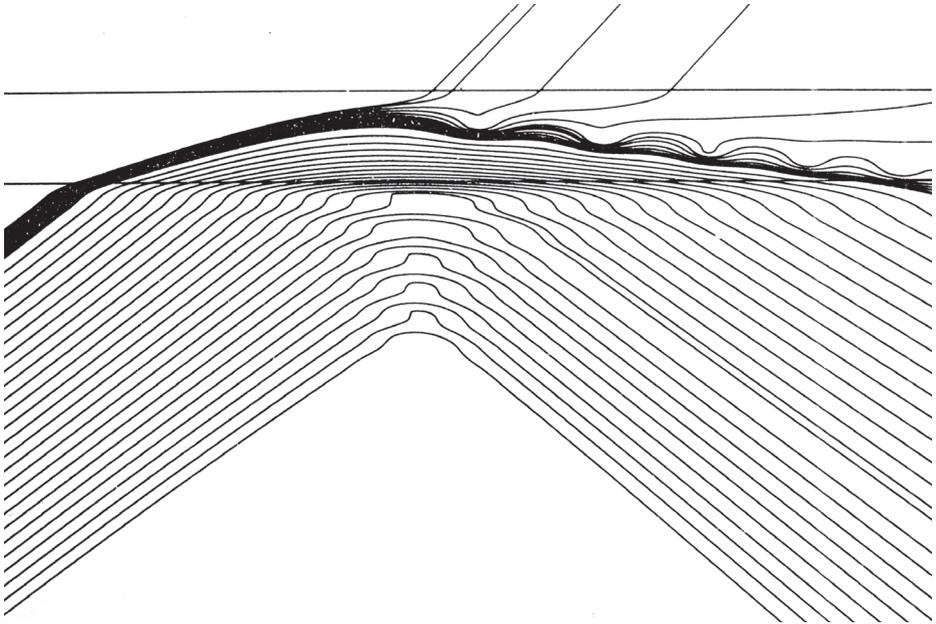




UNIVERSITY OF GOTHENBURG



COLLECTION AND DISSOLUTION

Wholeness, the creative process, and the limitations of text

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Summary

An exposition and contextualization of the author's art practice framed by an investigation into the insights afforded by quantum physics and the cognitive sciences as applied to the creative process.

This is presented expressively and non-linearly in various styles of writing. Ranging from scholarly text to casual diary writing to concrete poetry, comments are presented on the advantages, disadvantages, and limits of the use of text as exposition of artwork and creative processes in general. Importance is also placed on the graphic presentation of such text. It is suggested that different styles of writing display different levels of efficiency for communicating certain types of information. It follows that some styles of writing are simply inappropriate for some messages.

The text aims to discuss the context of the art practice rather than the results of it. Discussing the meaning of the present works is irrelevant, hence a true meaning is never disclosed.

Keywords

consciousness, creativity, David Bohm, information, installation art,
neuroscience, noise music, poetry, quantum, sound art

COLLECTION
AND
DISSOLUTION

BARRIE JAMES SUTCLIFFE

2009

Fluent

I would love to live
Like a river flows.
Carried by the surprise
Of its own unfolding.

John O'Donohue

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Introduction

- or -

Anticipation of Results and Preparation of Formula.

These questions are not in order.

“We should reject the idea that the mind is something inside of us that is basically matter of just a calculating machine. There are different reasons to reject this. But one is, simply put: there is nothing inside us that thinks and feels and is conscious. Consciousness is not something that happens in us. It is something we do.” *Alva Noë*

How to read this book:

The order contained herein is not precise order.

Some things are in order, some things are not.

This is not linear. It should not be read from front to back.

The goal is to confuse within limits—to provide some but not all. This is independence.

1.

a) The art practice this text refers to is:

about how we consciously perceive the world
about how that information we perceive is formed
about the import of the intent we use to consciously perceive
about the import and veracity of the information itself.

b) Most especially, context is important:

The artwork's context is reflected through the observer's context.
The resulting perception is the context of the whole observer in the world.

c) Therefore, the artwork provides one context to think about another context. The text provides a forum within which the reader can learn more about the connections that are suggested within the artwork and how these issues personally relate to the reader. The text will attempt to describe the context within which the artworks were made.

2. a) My name is Barrie James Sutcliffe. I draw lines.
- b) Why is this process important to me? A large part of my concern with consciousness relates to my own experience with mental illness. This revolves around impressions of a diminished or heightened sense of consciousness, and the sensation of having a compromised self-awareness. Precisely, this engenders an act of social performance: the performance of a conscious person embodied in the social world of other conscious people. This is the genesis and personal importance of the artwork.

3. These texts accompany the artwork. They **will not** serve as an explanation to it. They **will** serve as additional material assistant to it. They **will** serve suggestions to the reader about general impressions, and act as an opportunity for the reader to draw lines. They **will not** serve to make one single or precise point about the artworks in question.

Thus in the example of the ship guided by radio waves, one may say that these waves carry information about what is in the environment of the ship and that this information enters into the movements of the ship through its being taken up in the mechanism of the automatic pilot. Similarly we explain the interference properties by saying that the quantum field contains information ... and that this information is taken up in the movements of [a] particle. In effect we have in this way introduced ... a concept that we shall call *active information*. The basic idea of active information is that a form having very little energy enters into and directs a much greater energy.

Bohm & Hiley 32-35

4.

motion, sound, and made sculptural instruments

radio, transmission, distortion, ready made objects

contrast, tension, harmony

5.

Transcoding:

Data transferred through different media.

A process of analogies:

While certain things are not transferred, certain other things are. The general impression remains, and the important information survives through noise.

6.

The presence of people

desire to be in a particular space

desire to be with something in a space

desire to be with someone in a space



their embodiment in the space whether it is desired or not

“THE ACT OF PERCEPTION OCCURS IN THE PERCEIVED AS
WELL AS THE PERCEIVER”

(*Consciousness and the Implicate Order, slide No. 17*)

What is crucial here is that we are calling attention to the literal meaning of the word, i.e. to in-form, which is actively to put form into something or to imbue something with form. ... As a simple example of what we mean, consider a radio wave whose form carries a signal. The sound energy we hear in the radio does not come directly from the radio wave itself which is too weak to be detected by our senses. It comes from the power plug or batteries which provide an essentially *unformed* energy that can be given form (i.e. in-formed) by the pattern carried by the radio wave. This process is evidently entirely objective and has nothing to do with our knowing the details of how this happens. The information in the radio wave is *potentially* active everywhere, but it is actually active only where and when it can give form to the electrical energy which, in this case, is in the radio. ... We therefore emphasise once again that even the information held by human beings is, in general, active rather than passive, not merely reflecting something outside itself but actually, or at least potentially, capable of participating in the thing to which it refers.

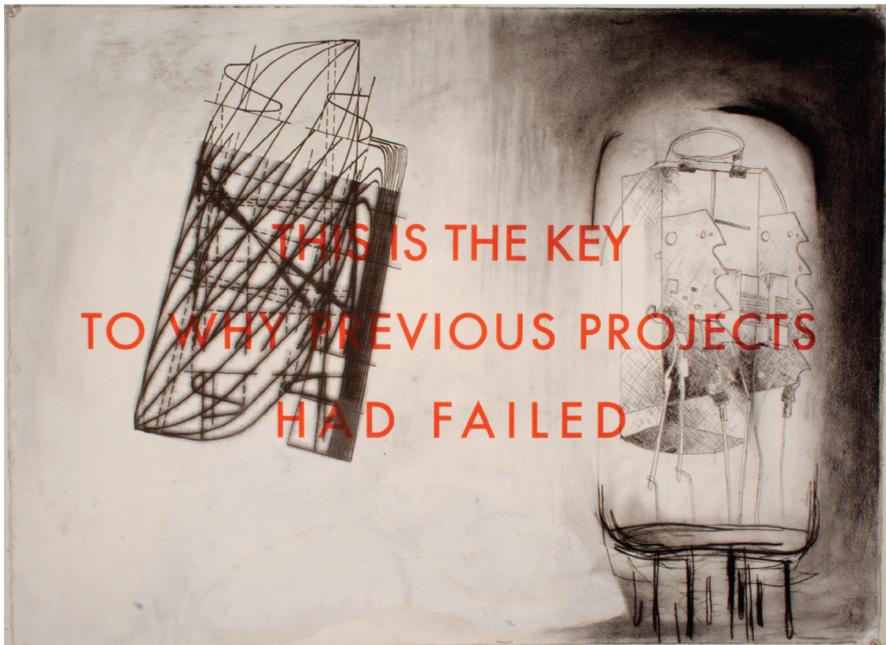
Bohm & Hiley 35-36

~~7. Rather than simply a notion of how technology extends and enhances the body, I want to comment on the reflection of bodily events such as thoughts and intention within the technological process itself. Not just hybridizing the body through technology, but technology as a mirror, an expression of what is going on within the person. These ideas of symmetry and reflection (both interpreted as transference) are represented by contemporary conceptual forms which likewise complement each other.~~

Explanation:

This type of writing in this context attempts to linearize a non-linear process. As such, *it terminates the movement of thought.*

Fig. 1



The computer and equipment do not work other than to

8.

- a) time events and
- b) transcode data

To be a simple machine with an understandable function, our bodies must be involved in the process as much as possible.

Performance through transmission:

9.

The presence and location of the body of the performer and the observer influences the form of sound produced.

The process of interaction reveals a property involving the whole context in an inseparable way.

Intent applied to the body affects environment.

See item six.

10. I suppose one question I would have to ask, or an idea to put forward, is that I prefer a general impression. I work from vague lines drawn between disparate sources. Interpretation is more of a gut instinct. That is how I make it, that is what it is, there is no way to precisely explain it. Any other way would be a lie. Surely making an artwork takes into account some necessary quantifiable and measurable details, however the overall creation of an art piece relies on an intuitive understanding of the facts at hand, and the trust of ideas, suggestions, and formulations that may not make measurable or provable sense.

I have an angst that it is not possible to fully express what I know. I can write and give references to everything I read, but no one will go look at that. No one will have these insights again.

