IMPLICATIONS: STRANGE ATTRACTION AND PHANTOM ACTION BETWEEN LITERARY FOLDS.

by

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A dissertation submitted to the Graduate Faculty of English in partial fulfillment of the requirements for the degree of Doctor of Philosophy,
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Abstract

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by

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Phantom action refers to a phenomenon in quantum physics whereby distinct particles become entangled such that despite any future empirical space-time between them, they behave as one. *Strange attraction* refers to a computer-rendered visualization of interconnecting macrocosmic systems in nature, a visualization revealing a deep and complex patterning informing the apparently random chaos of the natural world. Both notions suggest that the heterogeneity of our natural world is simultaneously shadowed by an *a priori* indivisibility of all heterogeneous *things*—be they atoms, bodies, texts, *et cetera*. As such, both notions echo what has long been the concern of numerous philosophers and writers: intuiting and communicating the implications of such simultaneous fragmentation and interconnectivity, of how *the one* and *the many* might be inextricably interwoven, in ways ultimately un-traceable through analysis and measurement; and what if anything such implications might mean.

In this study, I read across the sciences and humanities and sound strange attraction and phantom action with Deleuze's notion of *the fold*; with his sense of the way in which all *things* are less in a state of distinct *being* than in an interweaving process of *becoming* as/through an infinite series of pleats. Pascal and Kant's notions of infinity and

sublimity are thereafter woven into my reading of Deleuze, as much as with my reading of Bohr and Bohm's complementary interpretations of phantom action. Altogether, I show how this weave-work of cross-disciplinary ideas arouses what Prigogine calls "new spacetime structures" that provide alternate ways to critically inquire toward an "event of between-ness" that problematizes a Cartesian dichotomy. To this effect, I read Emerson, Whitman, and Melville in light of these new cross-disciplinary models. Following that, I read Hemingway's work through a concept from Japanese religio-esthetics (*ma*), which specifically connotes a meaningfully empty/silent interval between and connecting seemingly disparate *things*. Finally, through the writing of Haruki Murakami, I explore some implications of hope and affect implicit in the "event of between-ness" toward which these new space-time structures and my literary treatments gesture: a hope and affect only enabled by the threshold which seems to separate heterogeneous atoms, bodies, texts—*things*.

For Paula, my super-friend and life partner; we made this together. For Mom and Dad, all these years you've shown us only love; we could not have done this without you. For Beth and Marc, Emma and the next one. And in memory of Perry John DeAngelis.

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Implications: Strange Attraction and Phantom Action between Literary Folds

CONTENTS

CHAPTER ONE

Strange Attraction and Phantom Action: Enfolding the Sciences and Humanities

This study enters into the critical reconsideration of how what we perceive to be empty space—the space between atoms, bodies, texts, *things*—might, when viewed through new paradigms emerging from an array of interdisciplinary science-humanities studies, be seen as less a demarcating partition or incommensurable fissure than as an "event of between-ness" where and when those *things* are most wholly interwoven. Like so many humanities-based studies that attempt to read across the disciplines, this study finds that certain discoveries endemic to the sciences—less the uncertainty principle, more that what we perceive to be the stable matter of our physical world is rather "like a small ripple of energy on this tremendous ocean of energy, having some relative stability" (Bohm, *EU* 28)—resonate with ideas from across a range of literary fields. We are always in such attempts "as a fish in a stream . . . [who] cannot describe the stream" (Woolf 80). But as demonstrated by the efforts of the poets, writers, scientists, and critics whose work this study will incorporate, we can gesture toward the liminal intervals between macrocosmic and microcosmic *things* and consider their implications with efficacy.

Still, we can only indirectly approach this notion of an emulsifying background-field in which, like the writings of Haruki Murakami, we are altogether revealed as:

a hushed ensemble piece built on the notion that very late at night, after the lamps

> of logic have been snuffed and rationality has shut its eyes, life on earth becomes boundariless and blurred . . . melting into a soft psychic collective . . . and the rigid you and I of things breaks down. During the wee hours, we're all in this together. (Kirn 11)

This study proceeds from the sense that behind the day-lit edges and articulations of our physical reality, it is *always* the wee hours, and we are *always* implicitly in this together, in ways we cannot ever succinctly measure, consider, or express.

This new constellation I hope to trace through the nebula of arts and sciences can therefore only be heuristic. It is a map charting recurring patterns within Hemingway's stories as much as in Bohr's principle of complementarity; within David Bohm's theory of *the holomovement* as much as in Haruki Murakami's fiction. Recurrence does not necessarily bespeak evidence. But this study turns on Woolf's intuition "that behind the cotton wool is hidden a pattern [and] that we—I mean all human beings—are connected with this" (72).

Toward this admittedly imprecise goal, I will explicate and employ two specific scientific notions which might gesture toward the greater theme of this work: from quantum theory, the notion of phantom action; from chaos/complexity theory, the notion of strange attraction. A responsible engagement of these terms requires a contextualization of them, the lack of which in a number of cross-disciplinary studies has come under the scrutiny of both scientists *and* humanities scholars.[1] The first chapter of

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[1] For criticism of humanities-reads-science treatments from a scientific perspective, see: Noretta Koertge, A House Built on Sand (New York: Oxford UP, 1998). See also: Paul R. Gross and Norman Levitt, Higher Superstition: The Academic left and its Quarrels with Science (Baltimore: Johns Hopkins UP, 1994). And see: Alan Sokal and Jean Bricmont, Fashionable Nonsense: Postmodern Intellectuals' Abuse of Science (New York: Picador, 1998). For such criticism from a humanities perspective, see: Nancy Easterlin and

this study, therefore, will work to present a contextual understanding of these two scientific notions. After that exposition of contexts and terms, the second chapter will proceed with these ideas into a study of some curiously resonant works from the American Renaissance. The third chapter brings Hemingway into the study by reading some of his stories through a Japanese religio-aesthetic, *ma*, that echoes the two scientific notions. Finally, the fourth chapter will read all these implications through some writings of Haruki Murakami, and explore ways in which the story bespoken by the constellation this dissertation works to trace might *matter* in the world beyond the ink and paper on which this is written.

The dangers of reading across such borders must be taken into account, and will be addressed throughout the course of the study. But as we will see, the imperative for reading across the disciplines has been sounded from across the divide, so that we might better evoke the greater "human wholeness" (Gould 5) toward which all academic inquiry angles. In order to begin evincing how strange attraction and phantom action might inform a literary study, then, we first need to understand the rupture of scientific perspective from which they emerged.

Modern Science

That rupture began with a speech delivered by Max Planck on December 14th,

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Barbara Riebling, eds., After Poststructuralism: Interdisciplinarity and Literary Theory (Evanston, IL: Northwestern University Press, 1993). See also: Wendell V. Harris, "Physics is Physics, Literature is Literature, and Criticism is Something Else Again," Philosophy and Literature 24.1 (2000): 210-222. For a selection of the type of treatments being criticized, refer to footnotes 13 and 16 in this study.

1900, before the Berlin Physical Society.[2] Working to solve problems involving blackbody radiation, Planck had made a necessary mathematic adjustment in order to calculate the heat-entropy of the blackbody.[3] He imagined that the energy released from the blackbody might not be shed continuously as was the standard classical model, but rather in discrete corpuscular packets. Planck had intuited a *quantum of action*—a theoretically smallest indivisible mathematically describable *action* or effect in the universe. Planck's quantum of action made immediate sense: the mathematics of the physical theory finally intersected with the experimental evidence coming from the blackbody emissions. Even though at the time Planck considered the quantum little more than an imaginative mathematic stop-gap measure, its uncanny efficacy in multiple avenues of inquiry provided a revolutionary approach to the investigation of and perhaps nature of physical reality.[4]

Even within this field of microcosmic physics, there was disagreement concerning what if anything any of this meant in regards to our macrocosmic physical reality. Particularly, the Copenhagen notion that a scientist could and should consider the philosophical implications of the quantum theory was and remains a point of major

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[2] Max Planck, "On the Theory of the Energy Distribution Law of the Normal Spectrum, Zur Theorie des Gesetzes der Energieverteilung im Normalspektrum," Verhandlungen der Deutschen Physikalischen Gesellschaft 2 (1900): 237-245.

[3] A blackbody is a special chamber—a hohlraum—or object which when heated theoretically emits a spectrum of radiation in a perfect continuum (Bohm, *QT* 5, 18).

[4] Most notably, the quantum inspired Einstein's 1905 discovery of the corpuscular property of light, known as the photoelectric effect, of light behaving as *photons.* It precipitated de Broglie's wave mechanics, involving the revolutionary notion that sub-atomic *matter* such as electrons might posses the same wave-packet wave/particle duality as the photoelectric effect evidenced in light. Schrödinger subsequently developed de Broglie's wave mechanics into a mathematic description of the quantum state, a *wave-function*, which effectively described the statistical (meaning probabilistic, or *not* deterministic) group tendencies of quantized sub-atomic particles. Finally, the quantum gave rise to Bohr and the Copenhagen group's "Copenhagen interpretation" of the quantum theory.

contention—"it is a view that some may find unpalatable because it seems to read more into the mathematics than is actually there" (Holland 420). But it is a view that some of the century's major physicists and theorists find inextricable from any inquiry. In any case, the emerging view of microcosmic physical matter informed by Planck's quantum of action unarguably "brought about a radical departure" from previous physical ideas "about the nature of things" (Thomsen 26). The implications of Planck's quantum had brought into question classical science's presumed one-to-one scientific engagement with nature and physical reality.[5]

Classical science, synonymous with Newtonian determinism, envisions a clockwork universe in which every*thing* can be considered a "body," and in which every effect on any body is causal, reducible to the primary properties that determine any singular current condition of any body. If one could accumulate a complete set of properties determining, say, the precise current vector of the earth's orbit, one could in theory forever determine its precise path thereafter. And since this Newtonian perspective precedes the 2nd law of thermodynamics and the irreversible heat-loss entropy proposed by that law, it involves a reversible time-scope: "when appropriate initial conditions are given, we can predict with certainty the future, or retrodict the past" (Prigogine, *EC* 4). The foundation of classical physics is, therefore, built upon the reasonable assumption that such causal factors in a partitive universe are deductively knowable, and that the entire working of the universe could eventually be described by an

[5] For more on the speech of 1900 and the birth of modern science itself, see Pierre Marage and Gregoire Wallenborn, The Solvay Councils and the Birth of Modern Physics, Science Networks – Historical Studies (Basel, Switzerland: Birkhauser Verlag, 1999).

increasingly rarified set of physical laws determining the interaction of these parts.[6] In short, there *is* a universal bedrock of natural reality. And we are always getting *closer* to understanding its contours and composition. Such classical Newtonian physics stems in a sense from Democritus' atomism—a vision of the universe as an aggregation of indivisible causally-interacting parts moving through a plenum. But this idea of a partitive physical reality in which any whole is understandable as the reducible sum of its aggregate and causally-interacting parts is specifically what comes into question through the quantum and, later, chaos/complexity theories.

