The following essay was written by Sally Jane Norman, Michel Waisvisz and Joel Ryan at the occasion of the first STEIM Touch manifestation in 1998

TOUCHSTONE

Touch is physical and mental. We touch with our bodies and with our ideas. With our limbs, with our gestures, with our speech, with our gaze, with our intentions, with our art. In the performance arena, the way we touch the world and relate to objects, to the artifacts whereby we weave ourselves into the fabric of physical existence, is imbued with archaic ritual qualities. Puppets, masks, and musical instruments, like the sets and props on which circus and magicians' arts are hinged, draw us into realms of gestural skill free of utilitarian goals, allowing us to revel in creative, symbolic human/ object encounters which play out our grasp of the world - or lack of. Virtuosity in this domain often baffles the advocates of formal analysis and measurement, since it testifies to seemingly inhuman prowess in information processing and neuromuscular control, refractory to conventional descriptive and notational tools. But such inhuman prowess is precisely the source of a unique poetics. The skill of a juggler whose body-object mix plunges us into spaces governed by foreign physical laws, the dexterity of a musician drawing live patterns of sound from an instrument, the cunning of a puppeteer who gives breath (anima) to things, are just a few instances of gestural mastery dependent on finely tuned touch.

Our dramatic encounters with objects can be manifest via the simplest material bodies or the most complex machines: the first machine was the 'mékhanè' or crane that hoisted Greek god-playing actors into spaces inaccessible for normal mortals. Theater equipment and architecture, acoustics and lighting have been refined and redesigned over the centuries to instate artists in increasingly instrumentalised performance spaces. With the advent of digital tools, freely evolving robots and synthetic characters driven by genetic algorithms are billed alongside human performers, human vocal and gestural expression is amplified, and theatrical conventions of presence and immediacy are stretched by networks. But the same technological extensions that take us beyond previous corporeal limits perversely narrow our movement range: how we evolve in the digital-physical world essentially depends on our dealings with keyboards, mice, joysticks, and touchscreens. Meanwhile, deceptive terminology exalts this trivial physical activity of computer-bound humans: the navigational and operational metaphors coined in cyberspace have us pointing, searching, surfing, flying, and grabbing data with imperturbable grace. Thus, like the emperor with no clothes, screen athletes are praised in all their ponderous immobility, and the delights of real movement are insidiously overridden.

In parallel, though, artists who have latched onto the power of new technological resources are becoming increasingly involved in their development, building and/or hijacking machines apt to condition and convey meaningful contemporary creation. Their goal is to enhance rather than impoverish gestural skills, by devising tools that are just as responsive and expressive as conventional instruments, but that truly exploit the 'meta-control' features of computerized systems, their exponential and algorithmic functions. Here, touching an instrument may be tantamount to launching a composing process, to triggering or steering a chain of events. The subversion of machines to poetic ends, and exultant displays of intimately interfaced virtuosity, are part of the current unholy meltdown of flesh and technics, the race to derive new strains of hard-soft-wet-dry-ware. While the IT majors steamroll their digital tool kits to produce perfectly ISO-normalized outputs, a race of stubborn artist-engineers remains bent on designing instruments to elicit decidedly abnormal performances.

TIME FOR TIME

At Touch we are trying to identify the particular kinds of intelligence that characterize the performing arts. In music this clearly includes a critical sense of time - not machine time but time as a matter of immediate experience. This skill is both more articulate and more expressive than any simplified measure of eighth and sixteenth notes. In music we perceive quantity directly. However unconsciously, we count beats and measure infinitesimal trajectories of sounds through time. This mental agility is characterized by speed, charm and precision. In playing, musicians immediately solve what have to be the most complicated of calculations. Where most people need a PC or a pen and paper to divide eight by nine, a musician can instantly tap out an intricate time relation to make a new rhythm which is both graceful and correct. The same mental skill
enables one improviser to rely on another for perfect timing, harmony or modulation. This is a specific form of knowledge rather than a question of habit. Moreover, it is a form of knowledge that is shared with the audience because every listener with a modicum of musicality distinguishes between good and bad performances. Listeners are transported by good musicians. Similarly, the artful deployment of gesture over time, as in dance, in juggling, or in puppetry, triggers instant, almost intuitive recognition amongst viewers. We sense the mix of control and risk taken by creators who play with time, eliciting uncanny architectural rhythms from its predictable flow. This is what makes their art breath-taking.

Perhaps, as some cognitive scientists have suggested, there are fast and slow kinds of thinking. Consciousness? per se they associate with the slow: it is reflective, anticipatory and poetic but couldn?t get you across the street. While ?timing?, this agile high-speed decisiveness, is an immediate and spontaneous rather than self-conscious or reflective kind of mental activity. All this is not to suggest that music is ? irrational?, but to emphasize that it is the nexus of both the conscious and unconscious ways we think and use our body in time. This is what distinguishes music and the performing arts from literature and the visual arts. Performing artists carefully cultivate a specific intelligence during the many years of their training. Musical thought processes are complicated. The formal, numerological sources of music hold interesting numbers and uninteresting numbers, clever patterns and banal cliché, and all of these have consequence in phrasing and intonation, good rhythms and bad rhythms. Yet though composers and musicians can achieve much by speculation, they must ultimately trust their hands and ears in the actual performance of their work.

