

Vibrations in the Air: Performance and Interactive Technics

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Something in the world forces us to think. This something is an object, not of recognition, but of a fundamental encounter. (Deleuze, 1994: 139)

The fetishised 'new' in 'new technologies' is perhaps their least interesting aspect when considering their interactive and ethical potential. The fetishisation of the 'newness' of new technologies, in itself, probably has more to do with transcendent teleology than immanent becoming or interaction. This article recounts the work of artists John Cage, Joseph Beuys, Joyce Hinterding, Marina Abramovic and Ulay, most of which pre-dates the current period of interactive technics, in order to assess more positively the possible levels and nature of interactivity in performance using technology.[1] The technologies used in such work are sometimes new, sometimes old, sometimes startling and sometimes banal. What is always new, however, is the way in which plan(e)s of a high degree of interactivity and consistency are created. This high degree of creative interactivity has a lot to tell us about the potential of interactive technics beyond the facilitation of smooth operations, or well-designed HCI (Human-Computer Interaction).

Interactivity is always a becoming

In a world in which many prevalent practices and concepts of both computing and cognition involve the processing of symbols, it is important to reassert the notion of interactive performance at the centre of lived interaction. Interactivity is not a question of representation, of creating an accurate picture or resemblance, and then transporting these resemblances as symbols. This would not involve much in the way of the becoming that is not only at the heart of performance, but unavoidable in everyday life—a fact made the more obvious by the increasing prevalence of interactive technics.

As is now well-known, becoming always occurs through affect, not through the affections of a unitary subject that are predicated upon some sort of constancy, nor upon an invisible movement between two highly visible 'States'. For Gilles Deleuze and Felix Guattari, the 'affect is not the passage from one lived state to another but man's nonhuman becoming'—

becoming is an extreme contiguity within a coupling of two sensations without resemblance or, on the contrary, in the distance of a light that captures both of them in a single reflection. André Dhotel knew how to place his characters in strange plant-becomings, becoming tree or aster: this is not the transformation of one into the other, he says, but something passing from one to the other. This something can be specified only as sensation. It is a zone of indetermination, of indiscernibility, as if things, beasts, and persons [...] endlessly reach that point that immediately precedes their natural differentiation. This is what is called an affect [...] art itself lives on these zones of indetermination. (Deleuze and Guattari, 1994: 173)

This zone of indetermination describes what could, perhaps incorrectly, be perceived as some of the more mystical moments of performance art. These supposed mystical

moments are, in reality, attempts at conserving sensations that are specific and interactive rather than interpretive and generalising representations. What seems mystical is therefore perhaps best seen as an interactive and ecological.

Many of the most exemplary cases of the experiment with interactive ecologies are given to us in the recent history of performance (by which I mean the performative aspects of music, of performance art, of sculpture that involves social and technical mobility). A famous case is John Cage's movement away from interpretation, and away from perception and affection as they pertain to the recognisable coordinates of a given subjectivity (in symbolism or personal emotions). He moved towards the use of natural environment, socius and technology as equal points in a general field of sensation. This field, however, is not primarily in the service of the subject, or *even a mourning of the lack or loss of that subject*.

In reflecting upon interaction, it is perhaps useful to note here that there are different kinds of fragmentation, different engagements with the aleatory and the contingent, both in aesthetic practice and in theory. Some of these involve a kind of mourning of unity, a hostility to the contingent, even and especially when the contingent is unavoidable. This is arguably found in Lacan's formulation of the split subject and the irrecoverable 'petit objet 'a', or Baudrillard's mourning of the passing of a world in which signifiers refer to something other than themselves. Despite the operation of deconstruction in such cases, there is still a *passion for meaning* that animates it all. In fact, some deconstructive acts are nothing but the trace of this passion. The second kind of engagement with, and understanding of, the contingent, involves the passion of *objectivity*, taken as an objective engagement with micro-movements and sensations, and here it is perhaps possible to incorporate the work of those such as Deleuze and Guattari, and Cage.

Aesthetic practices such as Cage's are of course famous for their opening out to contingency ('I am willing to give myself over to weather. I like to think of my music as weather, as part of the weather' [Retallack, in Perloff and Junkerman 1994: 244]). This is an opening out to the small details which structure the engagement, in Cage's case through chance operations, or the participation of the work in the environment. The individual becomes a part of these, not a substitute for them, as it sometimes seems with the Romantic artist.