11. I do not wish to *explain* the artwork by drawing from the natural sciences, be it physics or neuroscience. For the most part art is not a discipline based on empirical evidence. I want to *suggest* analogues from the natural sciences, as the best approximation and expression of how I feel. This point has an essential connection to item five, which refers to transcoding. I intend for the critical information to retain its significance, which requires hard work on my part to balance between the generals and the specifics of a scientific concept. While I am inspired by much scientific thought and evidence, I do not appreciate overly literal thought. I have no problem applying metaphorical, mystical, and magical elements to my thinking.

12. *It amazes me how I can move my consciousness away from a problem, which can then be resolved in the back parts of my mind. I do not have to wait long until a solution leaps into the conscious fore, as if no thought had been put into it at all.*
To be convinced in these moments requires a great amount of trust in myself.

“THE ACTIVITY OF THE GREAT IS GIVEN THE
FORM OF THE SMALL”

(Consciousness and the Implicate Order, slide No. 15)

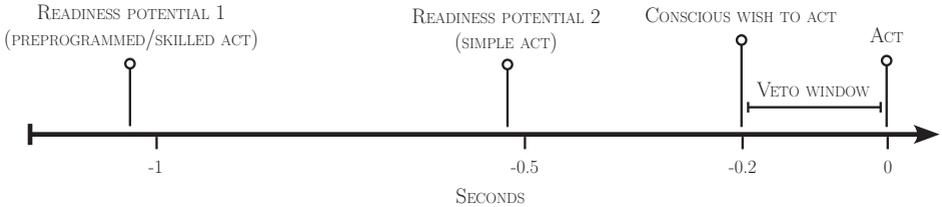


Fig. 2: Benjamin Libet's measurement of the delay of consciousness.

13. The readiness potential is a shift in the electrical potential in the brain which shows an action is being prepared, or calculated. Consciousness becomes aware of the potential considerably later (see Fig. 1), despite being convinced that it is the initiator of the chosen act. (Nørretranders 214-219) When applied to a received stimulus, this backwards behaviour can be explained by a delay in which the awareness—the subjective experience—of consciousness is given an earlier time frame than from when the awareness of the stimulus actually occurred. (ibid 235)

The “Veto window” suggests a further theory of Libet in which consciousness drives the selection of volitional outcomes rather than the initiation of volitional acts. In effect, consciousness may veto the unconsciously initiated readiness potential. (ibid 243)

Since it takes time to become conscious of both the inner and the outer world, the mind must know when something will happen or when something has happened, not when it becomes conscious of the fact.

14. Some notes about the structure of this thesis:

- a) It is self-reflexive. To be more specific, in addition to discussing the artworks at hand, this thesis exists to discuss itself.
- b) The method of scattered points referencing each other is thus appropriate. Since there are no definite conclusions or deductions, an open discussion is preferred. A directed narrative would serve to complicate matters—and hinder the ability to draw lines—until the context calls for such a method.
- c) The discussion this thesis holds with itself aims to better explain the context of its own creation. This further emphasizes the separation between thesis and artwork mentioned in item three, and such emphasis is intended. However, neither work is meant to be an island. Indeed, this is merely a projection of item number five.
- d) For further clarification, see item 1(c).
- e) One reason for this concerns the fact that a great many artworks I have made in the past have included text as either accompaniment or attempted explanation. These texts have always shown a certain element of self absorption and brevity. This present text serves a similar purpose.

15.

Consciousness is the instance of selection
the appearance of intention is not
but the consummation is
URGE US
Action → A choice selection gate

Consciousness cannot control desire

It is not the only channel
But it is the only channel that feels like self

16.

Information and potential for activity is held
in “channels.” Those not occupied by the
system of active information lose all potential
for becoming active.

There is nothing more common in ordinary
experience than for information to lose its
potential for activity.

Entropy, forgetfulness, channel selection.
Participation. Abstraction. Implicate order.

17.

Using Bohm's terminology and world view, I will be writing about things that last and things that persist; The erosion of structure or the addition of entropy and the meaningful content which survives.

Everybody has many experiences of [the] implicate order. The most obvious one is ordinary consciousness, in which consciousness enfolds everything that you know or see. It doesn't merely enfold the universe, but you act according to that content as well. Therefore you are internally related to the whole in the sense that you act according to the consciousness of the whole.

The enfolded order is a vast range of potentiality, which can be unfolded. The way it is unfolded depends on many factors. The way we think and so on is among those factors. The implicate order implies mutual participation of everything with everything. No thing is complete in itself, and its full being is realized only in that participation. The implicate order provides an image of how this participation might take place in physics in various ways.

Bohm 106

18.

Priming:

Our unconscious must feed us the correct things to pull decisions on. Before we are aware, everything is sorted for us. We are not aware of the stimulus, nor the cognitive process that acts on it. We may develop associations about things and people without any awareness of the cognitive and perceptual basis for them.

(Nørretranders 170-173)

Thoughts and desires do affect others. Because of such things as priming, we probably know more and feel more of other people's thoughts

and desires than we consciously think we do.

And they may know more about us than we know about ourselves.

In unpleasant situations, we are hyper-conscious of the fact that we continuously and consciously interrupt our own actions. There are differences between what the conscious will and the unconscious urge are after.

When we do what our unconscious wants, our whole body feels good to not be involved in the struggle over the veto. (ibid 247-249)

In this analogy we can see that information is constantly losing its potential for activity. For example, people may see that some of it is irrelevant or wrong, while a great deal may simply be forgotten. Even if the information is preserved in books or on discs, most of these latter eventually become more and more difficult to access, for example, by being sent to depositories and ultimately being shredded. Other information is simply lost by dispersal, for example, by the spread of sound waves and radio waves. Insofar as this information can no longer affect human beings (or their proxies in the form of computers) it has lost its potential for activity.

It is clear then that nothing is more common in ordinary experience than for information to lose its potential for activity.

Bohm & Hiley 105

19.

I am disturbed because of the constant conflict between the unconscious commands and the combative conscious will. The will is often suppliant to the suspiciously intrusive commands. This is me getting in the way of my own **movement**.

This creates a grinding tension between

My conscious will and intent —
the desire of my organism —
the commands which go against the desire of my organism —

If my free will consists of what my entire organism thinks and feels,
do I have two competing free wills?
Is my veto strong or weak?

20.

Musical Sculpture.
lasting and
Sounds leaving from
different places and
forming
sounding
a sculpture which lasts.

Fig. 3.

The layout format of this thesis is substantially derived from Duchamp and Hamilton's book, which does not have ordered pages.

Book One

Preparing to Move

*In which the author tries to describe
a context of action*

Fragments of various detritus, basically,
collapsing into itself at the end.
Either ruining or uniting.

(redacted.

*instead,
think about:*

*the utmost importance of your
subjective experience,*

and

*how science also presents
subjective experiences.*

neither are stable.)

An Anecdote.

In the winter of 2006 I was walking past Telford lake—more of a slough, really—while listening to some music on headphones. It is quite uncharacteristic of me to walk and listen at once, as I find it distracting. At this moment, it was late in the afternoon and light was dimming. The sky, as usual in medium cold temperatures in Alberta, was great and featureless. The air was still and cool, and I came upon one of the bird watching decks.

As the track “Dungeoneering” (Hecker 2006) played, I witnessed a lovely flock of birds, perhaps sparrows. The cyclical patterns in the music seemed to explain the movement of the birds. As the flock descended and rose above the ice of the lake, their movement appeared to slow, as I began to relate the order of the flock to the order of the music.

Collective animal behaviour, like collective behaviour in many contexts in nature, is an emergent phenomenon of self-organization “as the result of the local interactions between the individual units, without the need for centralized coordination.” (Ballerini et al. 2008). For example, a bird may only concentrate on the seven birds around it, not the entire flock, no matter how large. We can think about a large flock of European starlings, as studied by Ballerini, as being a large cloud with an orderly movement. From a distance, this cloud is one thing. Closer, it is of small birds. Closer still, it is individual birds paying attention only to seven of their companions. The cloud as such is not aware of itself. Ballerini et al. go so far as to examine other orders that affect the flock movement, such as the mass of the entire flock related to its horizontal movement in space.

So here is a metaphor for an implicate order. The implicate order of the flock are single birds. There is a further order of small groups of seven or so. At a distance we see the explicate order of the entire flock.

I am not suggesting a reductionist view of the universe. What I am interested in is this nesting of orders, and the patterns of behaviour and action which result. The order of the quantum which emerges through my work is not as yet reducible to another order, and it is precisely this level of mystery which I find poetic. It is the small within the great.

My perception of the mystery Hecker's music imbued into the movement of the birds is crucial here. In this example, my mind is making a relation between an artistic construct and an observed, seemingly mechanistic process. These two things are not related, yet the mind can pretend—or better yet be fooled—they are. From this confusion of pattern recognition emerges the possibility for creativity, interpretation, and self-reflection.

The interpretation of the event is conscious. Something occurs to make the brain aware that the event of recognition is important, and this is forwarded to consciousness. This seems a spurious thing because since the pattern is false or imagined, there is really nothing to decide on other than whether I think the event is real or not. Sometimes there is a terrible amount of confusion as to what really was recognized, and even if there was anything at all. Why am I paying attention? Why do I feel slightly disturbed? Is something wrong?

The use of random numbers and the impossibility of sequence.

The sound and movement produced by random events causes a slight confusion. Is this music? Art? Noise? Whether one is discomfited by the notion or not, the very presence of the observer alters the production of the numbers. Therefore, the observer is implicate in his or her own confusion.

How to include the things I am interested in, without saying that I am trying to say anything ABOUT them? I am just influenced by these ideas and they make me think in creative ways.