Even before Planck's intuition of a quantum of action, though, notions gestated within the 19th-century's scientific endeavors which captured peripheral glimpses into potentially bedrock-dissolving complexity occurring in the weave-working of the physical world—notions that "we need not only *laws*, but also *events* that bring an element of radical novelty to the description of nature" (Prigogine, *EC* 5). Brownian motion, for one, problematized a reductionist view by hinting at stochastic processes;[7] the notion of electromagnetic fields, for another, dispelled the Newtonian concept that

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[6] Cue Laplace's demon: Pierre-Simon Laplace's famous idea of a creature that could see all the current properties and attributes of the universe, and thus (in the classical casual-reductionist viewpoint) deduce the entirety of the past, and prognosticate the entirety of the future—"for this being, nothing unexpected could ever come into the world, since everything, even in the infinite future, would happen in a way that had been pre-determined" (Bohm, *CC* 36). Laplace describes it as such: "We ought then to consider the present state of the universe as an effect of its previous state and as the cause of that which is to follow. An intelligence that, at any given second, could comprehend all the forces by which nature is animated and the respective situation of the beings that make it up, if moreover it were vast enough to submit these data to analysis, would encompass in the same formula the movements of the greatest bodies of the universe and those of the lightest atoms. For such an intelligence, nothing would be uncertain, and the future, like the past, would be open to its eyes." See: Pierre-Simon Laplace, Philosophical Essay on Probabilities, 1825, trans. Andrew I. Dale, ed. G.J. Toomer, Sources in the History of Mathematics and Physical Science Series, vol. 13 (New York: Springer-Verlag, 1995) 2.

[7] In 1824, Robert Brown brought to the fore the concept that microscopic particles suspended in seemingly still water "exhibit an irregular and perpetual motion" (Bohm, *QT* 48). Such *Brownian Motion* of particles within what appeared to be perfectly stable fluid hinted at the existence of stochastic processes, of near-unfathomable—and deterministically unsolvable—complexity occurring at sub-scales of reality beneath (or more accurately, within) our classical strata of macrocosmic existence.

everything can be understood as a body with a position and velocity. In contrast to a universe of stable encapsulated bodies, this burgeoning field concept envisioned forces such as electromagnetism "continuously distributed throughout space as a whole" (Bohm, *QT* 42). And in light of such a field enveloping the whole, the field concept complexified considerations of what matter *is,* expanding it "to include the notion of the field as representing the extension through a broad region of space of certain manifestations of a material system" (Bohm, *QT* 45). The seemingly solid matter of bodies was, therefore, seen now to involve suffusing forces, to be part *of* the fields that suffused. Although still a mathematically causal model,[8] the field concept provokes an intuition of a deep and inexpressible interconnectivity somehow weaving between apparently disparate bodies, between *things*. But as a causal or "local-realist" (d'Espagnat 158) model of reality, it still neglects to account for the lurking microcosmic implications that such bodies, such *things*, might be less "separated into parts of parts but are rather dividing into infinity in smaller and smaller folds . . . [for] the unit of matter, the smallest element of the labyrinth" might be better understood as "the fold, not the point" (Deleuze 6).

Impasse

These perturbations from within classical science were what eventually led to "the modern development [intruding] into the relatively simple scheme of physics which towards the end of the nineteenth century looked fairly stable" (Schrödinger, *NG* 15). That modern development radiated directly from Planck's quantum of action. The

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[8] As Bohm explains: "continuous field is still the Cartesian Model but all the connections are contiguous; namely, the field connects only with field elements very near to it in space and time . . ." (*EU* 26).

earliest efforts informed by Planck's constant were iconoclast, but only hinted at the greater epistemological strangeness about to unfold. First, Einstein's groundbreaking 1905 paper on the photoelectric effect suggested that the "answer" to certain questions regarding the nature of microcosmic particles depended to some degree upon "the question." Testing for a quantum or corpuscular property of light via the photoelectric-effect demonstrated clear evidence of such a corpuscular nature; yet Young's double-slit experiment continued to suggest the wave quality of light. Neither discovery invalidated the other, despite that either effect—particle or wave—explicitly contradicted the fact of the other. Taken in tandem, both effects suggested that conditions set by the observer and the "ways of questioning" in some way informed the result of the observation. The *true* or *whole* nature of light [9] remained at best beyond the current capabilities of scientific or any critical inquiry.

To transpose this into a literary key, we can conceptualize this paradox of opposing wave/particle effects, neither of which *are* the whole *quidditas* of light, as analogous to Lévi-Strauss' attempt at explaining the dynamic function of myth. For Lévi-Strauss, myth serves as something that "is both the same thing as language" (837) and is simultaneously not-language. By spanning a structural understanding of language, by being involved in and so utterly inexplicable through that structural study, myth is therefore always "something different" (837). Lévi-Strauss' model of myth involves the two Sausserian linguistic divisions of a synchronic *langue* and a diachronic *parole*. As he reads them, *langue* and *parole* suggest artificially-structured but logically-necessary ways of parsing some greater and simultaneous whole toward which language, like myth,

[9] And, de Broglie would soon venture, of physical matter too. See: Louis de Broglie, An Introduction to the Study of Wave Mechanics, trans. H.T. Flint (London: Methuen & Co., 1930).

gestures. Neither in tandem nor in sum, though, do *langue* or *parole* articulate any of that whole *quidditas* of language or myth. Lévi-Strauss perceives these dual and paradoxical notions of a static and dynamic quality to the language of myth as suggesting, therefore, an ever-elusive "third level . . . which is distinct from the other two" (838). This *third level* would be what he calls the "real thing"—the whole *quidditas* occurring in an inexplicable trough between the two explicable crests of *langue* and *parole.* As such, this *third level* remains behind an event-horizon of utter measurement, explication, or representation. It is part of a "wholeness that is our source. Nothing in that . . . can be characterized . . . because characterization is the translation of noumenon into phenomenon, of nonmanifest into manifest. Therefore all languages will fail to capture the essence of the whole" (Weber 22).

Myth, for Lévi-Strauss, therefore performs a parallax:[10] like *langue* and *parole* it triangulates toward an unknowable whole which it abstracts with only relative stability into recurring mythic patterns. But like the anthropologist attempting to read the pattern informing such iterations of myth through the recursive tools of *langue* and *parole*, the scientist or philosopher attempting to read the pattern between such effects encounters an impossibly complex task. And so the necessary "multidimensional frames of reference are often ignored or are naively replaced by two-or three-dimensional ones" (843) due to the overwhelming complexity of trying to mentally envelope what this whole *third level* might be. So resistant is this *third level* of myth and light to logical analysis and to linguistic articulation, Lévi-Strauss offers that the most viable attempts to understand it

[10] Parallax, here, in the astronomical sense: referring to a method of triangulation by which the distance to a *third* point or object is determined from its change in position as measured from two known points or objects: for example, parallax is the method by which we can measure the interval between the Earth and distant stars, using the Earth and a satellite as the two known points of the triangle.

might "depend largely on the cooperation of mathematicians who would undertake to express in symbols and multidimensional relations [what] can not be handled otherwise" (843).

It is difficult to imagine what Lévi-Strauss envisioned in terms of myth being quantified into mathematic notation. But the resonance between the langue/parole of myth and the wave/particle effects of light bespeaking some as-yet unimaginable "whole" gestures toward that same unifying pattern "behind the cotton-wool" through which Woolf intuits us humans as being enmeshed. And here we might find a precedent for cross-disciplinary enfoldment in whose wake this study can proceed. For Lévi-Strauss posits that the parallax function of myth mirrors patterns occurring in other fields of study: "if this [theory] is the case," he writes, "we should assume that [myth's role as a parallax function] closely corresponds, in the realm of the spoken word, to a crystal in the realm of physical matter . . . [in the sense that] myth is an intermediary entity *between* a statistical aggregate of molecules and the molecular structure itself" (844).

Lévi-Strauss here echoes a pivotal principle emerging from interpretations of the quantum theory—Bohr's principle of complementarity. This principle of complementarity essentially actualized modern interdisciplinary science-humanities study. Its philosophy informs this study's attempted cross-reading of quantum phantom action with chaotic strange attraction, and from there, a subsequent study of some literary sources. In order to arrive at a contextual understanding of this principle, then, let us first explore the conundrum that precipitated its emergence.

The Rupture, Perhaps

Complementarity was Bohr's eventual response to the measurement problem first illuminated in Copenhagen. There, Heisenberg, working alongside Bohr and Max Born, was attempting simultaneously to measure and thereby predict the future behavior of subatomic particles—such deterministic prognosis being the foundation upon which classical science's entire impetus and assumption about our engagement with any natural physical reality is based. An apparently irreducible amount of indeterminacy, of mathematic error impeding complete knowledge of a particle or system of particles' properties, arose as a consequence of the act of measurement. It stemmed from the fact that "everything in the universe, including light and gravity, can be described in terms of these particles" (Hawking 66)—including the technological devices used to measure the particles, the photon-light incident upon the particles being measured, as well as the subject performing the observation. Heisenberg had hit upon a limitation seemingly endemic to the fact that particles measured by entities and devices made up of particles form an inextricably recursive system—are complexly inter-affecting to a degree that however small cannot be reduced or disentangled. Increasing accuracy of any conjugate particle-property such as position or momentum *always* decreases accuracy of the other.

Well, so what? So we recall that classical science requires accurate measurement of multiple quantities of a system, "the simultaneous knowledge of which would be required for a complete description based upon classical theories" (Bohr, *AT* 18). If accuracy of any measurement was limited only by the precision of the measuring process, then Laplace's demon[11] would only be a matter of time, technology, and increased

[11] See note 6 of this study.

precision away from full realization. But the measurement problem seems to superannuate the classical impetus in at least microcosmic studies. For in any given atomic experiment, "since the [measuring] device is connected with the rest of the world, it contains in fact the uncertainties of the microscopic structure of the whole world" (Heisenberg, *PP* 53). The hope of discovering microcosmic bedrock seems utterly lost within the weave-work of our ways of inquiry.[12]

The paradigm shift resultant from this realization affected such a re-consideration of microcosmic scientific purpose that it precipitated a previously heretical question: what is the threshold beyond which the pursuit of accuracy and precision becomes theoretically meaningless? The answer intoned the fullest implication yet of Planck's speech of 1900: "the product of the error of simultaneous measurement of [a particle's] position and its momentum cannot be less than the value of Planck's constant" (Stent 18). The quantum of action, the seed for 20th-century breakthroughs in all microcosmic studies, was now simultaneously a limit blocking complete explication of our constituent matter *because of* matter's inextricable inter-effect. "Thus," lament the editors of Nature in their preface to Bohr's now-canonical 1928 essay on the topic, "there is introduced in the new quantum mechanics an indefiniteness which contrasts with the clear-cut concepts of classical mechanics" (579).