One can also see in Joseph Beuys' work the importance of interactive becomings. If Cage's work tends to move in the direction of percept (perception before it becomes personal), Beuys', starting from similar desires for increased interactive sensation, moves in the direction of affect (affection before it becomes personal). Beuys is famous for the becomings of fat, which becomes absorbed into everything that surrounds it, or of felt, which absorbs everything that surrounds it—even sound—and is itself a multiple becoming right from the start. In Beuys' work with animals one can also see this double becoming. It is what was conserved in such work as *Coyote: I like America and America likes Me* (May 1974), the celebrated piece in which Beuys explored America by spending a week in a gallery with some felt, straw, newspapers and a coyote. The point was not one of environmental perception, nor was it some Oedipalisation of the coyote as a representation of American subjective experience. Rather, the work focused upon the affects that were conserved in a double becoming between Beuys and the coyote. These affects shifted the emphasis to the possibility

of transformation and co-existence between the human and the non-human, rather than it being a question of one dominating, or representing, something of the other. In *7,000 Oaks* (1982), where Beuys began the planting of 7,000 oaks, each with its own accompanying basalt block, a piece completed after his death, Beuys was attempting to create the sensations of a landscape, specifically of trees, which had its own 'rights'.

With this work one can also understand perhaps what Deleuze and Guattari mean when they say that eternity can co-exist with the short duration of the material. The *event* of planting the trees in this particular manner is conserved in the interactions of materials, in the vibrations that will emanate from interactions between the materials afterwards, even if those people or things vibrated have never heard of Joseph Beuys. The trees intervene in the nature of eternity. One could say something similar of Cage's *4' 33"*. In this piece, built *very precisely* out of a series of musical *rests* (and nothing but rests) in three movements which were determined by chance operations eternity coincides with the piece's short duration every time it is played (Cage, 1990). This is because an event of complete openness as to the structure of time is what is conserved in the percepts and affects, which are, of course, different for every performance. In both pieces, as performative events, a different eternity arises each time and is conserved in the emanation of percepts and affects. Here interaction and production take over totally from representation, in that what is conserved is the precise possibility of the transformation of any moment through an ongoing vibration. Each percept is a marker of its singularity and resonance across the infinite plane of that moment. Cage, following the Zen teacher D.T. Suzuki, called this interpenetration and unimpededness (Cage, 1968: 46). It is the result of a careful plan for the conservation of indeterminacy.

For Beuys, in perhaps a much less pure fashion, 'interpenetration and unimpededness' were equally important. In Guattarian terms, the environment, the *socius* and the individual human subject were all equally important *so far as they transformed each other*. Beuys' entire artistic style also had its own specific accompanying concept to reflect this, namely that of 'social sculpture' (Stachelhaus, 1991: 61-70). This consists precisely in a notion of the interactive nature of all beings and things *as sculpture* and *sculpture as this interaction*. Sculpture, for Beuys, was not a question of creating a statue or even necessarily an installation, but of this interaction, and Beuys constantly hoped to broaden its base, its plane of immanence. Beuys' notion of social sculpture (as a concept) and his interactive practice (as percepts and affects)—with people (discussion was often part of his installations and actions), politics (particularly Green politics), social institutions (such as his attempt to admit all students who applied for his course without regard to University admission quotas or procedures—an action that led to his final dismissal as a teacher at the Düsseldorf Academy in 1973), machines (such as the *Honey Pump in the Workplace* of 1977) and, of course, animals—were themselves interactive. Part of his artistic practice would consist of *talking* about his concepts of social sculpture. Many of his more political actions were meant to invoke some sort of conservation of percept and affect, which might in turn lead to the creation of concepts (the percept and affects of *7,000 Oaks* leading to a new conceptualisation of the interaction between urban space and trees, the introduction of a new eternity).

Harald Szeeman calls Beuys' work, 'a time machine of raging fire' ('La machine thermo-ardente à explorer le temps') (Szeeman, 1994). Szeeman retells the story of H. G. Wells' *The Time Machine*, in which the time traveller realises that if one went far enough forward in time one would surely find a cold and dead planet (35). This is, of course, the problem with thinking in these teleological terms in regard to technology. Szeeman points out that Beuys' work attempts to create *lateral* connections, rather than just exploring the standard linear model of technical progress (which in a way is what Stelarc can be seen to do as well). Beuys creates warmth, rather than seeking the teleology of cold. This is often the case with performance art, precisely because it *must* create lateral connections, having situated itself within the contingent.