TWO CONTRASTS

Acoustic resonance is

Cavernous

Earth

Warm

Closed space/fullness/body

An embracing comfort, grounding, unity of earth and sound, gathering, stable yet destabilizing, sureness

("The Small within the Great")

Electronic amplification resonance is

Celestial

Outer space

Absolute zero

Open space/emptiness/synthetic

Destruction of body through sound, aggression towards self, disintegration, dispersion, fragmentation, confusion

("You are Dissolved")



It would be a good idea to perform this by running around trying to get a hang on everything, but everything's on a different wall and needs seeing to. Stress, panic, executive function overload

Very beautiful, quiet moments or medium-volume contrasted with
loud terror/stress

Why does a perfect production make me nervous? It seems like a perfect skill implies that the musician or painter or whatever deigns that they “know it all.” There is no way to approach the work of art in this respect, as the technical details have covered all entries and exits—that is, good skill can sometimes, if clumsily used, get in the way of reception and blind the receiver. The lie and the shock of hubris comes across in the act, which is often strained of emotion and difficult to approach. Emotion is strived for, but never reached, because the thing of technical perfection has top priority. This overtakes, and causes a kind of confusion in the artist.

The strength of the amateur is of the drive. The drive to do something because it needs to be done, and do it effectively with all available faculties, which are few.

What makes me nervous is an imbalance, a confusion, an unwillingness to let movement pass thoroughly with all its intended mistakes. In the case of high levels of technical skill, I think one should be careful to let things into the process. In the case of lack of skill, one needs to be attentive not to let too many things in. Movement is not perfect. All action has noise.

Noise has always been part of the system.

Duchamp, beauty of indifference/painting of precision, strength of amateurism.

Interested in the downplay of virtuosity. I am not very interested in being a music player or a composer. Indeed I know little of “music” as understood culturally in the institution. (I am also kind of bad at even building electronics.)

None of the things I’m doing right now show virtuosity *except* for my ability to bring all of these elements together in a way no one has thought of before. Well, maybe someone has, but I’ll not worry myself about that, it’s unimportant anyway.

A virtuosity—or perhaps “skillfulness” is a more appropriate, less conceited word—then is not a physical mastery of a single process (craftsmanship) but the understanding of conciliating the whole subject with the rest of things. A unification, or anti-separation. Or at least *trying* to conciliate. That is best we can do. The real work is in the defects.

(

In making a machine (“The Small within the Great”) which plays itself according to its own data, I feel it is some kind of alternative to beauty and taste. Even though I attempt to tune it musically the material eventually flattens the tone out anyway so it makes an ugly sound. It is a precise machine, and outside of its initial creation I don’t do much to it once it’s installed. It only needs some basic maintenance to make sure it makes any sound at all.

Duchamp made some “paintings of precision” around 1914, such as “Chocolate Grinder No. 2,” in which he wanted find a “dry” kind of painting to contrast the in-vogue Cubism of his day. To be irregular and lack virtuosity, and also emotion. For these paintings he made stencils to distance his “hand” from the

drawing practice, to deactivate the retina and activate an idea-based method of painting. (Henderson 59)

I am not sure if this is a point to write about. I feel like my machine is accurately expressive of the austere, dry emotions I want to convey. It has just enough awkwardness and irregularity to it to be seen as an artwork made by a hand, but its function is purely mechanical. Precise but expressive, but not virtuosic by any means. Duchamp seems to contradict himself: by focussing more on the idea, is then the idea itself the virtuosity after all? Is it impossible to be good at anything without having the difficult and elitist position of being a virtuoso in one's field? Perhaps none of this matters at all. But perhaps some things can only be expressed without the presence of a "virtuoso intermediary." (ibid 61)

My machine could also have a parallel to Duchamp's "Musical Erratum" pieces, which are composed by drawing notes from a hat (ibid 60). Duchamp's music however ends in a written score, whereas mine has no determined beginning or end—simply when I decide to turn it on, or off. It plays beyond human limits, to a randomness that we do not even fully understand. Duchamp plays with "canned chance"—which is essentially any kind of measurement—whereas I play with open chance, which somehow frustratingly defies our meaning making potential at every level. Yet Duchamp is right in critiquing the very notion of measurement, and especially in pointing a finger saying that we must confront chance rather than try to can it.

)

(write an actual thing here)

Working as an artist, in relation to what you have said previously, is a process of finely-tuned attention to your own decisions. You are responding to a million things at the same time.

This requires training, skill and a developed sense of you-seeing-yourself-thinking/deciding. This process is extremely fast and dense, like a car crash. It cannot be accurately portrayed outside of the work of art, as this activity is *reflected* in the work of art.

Therefore, you cannot fully talk about the workings of this mechanism in language, as art-making uses a compressed time frame with far more bandwidth. What you can talk about in language is the things that are happening around you. Then someone can get some kind of idea as to what might be happening.

But even so, there are so many things happening in your skull at once, you cannot reference them, you cannot even know where they come from, you just know that they are there in the present moment to be processed in whatever finely tuned way you decide. Most of the times this is not even conscious.

Aperception: the process of perceiving your perception. Noticing you are noticing. By calling to attention the point at which you see yourself seeing, you are highlighting the importance of this activity.

A sensor sensing the greater order it is a part of. The greater order senses itself.

“We view quantum theory as an abstract framework for developing models of non-separability in a variety of domains including cognition. Note that, even though we are using quantum theory to model the **non-separability** of words in human memory, we make no claim that this corresponds to a physical manifestation of entanglement in the brain.” (*Peter Bruza quoted in Zyga 2009*)

In this interview Bruza clearly states aims similar to mine. While Bruza’s area of study is strictly limited to the function of words in our memory systems, his use of the general concept of quantum theory is analogous to my own. That is, quantum theory is used because the function it describes intuitively offers a deep insight the action being studied. Specifically, the idea of non-separability aids greatly in understanding the system under scrutiny. In Bruza’s case, the idea of memory acting as a whole movement is more informative to study than it would be to study each individual component in the mind. This intuitive concept is useful. If quantum theory can explain a lot about the motion of a subtle form of reality, then it is possible to use such a concept to understand another subtle form of reality: memory retrieval and even the general rise of thought to movement, neither of which are capable of being understood through Cartesian models of separation.

GALLERY OF MEANINGFUL OBJECTS

These objects have some kind of “aura” and the sound they make also has an “aura.” The materials and the culture that made the materials is expressed in their function. Down to the iron in the transformer of the radio, it speaks of the time it was made

Grundig radio 70’s - strapped up like a guitar - this highlights the act of tuning as a conscious activity - the instrument-nature of this activity. Thick plastic case resonates sound in an interesting way. Sensitive tuner, sweet sound. This is the most important instrument in the repertoire.

Garrard “portable” turntable 60’s - highly manipulable (speed, tone) record player, plays all types very noisily. Warm tube sound provides a different edge, which gets fat and saturated at high volume especially in bass. Easy to scratch (spin) the record manually. Nicely crafted wooden case with built-in speaker. Loud. Beautiful round noises, huge monumental lock grooves. The entire device also acts as a kind of contact microphone.

Orion Cassette recorder 70’s - ruining a tape through a broken playback device - meaningful information survives, object imposes its own colour and order (through bent drive belt) to the music. The general quality of a cassette tape is desired as well, I will process most of my loop sounds to emulate the compression pattern of magnetic tape.

Akai reel tape deck 60’s - busted transformer. Can be modified with a new motor to have precise jogging capability, but this will have to wait. Will be great to play tape loops.

Pioneer radio tuner 70’s - noisy stereo section. Can’t fix. Still has a great sound and will use in performance. All analog, powerful sound. Nice bezel.

FM TRANSMITTER

The transmitter is a bare PCB built from a kit. I have set it on a small metal box with batteries inside to make it easy to perform with. I have attached a large “rabbit-ears” antenna to it to enable easy performance and signal manipulation.

This object is not particularly meaningful, only in the sense that I have built it myself and perform it by touching and moving around it.

total field

awareness of presence in total field

information flowing both ways in field through the human and out of the human and from the human into everything else

a constant now but a constant becoming: relentless future forward, endless change yet endless sameness

Sound revealing the space

the sound fills the space, which makes it solid. this creates a sublimely large and terrifying mass threatening the body through shape and vibration - physical attack of moved air - this engenders aggression because it is aggression that causes one to want to do this, and then aggression is further intensified through you being threatened. The mass of sound (solid) aggressively threatens you. I did this by pointing the speakers at the wall, ceiling, and windows.

getting in the way of the movement only makes it worse

The music buildup, sweeping melody succumbing to noise and destruction/distortion

could be an analog for:

how my mind can take an initially nice notion, then slowly over time twist it through obsession and doubt into a system of paranoid delusion

That's a bit heavy, but an intuitive analogy. However it is cathartic to take a melodic line and destroy it through layers of static and interference—this is one order blotting out another. This is a kind of combat that I think I play with in my self. In many of us, there are two orders. Which one wins?

Selected studio notes

With the Grundig shortwave receiver it was nice to make rhythms by moving my body with the radio, picking up different stations in the room, and touching the antenna. It gets louder with bodily touch and the audible “thump” can be modulated by the pressure of touch. It feels as if I am touching the sound waves, but what of course is actually happening is that the radio is using me to gather more. **The information is traveling through my body.** I would tune this radio to noisy and abrasive shortwave stations as well as rather quiet but sinister AM stations with pulses. The noisy shortwave sound was almost terrifying because I feel like I am hearing voices in it. It is especially bad really loud against the glass window, which sharpens all the edges of the noise. I would tune past talk and music stations, using the information there to my advantage to make an improvisation. Depending on the time, it could be a very appropriate sound.

Now, the modulation of the FM transmitter. Touching the coil, the capacitors for the coil, and the varicap produces great results. Not to mention shifting around the antenna and ground antenna cables. Each area produces a different level of signal drift and distortion, and the only problem right now is the fact that sometimes the transmission just cuts out completely - silence. This is a problem with stereo transmission only. Not a huge problem but sometimes it is a bit annoying and shocking. Would be nicer to get a smooth distortion happening. It feels great to simply touch the transmitter in varying pressure, or dance my hand around it, or indeed move my entire body to affect the noise generated. It also reacts to big chunks of metal placed near the coil. I put a ferrite bar antenna next to the coil and when it didn't blank out completely it made a great textured interference, like it was trying to suck up some of the coil's energy. Not sure what was going on there.

I enjoyed running around from radio to radio, it felt like I was playing with the space. On the shortwave radio in particular at some points I was really getting into playing it as a performance.