In the Copenhagen interpretation of the theory, the "stuff" of which all things are made can now no longer be considered actual corporeal "stuff"—"the smallest units of

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[12] Even physicists who offered sharp criticism of the Copenhagen interpretation of the uncertainty principle did not downplay the principle's thunderous impact upon our perspective of natural reality, agreeing that: "The uncertainty which results must not be considered an accidental uncertainty due to imperfection in our methods of measurement and which could be avoided by improved methods. On the contrary, the uncertainty is an essential one, arising from the disturbance of the phenomena studied by the act of measurement itself and a consequence of an important natural law" (de Broglie 136).

matter," writes Heisenberg, "are in fact not physical objects in the ordinary sense of the word; they are forms" (*AF* 116-17). This is to say—no one actually looks at an electron under a microscope; rather one infers information about that particle from indirect data recorded on measuring devices, data whose results adhere to the uncertainty principle.[13] The very idea of a tiny spherical electron existing ontologically *in situ* becomes void in the new quantum language—"the quantum theory requires us to give up the idea that the electron, *or any object*, has by itself any intrinsic properties at all" (Bohm, *QT* 139, my emphasis). Instead, the theory ventures a mathematic description of the microcosmic particle's strange quantum state—Schrödinger's *wave function.* This *wave function* displaces the deterministic core of scientific microcosmic inquiry with an effective method for prognosticating the statistical, average tendencies of groups of particles. But such core-displacement puts into play the very idea of what microcosmic physical science *is doing*. For the wave function and its inherent deficiencies represents but a "mathematically encoded description of the state of observer knowledge rather than a description of the objective state of the system" (Cramer 3). Thus the ambiguity revealed by the uncertainty principle does "not represent a property of the electron but a deficiency in our knowledge of the electron" (Heisenberg, *PP* 45). What this means, exactly, is that microcosmic physical sciences are not objectively studying nature. They *cannot* objectively study nature. Rather, they study nature only in relation to our ways of studying. "We have to remember," writes Heisenberg, in a statement that draws the line in the sand between classical and quantum perspectives on our ability to engage natural

[13] This gap between data and interpretation would inform Bruno Latour and Steve Woolgar's study: Laboratory Life: The Construction of Scientific Facts (Princeton: Princeton UP, 1986). For more on the measuring process itself, see Sean Johnston, History of Light and Color Measurement (London: Taylor & Francis, 2001).

reality—"that what we observe is not nature in itself but nature exposed to our method of questioning . . . our scientific work in physics consists in asking questions about nature in the language we possess" (*PP* 58).

We can read in these words the event of science becoming meta-aware of the opacity of modes of representation: becoming aware of epistemology. From the consequent turbulence emerges the disarming idea that "science does not rest upon rock-bottom . . . it is like a building erected on piles . . . piles driven down from above into the swamp, but not down into any natural or 'given' base" (Popper 111). In the view of the Copenhagen physicists, fog swirls where we imagined there would be bedrock, chance where there would be law. Classical reductionist pursuits at the microcosmic level are now perceived as being caught in this implicating recursive fold of epistemological consideration that is the recognition of our embedded-ness within the language of science. And "we are suspended in language in such a way that we cannot say what way is up and what is down."[14]

Literary critics will immediately note here the nexus through which future post-structural cross-readings of quantum theory will entwine—the notion that we can only engage a "hypothesis of the real world," for "without being aware of it and without being rigorously systematic about it, we exclude the Subject of Cognizance from the domain of nature that we endeavor to understand" (Schrödinger, *WL* 118). Luce Irigaray as well marks this recognizance as the critical moment informing a new and necessary way of looking. Considering the inability of any inquiry, scientific or otherwise, to resolve

[14] A quote attributed to Bohr by his protégé Aage Petersen in: "The Philosophy of Niels Bohr," Bulletin of the Atomic Scientists 19.8 (1963): 11.

fundamental questions about the matter of our existence, she wonders if this "could be interpreted as a result of failing to take into account the dynamics of the subject in search of itself" (78). It has been argued that Derrida's logocentric *play* is a descendent of Bohr and Heisenberg's Copenhagen interpretation.[15] And just as logocentric theories rely upon a paradox of language to, arguably, reveal a perpetual *différance* of signification through the relative efficacy of language, so Bohr and Heisenberg are aware the indispensable enfoldment of the classical and quantum languages of science. As Bohr writes: "it is unlikely that the fundamental concepts of classical physics will ever become superfluous for the description of physical experience, [because quantum theory] depends on an analysis of measurements based on classical concepts," and it is "the application of these concepts alone that makes it possible to relate the symbolism of the quantum theory to the data of experience" (*AT* 16).

The standard readings of quantum theory in alignment with a post-structural diaspora of binary meaning indeed paint classical reductionism as "the one [that] seeks to decipher, dreams of deciphering a truth or an origin which escapes play" (Derrida 292). In contrast, the quantum theory is thought to evoke "the other, which is no longer turned toward the origin;" to evoke a perspective other than a classical one which "has dreamed of full presence, the reassuring foundation, the origin and end of play" (292).[16] But we

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[15] This is the general argument recurring throughout both Gross & Levitt and Sokal & Bricmont's studies concerning not just Derrida but most post-structural theories. See footnote 1 of this study for more.

[16] In the "Science Wars" of the past several decades, this is the argument generally proposed by the more vociferous humanities-based critiques against what Haraway calls the "god trick" of scientific objectivity (*Situated* 189-190). Paul Feyerabend's Against Method (London: Verso, 1978) and unintentionally Thomas Kuhn's The Structure of Scientific Revolutions (Chicago: U of Chicago, 1962) are the seminal studies informing this critique. Notable subsequent treatments are: Sandra Harding, The Science Question in Feminism (Ithaca: Cornell UP, 1986); Stanley Aronowitz, Science as Power (Minneapolis: U of Minn., 1988); and Bruno Latour, Science in Action (Cambridge: Harvard UP, 1987). For more, see: Science

should note here how Derrida himself never neglects the former for the latter, nor positions the latter as superannuating the former. He rather articulates them as being ineluctable methods inextricably implicating one another into a *third level*: the "as yet unnamable," the "nonspecies" (293). As such imagery suggests, and as has long been expressed in criticisms endemic to the humanities, the boundary between *things*—between signs in a chain of linguistic signification, between "two cultures," between the quantum and classical strata, etc.—appears rather blurred. In Bohr and Heisenberg, as in Derrida, division becomes less a Euclidean demarcation than a liminal threshold that eludes measurement, description, or location.

The radical nature of this perspective must not be underestimated. It echoes Lévi-Strauss' point: that nature involves an *a priori* or immanent "whole" which appears to fragment or decohere into the different *things* we perceive at this classical level.[17] This whole can only be indirectly approached through our reifying ways of thinking and measuring. "Observation" of subatomic particles through mathematic wave-functions *can* collapse the indeterminate quantum state into classical measurements. But this data always represents a biopsy of the greater *still unfolding* flow shadowing such abstraction. The translations of the data through mathematics and language cannot even through

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Wars, spec. issue of Social Text 46/47 (1996). For a more recent overview of the state and ways of this cross-disciplinary encounter, see Complex Figures, spec. issue of New Formations 49 (2003). For a collection of readings that eschew this more politicized encounter, see N. Katherine Hayles, ed., Chaos and Order: Complex Dynamics in Literature and Science (Chicago: U of Chicago, 1991). And for a sample of the "other" side's responses and engagement in these "Science Wars," refer to footnote 1 of this study.

[17] A particle might in fact only *decohere* into local corporeality upon involvement with other particles. A particle is said to *decohere* when it interacts with other particles, causing it to "collapse" from statistical probability into local reality such that classical causal laws apply. Exactly what the atom was *prior* to decoherence is part of the ongoing puzzle with which the philosophical concerns of quantum theory are involved, and which the most austere scientists see as an unwarranted extrapolation. For a basic presentation of the idea, see: Michael Brooks, 'Worlds Apart," New Scientist 15 May 2004: 30-33.

parallax approach the ontology of that fragmented wholeness. Such an analytically unapproachable notion nevertheless is the subject of this study. For the harmonizing of multidisciplinary purpose under which this entire effort operates proceeds from the notion that "except in human perception and human language, nothing really separates" (Gleick, *CB* 121).

The suggestion here is that *everything*—every particle of the universe—is always, then, not existent in a classical state of *being* but is rather *becoming* as but relatively stable ripples emerging from and returning to one unified background of energy. "In order to see the world from the side of it being a unity," Bohm makes this point, "we must start from the notion that the basic reality is the totality of actually existing matter in the process of becoming" (Bohm, *CC* 168). Amidst this motion, any classical language, scientific or linguistic, stutters to explain, fails to adequately signify—"the resistance of our language to expressing this [unity] can scarcely be overestimated [because] language is part of the field being described" (Hayles 19-21). And here amidst this paradox, the new quantum language arises to accommodate a view of a world-in-becoming as "a precise formulation of . . . tendencies" (Bohr, *AT* 49). Indeed, "contrary to the Aristotelian physics of qualities and in contrast to the Newtonian physics of primary properties," both of which take for granted an objective one-to-one Cartesian subject-object engagement with a natural reality, "the language of quantum mechanics is a language of *interactions* and not *attributes*: of *processes* and not *properties*" (Jammer 381). This model of a world-in-becoming is evidenced in the smallest conceivable scale of existence: "the atoms or the elementary particles . . . form a world of potentialities or possibilities rather than one of things or facts" (Heisenberg *PP* 186). And the model

suggests that this ever-elusive background field of un-collapsed possibilities *is* the whole reality informing this classical scale—"it is as if we are bringing the 'observed' into focus, as you bring a picture into resolution, but *the blur* is a more accurate representation. The blur is itself the basic reality" (Ferguson 11). The act of bringing into focus through thinking, observing, and speaking is what "makes" this classical heterogeneous reality as we know it.[18]

These words carry us to the threshold of any classical paradigm's efficacy. By stating that the data which we study is contingent to and embedded within our epistemology, the theory does not proffer that there is *no* objective physical reality; rather, that objective physical reality seems to be what happens *between* the bringing-into-being caused by decoherence. Any ontological whole reality is, then, the "blur" *between* these moments of interaction. The blur *is* the event of between-ness. The most classically-unsettling aspect of this is that "the quantum-mechanical description of these processes will always be consistent [i.e., efficacious], even though it gives us no precisely definable means of describing and analyzing the relationships *between* the classically describable phenomena" (Bohm, *SIQT* 186). In other words, the event of between-ness—unobserved, unmeasured—is occurring within an epistemologically-induced event-horizon through which radiates the wholeness of the blur, but in a spectrum we cannot *ever* measure. It remains not simply yet-unspoken, yet-unthought, yet-unknown—it is *unspeakable*, *unthinkable*, *unknowable*. Everything else—meaning all which coalesces at our local macrocosmic strata, including ourselves, and this study—are

[18] That is, "the transition from the 'possible' to the 'actual' takes place during observation. If we want to describe what happens in an atomic event, we have to realize that the word 'happens' can only apply to the observation, not to the state of affairs *between* two observations" (Heisenberg , *PP* 54, my emphasis).

abstractions of this process, and so are inescapably contingent despite their relative classical stability.[19]

We might say that these implications blur strict disciplinary boundaries, and offer critical passage into a greater cross-disciplinary study. Some of the scientists translating this noumena into phenomena certainly thought so. For as Bohr offers: "the impossibility of distinguishing in our customary way between physical phenomena and their observation place us, indeed, in a position quite similar to that which is so familiar in psychology, where we are continually reminded of the difficulty of distinguishing between subject and object" (*AT* 15). "Similar" is not "same," but Bohr and his peers recognized that their new scientific theory exceeded the orthodox framework of the classical scientific imperative. Heisenberg was explicit that the theory radiated beyond the halls of the hard sciences: for "the influence of the Cartesian division on human thought . . . can hardly be overestimated, but it is just this division which we have to criticize later from the development of physics in our time" (*PP* 79).[20] A more critically necessary holistic investigation into the nature of our existence now required evocation of interdisciplinary analogues, required new "ways of seeing" within the sciences themselves, and across the sciences and humanities. Informed by this need, and having found within the microcosmic realm the same philosophical conundrum involving a Cartesian dichotomy, Bohr conceived of his principle of complementarity.