Szeeman writes of Beuys that

[t]he biased scientific approach to human spirit and energies, which thinks only of progress, opens out onto coldness and death. Very often, Beuys had expressed this and had made an appeal to some contrary images, to warmth, to a machine of raging fire to explore time, one which does not spin in a linear fashion at top speed along a temporal axis but rather, once stopped, discovers at last some spaces for the imagination, and which, on the other hand, in a reverse space and a super-temporality, knows how to divert the present and the past from the future, towards warmth, the quality of love, which are alone capable of getting the upper hand on the cold which kills, and of saving the earth from its numbness. (Szeeman, 1994: 35, my translation)

This is perhaps best summed up in his piece, *Honey Pump at the Workplace* (1977). In this piece 'several hundred gallons' of honey was pumped through see-through tubes that 'ran from the basement to the roof' while another motor 'rotated a crankshaft coated in thick layers of fat' (Stachelhaus, 1991: 164). In a room through which all the honey passed Beuys gave lectures and had discussions for a hundred days about his ideas for a Free International University.[2]

In this complex piece it can be seen that even concepts and statements become part of a series of becomings regulated by the transformed and transforming material of honey. Whilst Cage is careful to interact through the subtraction of subjective interference, Beuys makes the subjective collide head-on with that which has no hope of leaving it intact once interacted with. Can a city think the same way about itself when 7,000 oaks have drawn attention to themselves?

Exposed to the Elements

Such performative interactivity tends to create a series of skins as planes of interaction. The skin that is often *literally* a plane of immanence in interactive performance—really any plane of interaction that enables becoming. This becoming is always real, whether it is actually real or real on the virtual (incorporeal—though gathering around bodies) plane. There is a sense here also in which, once the machinic (interactive, assembling) dimension of the production of becoming on this skin is acknowledged, installations and objects can perform as much as human bodies or voices. This is something that can be demonstrated in a short consideration of the earlier work of Australian artist Joyce Hinterding.

Most of Hinterding's earlier work was involved with auditory vibration and electricity. In the buzzing and crackling that is often produced in her work by the interaction of her stunning visual installations with various electrical phenomena, the conservation of certain vibrating percepts and affects is very obvious. Often it subsists in the literal thin skins involved in her work that enable the auditory vibrations to gather resonance. Thus, in *Siphon* (1991) three-hundred glass jars were painted with a thin graphite covering and interconnected. Current was run through them, turning the whole exhibition into an enormous capacitor that smelt of electricity. The low hum was amplified (Lumby, 1993:48). *Electrical Storms* (1992) incorporated a 'custom built high voltage electrostatic sound system and an aerial system that detects and manipulates electrical turbulence in the atmosphere' (Hinterding, cited in Seaman, 1994: 359). Here the skin consisted of large flat, electrostatic speakers that performed the amplification. In *Circuit* (1990-1993) and *Oscillators* (1995) Hinterding drew a large diagram of a circuit that actually functioned when current was passed through it—emitting a low hum.

All this work is highly interactive in the best sense. Its focus, a little like Stelarc's, but perhaps with the more contemplative style of Cage, is on facilitating the conservation of the percepts and affects of the basics of technology. This is especially a conservation of that which exists outside of the dimension of human technology, but which is still, however, machinic, such as atmospheric disturbance as a broader plan(e) of consistency within which human engagements with electricity are played out. Hinterding's work literalises, in percepts and affects, the way that the world, works via the machinic realm to connect the art process with other active processes from outside the human. Of the *Electrical Storms* piece, Hinterding said that she was interested in working with 'electricity we didn't make' (cited in Lumby, 1993: 51). Lumby calls this an 'abiding fascination with uncontained electricity'.

In order to achieve this Hinterding subtracts from her work exactly what fascinated others (such as Stelarc and even, *via negativa*, Heidegger, that is, the ability of technology to allow a form of transcendence of the natural). She does not seem to do this in order to reflect upon technology from some conceptual and transcendent position. Rather her work reveals the very basics of both interaction and mediation as they involve the various energies of technologies and the environment. She works, not with the latest technological advance that is rushing us into the future, but with a series of mediations between her own artistic work and the basic elements of technology (and the advice of engineers and scientists [Sofia, 1994: 366]). Thus, she draws basic circuit diagrams, or painstakingly sets up her three-hundred jar capacitor that 'could have been replaced by an 80-cent component from any hardware store' (Lumby, 1993: 52). As Sofia puts it, 'Hinterding's work reminds us of the possible heterogeneity of technological means and ends' (Sofia, 1994: 368). Perhaps this interaction between the environment, the technological and the human was most clearly shown in one of her early pieces, *Shh/Ratios of Luminance* (1987), which 'incorporated sea-shell headphones and pre-recorded tape material' (Coyle, 1995: 20). Whilst Heidegger is waiting for jets to take off to tell us the truth, Hinterding is drawing our attention to smaller, and perhaps more telling, events of sympathetic resonance (Sofia, 1994:368; Lumby, 1993: 50). Paradoxically it seems to be only once Heidegger's waiting for a revealing of truth is abandoned that the real practical affects of interaction can be felt.