Later on I discovered how when using the shortwave radio strapped to my body, I could walk inside the arc of transmission, and even figure out its edges and borders. It is possible to mold the noise this way. There is also an interesting feedback and interference between the shortwave and the FM transmission if they are happening in the same signal area. Sometimes the shortwave receiver starts picking up the FM transmission. I have no idea how that happens.

The importance of intuition.

A “guess” on something perceived unconsciously or carelessly is quite often better than if you concentrate on something (Voss & Paller 349). Voss and Paller’s primarily visual experiments reveal the memory encoding of a task with divided attention is actually on the average more accurate. This is rather surprising and a bit disturbing, especially since results suggest we are much more aware—that is, having metamemory—of our explicit full attention memory, while the divided implicit attention memory only comes across as a mysterious “guess.” One thing that I could add to that argument from my own experience is that full attention demands more agency of the observer. Therefore, since the observer is giving his or her “all,” they feel less confident about their observations.

With random music, the problem is your conscious perception of the music. Your intuition probably knows there’s nothing there, but your consciousness refuses to leave it alone. This creates a friction in your own mind and your own confidence in yourself. Similar phenomena include “change blindness,” where it has been found that subjects notice a change unconsciously, and therefore are not aware of the change until they are asked to remember it. This suggests a strict limit on the amount of information that can be consciously retained. (Levin et al. 289-290)

Both of these points—unreliable metamemory and conscious friction—are related to my interest and belief in the fallibility of the human’s ability to know him or herself, which I have discussed above in relation to the writings of Tor Nørretranders.

As a partial salve, I suggest that extra trust and attention be paid to the “guess” or “gut memory,” as it seems in many cases that consciousness proves to be a hindrance or at the very least an unneeded complication.

Jumping ahead:

In relating this more to channel selection: our mind can unconsciously guide the selection of a channel, the active information does not have to enter consciousness. The active information regardless passes through our body onto the next stage of its journey. But our consciousness can decide to stop its journey or to deactivate the channel, so to speak.

When we are perceiving and appreciating an artwork, what is more important:

- a) The passive *unconscious* recognition of “art-like” factors and the forwarding of that to our pleasure and intellectual functions or
- b) the *conscious* determination of “art-like” factors and the deliberate appreciation of them?

Noting that: both of these options take into account the mostly unconscious application of memory from previous art experience (school, history, making, viewing, cultural backgrounds).

This is not a question I can answer, nor would the solution lie within the borders set by these questions.

Pink noise - an implicate order

(electronic disturbance amplified.)

Elaborate:

Radio static is also implicate order beyond other radio waves. It is the static of the in between, the general electromagnetic radiation of where ever, that is all around you.

Pink noise* is not really chaotic disorder. You have to build a system to make it. That means that the components of the system are acting together in a way that is actually structured. You can even build that structure if you know how.

This is a perfect example of Bohm's idea that there is no such thing as real disorder (Bohm 8). Noise or static is the most disorderly thing we can think of, yet there is a precise structure behind it all. Static on the radio is background field radiation in the air, much like how there is background radiation in the universe from the Big Bang (Cramer 2003). This radiation can be mathematically predicted and converted to audio. This cosmic event occurred within an equally structured context as pink noise does, albeit it is not a context we fully understand. As many a physicist will tell you, this does not mean it was a disorderly event.

*a type of noise that can be generated in analog circuits which has equal noise power over all octaves. This note was written during experiments to build such a generator.

Selected studio notes

I scrambled up five versions of Neil Young's "Cowgirl in the Sand," four mono tracks (two in left, two in right) and one stereo track. They are live bootlegs so are of poor quality. I left the volume high for all of them. Some were too long, some too short, so I either stretched or shrunk them, and altered the pitch on some of them to give a more full sound.

It's barely contained chaos, a really good approximation of how this type of music makes me feel. Savage and constrained, exploding everywhere.

The best part though is that when everything is swirling around, especially with uncoordinated tracks in both my ears, it depends on my current situation as to what I can and cannot hear, what bits of song or melody I pick out and what I don't.

This is pretty amazing because each individual track is audible, it's not a completely soupy mess - all the individual notes are clear. I don't know what it is, but depending on my situation, I hear some things and don't hear other things. No two listenings are the same.



"For the most part art is not a discipline based on empirical evidence."
(Quoting myself from the Introduction)

Surely making an artwork takes into account some necessary quantifiable and measurable details, however the overall creation of an art piece relies on an intuitive understanding of the facts at hand, and the trust of ideas, suggestions, and formulations that may not make measurable or provable sense.



Part of my blooming interest in the cassette tape I think came from early in the semester when I was simply looking to find tape recorders so I could take the DC motors out of their bellies (for the Small within the Great). Then I must have started thinking about tapes and how they sound and what can be done with them.



I do not want to delve too deeply into philosophy! It is a slippery slope where one has to constantly back oneself up in the tradition of that field. Thus one begins to write entirely about philosophy, not about what is actually at hand. Dangerous, boring, and worst of all off-topic.

Even though I know I am interested in studies of ontology, I still do not want to bring myself off track.

Influence.

It would be unproductive within all this talk of relating scientific concepts to my creativity to forget writing about the kind of artworks that have been influencing the form of my work. See books three and four for complete descriptions of my work referred to here.

All artists mentioned are fully referenced in the works cited section.

Ben Frost

A starting process

His composition “Theory of Machines” (2006) is a culmination of fragmented rhythms and a single melodic driver. It builds in expression and tension while at the same time fragmenting further into static, destroying itself. It is on a road to becoming, heading towards a climax, but while it is doing that it is unstable and pulling itself apart. It is unknown whether the climax is reached or not, or if a state of becoming is maintained. Melancholic and also urgent. Urgency is an important expression for me, as it suggests something driving forwards somewhere, to attain some kind of completion.

I used an edited loop from the beginning of this track for “You Are Dissolved,” during a quiet moment. This was a moment of the performance where I am slowly moving in and out of the radio transmission. Frost’s delicate piano figures are appropriate for this more tactile moment.

Tim Hecker, Geoff Mullen, and John Cage

The music of machines and making music with machines

Hecker’s work is of high importance to me and is probably my single most significant formal influence. His music career has concentrated on a specific investigation of melody, static, shifting radio sounds, and slow sub-bass sequenced rhythms.

I have often described this music as the type that is most ideal for me, or at least the kind that conjures up such distinct feelings. The most important formal aspect here is what I would describe as a music natural for equipment. I can describe this in two ways.

One, it is a music that, when emitted from a piece of sound equipment you can see, sounds like it is something the equipment would play naturally, as if it were speaking with its own voice. This relates to the idea of the “aura” of materials I have written of before. Through some combination of random-sounding static and barely-there rhythm, human intent is seemingly muffled in Hecker’s music.

Second, it is a music that could be something hidden in the natural order of the air. Say one would hold up a special tape recorder into the air, a tape recorder that can record a special frequency we cannot hear. It might then record something that sounds like Hecker’s music, the natural music of machines and radio transmitters and power pylons, of transmissions constantly enfolding and unfolding and becoming and dissolving. There is also a cyclical nature to many of Hecker’s albums in that they end with the same melody they started with. This implies an endless power of nature.

I have used sections of “Dungeoneering,” “200 Years Ago,” and “Where Shadows make Shadows” (2009) in the “You Are Dissolved” performance.

The sound artist Geoff Mullen is also noted for his use of radio on his double album “Armory Radio,” a series of electronic and acoustic improvisations that contain radio tuning sounds similar to my own. The compositions are noisy but rather minimal, primarily interested in the harmonics of the radio tuning process. Regardless, this was an important document for me.

When talking about composing for radio I cannot forget to talk

about John Cage, who was one of the first to think about using a radio as an instrument. For “You Are Dissolved” I had mainly been looking at the piece “Water Walk” (1959–61), in which the performer is freely moving about the stage, attending to various mundane devices including radios. In addition to the radio being part of the piece, a big influence came simply from the act of Cage walking about trying to control various mechanical processes.

The Hafler Trio, Phill Niblock and Tony Conrad **Irrational endlessness**

Andrew McKenzie’s long-running absurdist art and sound project The Hafler Trio has been of interest to me for many years. I will here focus towards one series of works he has made. It is a series of albums referred to as “Trilogy in Three Parts” or elsewhere as “The Wedding Trilogy.” I will reference the third part, “No More Twain” (2003). The three albums are essentially one long glacially slow movement of woodwind-like bass tones and occasional shrill figures of unknown origin.

This composition is so long, and so slow, that in the midst of one of the albums I could imagine it would never end. The music moves forward with its planned events but it seems as if time stops, or at least the perception of time radically changes. There are no hard borders in McKenzie’s composition—it seems to shift and ebb to some kind of universal constant.

We will see that I try to reflect this effect in my sound installation, “The Small within the Great.” A similar composition called “Organs Lost at Sea” by Lawrence English was significant in influencing the way I “tuned” the installation, and in the way I wanted the chord it played to be built up and dissolved over time. In English’s piece a huge wall of organ noise blares into being, slowly changing in an organic (yet still composed) manner.

Another similar composition by Phill Niblock called “Harm”

contains a sub-bass drone which I use in “You Are Dissolved.” Niblock’s music is generally without rhythm or even melody. Small changes in micro tones may be observed, similar to McKenzie’s sonic molasses.

Though his actual recordings were released much later, Niblock is contemporary to the early minimalist generation of the 1960’s and 70’s, which includes another influence of mine, Tony Conrad. Conrad’s repertoire for free form violin playing is notably interesting for me because his works are completely fluid, without stated beginning or end. The improvisations are without figures or notations to fall back on, they simply plough forward in time. The texture of his sounds, a sharper-edged electric violin groan, emphasizes this disconnect from a linear, composed music. This process is similar to another American composer, Henry Flynt, whose “New American Ethnic Music” shares a similar kind of anti-notational endlessness.