Complementarity is actually a simple enough premise. The principal allows that

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[19] For "such an abstraction evidently cannot represent an absolute truth . . . hence any particular theory will constitute an approximate, conditional, and relative truth" (Bohm, *CC* 165).

[20] Further entangling the physics with philosophy, Heisenberg re-affirms that this is because the implications of quantum theory "makes the sharp separation between the world and the I impossible" (*PP* 81).

two or more contradictory empirical results might both be contextually true, because (1) the scientific language and methods by which we arrive at those results are always limited by the subject's recursivity articulated heretofore; and (2) any classical matter or measurement might better be understood as but the localized effect between which radiates the whole background blur. Complementarity puts aside the notion that contradictory abstractions/effects of that blur—such as the wave and particle effects of light, or the conjugate properties of an electron—need to be further reconciled through some natural-selection of reductionist science. The multiple, even contradictory effects are always but the currently-revealed face on an infinite Janus of hidden inter-effect. Its whole remains a hole in thought and language: unknowable, unsayable—a unified field for which "only silence is commensurate with its nature" (Weber 22).

In an effort to do something, though, to say something rather than exist in nullified silence, complementarity simply offers that we might understanding this classical world as a "complicated tissue of events, in which connections of different kinds alternate and overlap and thereby determine the texture of the whole" (Heisenberg, *PP* 107). Contradictions do not necessarily bespeak impasse. Contrary data do not necessarily beg to be reconciled. We are led, through complementarity's way of seeing: "to understand nature in terms of an inexhaustible diversity and multiplicity of things, all of them reciprocally related and all of them necessarily taking part in the process of becoming" (Bohm, *CC* 164). As a science that traces tendencies of relationships between *things*,[21] quantum theory evolves the physical sciences and arguably *all inquiry* into a

[21] "In brief," summarizes Bohr, "the whole apparatus the of [quantum theory] can be regarded as a precise formulation of . . . tendencies" (*AT* 49).

study of the nature of *movement* and into the strange question of "what it could mean for one part of reality to 'know' another" (Bohm, *WIO* x-xi). Through complementarity, these questions begin scaling beyond the microcosmic and scientific realms, opening up those questions for cross-disciplinary engagement:

> [Bohr's] assumption that the basic properties of matter can *never* be understood rationally in terms of unique and unambiguous models implies that the use of complementary pairs of imprecisely defined concepts will be necessary for the detailed treatment of every domain that will ever be investigated.
>
> (Bohm, *CC* 93-4)

Bohr specifically advocates cross-disciplinary involvement with these ideas, writing: "I hope . . . that the idea of complementarity is suited to characterize the situation which bears a deep-going analogy to the general difficulty in the formation of human ideas, inherent in the distinction between subject and object (*QP* 590). The imperative across disciplines now becomes to study the interval between *things*, to trace the "relations *between* the manifold aspects of our experience" (Bohr, *AT* 18, my emphasis).[22]

All of the historical context provided heretofore has been leading to this point, where we might better understand why and how the imperative for physical scientific inquiry changes from inquiring toward an illusory bedrock toward exploring what this study calls an event of between-ness. For by this paradigm shift, these scientists became attuned to a phenomenon occurring between sub-atomic matter that seemed to suggest nothing less than the *a priori* indivisibility of the universe. That is, they came upon the

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[22] For more on complementarity and its relation to "the indivisible unity of the world" see: Bohm, Quantum Theory 158-162.

phenomenon of phantom action.

Spukhafte Fernwirkung [23]

Nonlocal entanglement—*spukhafte fernwirkung*, phantom action at a distance—scales-up the uncertainty discovered between the conjugate properties of a "single" particle to encompass multiple pairs of particles, theorizing a strange conjugation *between* apparently and empirically separate matter through a notion that threatens to sunder the very notion of classical space and time. Despite its strange space-time implications, some scientists in the field are confident in evoking the farthest implications of the phenomenon. Michael Brooks writes that nonlocality suggests "a whole new realm of reality" (32). Charles Seife calls it perhaps "the most unnerving idea in quantum mechanics . . . [a] quantum surreality" (1909). Abner Shimony attests that this surreality remains our most effective description of the natural world, despite the fact that it "defies comfortable common-sense interpretation" and "alters drastically the way we perceive our world" (46). In light of the phenomenon, some scientists offer that nothing less than "our basic picture of space, time, and physical reality must change" (Maudlin 4).

The essential idea of nonlocal entanglement is that pairs of subatomic particles which have interacted in the past enter into a condition called "the singlet state" (d'Espagnat 158), after which they are able to affect each other, despite the physical space apparently separating those particles thereafter. In terms of the mathematics of

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[23] Translated by Irene Born (Max Born's widow) as "spooky action at a distance." This is Einstein's much-quoted and rarely-cited condemnation of nonlocality, appearing in a letter to Born. The greater passage reads: "I cannot seriously believe in [nonlocality] because the theory cannot be reconciled with the idea that physics should represent a reality in space and time, free from spooky action at a distance." See: Albert Einstein, "To Max Born," 3 March 1947, Letter 84 of The Born-Einstein Letters: Friendship, Politics, and Physics in Uncertain Times, trans. Irene Born., ed. Diana Buchwald and Kip S. Thorne (Hampshire: Macmillan, 2005) 155.

quantum theory, what this means is that one wave equation describes the state of both particles, regardless of the seeming distance between them. Local causal communication between constituent particles would not in itself be cause for exclamation—how else would we imagine subatomic matter decohering into greater collections of classically interacting molecules, bodies, cultures, cities, planets, etc.? "If the physical universe is isomorphic to a system of non-interacting units," writes Prigogine, "there would be no life" (*TDC* 61). But the effect of nonlocality appears to defy the theoretical restriction on communication signals, consequently on causality itself: the speed of light.[24] In other words, if events can occur faster than light—can display *superluminal effects*—you could see the effect of an event simultaneous with its cause: you could see a cup hit the floor at the same time it begins to fall from the table. The proposed alternative is, like Lévi-Strauss's intuition about the totality of myth, impossible to even mentally approach using any local classical model. As such, nothing within any language can remotely address the notion that affecting properties of one particle, for example its *spin* or *polarization*, could instantaneously affect a distant particle. This, though, is precisely what nonlocality offers: that "if one entangled proton becomes (say) horizontally polarized upon being measured, the other photon must simultaneously decide to become vertically polarized—even if it is a billion light years away . . . somehow the first proton has sent an [immediate] signal to its distant twin" (Seife 1909).

Two separate particles entering the singlet state and thereafter disengaging can

[24] Specifically, "Einstein Separability," from the Special Theory of Relativity, which elucidates "the limitation which the finite velocity of propagation of all force effects [i.e., the speed of light] including those of radiation, imposes upon the possibilities of observation, and therefore, upon the application of the space-time concepts" (Bohr *AT* 3).

only then "be regarded as the elements of a single system that is created during the first interaction" (d'Espagnat 179). In the same way that quantum theory dissolves the very mental idea of a single *in situ* particle,[25] nonlocal entanglement seems to fold physical space-time boundaries between what on this strata of macrocosmic matter seem clearly distinct particles. Despite their classical space-time separation, these two particles are thereafter, in a way we are unable to mentally encompass or communicate through language, only conceivable as *one*. The two seeming parts become, in the mathematics, an indivisible whole. Some scientists offer that the implications of this effect might extend outward and inform a philosophical view of the entire world's implicit indivisibility. For "most particles or aggregates of particles that are ordinarily regarded as separate objects have interacted at some time in the past with other objects," which would "imply that in some sense all these objects constitute one indivisible whole" (d'Espagnat 179).

Such implications do read beyond the mathematics on the page: they involve scientists and mathematicians translating the raw data into a model, and thereafter performing a second translation—an interpretation—of that model into metaphoric language. A third event of translation occurs when a non-specialist like myself engages their interpretations of the model and attempts to understand it in a literary way. These intervals between the data and the layers of translation indeed leave room for what Bohr admits can be an unfortunate consequence: "It may perhaps appear at first sight that such an attitude towards physics would leave room for a mysticism which is contrary to the spirit of nature." But Bohr follows this with an imperative to proceed through potential

[25] "It is entirely unclear what picture we should give to the wave function or electron" (d'Espagnat 158).

impasse by re-considering the data along *with* the epistemology involved in its translation: "However we can no more hope to attain a clear understanding in physics without facing the difficulties arising in the shaping of concepts and in the use of the medium of expression than we can in other fields of human inquiry" (*AT* 15). In fact, nonlocal entanglement, more even than the much-ballyhooed uncertainty principle, was *the* locus for the greatest debate and impetus for the greatest fracture amongst the eminent physicists of the day. Defenders of a local-realist position detected a dangerous ecclesiastical tone suffusing the new scientific perspective. In a letter to Max Born, Einstein delivers an acute dig at Bohr, writing: "There is some hope that [Bohr] would disassociate his priestly side from physics." Not coincidentally, this jab occurs in the same letter in which Einstein would deliver what has become his most famous criticism of the quantum theory and these causality-sundering interpretations coming out of Copenhagen: "You [Max Born] believe in the God who plays dice, and I in a complete law and order in a world which objectively exists. . . . I firmly *believe*." (Einstein, *Letters* 145-6).

We should note, then, how a variety of scientists offered alternative readings of this interpretation of the theory.[26] Most notable for this study, David Bohm offered

[26] The most famous of these refutations is the EPR argument. Einstein, Podolsky, and Rosen authored the paper arguing against the presumed *completeness* of the quantum theory. EPR took issue with what they feared was a devolution within the sciences from an epistemological interpretation of the theory to an ontological assumption: that "*when the momentum of a particle is known, its coordinate has no physical reality* . . ." (778). Their counter-position was that "*every element of the physical reality must have a counterpart in physical theory*" (778) for a theory to be considered complete. Einstein offered his "photon in a box" thought-experiment as a refutation: according to nonlocality, the physical reality of an entangled photon hidden within a box is indeterminate, and so is *unreal* in the quantum perspective; but since nonlocality posits that the photon in the box will always have an inverted property of its entangled partner, then determining for example the *spin* of that partner in a measuring apparatus automatically implies that the photon in the box—without having been measured—must have the physically "real" inverse spin irrespective of interfering observation. See: Albert Einstein, Boris Podolsky and Nathan Rosen, "Can Quantum-Mechanical Description of Physical Reality Be Considered Complete?," Physical Review 47.10

hidden variables as a counter-Copenhagen interpretation.[27] Bohm considered that the nonlocalized particles existed not in a state of inherent indeterminacy but rather in a determinate state simply beyond our current experimental technology and cognition to fathom: "quantum mechanical probabilities" he posits, "are [perhaps] only a practical necessity and not a manifestation of an inherent lack of complete determination in the properties of matter at the quantum level" (Bohm *SIQT* 166). These *hidden variables* provided Bohm and others a way of re-considering the apparent effects of uncertainty and nonlocality as indicative not of a stochastic subatomic reality but rather of a presently inscrutable fold of causal-deterministic reality informing the quantum fold, which in turn informs the classical fold. [28] We might understand that Bohm's reading is more pragmatic, less recursive than Bohr's. And yet neither interpretation feigns to re-inscribe the lost dream of bedrock. Both readings suggest that the quantum theory reveals all *things* as emerging from an oceanic blur which cannot be utterly explicated through any language: "What the universe actually is," Bohm says, echoing Derrida, "is unsayable"

(1935): 777-780. For more on the photon in the box thought experiment, see Gunther S. Stent, "Does God Play Dice?" The Sciences 19.3 (1979): 18-24.