HANDS, EARS, AND EFFORT

The problem in too much academic music of the sixties and seventies was precisely a loss of trust in hands and ears: speculation became dominant, and composers and musicians drifted apart. In electronic music, composers became completely dependent upon often anonymous technicians operating as their hands and ears by proxy. The contemporary equivalent is desktop culture where this contact with empirical reality is not even missed. But the blind touch of a musician is still superior to the awkward musings of mouse man.

This is why it is so important that the musician and the composer should be one and the same person, and why this person should also be responsible for the development of electronic instruments. Just as it has taken hundreds of years for traditional instruments to assume their definitive form, so electronic instruments will only be refined and perfected through use. One working principle in designing electronic instruments is that they should demand the same level of playing effort as traditional musical instruments. Every instrument has its difficult and easy fingerings, its rough and smooth terrain. A singer's effort in reaching a particular note is precisely what gives that note its beauty and expressiveness. The effort that it takes and the risk of missing that note forms the metaphor for something that is both indescribable and the essence of music.

Contemporary instrument developments pose a whole set of heady new problems: with traditional mechanical音乐 instruments, the player interfaces directly with the sound-producing process. At the mechanical level, the player is an integral part of this process. It is impossible to dissociate a flute player?s touch and breath from a sounding flute. Electronic circuits, on the other hand, consist of separate functional components that are interconnected, and that communicate their tasks with one another, through wires. Here we are dealing with systemics at another level: the mechanical properties of a single component do not influence the overall working of the circuit, as long as the message sent over the wires remains functional (transmissible) and is correctly addressed. Thus, electronic music instruments no longer put constraints on human interface design. Any electromechanical control device can be conceived, provided that its sensors send the right information to the input of the sound synthesis unit. A synthesized bell sound can be played by pushing a button, pulling a string with a tension sensor, blowing into a pipe with pressure sensing, or even by singing into a specially rigged microphone. It is even possible to design interfaces that are effortless and that do not demand the skills that musicians develop to overcome the constraints of mechanical sound production.

At STEIM we have come to the conclusion that the resultant streamlined aesthetics, purged of the seamy residues of physical exertion, is totally artless : unfelt execution has given rise to unfelt and unfeeling work. One man?s ergonomics is another man?s boredom. Many developers of choreographic and animation software have reached this same conclusion, and are trying to relieve the monotony of their slick figures and routines by injecting levels of unpredictability into their programs. Yet random events too carefully gauged are just as deadly as calculable events. A vital area of creative exploration is being opened up, as we fight to reinject friction, constraints, in short, a sense of effort, into our tools.

Too much media art is offered up as performance these days without awareness of the fact that it remains
ungrounded in any performance practice. A good contrast is encountered in experiences such as learning to play the sitar: this involves mastering a seemingly limitless repertoire of intricate touches, pulls and slides, but only after spending months just learning to tune the instrument, with its masses of pegs. Then, once it is in tune, the musician must spend one or two hours each day trying to keep it there, adjusting and playing with it in order to keep its extremely delicate, constantly changing system alive. All this involves a subtlety of touch which it is nearly impossible to transmit as formal knowledge. It takes a lot of patience to get anywhere with the instrument and this is just the tuning. Computer music mostly omits this kind of experience.

AMPLIFIED PRESENCE

Modern technology is frequently developed in order to bridge great distances, as evidenced by today's abundant use of the «tele-» prefix. But while many cybernauts show a chronic propensity for thinking big, for acclaiming the remote reach of their often vacuous cyberchat, recent technologies also constitute an excellent means for enhancing and appreciating extreme proximity. Touch is interested in giganauts and nanonauts, in the full gamut of up- and down-scaled representations afforded by electronic and digital tools, in all things and events made manifest by signal detectors and amplifiers operating beyond the range of normal human perception. These tools can be used to artistic ends, to open up unexpected realms of expression and experience. STEIM is currently working with a tightrope walker, tracking her small incidental movements rather than her actual steps. When the «noise» of her efforts to maintain her balance is translated into raucous sound, the audience dramatically rediscovers the instability of the tightrope. We cross the rope with our ears, and we cross the rope with our inner ears.

In addition to revealing and amplifying previously unnoticed real events, electronics can synthesize sounds and images ex nihilo, and graft these freshly conjured percepts to our «natural» reality. Hybrids are thus wrought by two strategies: raw data can be tracked and culled from the flesh of the living world, then sublimated to yield computer-generated chimeras, but the reverse holds true, when digital entities are wedded to and steered by real phenomena tracked in the physical world. The growing involvement and promiscuity of live bodies and energies in cyberspace tends to be overlooked by information society champions tuned to the more readily controllable desktop worlds generated by text and language. Their myth of mind-building in cyberspace is prompting a body-building backlash, a passion for muscle fiber and more-or-less high risk sports (also fired by DNA synthesis and genome programming), yet this frenetic physical activity merely condones the divorce with workings of the mind. The performing arts, however, continue to offer a unique area of human expression, where body and mind are undivided.

The STEIM Touch Festival is dedicated to these arts. It focuses on electronic instruments that are not the product of technological fetishism or idealisation, but are tailored to the skill and imagination and expressiveness of a performer - in other words, to thoroughly embodied human intelligence. Touch advocates an idea of performance in which the physicality of the encounter between artist and audience is essential. Touch vindicates the central position of the human element in the electronic arts, and the necessity to place technology at the service of the creative individual. Touch proposes a constructive, hands-on response to utopian cyberspace accounts of discrete digital worlds - accounts which too easily forget that these worlds, like any others, only exist for humans by virtue of our perceptive faculties, firmly anchored in our human flesh.