An Ethics of Interaction

Here is the beginning of an ethics of interaction, and there is a clear line here from aesthetics to ethics. I shall tease this out briefly via the work of Deleuze. In *Spinoza: Practical Philosophy*, Deleuze calls Nietzsche, Kleist and Hölderlin 'Spinozists' (a very favourable term for Deleuze) because—

they think in terms of speeds and slownesses, of frozen catatonias and accelerated movements, unformed elements, nonsubjectified effects [...] Writers, poets, musicians, filmmakers—painters, too, even chance readers—may find that they are Spinozists; indeed, such a thing is more likely for them than for professional philosophers. It is a matter of one's practical conception of the 'plan'. (Deleuze, 1988 : 129)

The point here seems to be that a Spinozan ethics exceeds the bounds of philosophy, creating a relation with non-philosophy, in short, between concept and affect (130). Ethics is a question of the aesthetics of movement and process, of speeds of connection, rather than of stable moral judgments. When Deleuze writes of the meeting of concept and affect in Spinoza, one thinks also of the mediations between philosophy (concept) and art (affect and percept) in *What is Philosophy?*. There are also Guattari's ethico-aesthetic paradigms, such as those in *Chaosmosis*, which do not treat the realms of art, philosophy or ethics as hermetic, but rather interactive. In short, it is not such a great leap from Deleuze's early discussion of Spinoza's ethics to Guattari's final ethico-aesthetics. Desire is about specific, if multiple, connections and affects which matter in terms of the way they *connect*.

Paul Patton calls Deleuze and Guattari's ethics a postmodern ethics. In part this is because 'the principle of a post-modern system of value should be aesthetic' (1986: 32). It should allow for the kind of constant creation that has already been discussed. To sum this up, Deleuze and Guattari are arguing for a position that maximises creativity (thus the aesthetic) whilst recognising the contingency of present-day interactive ecologies. For them, in short, art is a practice of relation.

Art as a Practice of Relation

It is Ideas which lead us from the fractured I to the dissolved Self. As we have seen, what swarms around the edges of the fracture are Ideas in the form of problems. (Deleuze, 1994: 259)

Art as a practice of relation has a particular resonance in the work of Marina Abramovic and Ulay, in which massive actions of subtraction occur in order to focus on the transformative interactions occurring, sometimes somewhat brutally, at the skin. Abramovic calls this 'emptying the boat' (Abramovic and Pijnappel, 1990: 59). Ulay has said that 'I always try to subtract from things, to make it more open for people to communicate, rather than add and narrow it and make it like "This is mine, you must understand what it means"' (Abramovic and Ulay, 1988: 16). Thomas McEvilley notes that their 'Relation Works sustained a performance ethic that attempted to instil art and life directly into one another' (McEvilley, 1989: 75).

Beginning with the cutting of a communist star around her navel whilst naked in front of 500 people in her native Yugoslavia, (Abramovic and Pijnappel, 1990: 57)

Abramovic constantly tested and tormented her own and others' bodies and subjective formations in order to realise something that was the sensation of a 'pure' event, 'pure' activity.[3] For example, in *Night Sea Crossing*, Abramovic and Ulay sat without moving facing each other for up to seven hours at a time and for 90 days (not consecutive). Ulay had 'two big scars on my bum from sitting on my two bones' (Abramovic and Ulay, 1988: 16). Other people were sometimes incorporated into these performances. For example, in 1983, in one performance in Amsterdam that lasted for four days, a Tibetan Lama and an Australian Aboriginal elder sat with them at a round table. A snake sometimes roamed around the gallery.

In their first performance, *Relation in Space* (1976), Abramovic and Ulay repeatedly ran naked at full speed into each other. The disjunction between depth and surface, organs and skin, is brought to the fore, acknowledging subjective formations as it subtracted them and bringing the event of becoming, of interaction, to the surface as a conservation of sensation. In their piece *Relation in Movement* (1977) Ulay drove a car in a small circle for sixteen hours, whilst Abramovic, from inside the car, called out the number of circles driven over a loudspeaker (Goldberg, 1988: 165). In such work, in the sense just mentioned, Abramovic and Ulay are also 'Spinozan' artists, as 'they think in terms of speeds and slownesses, of frozen catatonia's and accelerated movements, unformed elements, nonsubjectified effects'. Their work, through this variation in speeds, allows a profound degree of interaction.

This sometimes carries them into areas of high risk. In 1974 Abramovic allowed 'spectators' to 'abuse her at their will for six hours, using instruments of pain and pleasure that had been placed on table for their convenience' (Goldberg, 1988: 165). [4] In a piece called *There is a Criminal Touch in Art* (1976) Ulay stole one of Hitler's favourite paintings from the Berlin National Gallery and hung it in the home of a Turkish family, at the same time hanging posters of the painting at the entrance of the Academy of Fine Art (Abramovic and Ulay, 1988: 17). The anti-terror brigade was called in (by the Museum Director) and Ulay went to prison for twenty-four hours. These interactions are confrontations with the limits both of the subject and of the State, and even of art itself.