[27] An idea first broached by de Broglie in "La mécanique ondulatoire et la structure atomique de la matière et du rayonnement," Journal de Physique et du Radium 8.5 (1927): 225-241. Developed thereafter in: David Bohm, "A Suggested Interpretation of the Quantum Theory in Terms of 'Hidden Variables,'" Physical Review 85.2 (1952): 166-180, 181-193. See also: David Z. Albert, "Bohm's Alternative to Quantum Mechanics," Scientific American 270.5 (1994): 58-67.

[28] "It is possible," writes de Broglie in his preface to Bohm's 1957 study, "that looking into the future of a deeper physical reality we will be able to interpret the laws of probability and quantum physics as being the statistical results of the development of completely determined values of variables which are at present hidden from us" (*CC* x). The future may be here in the sense of "deterministic chaos," although the mathematics of chaos/complexity treat macrocosmic systems, not microcosmic particles. This resuscitation of determinism is the position Thomas Jackson Rice argues in Joyce, Chaos and Complexity (Chicago: U of Illinois, 1997).

(Bohm, *EU* 44).[29]

Until 1964, all of this debate and argument over nonlocality remained in the realm of thought-experiments, and, as Cramer writes, "were considered problems for philosophers and mystics, not Real Physicists" (2). But the issue began to circulate through the heart of the discipline upon publication of John S. Bell's inequalities. These inequalities provided experimental parameters by which nonlocality might finally be disproved.[30] Local realism allows that any perceived simultaneous effects between entangled particles must be resultant either from an interaction of hidden variables or from some sort of prescient-memory woven during the previous proximity: rather like students studying together for a test, then adhering to their agreed-upon answers during testing. Bell assumed this locality and outlined all the possible outcomes of correlated particles if those particles, after having been separated, communicated in a local fashion. Experiments uncovering any other set of outcomes would suggest evidence of nonlocality. The test would therefore need to involve settings that could change rapidly in the middle of the experiment so that, say, an entangled photon heading southward in an experimental apparatus could pass through a device that could change its *spin* mid-flight, so that its northbound correlated particle would have to "know" to change its state without trace memory.

The first actual experiment to employ Bell's inequalities was performed in 1972

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[29] Later, Bohm would developed this *hidden variables* theory into the notion of an *implicate order* from which this *explicate order*, or classical reality, is akin to a projection. This implicate/explicate order informs his theory of the *holomovement*, which will resurface and be explored in Chapter 2 of this study.

[30] Presented in J.S. Bell, "On The Einstein Podolsky Rosen Paradox," Physics 1.3 (1964): 195-200. The parameters were based on those established by Bohm and Aharonov in: "Discussion of Experimental Proof for the Paradox of Einstein, Rosen, and Podolsky," Physical Review 108.4 (1957): 1070-1076.

by Freedman and Clauser. Alain Aspects' French group would follow in 1982 with an even more definitive experiment, the first to actually employ acoustio-optical switches that could affect the flight of a particle mid-experiment.[31] More recently, in 1997, Nicolas Gisin's Geneva team confirmed nonlocal entanglement across a distance of 10 kilometers through fiber-optic cables. Without a single anomaly, each entangled photon in Gisin's experiment unerringly correlated its behavior in direct relation to the path taken by its distant partner: "it was as if some ghostly bridge across the city of Geneva, Switzerland, had permitted two photons of light nearly seven miles apart to respond simultaneously to a stimulus applied to just one of them" (Browne C1). Cramer summarizes that "In these experiments, the [nonlocal] predictions of quantum theory were always confirmed" (2). Whatever we might interpret this data to mean, the phenomenon of phantom action appears to be *real*.

The phenomenon puts into play our very sense of classical distinction between particles, between *things*. The stuff of which we are made behaves in a way that suggests our classical distinctions of space and time are contingent, even somewhat illusory. For if nonlocality is real, "we must say that the space-time frame is insufficient for the complete interpretation of natural phenomena" (de Broglie 143). Bohm's reading of the effect is perhaps more evocative than any other, and since it both summarizes much of what's been said to this point and informs this study's overall effort, it is quoted here at length. He writes that the effect directly

contradicts an assumption that has long been implicit in physics as well as in most

[31] See: Stuart J. Freedman and John F Clausser, "Experimental Test of Local Hidden-Variable Theories," Physical Review Letters 28 (1972): 938-941. See also: Alain Aspect, Jean Dalibard and Gerard Roger, "Experimental Test of Bell's Inequalities Using Time-Varying Analyzers," Physical Review Letters 49 (1982): 1804-1807.

> other branches of science; namely, that the universe can be correctly regarded as made up of distinct and separate parts that work together according to exact causal laws to form the whole. In the quantum theory, we have seen that none of the properties of these 'parts' can be defined, except in interaction with other parts. . . . It seems necessary, therefore, to give up the idea that the world can be correctly analyzed into distinct parts, and to replace it with the assumption that the entire universe is basically a single indivisible unit. (Bohm, *QT* 139-140)

This suggestion of an implicit wholeness isn't relegated to the realm of microcosmic studies, either. A complementary notion of this indivisibility emerges from the field of chaos/complexity theory: as a strange attractor.

Strange Attraction

The strange attractor's contextual field of chaos/complexity theory does not demand the prologue already given the field of quantum theory for a number of reasons. First, although they are two entirely distinct scientific fields, they both emerge from a similar failure of classical reductionist science to account for the complex phenomena evidenced in the natural world. In this specific sense, the holistic implications bespoken by the strange-attractor fall within the scope of the history of science exposited heretofore. In the same way that Bell's inequalities midwived phantom action from thought to verifiable lab experiment, Ruelle and Takens' recognition of strange attractors in studies of irregular or nonlinear systems resuscitated Henri Poincaré's notion that the majority of systems in nature are not isomorphic. Both quantum and chaos/complexity studies seem to trace, in accord with Lévi-Strauss' understanding of myth, "patterns

showing affinity [which] instead of being considered in succession [are] to be treated as one complex pattern and read as a whole" (839). Secondly, the implications of chaos/complexity theory do not provoke the same sundering and radical re-visioning of reality as arguably happens through a quantum perspective. Unlike the epistemological tension separating a local-realist and nonlocal quantum perspective, the findings of chaos/complexity theory, based upon the notion that nature and its systems are irregular, are unarguable: "closer observation of any object generally leads to the discovery of a highly irregular structure" (Mandelbrot 8).

This, though, does not make the implications of a strange attractor or its contextual field any less bizarre to consider. Nor does it make them less open to criticism when employed in a cross-disciplinary study. Robert Devaney resents the very term "strange attractor" what for its magnetic quality for attracting non-scientific treatments such as this (208). Ian Stewart argues that chaos/complexity does not even constitute a theory or scientific field but is rather "a concept . . . an idea that cuts across all the traditional subject boundaries of science. It's a missing piece in a massive jigsaw puzzle" (vii). Still, as in the case of quantum physics, certain authors and mathematicians offer their interpretations of the strange attractor's implications for consideration across disciplinary borders. The majority of such interpretations sound a similar and familiar note: that strange attractors reveal an indivisible wholeness to the natural world.[32]

All mathematic attractors are basically tendencies. The idea of any regular

[32] For examples of such interpretations framed for non-specialist interface, see: Mitchell J Feigenbaum, "Universal Behavior in Nonlinear Systems," Los Alamos Science 1.1 (1980): 4-27. See also: Ilya Prigogine and Isabell Stengers, Order Out of Chaos: Man's New Dialogue with Nature (New York: Bantam, 1984). And see: David Ruelle, Chance and Chaos (Princeton: Princeton UP, 1991).

attractor[33] or strange attractor stems from the practice of geometrization: a visual representation of a set of numbers. Regular attractors have long been used to visualize systems in equilibrium, meaning classical systems in which small variations in the system's state produce small effects, large variations produce proportionally large effects.[34] But as had long bedeviled those trying to model the complex systems of the real world—"systems with infinitely many degrees of freedom, untrammeled nature expressing itself in a turbulent waterfall or unpredictable brain" (Gleick, *Chaos* 137)—the classical Cartesian graph simply does not represent enough dimensions to model the complexity evident within these real-world systems. This changed with the arrival of computer technology able to represent multi-dimensional phase-space visualizations previously beyond the human capacity to draw or even fathom.[35] This new higher-dimensional attractor tracing simulations of irregular real-world systems is now known as a strange attractor.

Lorenz brought the first strange attractor into view on his computer at M.I.T.. While attempting to have his computer repeat a previous model of a weather pattern by

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[33] Fixed point, limit cycle, basin, or torus.

[34] Two-dimensional fixed-point attractors tracing the position and velocity of a swinging pendulum will, when geometrized, show a spiral gravitating toward the center of a Cartesian graph—marking the point and moment where and when the variables of the pendulum reach zero. We should note that the zero-point, not the spiral, is the attractor in this example. Two-dimensional limit-cycle attractors chart the movement of a periodic system, for instance a pendulum that receives a periodic push or a stable human heartbeat, tracing a recurring curve in two-dimensional space while never gravitating toward the zero-point center on a Cartesian graph. Such curving attractors might re-intersect (periodic) or remain near (quasi-periodic) previous orbits of the state. Still more complicated attractors pre-exist the advent of the strange attractor: basins of attraction, or torus attractors, for example. None of these, though, are strange—meaning chaotic—attractors.

[35] Phase space, or state space, is the name of the computer-rendered space in which the strange-attractor visually appears. The computer is able to do what Lévi-Strauss said would be required to handle the complexity of which he spoke, as detailed earlier in this chapter: it "undertakes to express in symbols and multidimensional relations [what] can not be handled otherwise" (843).

re-entering numeric data from where the previous model terminated, he abridged his data-entry by rounding off decimals—an act which in a classical scheme should have been negligible for the iteration of the previous model. After letting the computer model the state of the weather system based upon the abridged data, though, he discovered that the "negligible" difference of initial conditions had in fact resulted in a system widely divergent from the previous, and more, one that refused to settle back into a periodic or quasi-periodic state (Lorenz 135-136). More bizarre, the disequilibrium traced by the attractor emerged not from outside influences but from feedback of the initial variables within the system—the "amplification of the small differences was the *cause* of lack of periodicity" (Lorenz 136). Distilling his equations further, he found that even with only *three degrees of freedom* the system still exhibited the ability to recursively send itself into chaotic fluctuations.[36] If such chaotic complexity could emerge from such a small set of initial conditions, it suggested something already allowed in the avenues of humanities inquiry but disallowed within a classical scientific framework: that "the small . . . can produce the great" (Lorenz 15). It also suggested, in the particularly elegant geometrization of what looked like a butterfly appearing on his computer screen, that the apparently random systems of nature are informed by a deep patterning. Lorenz had discovered visual mathematic evidence of Woolf's intuition of a pattern behind the cotton wool. And the tendency traced by these strange attractors indeed seems to bespeak how all things in nature are implicitly joined through such patterning.