Alva Noto

Copying and survival

Amongst several albums of hyper-minimal technological sounds and a media art career exploring such things as self-organizing processes, Alva Noto (Carsten Nicolai) produced two albums of more musical, organic sounding distortion called “Xerrox” in 2007 and 2009. In these works he is taking simple musical figures and applying a procedure of digital copying distortion to them, eventually destroying all trace of the original composition.

While Nicolai is interested in how the copy can become independent of the original, I am more interested in how the original message “dissolves against the white noise of reproduction. In the end the observer can barely recognize if the origin (sic) still forms a part of the information transferred.” (Nicolai 2007)

Nicolai, having built a special device to perform this manipulation,

seems to be more interested in the materiality of these musical forms. Yet I take a clear notion of active information from his process. A musical figure that can persist through various processes of destruction. The meaning of the figure of course changes throughout each manipulation, but some essence of the original communication makes it through.

During “You Are Dissolved” I play a cover version of the track “Haliod Xerrox Copy 1” (2007) in its entirety. I set up my own simple system of digital destruction on Nicolai’s musical figure, play the samples procedurally, and apply further distortion and ruination by manipulating the FM transmission of the sounds. The song is emotional for me so the playing of it also involves some furious bodily movement and a not insubstantial wall of noise.

There is a certain austerity to Nicolai’s music here that I respond to, an icy distance that he shares with Hecker. While I find the work of both to be emotional, I appreciate this type of dryness and think it enhances the feelings and statements further, by avoiding pretenses to sentimentality.

CM von Hausswolff and EVP Ghosts in the machine, aphophenia, phantom radio, Retropsycho kinesisis, and mutual participation

Hausswolff has worked with the concept of something called Electronic Voice Phenomenon (EVP) on the album “Operations for Spirit Communication” (2000). This is a supernatural idea that one could hear the voices of the dead on radio static, through a medium (much like a medium at a seance). Musician Steven Wilson has produced an album of similar concepts.

While I am not interested per se in the supernatural aspect of this, I am fascinated by this exploration of our abilities of pattern recognition. Since I am working with randomness and static so extensively, it is important that I recognize the human’s tendency

to project whatever pattern they want to hear in the sound.

Calgary-based new media project “Einstein’s Brain,” an unfortunately-named collaboration between artists Alan Dunning and Paul Woodrow, and scientist Morley Hollenberg have explored this idea in various works, most recently with “Ghosts in the Machine” from 2009. Starting from EVP, Dunning et al. examine the effects of pareidolia—seeing a vague pattern as significant—and apophenia—seeing patterns in total noise—by setting up a complex computer system that analyses a field of video static. An algorithm then scans the field of noise for anything resembling a face. It is a system of meaning making, and comments on the “problematized relationship between meaning and the meaningful.” (Dunning et al. 2009)

This is precisely the kind of friction with the world I have been interested in. Such noise events force us to confront our ability to make meaning and when to make it. Hence the randomness in “The Small within the Great” and the forceful static degradation of “You Are Dissolved.” Can we see meaning in the random quantum events, and can we still hear the music through the radio static?

Sound artist John Duncan’s 2002 album “Phantom Broadcast” presents a related idea. Duncan supposedly came across the composition fully formed as he was scanning through the shortwave radio band, and recorded it in the studio. Whether we are to believe Duncan or not is another matter, but it is fascinating to think that some spectral event elsewhere in the world could have arrived just into his radio, making an oscillating rhythm that he appreciated enough to perceive as significant.

John Walker’s web based Retropsychokinesis projects present another such challenge to our faculties of meaning making which enters the supernatural. In this project Walker and Matthew Watkins have arranged a series of tests for subjects attempting to predict or influence a stream of random data arriving to their

monitors. Watkins wishes to prove a thesis that some events can be determined by subtle psychic influences from the observer. Simply, he wants to see if the observer is participating in the experiment in a way that is more than just looking, but is actively changing the results. The comparisons to the quantum physics we have been looking at are obvious, yet Walker and Watkin's project has more of the flair of a bizarre supernatural story.

I would like to compare Walker's project and my own sound installation. In "The Small within the Great" I am using data from radioactive decay. To collect this I use a Geiger counter computer interface looking at some decaying metal. This is essentially the same setup that Walker uses for his experimental data, right down to the brand of Geiger counter used. While Walker is looking to prove that people can sometimes predict the random number coming to them not just by chance, my installation is providing some kind of "music" that the observer must experience.

Whether or not my gallery-goers are indeed "participating" in my installation is impossible to tell, but from my own experience and the experience related to me by some of my audience, listening to the machine does have an unnerving effect that there could be some form of communication happening. This could be evidence of the kind of confused meaning making that Dunning et al. are trying to explore.

Ellen Fullman and Paul Panhuysen **String instruments, movement in space, and measurement**

Fullman is famous for her "Long String Instrument," a massive structure of fine bronze wires thread between large wooden resonating boxes. The Instrument is as large as the performance space will permit, therefore the performance and composition is dependent on the architecture, much like in my own sound installation. The texture of the sounds is likewise similar, a long sharp droning mass. In addition to the setting of an instrument in

architecture, Fullman also must perform her instrument in a kind of choreography, due not only to the large size of the instrument but also the amount of space that must be covered to perform it.

So along with Cage, Fullman also influenced how I thought to perform “You Are Dissolved”—over a larger space, but treating the space in its entirety as a more solid mass, the whole phenomena of which I could “play” or dance in. The architecture presents a frame with which to “fill” with radio waves, which I push into with my body.

Fullman has also worked with another builder of unusual string instruments, Paul Panhuysen, who has produced an album of recordings filtered through electrical monitoring devices called galvanometers (Panhuysen 1998). Panhuysen took many recordings of his string instruments and ensembles then transferred them to a series of these devices, which manipulate two tuned wires of specific lengths. In relating this to my sound installation, we can see a comparison between two things: the length of wires being tuned numerically, and the use of a sensor “medium” in between the data (in this case, recordings) and the heard sound event.

This latter is I think the important concern. In both of my projects discussed here, we can see an interest in using some kind of medium to change the input data, something that fits into the process to assist the sound event to become a useful carrier of information. It could be a computer reading a sensor, or a modified FM transmitter. Either way, the very presence of such an in-between medium is important. This medium, then, can be seen as a shaping tool to mold the active information I seek to save. The medium is analogous to, and an extension of, my own conscious determination of what to do to information to best ensure the survival of the vital active components of my preference. **I direct the survival, but am directed by the situation—I must make the right choices given my context.**

I heard nothing but silence, and enormous space.

I did not want to fill that space with noise.

It required no noise.

It made its own noise:

It was low, and quiet, and oscillating very slowly.

I could hear everything, and feel the weight of space.

It captures space in stone,

the structure lets that space breathe,

and it breathes quietly and elegantly, yet darkly.

Book Two

Moving

*The Measuring Instrument is a
Concept:
Channel Selection Explained*

We, in our act of observation,
are like that which we observe.

(Bohm 76)

**“EVERY HUMAN ACTIVITY HAS POTENTIAL TO PARTICIPATE
IN THE THING IN WHICH IT OCCURS.”**

(Consciousness and the Implicate Order, slide No. 58)

I am interested in art practice as a research process that is not reducible to a textual form or is otherwise easily explainable, specifically rejecting the idea that an art theory could explain both the creative process and the contemporary climate of art production, as well as a finished work of art.

To this end, an artwork that is capable of standing on its own completeness is to be strived for, something that is comfortable with the audience’s ability to free associate outside of the context within which the artwork was created. Context is encoded within the movement of the artwork at the moments of its creation, and the crucial elements of it will unfold naturally to the audience in ways unique to each observer’s own context. The future must be considered regardless of the artist’s individual artistic ideals and statements.

The artist must accept that what he or she intends will not necessarily be what each observer receives. Observers participate in artworks and performances and their perception of the work will alter the work’s meanings. This is not to de-emphasize the role of the artist’s agency and his or her concepts, but to consider it as an equal part of the equation. It is to set the work of art and the creation of art to a state of non-totalism. That is, to accept malfunction as another kind of function, to consider all readings, and to reject dogma. Without a total framework, presumed or otherwise, one will finally find the freedom to associate.

We consistently assume that the world is made up of some kind of basic particle (Bohm 74). This is a mistaken kind of faith, or a fault of rigid thinking, a result of our placing ourselves above nature.

The world does not and will never do what we want it to do. It does not and will never be constituted of the things we would like it to be constituted with.

It comes through us:
we are what the world wants.

**An example of how an implicate order works,
using the idea of the hologram.**

Each part of the hologram contains an enfolded order essentially similar to that of the object and yet obviously different in form.

the order in the hologram is *implicate*.

the order in the object, as in the image, will then be unfolded
and we shall call it *explicate*

the whole object is enfolded in each part of the hologram

the process in which this order is conveyed from the object to the hologram will be called *enfoldment* or *implication*

The process in which the order in the hologram becomes manifest to the viewer in an image will be called *unfoldment* or *explication*

(Paraphrased from Bohm & Hiley 354)

Looping

All known and unknown fields of total existence can be seen as a kind of hologram, a ground, that Bohm calls *holomovement*. Everything in our experience is an explicate order of the holomovement.

Everything constant, persisting, or lasting is sustained as an unfoldment of something that repeats. Repetition is renewed by enfoldment, and is wholly dissolved by an unfolding movement within degrees of implication.

When the repetitive loops cease, form vanishes.

There is no permanent identity. (Bohm & Hiley 357)

Movement and mutual participation

Bohm criticizes our current society, commenting that the mode of separating thought from action has created a “meaningless social structure, in which we experience the very patterns of relationship that we ourselves have created as something separate from us and alien to what is deepest and most essential in each individual human being.” (Bohm 63) Bohm asserts that all parts of society, life and the world are “intimately related and interdependent, as aspects of an unbroken totality, which ultimately merges with the whole of existence.” (ibid 62). The lines in Bohm’s thought can be traced up towards his quantum ontology, which relies on the same fundamentals of totality and wholeness. As such, Bohm performs a kind of ultimate theoretical abstraction, one that is however in complete harmony with its theoretical base. As society is implicit within the order of physical being and becoming, so it can be approximately described using the idea of implicate order.