Another relational direction they have taken in terms of their interaction is that of 'the lover', and at this point we can understand how the 'non-subjectified' effects of performative technics referred to above are folded into the personal. For Abramovic and Ulay, the 'lover' is a description of the personal interacting with their working life, but it culminated somewhat paradoxically in their final parting in *The Great Wall Walk* (1988). In this piece they walked from opposite ends of the Great Wall of China, crossed, and planned never to see each other again. Their speeds of walking and the interaction of wall and environment determined the final course of their relationship. Of this Abramovic said,

The wall was called the dragon, the life serpent [...] the whole line is the mirror image of the Milky Way. Actually it is a marriage. The dragon is the marriage between earth and sky. And there is a very strong female and male principle in it. Our work too had a lot to do with male and female. The conjunction was that Ulay started from the fire-side, from the Gobi desert, and I started from the seaside and then we met. This project took eight years to realise. Finally,

our lives went apart, everything went apart but we made this walk anyway.
(Abramovic and Pijnappel, 1990: 60)

This project's place in Abramovic and Ulay's relationship gives a very clear indication of the nature of double becoming in performance. As McEvelley notes, Abramovic and Ulay's relationship had been one of 'intense symbiosis' (1989: 76), one of the constant confrontation of limits through interaction but,

now that relationship [...] had a past of its own, from which only a similarly radical change could liberate them. Whereas once it had suspended causality, it had now spawned a difficult causality of its own [...]. It seemed increasingly clear that the Walk was not only going to symbolically end Marina and Ulay's symbiosis once and for all, but that it was also going to function as a cauldron in which each of them would be cleansed for new imprint or identity. (1989: 76-7)

In some ways, Abramovic and Ulay's wall walk could be considered the prime example of an interaction between firstly, technologies (in particular, the wall); socius (in particular the conflicts of old and new China, of Ulay's post-war German background and Abramovic's privileged but detested socialist Yugoslav background); self and environment.[5]

They walked through deserts and mountains on what is really an astounding piece of technology, one that is still 'machining'. The wall was originally built to part warring Chinese factions and then to keep out suspect and threatening influences from the West (starting with the Mongols who were, however, not kept out). McEvelley claims that the Wall is the great symbol of Chinese 'isolation from and fear of the outside world' and that Abramovic and Ulay's walk on the wall would 'appropriate it into the contemporary discourse of the western art world' (McEvelley, 1989: 99). He later suggests that the 'symbol of exclusion has become a symbol of opening' (113). Ulay and Abramovic's walk staged a conflict over this process of Western influence. This conflict was entirely unpredictable in its interactive results. For example, McEvelley gives an account of Ulay one day, feeling besieged by the Chinese bureaucrats who surrounded him, physically attacking one of them. This unfortunate bureaucrat was only trying—in the end, unsuccessfully—to stop him walking through a radioactive area of the wall. McEvelley notes that the 'degree of misunderstanding between these representatives of different cultures was staggeringly out of control' (1989: 97).

And this was not the only conflict. The event also provoked completely different approaches in the two artists' preparations, with Ulay gathering masses of specialised camping equipment, much of which he never used. Abramovic found this ridiculous, focusing more upon her state of mind. In many such ways it can be seen that the wall walk machined all those involved. Whilst Ulay seemed to approach this with all the possible assistance from technological progress he could muster, Abramovic, who was to return inspired to produce installations from quartz crystals, had an approach which could incorporate what was already there, in a manner which perhaps relates to Hinterding's 'electricity that we didn't make'. In the end an acceptance of contingency was perhaps forced upon both of them due to the intensity of the interactions involved. This is not that surprising, considering the fact that this intensity has marked all their relational work rather than an obvious

transformation of *objects* such as the wall itself. Mignot (1989: 175) has remarked that 'Hardly any transformation of the medium occurs. A heightened form of reality is the medium'.