The natural recursive systems which the strange attractor traces are without end,

[36] Degrees of freedom are the variable "forces" chosen to represent the system. A simulation tracing the attractor for the earth's orbit, for example, might include the three variables of velocity, momentum, and position—or in other words, three degrees of freedom.

continually feeding back into themselves, and so the strange attractor represents amongst other things a paradox of an infinite tendency drawn out in a finite phase-space.[37] In order to represent the complexity of the system it attempts to represent, then, "the attractor must fold over onto itself" (Crutchfield 51). We might hear echoes, here, of Deleuze's folding skein, of a preternatural flux and flow of pleats rather than static points. In this infinite folding process, the finite phase space in which the attractor of the chaotic system is drawn necessarily implicates—"the process of stretching and folding happens repeatedly, creating folds within folds ad infinitum" (Crutchfield 51). By such folding, the attractor begins to trace what's considered higher-dimensional patterns invisible even to the observer watching the computer monitor—essentially patterns within patterns. To see inside this folding attractor which increasingly might seem opaque from the outside, a lower-dimensional "Poincaré map"—a cross-section "slice" of any particular part of the attractor—can be extracted and studied. What such a study reveals is the *fractal* patterning that appears in *all* strange attractors.[38] We find in phase space what Leibniz intuited long before—how "each portion of matter may be conceived as like a garden full of plants and like a pond full of fishes. But each branch of every plant, each member of every animal, each drop of its liquid parts is also some such garden or pond" (Latto 256, Monad 67). Still, we should be clear: the strange attractor, however evocative it might look, is still only an abbreviated representation of the infinitely interconnecting systems of nature it attempts to model. The point is, though,

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[37] In other words, the attractor never re-intersects with itself, and so is always taking up more and more phase-space as it continues to draw the attractor: infinitely.

[38] A fractal is a self-similar pattern or shape of the overall strange attractor iterating infinitely down and across all scales of measurement, throughout the infinite folds of the attractor, never losing complexity of patterning despite increased magnification (Mandelbrot 1-10).

that the strange attractor provides a glimpse of an infinitely deep patterning suggesting how the distinct macrocosmic *things* in nature are in fact systemically interwoven—are one whole inter-affecting system.

Such recursive infinite patterning seems ubiquitous in our world. James Garson finds it in the cognitive processes of the human brain; Rodney Farnsworth reads it in the psychology of the Romantic poet; Adalaide Morris hears it in H.D.'s poetry.[39] It appears in attractors charting the fluctuation of economies or the climate of the earth. Mandelbrot, discoverer of the fractal in nature, sees the pattern on a macrocosmic scale in the irregular branching of river tributaries, as much as in the bronchial patterning of lungs, or in the dispersal of cosmic dust forming the rings of Saturn (149, 156-7). The effect of the discovery of this infinite fractal patterning within the interconnecting systems of our physical and even mental existence puts into question—as does the quantum theory—the entire classical notion that a system or whole is but the sum of its parts.[40]

Taken together in complementarity, phantom action and strange attraction might provide a basis from which to attempt a parallax by which we can study the implications of the event of between-ness. It is important to again emphasize how this conjectured "indivisibility of the universe" upon which this study proceeds is the interpretation offered by multiple scientists *for* the understanding of non-specialists. In Bohm's case, it

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[39] See: James W. Garson, "Cognition Poised at the Edge of Chaos: A Complex Alternative to a Symbolic Mind," Philosophical Psychology 9.3 (1996): 301-322. See also: Rodney Farnsworth, Mediating Order & Chaos: The Water Cycle in the Complex Adaptive Systems of Romantic Culture (Amsterdam: Rodopi, 2001). And see: Adalaide Morris, "Science and the Mythopoeic Mind: The Case of H.D.," Chaos and Order Hayles 195-220.

[40] "Chaos brings a new challenge to the reductionist view that a system can be understood by breaking it down and studying each piece" (Crutchfield 56).

even comes from a physicist originally opposed to the stranger implications of nonlocality and the Copenhagen interpretation. I mean to say, this notion of an implicit wholeness that informs all the literary readings in the following chapters derives from the words of the people discovering and dealing with this phenomenon themselves. I do not feign to understand the raw data from which these interpretations derive. I can only enter into this cross-disciplinary reading on the terms provided by the qualified translators of that scientific data, while balancing the veracity of those translations against criticism and contrary readings from others within the sciences. But as I have attempted to show, those translations are offered by those endemic to the fields with the expressed sense that it is imperative they be engaged across the disciplines.

As fraught as such an enterprise is with the dangers of translation and potential incommensurability, it still provides us our best opportunity for gesturing toward the greater wholeness to which all academic inquiries, in part, attend. As we proceed into the following chapters of this study, Schrödinger provides us an impetus to read through what might seem an apparent impasse: "I can see no other escape from this dilemma (lest our true aim be lost for ever) than that some of us should venture to embark on a synthesis of facts and theories, albeit with a second-hand and incomplete knowledge of some of them—and at risk of making fools of ourselves" (*WL* 1). Any attempt to critically expound and explore this whole indivisibility in the blurring borders between *things* based on such phenomena will remain inconclusive. But the complementary suggestion that "the plurality that we perceive is only an appearance" (Schrödinger, *View* 18) provides the footing upon which the rest of this study stands and attempts to read

some meaningful implications of phantom action and strange attraction through an array of literary sources.

CHAPTER TWO

That Inscrutable Thing:

Holography, Infinity, and Sublimity in the American Renaissance

Throughout his 1959 indictment of the cultural division between the sciences and the humanities, C.P. Snow repeatedly digresses from his argument concerning the "two cultures."[41] One such digression involves Snow pondering the "fact" that each of us is an isolated individual, essentially trapped from first to final breath and angling always in this way toward death. "Each of us is alone," he writes—"sometimes we escape from solitariness, through love or affection or perhaps creative moments, but those triumphs of life are pools of light we make for ourselves while the edge of the road is black: each of us dies alone" (6). Somehow in working through his alarm over the ever-increasing division between the disciplines, Snow encounters the ancient and irresolvable conditions of isolation and death. We can feel in his words the same imperative informing the first recorded literature of our species, The Epic of Gilgamesh; the same "cold of interstellar space" Leopold Bloom feels as Stephen leaves him alone in his backyard under the pre-dawn Dublin sky; the same fear behind Pascal's sense of our species being "lost in this corner of the universe without knowing who put us there, what we have come to achieve, what will become of us when we die, incapable of all knowledge. . . ."[42] These same

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[41] Digressions for which F.R. Leavis famously attacked Snow in his review: Two Cultures? The Significance of C.P. Snow (New York: Pantheon 1963).

[42] See: The Epic of Gilgamesh, trans. Maureen Gallery Kovaks (Stanford: Stanford UP, 1989). James Joyce, Ulysses, ed. Hans Gabler (New York: Vintage, 1986) 17:1246. And Pascal, Pensées 59:198H5.

concerns, to varying degrees, might be seen to backlight every event of all our human existence. They are certainly involved in this study. But strange attraction and phantom action suggest ways to reconsider the emptiness of that interstellar space.

In the first chapter, I established that the event of between-ness involves less a fissure than an information-rich field of implicate unification—that "what is implied by this proposal is that what we call empty space contains an immense background of energy" (Bohm, *WIO* 242), and that all *things* are united through that background. Still, as we will see throughout the following chapters, this same event which for some radiates with a meaningful energy and hope for connectivity is, for others, nothing less than an abyss. In any case, this question concerning how *things* might be united through an event of between-ness now involves a re-consideration of "what it could mean for one part of reality to 'know' another" (Bohm, *WIO* xi). By reading certain literary sources in light of certain notions from the sciences, it will become clear that Bohm's question is a familiar question throughout literature. It is an iteration of Billy Collins' question about the relation between distinct objects, between himself and his reader, between you and me:

> I wondered if they had become friends
> After all these years
> Or if they were still strangers to one another
>
> Like you and I
> Who manage to be known and unknown
> To each other at the same time— (22-27)

Krailsheimer's translation of the pronouns *him* and *he* have been altered here to a more inclusive *us* and *we*, footnoted here rather than bracketed in-text for readability.

Emerson, Infinity, Sublimity

Emerson, more explicitly and with more deliberate focus than any author of the American Renaissance, considers how this seemingly partitive natural world is somehow a veneer behind which all *things* share communion. "The greatest delight which the fields and woods minister," he writes, "is the suggestion of an occult relation between man and vegetable. I am not alone and unacknowledged. They nod to me and I to them. The waving of the boughs in the storm is new to me and old. It takes me by surprise, and yet is not unknown" (*Nature* 1075). Informing this occult relation that suggests a simultaneous known and unknown dimension, Emerson registers "a one light which beams out of a thousand stars. It is one soul which animates all . . ." (*AS* 1111). The implicit hope of such whole-illumination shines in these words. In contrast to the ancient sense of disconnect and lonely death prevalent in Snow's view of the vastness isolating all *things*, Emerson suggests that such vastness might be a field of wonder rather than of despair, a field of unification rather than of incommensurability. If we are to think of everything—meaning both light *and*, as de Broglie posits, matter—as involving the same wave-like properties, we might direct Emerson's insights here through our evolving scientific-philosophic paradigm and thereby glean a more comprehensive shape of this hope. For if "matter itself is that small wave on empty space," then "space as a whole . . . is the ground of existence, and we are in it. So the space doesn't separate us, it unites us" (Bohm, *EU* 47). Taken together, these authors' sense that the vastness of our existence is backlit by "a one-light" that prisms upon encountering the classical threshold into the various wavelengths—local aspects—of our physical reality informs Bohm' philosophic model evolved from his *hidden variables* interpretation: the *holomovement*.

Bohm's concept of *the holomovement* derives from the principle of holography: fire a laser toward a photographic plate, insert a half-silvered mirror at an angle in the path of the laser, and place any object at the location where the laser-light reflected off the angled mirror will strike the object. The half-silvered mirror reflects half the laser-light to the object, and allows half the light to proceed straight to the photo plate. The light reflected toward the object illuminates that object, and the resultant light reflected from that illuminated object also reaches the photographic plate albeit indirectly. This indirect light causes interference with the laser-light reaching the plate directly. The resultant interference-pattern recorded on the plate records *in every region of the photo plate* the information of the whole topography of the object illuminated by the angled laser-light. Consequently, thereafter illuminating any region of the photo plate now reveals the whole interference pattern recorded there—the whole shape of the previously illuminated object. This sense that our entire universe might be understood as holographic is increasingly moving beyond Bohm's early philosophic/scientific rendering of it and into the view of mainstream science.[43] Emerson, though, precedes the science with his intuition that this natural heterogeneous physicality might involve holography from an *a priori* "one light." That is, of how "in going down into the secrets of his own mind, [the scholar] has descended into the secrets of all minds . . ." (*AS* 1109); of how "there is no fact in nature which does not carry the whole sense of nature . . ." (*Poet* 1149).