Bohm argues that thought is real. This is a critical argument and one he frames by pointing out how little attention we actually pay to the reality of thought. We carelessly give little thought to the actual function of thought (ibid 64). How, then, could we not be confused about everything else in life? He argues that indeed we are confused, by the fact that we ignore that thought is a real, physical thing happening in the world. The goings-on of our imaginations are real and cause real purpose after it causes us to move to act—the function is always real. Mutual participation exists in nature, the purposive, active content of imagination guiding creation. Bohm remarks “nature may be regarded as that which takes shape by itself, while human activity leads to the creation of artifacts, shaped by human participation in natural process, ordered and guided by thought.” (ibid) Thus we can see how we are intertwined with nature, participating as artifact-producing organisms in an overall structure that is still taking shape by itself.

Movement, observation, and our place in the universe

An aspect of our observation capacities I am interested in is how we think it places us above the rest of the universe, such as the classic example of man-over-nature or the far more mundane example of man-struggling-with-a-door-handle. To wit, the separation of organism and world into parts. I posit that we have no such special place, since separation is merely an abstraction.

I would critique any personality that attempts to place itself outside of the universal flow of movement. We are using observation as a way to extend our capacity for survival in the universe, as a way to understand the subtle characteristics of various forms of “movement,” that is events occurring around us. To move with it, rather than challenge it.

A theory of Murray Gell-Mann & JB Hartle uses a concept which extends Dawinism and proposes a basis for it in quantum mechanics. The Information Gathering and Utilization System (IGUS, an abstracted form of consciousness) evolves through nature to exploit particular aspects of physics: observation, measurement and classical mechanics. That implies that the IGUS occupies no special places and plays no preferred role in the laws of physics. (Gell-Mann & Hartle as quoted in Bohm & Hiley 340) To clarify, since the system has evolved from the universe to observe it—and thus better survive—it is an example of the universe observing itself. That is, it is a kind of universal reflection. Through ideas developed in quantum physics, we can use this mirror to see ourselves as being part of the universe in a whole way, and these ideas developed as a reflection of our own inner processes (*ibid*, 389). The human being can be seen as contiguous with the rest of the universe, which is an entirely living thing not reducible to mechanical physical equations.

To extend this idea further, John Conway and Simon Kochen have recently produced what they call a “Strong Free Will Theorem.”

This essentially states that if the observer has free choice over his or her observation, then the particles' response to being observed is likewise not determined by the previous history of the universe. (Conway & Kochen 226)

Regardless of the fineries of Conway and Kochen's theorem, I enjoy this parallel between humans and particles, where all boundaries of being special are knocked away. The concept of free will becomes a moot point, if everything as such has it. It emphasizes our presence in a universal movement. If particles in vortices—to use a favourite example of Bohm—are part of a larger set of ever more subtle movements, then so are we involved in subtle series of movements. What is interesting about the human situation is that, according to Gell-Mann and Hartle, we perhaps have evolved to best survive by paying attention to the details within these movements, and selecting the correct course of action. It is this tension that I am trying to study in my practice.

If we look at the examples from Nørretranders I gave in the introduction, we can see some research that has devoted itself to the function of consciousness. We can interpret it as being a finely-grained sieve, which is designed to pull a decision only on events that demand a certain amount of complexity and time of contemplation. These are, potentially, moments within a larger movement which may or may not hinge on better chances for survival.

Possibly the reason why I am doing what I am doing with my art practice is to point a finger at this crucial aspect of our personalities and functions. There is something satisfying about removing the pedestal from underneath the human, suggesting that the pedestal itself stands in the way of something so basic as "survival." Perhaps the pedestal is an essential part of this survival strategy, but I think more often than not it leads to the confusion of the kind Bohm mentions, where we are frustrated by the inability to impose an order, and are unable to get past that primary level of frustration. The person is trying to escape the awareness of a conflict, rather

than sorting it out. (Bohm 20–21). In many cases, this is because the person is unwilling to accept being humbled. There is a danger of taking this analogy too far so as to interpret every human action as a simple mechanical move, but the universe is much more subtle and organic than for such an easy reduction to make any sense at all.

In a way this is expressed in “You Are Dissolved” and its critique of multitasking and subsequent acceptance of a system one must work with intuitively rather than control.

Movement and the artworks in question

The major function of the sound in “The Small within the Great” is to suggest a situation of endless becoming, of constant forward throughput movement. It presents events which are “brought into existence in space and time from a broader background or context, and eventually dissolving into the background.” (Bohm 75) That is to say, my instrument highlights this process, which is occurring in everything at every moment. My instrument takes a fleeting quantum moment, brings it into some kind of audible form, which then reverberates away into the rest of the world. It suggests unbroken wholeness of events and modes of order.

This dissolution is highlighted even further in “You Are Dissolved,” the performance for radio. A complex system of radio transmission is developed, and is then interfered with by my own body. Metaphorically and perhaps even physically, I become part of the dissolution of these events, both bringing them out of the background and then dissolving them back. The audience is involved in this process mutually and intimately, by implication of presence. This emphasis is on the real content of thought—my thoughts literally moving events. As opposed to me “doing” the movement required to operate the radios, it is much more appropriate to see myself as being *inside* the movement, as my operation informs their reaction, which in turn informs my further operation. Through this, sound and musical forms are manipulated and despite the chaos of the system the meaningful content of the sounds—the active information—is assumed to survive for at least a little longer before ultimately dissolving into the whole.

In short, for both works a kind of *total field* is created, in which either the author or the machine draws information from the background, imbuing it with form. Bohm points out that—at least in a quantum context—such things as experimental conditions, observed objects, and scientist could be regarded as part of a single overall “pattern” which is abstracted by our description—in my

case, an artwork (ibid 76). In “The Small Within the Great,” the eternity of this process is especially evident. It makes a sound which is more or less similar to itself. However, there are many differences within these similarities. Hence this endless drone is in fact endlessly changing and, within itself, totally dynamic. With this work I intended to make something that, through its sameness, seems eternally still. Yet through its similar differences, is eternally dynamic.

In Bohm’s early essay “On Creativity,” he discusses that the nature of creativity lies within the recognition of such similar differences and different similarities, in such a way that a new kind of order, implicate or explicate within the currently understood order, is revealed. (ibid 14-15)

As such, bringing forward something from a total field could be seen as a kind of beautiful revelation, even if partial, of another depth of order. Further, the fact that we must be consciously aware that we are doing this activity all the time in subtle ways must not be ignored. This is perhaps the key to a successfully creative response in the world.

Human organisms are implicate to the structure of nature.

Nature participates in thought by causing it to change.

Thought adapts to the situation nature demands.

Persistence and lasting.

Thought is implicate in the motion it gives rise to.

Urges from context / one whole movement of desire



T H E R E F O R E ,
T H E C O N T E N T O F
T H O U G H T S H A L L
B E S E E N A S
T H E S M A L L
W I T H I N T H E
G R E A T .

T H E W H O L E
O F M O V E M E N T ,
T H R O U G H
T O T A L I T Y .

Book Three

The Small within the Great

*The simplicity of this apparatus is
important, least of all because you
know how to play it.*

“These fields, which are now being treated as the ground of all existence, have to be understood as being essentially in movement. ... Therefore all properties that are attributed to the field have to be understood as relationships in its movement.”
(Bohm & Hiley 356)

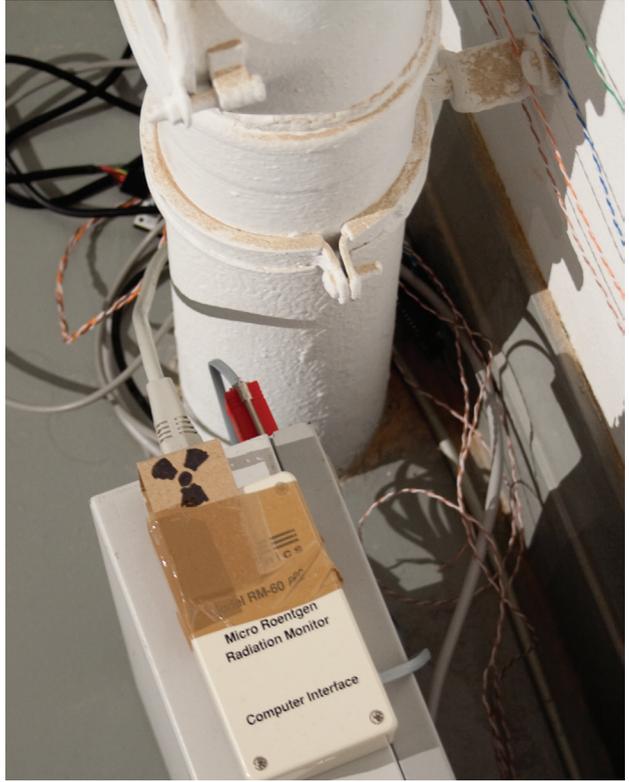


Fig. 4: Motors, view from wall, perspective rotated.

In “The Small within the Great: Direction and Survival,” eight steel stringed instruments are bolted onto a concrete wall. The tuning of these instruments is such that each forms a part of a greater chord. These instruments are then strummed by constantly turning motors. The speed of these motors is directed by the readings of a sensor sending data to a computer program. This sensor is reading the atomic decay of a piece of Americium 241, a synthetic radioactive substance. The strumming is thus random, and the chord is never fully achieved. The instrument, like the radioactive metal, decays over time as the machines wear down, as the strings break, strumming picks snap off, and motors burn out.

The sound boards are placed on the wall in a basic geometric functional shape, with the smaller lengths of string occupying the middle section for acoustic reasons. There is little meaning in the

*Fig. 5:
Computer and
Geiger counter*



layout beyond this, the lengths of the strings themselves being determined by equal temperament. The instrument was tuned to play a G minor chord with a C for colour. Steel wire was used in the first installation, though proper piano and cello strings are desired.

In this simple yet careful set up, we are witness to a quantum movement that unfolds itself through ever greater levels of order. The wholeness of the unbroken movement is emphasized as the reverberations dissipate into the space without and within the viewer in a system of mutual participation. Depending on where the work is installed, it will interact with the room in a different way.

