



STATEMENT

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One cannot escape from the tree by solely arboreal means.

— Francis Ponge

...where science, all of it, has failed most has been in its inability to cope with the question of mind—the question of consciousness—the doorway to the quantum mind.

— Evan Harris Walker

I have been thinking a lot about thinking. About how I do it. About how I don't know how I do it. Not only how I don't know, but how the most advanced research in neuroscience is only getting at what Hillary Rose calls "internal phrenology," that is to say a map of where thinking happens and not how it happens.¹ And it should be said that with regard to phrenology or mapping, that brain activity is dynamic and distributed and that the brain is ultimately plastic and so any mapping is somewhat better than the blind men and the elephant, but perhaps not much. I have been thinking about how bracketing off this Very Large Question about how we think in order to get on with thinking, is bracketing off quite a lot. I have been thinking that until we get to the root of it, the rest of the thinking is kind of frivolous, a futzing around the frayed edges rather than diving into the heart of the thing. We talk about building our thinking, building any proposition on a solid foundation, and it seems to me that the cornerstone of that foundation is the nature of conscious thought.

A kind resource librarian and a couple of armfuls of books later (augmented and sometimes further and/or alternatively explicated by the riches of the internet), with a general sense of the current state of things in the realm of neuroscience as it pertains to consciousness, I consider that perhaps I should have begun with David Chalmers, who argues in *The Conscious Mind: In Search of a Fundamental Theory*, that "contemporary neuroscience doesn't even begin to explain how subjective experience arises from the electrochemical chatter of brain neurons." Chalmers suggests that consciousness should perhaps be understood in the irreducible way that we understand time or space.

In "Confessions," St. Augustine spends pages mulling over the expanse and robust capabilities of the mind.

...[T]here are present within me heaven, earth, sea, and whatever I could think on therein, besides what I have forgotten. There also meet I with myself,

and recall myself, and when, where, and what I have done, and under what feelings. There be all which I remember, either on my own experience, or other's credit. Out of the same store do I myself with the past continually combine fresh and fresh likenesses of things which I have experienced, or, from what I have experienced, have believed: and thence again infer future actions, events and hopes, and all these again I reflect on, as present. ...

Great is this force of memory, excessive great, O my God; a large and boundless chamber I who ever sounded the bottom thereof? Yet is this a power of mine, and belongs unto my nature; nor do I myself comprehend all that I am.²

Augustine's poetic taxonomy includes perception, memory, cognition, reason, self-awareness, all of the activities of the mind but one — that one that interests me most. And Augustine realizes the roadblock, which the philosopher and the researcher bump up against repeatedly, if from various angles: that even with this thoroughgoing self-examination, using the mind to understand the mind is to travel on a Möbius strip. We wait in vain for the Sphere to descend from "Space" to explain the Flatland of not only the workings of our conscious minds but their very nature.

Speaking of space, of the cosmos, Carl Sagan inimitably tells the story of the beginning of the universe and notes that, "in the Milky Way, the matter of the cosmos was recycled into new generations of stars now rich in heavy atoms...from their stellar ancestors. And in the cold of interstellar space, great turbulent clouds were gathered by gravity and stirred by starlight. In the depths, the heavy atoms condensed into grains of rocky dust and ice, complex carbon-based molecules," or "the stuff of life." It's a skip and a jump through evolution on earth for Sagan to note that in humans, curious, aware, "...star stuff, the ash of stellar alchemy had emerged into consciousness."³ The implications of this are that what holds for matter generally, holds for the matter of the brain, of the mind. I will come back to this.

The thought, unbidden

When Augustine in his list of all that the mind is and can do finally gets to the thing that interests me most, he casts it in a negative light, which makes it nearly unrecognizable. The unbidden thought, for Augustine, is that of sin, and he anguishes over his inability to prevent its intrusion into his mind. I am most curious about the dark thought's golden cousin: the unbidden thought — inspiration, epiphany, Great Idea, solution. I care quite a bit about how we puzzle things out, make new connections and synthesize, all those activities we know as cognition. As one who writes about art, I am interested not only in how we perceive, but how we each perceive in our own idiosyncratic way where memory affects the reception and processing of the perceived. But as a poet, I am more interested in the mysterious question of the unbidden thought as the line of poetry that springs into being fully formed, as the idea for the work of art, and for that matter, as any brainstorm, any great idea that seems to fall from the sky.