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[43] Holographic in the sense that "the order in every perceptible aspect of the world is to be regarded as coming out of [projected-from] a more comprehensive implicate order, in which all aspects ultimately merge in the indefinable and immeasurable holomovement" (Bohm, *WIO* 197). For more on how the theory is moving into the mainstream of science, See Jacob Bekenstein, "Information in the Holographic Universe: Theoretical Results about Black Holes Suggest that the Universe Could Be Like a Gigantic Hologram," Scientific American 289.2 (2003): 58-65.

This *holomovement* models the way in which Bohm's sense of an "implicate" or non-manifest order projects throughout *every aspect* of this classical "explicate" order: as a prismatic spray which contains in every aspect and abstraction the encoded pattern of the whole.[44] "The spread of light is not haphazard," Karl Pribram writes, "as the blur would lead us to believe . . . the blur has hidden within it an unsuspectedly ordered pattern" (16). The nature of this unsuspectedly ordered *holomovement* resonates as much with microcosmic science as with Deleuze's concept of the fold: for "the holomovement's basic movement," Bohm states, "is folding and unfolding. Now, I'm saying that all existence is basically holomovement which manifests in relatively stable form" (*EU* 28). All existence as we can "know" it is understood here as the explicate order—projected, synonymous with "unfolded" now, from the unknown implicate oceanic blur which defies classic space-time models.[45] We re-engage through Bohm's model the vector inspired by Irigaray's concern—over how the ongoing human "failure" to achieve any concise comprehensive answer to any great question of existence "could be interpreted as a result of failing to take into account the dynamics of the subject in search of itself" (78). Renée Weber, articulating this cross-disciplinary intersection in Bohm's work, summarizes his model of the implicate/explicate *holomovement* as one specifically "in which the searcher and what is sought are apprehended as one" (23).

Clues to this implicate order lurk close to sensible comprehension in examples

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[44] Implicate and Explicate order are Bohm's specific terms for the quantum and classic realities which together are the *holomovement*. (*WIO* 177-199).

[45] Which in any case are increasingly ineffective for this attempted inquiry: for "in the implicate order we not only always deal with the whole (which the [causal] field theory also does), but we also say that the connections of the whole have nothing to do with locality in space and time but have to do with an entirely different quality, namely enfoldment" (Bohm, *EU* 27).

such as whirlpools of water, through which sub-patterns assume semi-stable shape only by the perpetual flowing-through of constituent molecules of water. What appears on one stratum to be the whirlpool's form is, when considered from another perspective, revealed as being implicately informed by a perpetual motion of molecules *through* that form. The molecules themselves in turn comprise smaller flowing particles which themselves are implicate patterns of forms traced out by the motion of particles through them; and on so, perhaps *ad infinitum*.[46] The form of the whirlpool is perhaps better conceived of now as what Prigogine calls a dissipative structure—structures moving up from disorder/chaos into order, reflecting the interaction of a system with its surroundings (*OOC* 12).[47] These dissipative structures offer new ways to view what from an artificially static or synchronic perspective seem stable forms endemic to this classical stratum—e.g., the whirlpool, or a deciduous tree, or the skin of our bodies. Such forms now seem more involved in a process of *becoming* through a perpetual emergence/vanishing of the water molecules, leaves, or epidermal cells that lend them a stable appearance. We might also understand cities, a university's student-body, or nations as such dissipative structures. And as these examples suggest, the model of the dissipative structure finds applications not limited to the corporeal: John Polkinghorne employs Prigogine's model toward a new interpretation of whatever is meant by the self

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[46] For another example, consider the structure of deciduous trees in temperate climates: "The leaves [of such trees] are continually forming and some are dropping off at the same time, so that it looks as if it's a constant tree. But it's from the nonmanifest [the implicate order] that the tree is continually forming and into the non-manifest that it is dying" (Bohm, *EU* 41).

[47] For more on dissipative structures, see John Briggs and F. David Peat, Turbulent Mirror: An Illustrated Guide to Chaos Theory and the Science of Wholeness (New York: Harper & Row, 1990) 138-142. For a reading of feminine sexuality as a dissipative structure, consult Irigaray (75).

or soul—

> The soul is not an extra-spiritual ingredient injected at some stage into the body, and in principle separate from it, but rather it is that holistic, almost infinite information-bearing pattern, carried by the body and maintained as the locus of our personal identity through all the unending changes of the atoms actually comprising our bodies at any particular instant of time. (114)

In the model of the dissipative structure, a model not of *being* but of *becoming*, all things within the net of our human capacity to fathom—meaning *everything* that we know, including the meta-consideration of the epistemology of such knowing—is revealed as a perpetual emerging/vanishing event informed by patterning from the implicate order. "Solid" becomes contingent to scale of view; "real" becomes relative to the scale on which we chose to measure.

Deleuze, through his reading of Leibniz, intuits this same semi-illusory "hardness" of all classic corporeal matter, organic or otherwise—"organic matter is not, however, different from inorganic . . . whether organic or inorganic, matter is all one" (7). And he shares Prigogine's view of matter as involving dissipative structures through which the whole pattern of the implicate *blur* informs the appearance of corporeal "hardness" at the level of classical physical reality. More specifically, Deleuze proffers "two infinities" which are the ever-enfolding and corresponding "pleats of matter and folds in the soul" (3) as resembling two implicating labyrinths.[48] The folds of these non-Euclidean labyrinths assume the seemingly stable macrocosmic forms we perceive through a preternatural "compressive force," one caused by the differential negative-

[48] Deleuze writes: "a labyrinth is said, etymologically, to be multiple because it contains many folds" (3).

pressure of the movement of all surrounding matter.[49] "Thus," he writes, "it must be stated that a body has a degree of hardness as well as a degree of fluidity, or that it is essentially elastic, the elastic force of bodies being the expression of the active compressive force exerted on matter" (6).[50] In Leibniz, through Deleuze, there is no positive meaning to the sign of the seemingly stable or hard corporeality of matter, but only a differential web of inter-effect—only Hayles' "cosmic dance" (15).

Such a re-vision of the relation between *res cogitans* and *res extensa*, here in Deleuze as in all these echoing notions of an implicate/explicate *holomovement*, does to the Cartesian delineation of mind "in here" and matter "out there" what the quantum theory did to the microcosmic boundaries between observer and observed, between subject and object. It involutes or collapses the empirical sense of division. As Tom Conley writes: "The space [Deleuze] is designating here is clearly opposed to the Cartesian *poele* . . . is a response to the rectilinear and Euclidean extension that maps out the unilateral itinerary of the formula *je pense, donc je suis*" (640). What seems hard is instead elastic. What seems stable is destabilized from within. What seems classically distinct is interfolding. For here "in the implicate, holographic domain, the distinction between points becomes blurred . . . what is organism (with its component organs) is no longer sharply distinguished from what lies outside the boundaries of the skin" (Pribram 17).

While still locally effective and meaningful within certain contexts, the Cartesian order becomes increasingly inadequate for a whole description of our physical nature.

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[49] Effectively philosophical definition of what physicists call decoherence.

[50] Deleuze does differentiate two different but blurring types of compressing forces, "elastic" for organisms and "plastic" for the "more machinelike" parts of the classical physical world. (7-8).

Descartes provides an effective though incomprehensive method for approaching a physical reality that we might equally envision, like the fractal of the strange attractor, as "not separated into parts of parts but rather divided to infinity in smaller and smaller folds that always retain a certain cohesion" (Deleuze 6). This vision emphasizes what's happening "behind the cotton wool" of our physical reality through the use of new mental models—Deleuze's fold, Bohm's holomovement, Prigogine's dissipative structures, all of which seem to echo each other as well as the holistic suggestions of strange attraction and phantom action. These "new spacetime structures" (Prigogine *TCD* 59) provide alternative ways for angling toward the epistemologically unapproachable notion of an implicate oneness that accompanies explicate fragmentation. And all these echoes seem to resonate with Emerson's sense that here in our local flesh, we might nevertheless intuit "a one light" by which "we first share the life by which things exist, and afterward see them as appearances in nature, and forget that we have shared their cause" (*SR* 1134).

Emerson is in tune with Bohr as well, both of whom "accept the clangor and jangle of contrary tendencies" (*Exp* 1165) and seek no reconciliation of the complexity and heterogeneity of irreducible forms. Emerson precedes the Copenhagen perception that nature delineated by a Cartesian subject-object dichotomy involves, on closer inspection, an event of looking which might create as much as it reveals—"Perhaps these subject-lenses have a creative power; perhaps there are no objects" (*Exp* 1170). Planck's quantum, which the Copenhagen group read as the threshold beyond which precision and measurement dissolved, finds consonance in Emerson's "Intuition . . . that deep force, the last fact behind which analysis cannot go" (*SR* 1134). This mathematic limit of reducibility and this intellectual limit of fathomability both gesture toward what we might

call the threshold between the known and the unknown. Both limits, by emphasizing the involvement of the thinker/observer with any object of study, imply that "the secret of the world is, the tie between person and event . . ."—a tie which remains unknowable through analysis "because the copula is hidden" (*Fate* 1198). Considering the implications of this "tie between person and event," Emerson intuits a nonlocal entanglement that sunders space-time causality. He relates it in terms akin both to the descriptions of nonlocality provided in the previous chapter, as well as to Bohm's theory of the *holomovement*: "the influence of action is not to be measured in miles," Emerson writes, ". . . I exert the same quality of power in all places" (*Exp* 1170). Despite that all this remains for Emerson within the realm of intuition, he senses, as the Copenhagen physicists did, that by considering such "we have not arrived at a wall, but at interminable oceans" (*Exp* 1170). Our inquiries bring us toward the threshold of considering an infinite interconnectivity beyond which, perhaps, the one is the many, the many is the one: "Behold these infinite relations, so like, so unlike; many, yet one" (*DSA* 1114).

But approaching that threshold through language and thinking is an asymptotic effort. And as Kant describes it, there's actual *pain* involved in this failure of comprehension upon approaching, but never crossing, what we might understand as the liminal edge of sublimity. This mathematic sublime, unlike "the beautiful . . . [involving] the form of the object, which consists in having boundaries," is rather "to be found in a formless object, so far as in it or by occasion of it boundlessness is represented, and yet its totality is also present to thought" (82). In Kant's perspective, the presence of this totality, though, remains perpetually immanent to the "state of the mind . . . and not the

object that is to be called sublime" (89). This, because of the mind's "incapacity" (98) to encompass the sublime's incomparable magnitude. "The sublime," he writes, "is that, the mere ability to think which shows a faculty of the mind surpassing every standard of sense" (89). Kant's sublime *is*, for the purposes of this study, akin to the unknowable oceanic blur. This failure to fathom the blur gives rise to a "supersensible faculty" (88), though, one that Kant offers can paradoxically intuit *across* the threshold of the unknown toward that sublimity *through* the very event of cognitive failure—through "a momentary checking of the vital [intellectual] powers and a consequent stronger outflow of them" (83).