The actual 'trace' of the *Great Wall Walk* was the exhibition, *The Lovers* (1989), towards which both contributed. Abramovic, claiming sensitivity to the minerals around her during this walk, returned to produce work in this piece and in others such as *Black Dragon* (1990). The interaction here is very clear:

Abramovic fixed copper objects on the wall for people to lie, stand or sit on while their heads rested on a quartz block. The public was no longer simply observing, but was more directly involved than it had ever been in the performances. The audience could experience the energy of the metal and the crystals, thus re-energising their bodies. (Abramovic and Pijnappel, 1990: 55)

The idea of 'lovers', which Deleuze and Guattari might call double becoming, has also informed a rather complex interaction with other cultures (Abramovic and Ulay, 1988: 15).[6] This can be seen in a borrowing of many techniques, different senses of times and speeds through to a realisation, through interactions, that there will always be misunderstandings, and that Abramovic and Ulay would always be Europeans despite these interactions. Ulay at one point realised that he 'could not function in what I am doing in those ethnic groups, there is no place for this, maybe no understanding for it'. Writing about the *Great Wall Walk*, whilst admiring a particular group of Chinese people who lived a very simple, and very poor, life in a hostile environment of yellow clay, Ulay professes that 'they are what I never can be, not anymore' (Ulay, 1989: 59). The *Night Sea Crossing* pieces, to take another example, came out of a visit to Australia in 1981, during which they spent four months 'in the central and western deserts amongst tribal Aborigines' (Marsh, 1993: 99). Yet they felt that this work was not really well understood in Europe (Abramovic and Ulay, 1988: 15).

This demonstrates again that double becoming—and the technics of interaction—do not just involve a simple exchange of positions, messages or subjectivities. Double becoming is an interaction in which the endpoint is unknown, unfinished, except for the fact that it cannot be either where one started, or where that interacted with was. One does not become literally Aboriginal in an interaction with Aboriginal people, but neither does one remain a comprehensible European. Neither does one become European through an interaction with Europeans if one is not one (in this understanding, of course, there are no 'Europeans'). Through performance work such as Abramovic and Ulay's, it can be understood that the becomings involved in interaction cannot be predetermined, but will always be becoming towards some *new* other that is not the same as the other interacted with.

Just as for Hinterding, Abramovic and Ulay's attitude to technology is based upon how it interacts immanently with the human and the environment. It is not based upon a transcendent teleology. When such interactions are not predetermined by narrative, but a question of energy transmission, strange things can happen. Abramovic tells the story about

1965, when we got television in our home in Yugoslavia for the first time. At that time television was a complete miracle for us. So this television arrived at our home and my father switched it on and it shows a test picture, as there was only a one-hour programme during the day and again in the evening. But we, my brother and I, were sitting in front of this test picture, waiting and just looking at it. I experienced my first meditation in Yugoslavia watching that test picture. It's really funny but it's true. (Abramovic and Pijnappel, 1990: 60)

As mentioned, some of Abramovic's more recent work, which resonates with the 'new age', has involved the use of quartz crystal as a re-energiser. This is not just a move to older and more established traditions, but a fundamental argument as to *what technology should do in the future*—what its practical ethical basis should be. Even more recently she has worked with bones, carrying a large pile of ox bones for as long as possible (*Biography*, 1994) or endlessly scrubbing a skeleton. It is as if she must always return to the elemental, to the point of greatest subtraction. Her book *Cleaning the House* (1995) finishes with the words 'more and more of less and less'. Such work provides us with more useful models of what interaction is than, perhaps ironically, some contemporary models of interactive technics do, and cognition in relation to technics, that generalise notions of symbolic processing.

Transformations at the Skin, Transformations of the Skin

Any interaction between art, human subjective formation, technology and environment must take place at the skin, at the surface, whether this is the surface of the human or animal body, the surface of the technical, of even Capital as a kind of body, or the more general surface of the earth. What this means is that no one element in these interactions can be considered without the others. Even the interior of the body cannot be considered as the residence of truth and solidity, but instead must be understood in the light of its flows and folds that cannot be numbered.

A generalised economy must therefore be taken into account before one can develop a full ethics of interactions, which consists in one sense precisely in creating a space in which the in-between, the skin, is charged. Thus,

[i]t is not even enough to do what psychoanalysis does and give forbidden objects to itemized affections or substitute simple ambivalences for zones of indetermination. (Deleuze and Guattari, 1994: 174)

The task is rather to 'wrest the percept from the perceptions, the affect from the affections, the sensation from opinion' (176). This is in order to reconstitute not just the relations that might already exist, but to redefine what relations *are*. It is not, therefore, a matter of different, even contradicting, opinions within an existing order, or even of dialectical transformation, with its dependence upon ambivalence rather than indetermination. It is a matter of the production of relations, of concepts, the conservations of sensations in the production of artistic zones of indeterminacy that do not limit becomings to a becoming-previously known (which, in any case, is not possible in a Deleuze-Guattarian framework).