From whence

The poet Jack Spicer famously compares the work of the poet to the act of taking dictation. He considers the poet as radio receiving transmissions from a "ghost" or a "Martian" or someone/something speaking through him. And every creative young person has heard Martha Graham's "keep the channel open," words the choreographer/dancer first spoke to Agnes de Mille: "There is a vitality, a life force, an energy, a quickening that is translated through you into action, and because there is only one of you in all of time, this expression is unique."⁴

Spicer, in his Vancouver lectures series, is completely comfortable with not knowing any more about the source of the poetic transmissions he receives (that include using and rearranging the "furniture" of his mind and memories.) He is mostly concerned with telling his audience that they must get out of its way, not express, not interfere, but take dictation faithfully.

It is possible to imagine the invisible source of the unbidden thought as something like Jorge Luis Borges' "Library of Babel" whose fundamental law, discovered by "a librarian of genius" is "that the Library is total and that its shelves register all the possible combinations of the twenty-odd orthographical symbols (a number which, though extremely vast, is not infinite): in other words, all that it is given to express, in all languages."⁵ Perhaps it is all there in the Library, preexisting and these inspirations are moments of mind connection to the already-existing, everything all-at-once of all-that-can-be-thought.

The brain and the mind

Mental processes are detectable in the living brain as dynamic interactions of "multiple and complex patterns of neural activity."⁶ And yet, as Steven Rose points out, there is "brain language," say, the activity of certain neurons when the color red is perceived, and "mind language" or the experience of seeing red.⁷ Our minds work not with information but with meaning, and here is where science can penetrate no further. And, here is where art enters in, for what is art making but meaning making. What better way to address the site and process of the genesis of every creative work but with a work of art.

Caveat

I am a poet⁸ not a scientist.

The quantum

Quantum theory knocked traditional physics for a loop. This was now just shy of a century ago, and yet even as experimentation confirmed its principles, popular awareness of them has waxed and waned. Gen-

eral awareness perhaps received its biggest popular boost via Fritjof Capra's, 1975, *The Tao of Physics*. Much to the chagrin, no doubt, of the science community, Capra noted parallels between quantum mechanics and the philosophies of Eastern religions. Nonetheless, his book opened a doorway for popular considerations of the implications of quantum theory which asserts (among other things) that matter, like energy, possesses both wave- and particle-like properties. When it is unobserved, Schrodinger's wave equation encodes, "the entire range of possibilities for that particle's behavior," for where it is and when. The particle "exists in a fog of probabilities..."⁹ As soon as it is observed, the waveform of possibility collapses into a single observed state.

In *The Physics of Consciousness*, Evan Harris Walker looks for a source of consciousness in quantum interactions between the synapses. Matthew J. Donald, among others, has suggested that although Walker's specifics are problematic, the "relevance of quantum theory to consciousness" is plausible.¹⁰

The invisible work

This work of art will remain unnamed although we can refer to it as "the work." If I am following Duchamp in creating a readymade work (although it is a state of a system not an object) by selection, the naming of the thing as art is, after all, what makes it art. But the readymade I propose is the superposition of all inter-synaptic particles in my brain (and by association or the property of "entanglement," all of their doubles wherever they may be...we are all "star stuff") as they exist in waveform as clouds of probability, of possibility. The assigning of a name to this state, I am imagining, would count as observation and so cause waveform collapse, thus destroying the work.

Probability, possibility, and chance

I have been thinking a lot about certainty. About uncertainty. About how I have for years said, "There is no 'of course.'" And, of course, how I now regret that statement.

Carl Jung coined the term *synchronicity*, which, he writes, "takes the coincidence of events in space and time as meaning something more than mere chance, namely a peculiar interdependence of objective events among themselves as well as with the subjective (psychic) states of the observer or observers."¹¹

Jung writes this in the foreword to Richard Wilhelm's translation of the *I-Ching* or *Book of Changes*, and goes on to further extrapolate what he knows of quantum reality into the physical world as a possible explanation for why a throw of coins that points to a passage in this oracular book might be relevant to circumstances, or more than relevant, may be inseparably tied to the moment in which they are thrown.

