126].

Though the disciplinary—or anti-disciplinary—scope of our community inevitably harbours irreconcilable views, we could well heed Geoff Bowker's take on biodiversity databases, evoking "*the forging of a dynamic uncompromise between agonistic groups in the very creation and structuring of biodiversity databases. The databases being developed today do not impose a hegemonic solution: they unfurl within them, at the level of data structure and data processing algorithms, the contradictions folded into their creation*."[14, p751].

In a not dissimilar vein, Chantal Mouffe's reflection on ways to deal with the tensions of democratic systems underpins "agonistic pluralism", a strategy devised neither "*to eliminate passions nor to relegate them to the private sphere in order to render rational consensus possible*" [57, p755-756]. On the contrary, agonistic confrontation is the very condition of existence of democracy. Here, we choose to take the risk of being misconstrued as casual, noting that Mouffe's defence of agonistic pluralism as a safeguard for deeply democratic functioning appears as important and as urgent for NIME itself, as for the wider world to which our community belongs.

8. MANY CONCLUSIONS

"*Every system contains forces that are antagonistic to its own perpetuation*" Edgar Morin [55]

"*It is good that certain things do not exist, so that we have to create them; so that if they are to exist, they are in need of us."*

Etienne Souriau [64]

How can a paper which urges multiplicity, complexity, incompleteness, openness, failure, and contradiction have a conclusion section? Why would such a paper do that to itself? But to conclude a paper is not to conclude a discussion. And to conclude is not to occlude. Rather, to provide an ending here, we intend to open up what is possible and not obscure our workings. This conclusion is less a shorthand version of what has gone before than an invitation for others to continue in the same spirit. This is our take-home to take home.

In keeping with our insistence on the diversity and multiplicity needed to optimise NIME's unique entanglements, we are wary of singular conclusions and the deceptively knowing aura of how-to manuals. Beyond troubleshooting rubrics, such manuals in their admirable efforts to smooth user paths and sooth user frustrations overlook the creative potential of failure, errance, forgetfulness, and mis-use. We conclude our Mis-User's Manual with summary principles that are indicative of the philosophy developed in this paper and, importantly, have an open invitational quality.

address openness to failure as a creative strategy, find a place for dissent and variation, with faith in scientific replication and convergence not required

broaden your concerns into the ecologies and ecosystems your work is embedded in, suggests, or takes for granted, explore 'interfacings' as a new I for NIME

find value in inefficient machines and risky performance, fear not the apparently superfluous or mis-targeted

rescue performance from the demo, treat improvisatory action in a shared now as primary, where our sensitivities to when are most on display

poke at the limits of inherited metaphors to undermine attempts to provide a fixed orderliness, make many things with a light touch and tolerate the many interpretations that will emerge

(re)frame topics to kickstart exchange on new fertile grounds for collaboration, ground these grounds not in agreement but in vibrant uncompromise and festive dissent

These invitation-principles are happy to exist amongst many others. And to continue their prospective character, we provide access to a zine at the conference, giving further illustrations of related work and deepening our invitation (zine archived at github https://github.com/JohnMBowers/MisUsersManualZine)

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10. ETHICS STATEMENT

We have no conflicts of interest in carrying out this work (financial or non-financial). Our work has no implications requiring a research ethics review (e.g. the research does not involve participation of animal subjects, human or otherwise).

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