A fundamental transformation must occur at the skin, and in relation to the importance of the skin and the flows beneath it that open out to other flows, as opposed to 'subjective' depths. It can be understood, therefore, that 'flesh is not

sensation [...] what constitutes sensation is the becoming animal or plant' (178-9). Sensation is not flesh as constitutive of subjective feeling and the beginning of depth. Sensation is rather the skin as transformation, becoming, a literal in-between. The importance of the surface here cannot be over-estimated. It is the surface, the skin, which gives the interactive potential for the universe. It is therefore 'like a passage from the finite to the infinite, but also from a territory to deterritorialization' (180-1). The skin makes possible the event, which connects various possibilities of movements that actualise becomings, and events. It is at the skin that cosmic forces interact, not in the depths. Deleuze and Guattari, Cage, Abramovic and Ulay, Hinterding and Beuys, situate the human always within a much wider framework, as *one element interacting in a broader cosmos*. This gives a positive dimension to post-humanist conceptualisations of human becomings entirely missing from some other post-structuralist work mourning the failure of depths to produce cosmic connection. For Deleuze and Guattari '[t]he clinch of forces as percepts and becomings as affects are [*sic*] completely complementary' (182). As such 'flesh is only the developer which disappears in what it develops: the compound of sensation'.

The conservation of sensations is, then, also a production of different becomings. These two come together in the refrain that, conserved, enables the play of the in-between *over* a territory such as the flesh. In *What is Philosophy?* Deleuze and Guattari give a clear explanation of the role and function of the refrain of art in the interactive interplay of territories. I shall briefly describe this refrain as a (micro-) technics, that which allows for consistency within performative technics.

The refrain, such as when a child sings to itself to ward off fear of the dark on a journey home (Deleuze and Guattari, 1987: 311), forms a certain territory as somewhere where certain transformations can be conserved in their production. The refrain is connective. Yet it is not just another projection of the human subject. Rather, for Deleuze and Guattari the refrain inevitably comes from the animal, 'the whole of the refrain is the being of sensation' and 'art is continually haunted by the animal'. More than this,

[e]very territory, every habitat, joins up not only its spatiotemporal but its qualitative planes of sections: a posture and a song for example, a song and a color, percepts and affects. And every territory encompasses or cuts across the territories of other species, or intercepts the trajectories of animals without territories, forming interspecies junction points. (Deleuze and Guattari, 1994: 185)

Thus, all activity is predicated upon interaction, and an ethics of interaction must always take into account the three ecologies of the environment (different territories), fields within the socius, and the individual (Guattari, 1989). In Deleuze and Guattari's view, artistic production shares with nature an interaction between the highly specific and the general,

House and Universe, Heimlich and Unheimlich, territory and deterritorialization, finite melodic compounds and the great infinite plane of composition, the small and the large refrain. (Deleuze and Guattari, 1994:186).

The 'sole definition of art' is therefore 'composition' (191). It is art, through refrains, that composes a conservation of sensation that, in its percepts and affects, is an interactive series of vibrations that constantly transform relations between the individual and the cosmos:

The great refrain arises as we distance ourselves from the house, even if this is in order to return, since no one will recognize us any more when we come back. (191)

Art therefore has an interactive purpose, not primarily a representational one. We could say that art is always performative. Moreover, the use of aesthetics in thinking about new technologies would be better concentrated, not on the adaptation of models of representation such as Aristotle's, but on models that are truly interactive, such as Deleuze and Guattari's, Beuys', Abramovic's. In addition, art practices as more obvious models of ethical interaction would be better sought out in the realm of performance art and installation than in the 'classical' theatre, which is concerned with the representation of characters, truths, or the tragic. The purpose of art is not to delimit experience in order to set up narrative representations or 'characters', for example, in cyberspace, but to 'pass through the finite in order to rediscover, to restore the infinite' (197), to establish interactions between 'the composite sensation' and the 'plane of composition', which are in 'strict coexistence or complementarity, neither of them advancing except through the other' (196).

If in art there are correspondences between the aesthetic and the conceptual, these are not exactly between representations on the one side and reflection or opinion on the other. Rather they are interactions between different forms of production—'thought as heterogenesis' (199)—which must take into account both the specificities and cosmic conditions of their creations. The purpose of all this is not to open interaction to chaos, but to give enough consistency to create planes of potential for further productive interactions. This is to enable the *transportation* through chaos, the surfing of a wave on a plane of composition, the coming together of skin, technology and environment. Thus, 'art is not chaos, but a composition of chaos that yields the vision or sensation, so that it constitutes, as Joyce says, a chaosmos, a composed chaos—neither foreseen nor preconceived' (204). The creation of a chaosmos is what interactive art and work with new technologies should head towards, as only then can outcomes be protected from chaos without turning interaction into a choice of alternative stratified opinions.

Even thought is dispersed throughout this chaosmos (it is certainly no longer a question of whether computers can be considered intelligent in themselves). Thus the relation of performative technics to conceptual art. I shall once again turn to Deleuze and Guattari to tease this out.