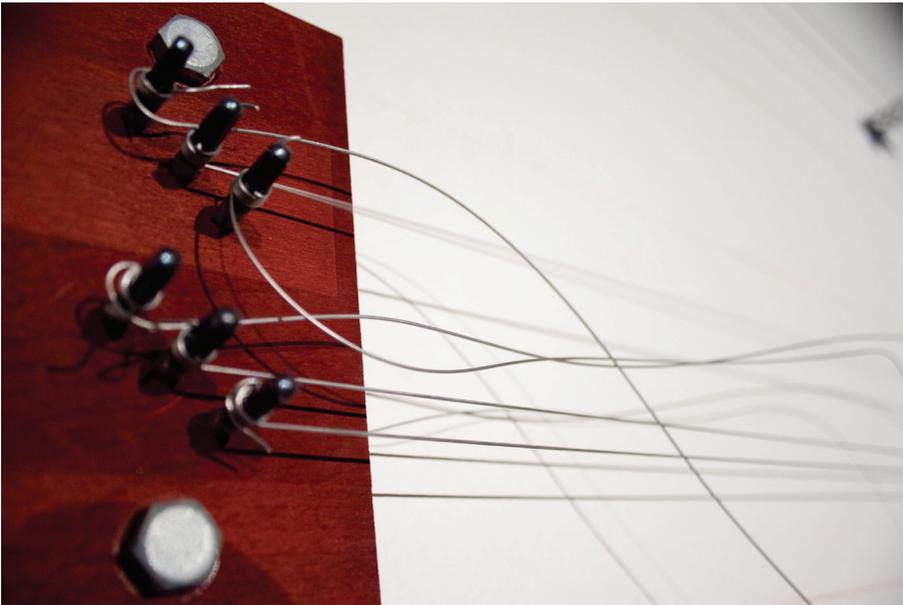
The setup of the first version of the installation was on a concrete wall at the end of a long, large basement room. Therefore, the sound

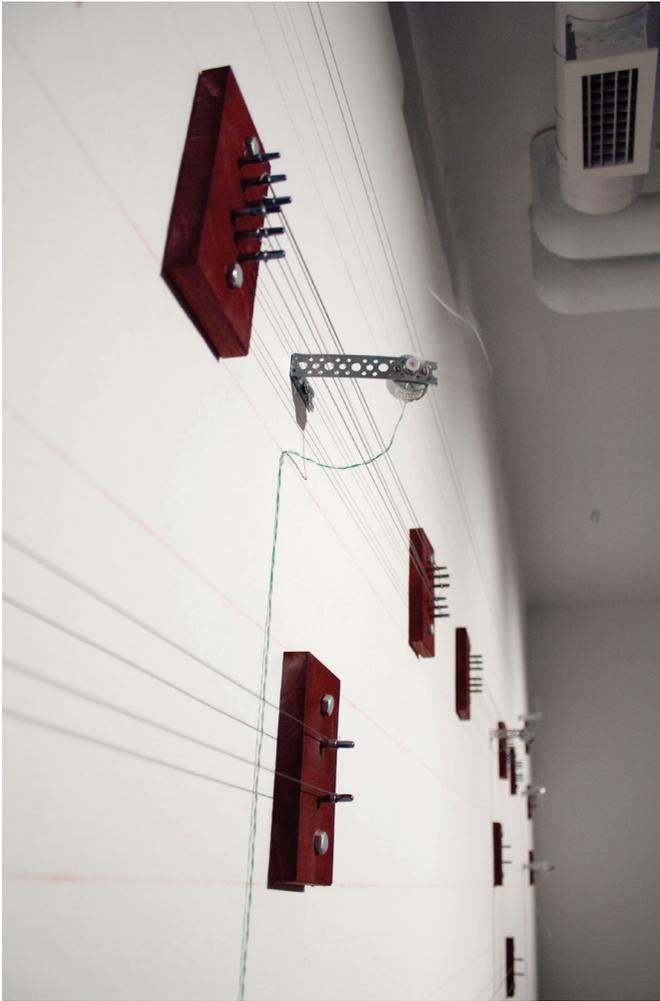
close to the wall was shrill and aggressive yet became more soft and gentle as viewers distance themselves, allowing the sounds to reflect for longer distances off the concrete. Since the different notes are playing on different areas of the wall, the sounds are bouncing around in different ways, so as viewers move around they will hear something different. Their position, as well, affects the sound for other viewers - everyone is implicated into the performance of the machine. Different overtones can be heard in different places, and sometimes these overtones cause a sympathetic resonance with some pipe or piece of metal in the ceiling. This is all physical and direct. The sound is a harsh metallic drone, but is also often soothing and grounding. It is loud enough to be forceful and present at every moment, and is difficult to ignore.

It is my intention that a viewer may become aware of his or her implication into the system.

In the installation our classical world “gradually emerges” from the subtle quantum world (Bohm & Hiley 178). The primacy of the moment is an endless becoming yet eternal similarity.

Fig. 6: Detail of a sound board with broken strings.





*Fig. 7:
Installation
detail with
motor spinning*

As our classical world is contained, or enfolded, within the quantum world, we are witness to a universe measuring itself. Inseparably contained within the quantum world, the sensor is revealing its movement within its own movement (it is unfolding explicately). We can see in this act of measurement that the quantum world is manifesting itself in a world enfolded within itself. This sound installation is then a process of manifestation, a becoming that reveals its implicate order through its explicate behaviour. (ibid 179)

I want to point toward the eternally changing differences within events and things, and to the endless becoming of new relationships across the boundaries of things. With the work I have done, I wish to attempt to reveal the illusion of multiplicity, to reveal the “abstract character of perception,” to say it is okay to perceive relationships in different ways, if those ways could be useful.

(Bohm 86)

Fig. 8: A stylized diagram of implicate order, from Bohm & Hiley 372. The specific function being depicted here refers to trajectories that arise from wave structures and how they nest within each other.



"We emphasize once again that this process of forming and dissolving wholes is essentially quantum mechanical. For it is only through the existence of such pools of information which are not expressible solely in terms of relationships of the actual particles that the notion of an objective whole can be given meaning. ... Quantum mechanics thus implies a new kind of process; i.e. the collection and dissolution of wholes. ... The whole is presupposed in the quantum wave function and it is the active information in this wave function that forms and dissolves wholes." (*Bohm & Hiley 94-95*)

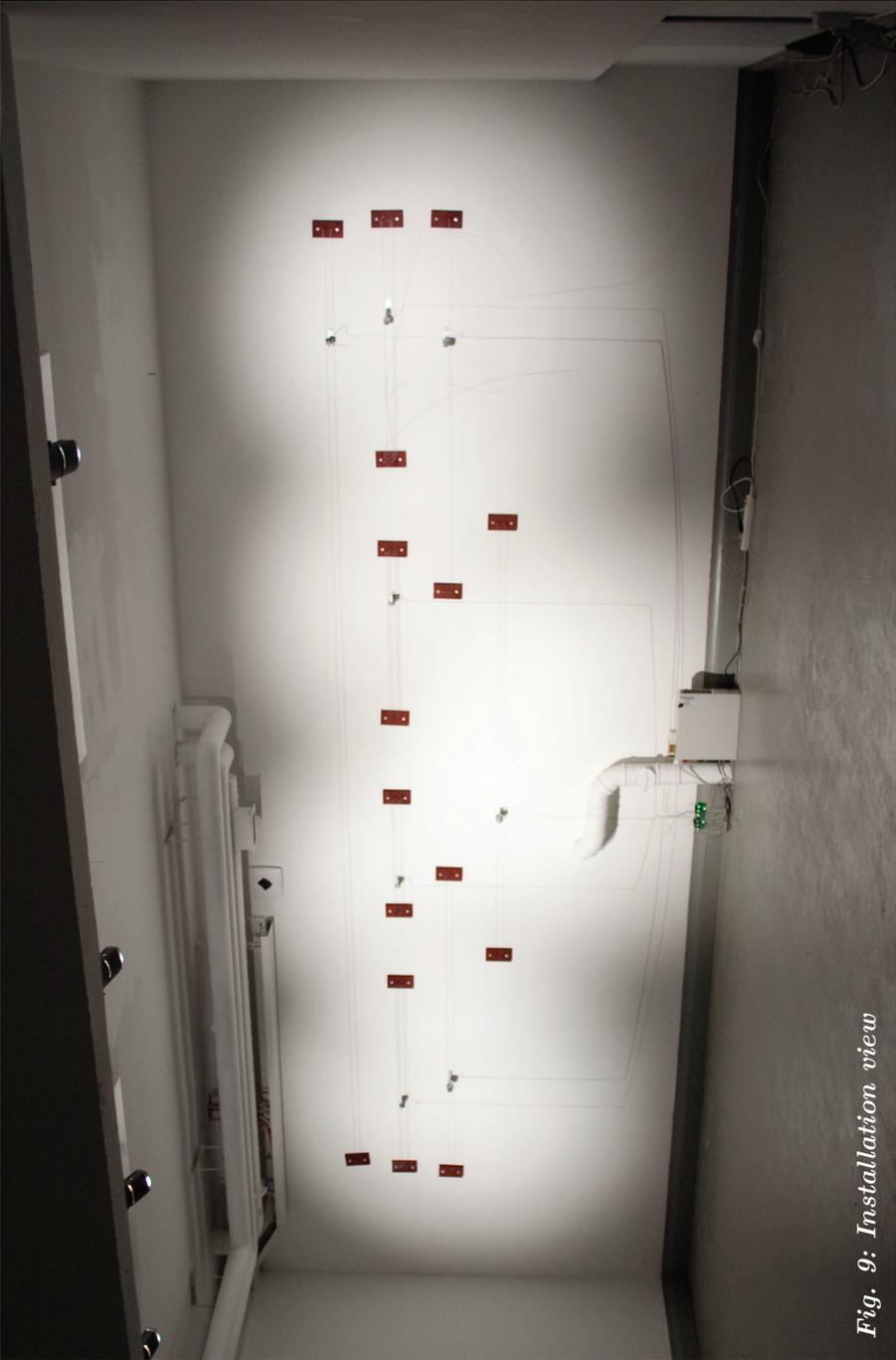


Fig. 9: Installation view

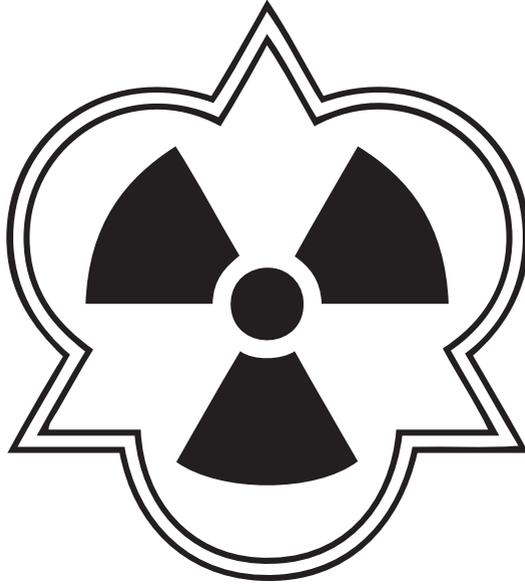


Fig. 10: A graphic that was used on the advertising for “The Small within the Great.” It is an international standard radiation trefoil set within an architectural trefoil. The architectural trefoil suggests the invisible holy trinity as a drive, whilst the radiation trefoil suggests the invisible quantum process as a drive. This is either comparing or a supplanting, no specific reading is intended.