To [one who uses the I-Ching] the hexagram was the exponent of the moment in which it was cast...inasmuch as the hexagram was understood to be an indicator of the essential situation prevailing in the moment of its origin.

...

It is assumed that the fall of the coins or the result of the division of the bundle of yarrow stalks is what is necessarily must be in a given "situation," inasmuch as anything happening in that moment belongs to it as an indispensable part of the picture. If a handful of matches is thrown to the floor, they form the pattern characteristic of that moment.¹²

We will leave aside the construction of the well of words that is the *I-Ching* and focus, as Jung does, on their necessary intersection with all other events and states at the moment of the throw. (I would be more comfortable with this if the words on the page spontaneously recomposed themselves with each throw.) The quantum principle of nonlocality or entanglement says that particles that once interacted continue to influence one another regardless of whether they are in proximity or light years apart. Thus, if we reread Sagan on the beginnings of the universe we realize that its likely that every particle is inextricably entangled, those in the coins with those of your mailman. No wonder John Cage employed the *I-Ching* in developing chance-determined (oxymoron?) compositions. Employing chance is perhaps the most honest strategy, echoing as it does the cloud of probabilities that precede any work.

Dematerialized art

I have been thinking about the recording or documentation of the thing being the thing. The work, being invisible to the human eye (being invisible, in fact, to even the most powerful microscopic devices extant) relies for its existence on its trace, in this case a trace of a trace in these words on this page, which really, is nothing new.

The invisible is not unprecedented in art. The dematerialization, as Lucy Lippard called it, of art meant stepping back from object, moving outside the gallery, into the world, into the ether, and into the mind. From Fluxus scores to conceptual works wherein the idea is the work, there is a strain of art that is wholly invisible, be it radio waves or mental activities. Yoko Ono's *Collecting Piece* (1963) asks the reader to "[c]ollect sounds in your mind that you have overheard through the week. Repeat them in your mind in different orders one afternoon."¹³ And Robert Barry's *Inert Gas Series/Helium, Neon, Argon, Krypton, Xenon/From a measured volume to indefinite expansion* (1969) consisted of the artist releasing quantities of the named gasses "on the beach, in the desert, in the mountains, etc., around Los Angeles."¹⁴

As Sol Lewitt puts it, in his *Sentences on Conceptual Art*, (1969) "Ideas can be works of art; they are in a chain of development that may even-

tually find some form. All ideas need not be made physical."¹⁵ How do I talk about a work that exists prior to an idea?

Taking the idea as pivot point, though, if Barry's *Inert Gas Series* is the action of moving from a measured volume to indefinite expansion, so the work I propose explores indefinite expansion in the other direction, into the realm of quantum probability, the waveform collapse of which might extract from possibility, a single observable, which is to say thinkable, thought. In this way, the work is more of a performance. In this way, it is a performance for an audience of one. To maintain the integrity of the unobserved waveform, to prevent its collapse, I will try not to think about it anymore.

APPENDIX

A vast level surface

— Now, Sir; listen to me.

You are living on a Plane. What you style Flatland is the vast level surface of what I may call a fluid, on, or in, the top of which you and your countrymen move about, without rising above it or falling below it.

I am not a plane Figure, but a Solid. You call me a Circle; but in reality I am not a Circle, but an infinite number of Circles, or size varying from a Point to a Circle of thirteen inches in diameter, one placed on the top of the other. When I cut through your plane as I am now doing, I make in your plane a section which you, very rightly, call a Circle. For even a Sphere—which is my proper name in my own country—if he manifest himself at all to an inhabitant of Flatland—must needs manifest himself as a Circle. ...