For Deleuze and Guattari, the brain is 'the junction—not the unity—of the three planes' of art, philosophy and science (208). Thought is therefore the interaction between them. Thought is a material process of interaction, but one not just determined in the depths, but by the interactions of different surfaces. It is a kind of involuted skin, in which 'sensation is no less brain than the concept' (211). The brain and thought are therefore exteriorised as contacts between specific planes and an infinite universe, which is totally interconnected—not mystically, but materially. They

even suggest that brains are, in a sense, found everywhere, distributed throughout an interactive technics as points of relay.

Not every organism has a brain, and not all life is organic, but everywhere there are forces that constitute microbrains, or an inorganic life of things [...] in the final analysis, the same ultimate elements and the same withdrawn force constitute a single plane of composition bearing all the varieties of the universe.(213)

The planes of art, philosophy and science are planes that extract certain compositions from this general and single plane of composition. In all this activity, what is important is the creation of surfaces and the recognition of the flows that move through them. Narrative or representation might be important operators here, but they are only ever secondary, points of recovery, after the interaction, even if they inevitably and immediately fold back into the interactions involved.

It is therefore perhaps not the theatre we should first turn to in order to understand interactive technics (as is assumed in the famous Holodeck of the *Star Trek* franchise). Theatrical metaphors within interactive technics will always refer to a depth behind representation, one which will mitigate against the emergence of the 'people to come', who are far more embodied in the 'nonthinking thought' (218) which is the work of the like of Cage, Abramovic, Ulay, Beuys, Hinterding (and Stelarc). For such artists, the point is not to allow increased interactive access to fewer interactive choices based upon the norms of Capital, marketing or individuality, predicated upon a primarily Oedipal subject. Rather, it is to allow contact at the skin between the individual, as specific surface or plane, and the chaosmos. To interact rather than to compete. To transform rather than to communicate the statements of imperial language, to transform technics as political control into technics as contingent contact with the infinite.

Endnotes

[1] For an excellent account of some interactive art working with new technologies, given within the framework of Guattari's machinic heterogenesis, see Andreas Broeckmann's 'Towards an Aesthetics of Heterogenesis' (1997). Another account is given in my own article on network ecologies (Murphie, 2004). For an account of the work of Stelarc in this light, as well as the performative technics of artist Rebecca Horn, see Murphie, 2000.

[2] The pump and some of the piping is conserved in another sense to Deleuze and Guattari's in Copenhagen's Louisiana Gallery. It is exhibited in a room somewhat bizarrely, and inertly, as a pump and some piping. This is a good example of how the percepts and affects involved do not reside in objects or subjects, but in the vibrations created when these objects perform in a series of relations.

[3] Abramovic believes that by the twenty-first century there will be no art-objects at all, just a direct transference of energy from artist to audience 'like the Samurai in old Japan, looking at each other and transmitting energy' (Abramovic and Pijnappel, 1990: 57). She doesn't call her object-based pieces sculptures, but 'transitional objects' (63).

[4] According to McEvilley (1989: 76), this took place in 1975 for two hours, with an audience drawn at random from the streets of Naples. It finished when a fight broke out at the moment a member of the audience was holding a gun muzzle to the inside of Abramovic's mouth. According to Abramovic, the purpose here was not to shock but lay in 'experiencing the mental and physical limits of the human mind and body' (Abramovic and Pijnappel, 1990: 59). According to Abramovic, this performance, *Rhythm Zero*, took place in 1973 for six hours (Abramovic and Ulay, 1988). As McEvilley was a friend of the artists involved, one can only assume that there will always be differences between the interactive practice and the subsequent narrative practice—the performance as 'trace and overflow' (Féral, 1992: 152).

[5] It is worth noting that the Great Wall of China is often claimed to be the only large human structure visible from the surface of the moon. For a complete description of this huge work, see the catalogue from the Stedelijk Museum in Amsterdam for *The Lovers, The Great Wall Walk*, Marina Abramovic and Ulay. Josette Féral (1992) gives some commentary on the way in which this piece forms part of the recent evolution of performance art. She suggests that it challenges the nature and finality of art (151), and that the lack of an audience shows the way in which the performative phenomenon often operates as 'a trace, as an overflow' (152). See McEvilley, 1989:106 for an account of the way in which China depressed Abramovic because of certain social and architectural resemblances to the former communist Yugoslavia.

[6] Mignot (1989:177) notes that it 'seems as if Marina and Ulay's once so self-absorbed relation to each other, which was able to find its own form of artistic expression, has gradually but irreversibly become permeated by ties with other cultures. Above all with qualities fading from western civilization or already gone, such as natural attachment to the earth, knowledge of the forces of nature and magic, the experience of cosmic consciousness, meditation [...]. Each possesses the potential to process a relation into a form of expression. Their attention has been diverted progressively from each other to the world outside'.

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