Book Four

You Are Dissolved

*Creating a system of implication
around the self*

1. Intention
2. Fear =(equals) 3. desire

Fig. 11



Fig. 12: manipulating FM transmitter and causing interference with shortwave radio receiver.

Note about incorrectly copied information.

There could be two ways of copying information, a bad and a good way.

The correct way would be to copy in such a way that active information survives despite degradation. Done in an aware way, in tune with the wholeness of occurring events and the awareness of the reality of thought, actions and movement.

Selecting the right channel, maintaining the movement of the information.

The crisis of the human is to behave in such a way as to let the movement happen - to make a good, informed choice, and to not get in the way.

An incorrect way of copying involves the transmission of faulty or confused information, the carrying-on of a separated mode of thinking. Confusion between the relation between thought and function.

“You Are Dissolved” is a musical performance of sorts. I set up a system of transmission and reception and play it with my body. In the initial set up, I have a computer playing looped pieces of sampled music. The content of these loops is important and will be returned to. These loops are then sent to a powerful FM radio transmitter, which is set near the performer with antenna askew. A tuner, several meters from myself, receives this transmission through an improperly set antenna. These improper antenna situations are intentional, as interference with reception and transmission are desired. All of this is combined in a mixing board, which then sends everything to a loud sound system.

The speakers of the sound system are unconventionally pointed away from the audience, towards the corners of the room. This involves the audience in the sense that it embeds them more in the space. The sound comes to them after it has been “with” the room. The room’s structure is in a way encoded into the sound. I did this in effort to try to get the sound to become solid, to have mass. Each room the performance is in will greatly affect the sound.

I wear a large multi-band portable radio. This radio is a fully functioning piece of analog equipment, with a highly manipulable antenna. This radio is modified to output to a mixing board with a 1/4” jack, exactly the same as used for an electric guitar. Likewise it is also modified with a body strap typically used with an electric guitar. These simple modifications to a ready-made object are intended to call attention to the act of channel selection, and how even a mundane object such as a transistor radio can help a human perform an important and meaningful task.

And so it is that I primarily use this radio-instrument as a tuning device. I scan through the shortwave and medium wave bands for static, noise, and actual radio stations. This adds an element of pure chance to the performance. While I do this, the loops from the FM tuner are playing, and I can control them with the computer to make a loose composition or narrative.

As before stated, the content of these loops is sampled music. They are all elements of music or otherwise sound-based work that I find to have a quality of “endlessness.” Either they build forever, or descend forever. They present a kind of total field. The

*Fig. 13:
shortwave
receiver and
turntable playing
a 78-rpm record*



perception of a total field is a difficult thing to do, as evidenced by the awkwardness involved in starting and stopping the loops. This is an interesting effect which I do not wish to hide. Within a loop a person is comfortable, but when a loop begins or ends a person is perturbed by abruptness. While I play the radio, the changes in static and station—effectively changes of attention—comment upon this effect.

The turntable is an important element. It is a portable vacuum-tube powered type, from probably the early 1960s. It is not used much in the performance, but its uses are important. It provides a grounding to an even further distant history. I use it to play 78-rpm records from the 1920s and 30s. The original performance uses only two different records. At the beginning, an instructional English language unit about wireless (radio) is played. It came from a time when household radios were new and amazing things. Radio is still amazing, and I don't want people to forget this fact.

The crucial parts of this whole performance are when I interact with the FM transmitter, FM tuner, and shortwave radio. Each of these three elements in the system play a role in interfering with the other. The fourth element of the system is myself. Sometimes the results are predictable, sometimes they are entirely surprising. I effectively dance with the radio transmission waves, especially that of the FM transmitter, which sends out an arc small enough that I can find or feel borders within which to move my body. My act of receiving radio stations (wearing the radio I am aware of my nature as an antenna) is a sensitive, bodily matter. I can push and pull stations towards and from me by moving about in the space or by manipulating the antenna with my hands. I can in a way feel the trough the radio dips into as it tunes in to a channel.

The entire composition is difficult to notate and is mainly structured in my memory. Essentially though, I begin by playing a record. I then play the radio-instrument loudly. Loops are started through the FM transmitter. The loops start softly yet urgently—mainly sounds from electronic compositions—and get progressively more aggressive—mainly sounds from hard rock or metal—as I go on. I try to keep up with this on my radio tuner, and provide much in the way of interference and feedback manipulation to the FM transmitter. Gradually I tone things down, and it goes quiet as I start some more fluid loops, and wander about the room interacting with the radio arc from the transmitter. I put on another 78 and play along with that, improvising with what I find on the radio.

When that record finishes, I start the most violent composition, which is a cover of Alva Noto's "Haliod Xerrox Copy 1" (mentioned in book one of this thesis). The sound from this is intended to be the loudest of the set. The reason for this high volume is covered elsewhere. Once the volume gets to its highest level of intensity I cut it by a substantial amount, letting the air ring with absence. From a quiet yet abrasive static hiss, I begin to play loops of gentle synthesizer sounds from a pre-recorded performance of my own. Perhaps I play them a bit too loudly, giving a hard edge. Softly I tune the radio to interfere, but generally I let it be more quiet until I end the performance with a tape recording of a record player stuck in a lock groove.

I should note that this composition is entirely optional. The first time the performance happened, there were so many failures in the sound system that nothing but simple radio manipulation was possible. The sound system, either faulty or unable to deal with the volume, eventually blew its fuses. It was a successful performance, despite my inability to play any planned composition. I was humbled by a system of my own design, and future performances will likely be more inspired by this turn of events than the planned composition I had made.

There is an improvisational aspect to all this, wherein I am not entirely sure of the reason behind the decisions I am making, and I am not entirely in control of what I am doing. I am trying to become part of the movement, as it were, and make informed decisions. It is also important to be aware that consciousness and planning do not need always to be involved in this process, and in many cases would pose a barrier to the most efficient means of movement.

To highlight the latter statement, I have intentionally created a system that defies easy control. There are just slightly too many instruments to pay complete attention to. The improvisational aspect of playing or tuning the radio clashes rather harshly with the strict, utilitarian way I must use the computer, regardless of

Fig. 14



the kind of fluid sounds it is making. The FM tuner is too far away to easily reach at all times, yet must be paid attention to every once and a while to maintain good reception. The FM transmitter itself has been set up in such a way that when I interact (sometimes violently) with the antenna, it can throw the whole system out of tune, creating a systemic failure that must be attended to.

Through all this I mean to highlight the fact that as humans we have hubris to attempt to multitask. The performance always works best when I simply submit to all the problems I have made for myself and just “roll with it”—I am immediately humbled when I attempt to correct too many mistakes.

There is no movement that does not break down into more subtle forms of movement. “There is NO THING. Rather, ‘things’ are abstracted out of the movement in our perception and thought, and any such abstraction fits the real movement only up to a point, and within limits.” (Bohm 78).

**You are annihilated, rendered unto nothing,
inside the movement: there is no definition
between you and the things you act upon, nor
between others you may act with.**

Any form of description is an abstraction, which breaks down when it tries to describe the next more subtle movement contained within it.

This limit must be recognized. Like the fragmentation between reality and thought, the fragmentation between events in the world is a useful abstraction. We are fooled into seeing multiplicity. If this multiplicity infects our thought process, then we will incorrectly apply it to every aspect of life, causing confusion and stifling the ability to make creative connections.

I have tension with the world,
and the world holds me in tension.

I place things to fit within
the movement of all things.

To bring forth that which
is imminent to become.

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Cover: Image of a boundary threshold diagram, after Bohm & Hiley. A moment of decision, loss of potential, selected active information.

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Fig. 2: Graph depicting the delay of consciousness, after Nørretranders.

Fig. 3: Accurate typographic copy of a note from Duchamp's "Bride."

Figs. 4-7 and 9: Photographs from March 2009 installation of "The Small within the Great: Direction and Survival" taken by myself.

Fig. 8: Barrie James Sutcliffe, *In the Totality, You are Enfolded*, 79.5 x 107 cm, charcoal and ink on paper, 2009.

Fig. 10: Graphic for "The Small within the Great," held at Rotor2 Gallery, Göteborg, March 19 - 21, 2009.

Fig. 11: Accurate typographic copy of Duchamp's simplified dialectic of desire. (Ades et al., 120)

Figs. 12-13: Photographs of myself from the April 18, 2009 performance of "You Are Dissolved," which took place at Valand School of Fine Arts, taken by Aoife Giles.

Documentation of Artworks

Documentation for "The Small within the Great" and "You are Dissolved" as well as other works can be found at my website,
<<http://www.inforeftech.com/>>

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This book has a secret.