...now prepare to receive proof positive of the truth of my assertions. You cannot indeed see more than one of my sections, or Circles, at a time; for you have no power to raise your eye out of the pane of Flatland; but you and at least see that, as I rise in Space, so my sections become smaller. See now, I will rise; and the effect upon your eye will be that my Circle will become smaller and smaller till it dwindles to a point and finally vanishes.¹⁶

Through you into action

There is a vitality, a life force, an energy, a quickening that is translated through you into action, and because there is only one of you in all of time, this expression is unique. And if you block it, it will never exist through any other medium and it will be lost. The world will not have it. It is not your business to determine how good it is nor how valuable nor how it compares with other expressions. It is your business to keep it yours clearly and directly, to keep the channel open. You do not even have to believe in yourself or your work. You have to keep yourself open and aware to the urges that motivate you. Keep the channel open. ... No artist is pleased. [There is] no satisfaction whatever at any time. There is only a queer divine dissatisfaction, a blessed unrest that keeps us marching and makes us more alive than the others.¹⁷

Which of an uncountable number of possible realities

Before the act of observation, it is impossible to know which of the many probabilities inherent in the Schrodinger wave function will become actualize. Who, or what, chooses which of the probabilities to make real? Who, or what, chooses how the wave function "collapses"? Is the choice made by nature, or by the observer? According to the Copenhagen Interpretation, it is the observer who both decides which aspect of nature is to be probed and reads the answer nature gives. The mind of the observer helps choose which of an uncountable number of possible realities comes into being in the form of observations.¹⁸

And all the notes would jump instantly

"It's the right evening for a tune," Snufkin thought. A new tune, one part expectation, two parts spring sadness, and for the rest just the great delight of walking alone and liking it.

He had kept this tune under his hat for several days, but hadn't quite dared to take it out yet. It had to grow into a kind of happy conviction. Then he would simply have to put his lips to the mouthorgan and all the notes would jump instantly into place.¹⁹

1. Steven Rose, *The Future of the Brain* (New York: Oxford University Press, 2005), 213.
2. Augustine, "Confessions of St. Augustine," trans. Edward B. Pusey, in *The Harvard Classics Volume 7*, Ed. Charles W. Eliot (New York: Collier, 1909), 174-5.
3. Carl Sagan, "Who Speaks for Earth." http://www.cooperativeindividualism.org/sagan_cosmos_who_speaks_for_earth.html. A transcript from the final program in the *Cosmos* television series first shown in 1980 on the Public Broadcasting System in the United States.
4. Agnes de Mille, *Martha: The Life and Work of Martha Graham* (New York: Random House, 1991), 264.
5. Jorge Luis Borges, *Labyrinths* (New York: New Directions, 1964), 54.
6. Rose, 204.
7. *Ibid.*, *The Future of the Brain*, 215.
8. "You aren't by any chance - er - a painter?" asked Moomintroll rather shyly. "Or perhaps a poet?" suggested Sniff. "I am **everything**!" said Snufkin." (See Tove Jansson)
9. Jeffrey M. Schwartz and Sharon Begley, *The Mind & The Brain, Neuroplasticity and the Power of Mental Force* (New York: HarperCollins, 2002), 269.
10. Donald, Matthew J., "A Review of The Physics of Consciousness by Evan Harris Walker", *PSYCHE*, 7(15), October 2001, <http://psyche.cs.monash.edu.au/v7/psyche-7-15-donald.html>.
11. C. G. Jung in *I-Ching or Book of Changes*, Richard Wilhelm trans. (Princeton: Princeton University Press, 1967), xxiv.
12. *Ibid.*, xxiv-xxv.
13. Yoko Ono, *Grapefruit* (New York: Simon and Schuster, 1970.) n.p.
14. Lippard, Lucy, *Six Years, The dematerialization of the art object from 1966-1972* (Berkeley, California: University of California Press, 1997), 95.
15. Sol Lewitt, "Sentences on Conceptual Art" in Kristine Stiles and Peter Selz, eds., *Theories and Documents of Contemporary Art: A Sourcebook of Artists' Writings* (Berkeley, CA: University of California Press, 1996), 826-7.
16. Edwin Abbott Abbott and Ian Stewart. *The Annotated Flatland: A Romance of Many Dimensions* (Cambridge: Perseus Publishing, 2002.), 142-3.
17. de Mille, 264.
18. Schwartz and Begley, 263.
19. Tove Jansson, *Tales from Moominvalley* (New York: Farrar Straus Giroux, 1998), 4.



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