Whatever lies beyond that threshold, it is entirely *insensible*; is Derrida's *unnamable*, is Bohm's *unsayable*. "The feeling of the sublime is therefore a feeling of pain . . ." (96), in that "the satisfaction in the sublime does not so much involve a positive pleasure as . . . [that] which deserves to be called negative pleasure" (83). The painful satisfaction emerges from encountering a sublimity which is "the idea of the absolute whole" (99), an immanent whole of which the mind-thinking is an emergent part; is Woolf's fish who caught in the stream cannot describe the stream; is "the droplet [that] has no way of approaching the ocean" through which it flows (Bohm, *EU* 33). The infinite incomprehensibility of this sublimity echoes Pascal's view of infinity—how within each imagined smallest *thing* resides "an infinity of universes, each with its firmaments, its planets, its earth, in the same proportions as in the visible" (60-61:199H9). But where Kant feels a painful satisfaction involved in supersensing the blurring edge of such infinity, Pascal feels only an abyss opening up where should be the bedrock of all ontological meaning—the same abyss, to bend us back to the beginning of

this chapter, in which Snow despaired. For all humanity is: "A nothing compared to the infinite . . . a middle point between all and nothing, infinitely remote from an understanding of the extremes; and the end of things and their principles are unattainably hidden . . . in impenetrable secrecy" (61:199H9). Pascal here encounters the same limit suggested by all the sources involved heretofore: that "the noumenon or thing-in-itself, not capable of being caught in our net, remains inscrutable to us" (Weber 22).

This unsayable blur is always as much an impasse as it is an opportunity, though. It is "an innavigable sea [that] washes with silent waves between us" (Emerson, *Exp* 1161). And it is simultaneously that through which "the world lies no longer a dull miscellany . . . but has form and order," through which "there is no trifle, there is no puzzle, but one design unites and animates the farthest pinnacle and the lowest trench" (Emerson, *AS* 1112). The impasse is localized to explicate forms that rise from the blur and take the shape of our classical world, the world we know. The opportunity is the suggestive wholeness of the nonlocalized blur, of all that remains unknown. We might consider that all existence takes place at this threshold between the known and unknown through which, as Collins sensed, we are always "known and unknown/ To each other at the same time."

What all that means, exactly, remains still—and always—inscrutable. But it is one's reaction not to the background oceanic blur but to its inherent inscrutability which seems to determine whether one looks to that vastness and sees "a one light," or if one sees only the abyss, the cold of interstellar space. Neither perspective is privileged over the other; neither is necessarily more true than the other. Both, like the wave/particle evidence of light, remain locally valid in complementarity while gesturing toward some

third level that involves the two. But as we will now see in a comparative reading of the narrators of Leaves of Grass and Moby Dick, the difference in perspective of that same oceanic blur has a critical effect on how one deals with the emotional and mental difficulties of existing amidst this ever-inscrutable threshold.

That Inscrutable Thing: Whitman & Melville

Both the narrator of Moby Dick and the narrator of Walt Whitman's Leaves of Grass share a sensitivity to this implicate blur. The narrators of these two texts, however, experience starkly contrasting reactions to awakening meta-aware of their immersion within it. Reading the texts together, we encounter Whitman's "journeywork of stars" (*LG* 662). And yet we also encounter Ahab's "saddest truth"—that when intuiting nature's vastness, "some ships sail from their ports and ever afterward are missing" (421). The feedback intoned by juxtaposing, on the one hand, a cosmic journeywork with, on the other hand, the saddest truth of our mortal and mental limitations echoes, we will see, the irresolvable complexity of the mortal mind encountering and thereafter attempting to locally reconcile the infinite inscrutability of which it is a part. Such a tonal bifurcation—Whitman full of wonder, Ahab full of sadness—to a similar view of the infinite begs a question to be pursued throughout the rest of this chapter: what is it exactly that Ahab and Whitman experience upon encountering this threshold of the unknown—that is, what do I mean when I suggest they possess Kant's supersensible faculty? Consequently, why does the product of such similar faculty lead Ahab to self-destruction, but lead Whitman into an epiphany regarding nature's wholeness?

Emerson provides us a path by which we can enter in between Leaves of Grass

and Moby Dick and from there contrast these implications through Whitman and Ahab.[51] Paralleling Whitman's journeywork into "Eternity's . . . bottomless reservoirs" (*LG* 1134), Emerson considers how "there is never a beginning, there is never an end to the inexplicable continuity of this web of God, but always circular power returning into itself" (*AS* 1102). Such a model of endless power circulating in an inexplicably infinite web iterates all we've been considering to this point: a weavework of energy that cannot be initiated or destroyed but which we exist amidst; our subject-object relations increasingly involving entangled reciprocal-relations[52]; a background blur that can be gestured toward and indirectly evidenced but cannot be finitely represented; and a perpetual implicate enfolding of all *things*.

Less conspicuous aspects of these ideas are evident within Emerson's syntax as well. For by reading the passage we're reading Emerson's mind as he considers the limits of the local, the manifest; as he approaches the boundary of the unknown. Unable to encompass the complexity of this recursive "web of God" within language or thought, Emerson suggests that the mind redoubles into itself, simultaneously unfolding outward through sublime intuition. Such a Kantian failure/unfolding is perhaps what Emerson means when he considers how "beyond the energy of possessed and conscious intellect, [one] is capable of a new energy (as of an intellect doubled on itself), by an abandonment to the nature of things" (*Poet* 1152). Emerson is suggesting here what Gleick was shown to suggest in the previous chapter: that by *thinking* about the "nature of things," the

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[51] Whitman is of course a real person, Ahab is not. But Ahab nevertheless provides a complex personality equaling in his horror of the infinite Whitman's wonder of the same.

[52] A non-causal relationship, such as entanglement, between locally disparate forms which "we shall denote by the name *reciprocal relationship*, to distinguish it from mere [causal] interactions" (Bohm, *CC* 144).

thinker becomes the agent resisting any accord with that implicate nature. The trap is endemic to thinking and language itself: "the man is, as it were, clapped into jail by his own consciousness" (*SR* 1129). Emerson understandably concludes, then, that "few adult persons can see nature" (*AS* 1074). One might reasonably respond that *no one* can see nature given these conditions. But that response neglects to account for the potential "saving power" (Heidegger 337) of poetic expression, for those arcane arrangements of words through which might shine the "light of the world" (Carlyle 237): Emerson's holographic one-light. And by these terms, we might say no poet comes closer to "seeing" nature than Whitman.

Whitman's confidence in his own poetic capacity to supersense and thereafter translate the sublimity into language is indomitable: "The poet . . . shall go directly to creation . . . his trust shall master the trust of everything he touches" (*Preface* 2085). Angling in this way toward "creation," Whitman's sheer verve brings him into rhythm with the dynamic journeywork of Emerson's "web of God." With a meta-perspective of that web's weave, he is able to express through poetry a riddle about its undulating recursivity: "Lack one lacks both . . . and the unseen is proved by the seen,/Till that becomes unseen and receives proof in its turn" (*LG* 45-6). Boundaries between the known and unknown are in motion throughout Whitman, throughout the poetry and within the poet himself. For Whitman can supersense his own essence blurring across boundaries, feeding back through the web, and pulling out across it like:

> The smoke of my own breath,
> Echoes, ripples, and buzzed whispers . . . . loveroot, silkthread, crotch and vine, (14)

The smoke of his breath echoes and ripples toward an understanding of an unsayable ur-word—"Endless unfolding of word of ages!" (*LG* 483)—which shines here through the locally abstracted words: loveroot, silkthread, crotch and vine. The buzzed whispers are the din of the background blur; the silkthread loveroot suggests the whole interweaving pattern he supersenses within that blur. We can hear in this passage the sound of Whitman tracing "the threads that connect the stars . . ." (*LG* 514). And the ripples he traces flow outward and inward, following "the great principle of Undulation in nature, that shows itself in the inspiring and expiring of breath . . . in the ebb and flow of the sea, in day and night, in heat and cold, and as yet more deeply ingrained in every atom and every fluid . . ." (Emerson, *AS* 1107). All these individual words gesture toward that "word of ages." But within this echo-chamber, any hope of locating that original word or its meaning is lost. For Whitman's poetic words show how *all things*, including himself, are echoes, motions and inseminating ways; always doubling back but always redoubling outward as creation-in-*becoming*: "Urge and urge and urge,/ Always the procreant urge of the world" (*LG* 36). Whitman thereby dispels the need for origins and ends, and disassembles such linear pursuits in an embrace of the echo and ripple of that recursive tidal flow. For as he writes: "I have heard what the talkers were talking . . . the talk of the beginning and the end,/But I do not talk of the beginning or the end/ . . . I and this mystery here we stand" (*LG* 30-1, 43).

Such poetry reveals a narrator particularly conscious of the weaves of implicate infinity looped through his fingers—"Do you guess I have some intricate purpose? Well I have . . ." (*LG* 381-2). That ellipsis following his response is part of Whitman's poem, and represents all that can be directly said on the matter of the infinite unknown. For

even writing these bold words, Whitman knows he is dealing with intricacy of echoes as well as implicate unknown impetus—dealing with the ellipses and urges that purposefully and poetically entangle loveroot and vine. So although he can say with assurance that he is aware of the underlying complexity of his poem—"Well I have"—he's quick to curtail this claim to complete poetic agency: " . . . ". Echoing Emerson's "inexplicable continuity of this web of God," Whitman supposes now to "behold God in every object, yet . . . understand God not in the least" (*LG* 2136). Here, "God" signifies all that remains unsayable within the interval of that ellipsis.

Serving now as a medium across that threshold, Whitman demonstrates a "supersensible faculty" by translating through poetry a holistic pattern behind "the veil" (*LG* 519). He senses, for example, how the pattern involves an implicate weavework of explicate macrocosmic *things*, writing: "I incorporate gneiss and coal and long threaded moss and fruits and grains and esculent roots" (*LG* 670). He continues to pursue the implications of this—to the point he becomes holographic, encoded throughout everything, everything encoded through him. For he is:

> The mother condemned for a witch and burnt with dry wood, and her children gazing on;
>
> The hounded slave that flags in the race and leans by the fence, blowing and covered with sweat,
>
> The twinges that sting like needles his legs and neck,
>
> The murderous buckshot and the bullets,
>
> All these I feel or am. (*LG* 827-31)

That is, Whitman supersenses how all things are *of* each other, just as leaves are of grass:

for as he iterates—"I believe a leaf of grass is no less than the journeywork of stars" (*LG* 662).

Beyond the poetic line, Whitman's insight that "To elaborate is no avail" (*LG* 40) is essentially the only encompassing analytical statement one can make about the nature of his or the narrator of Moby Dick's identity amidst this infinity of echoes. In attempts to read Moby Dick with Leaves of Grass, though—and so contrast the reactions between Whitman and Ahab's supersensible view—we might consider how the conceptual play rippling between Ahab and Ishmael involves the same journeywork of stars that Whitman sounds throughout Leaves of Grass. For as we will see, although both Ishmael and Ahab ostensibly appear to constitute two distinct characters, two separate and stable identities, any attempt to solidify such distinction produces only discordant feedback.

The feedback begins unassumingly with the first three words of Moby Dick. "Call me Ishmael" the text reads, initiating with that odd word "call" a question concerning the identity of who exactly is speaking. This is not intended as a rigorous statement; but to be sure, introducing oneself in the manner "call me [x]" sounds an alarm. The syntax insinuates that "Ishmael" is not really this speaker's name, but rather an assumed name—something to give him a face, a presence, by which we can interface with him. As the text unfolds, this latent ambiguity re-surfaces with increasing frequency as from time to time our "original" Ishmael vanishes from the narrative, only to re-emerge later. Numerous voices arise in his narratorial wake. We experience, for example, the internal terror of the preacher in the Whaleman's Chapel, who while delivering the sermon for the funeral of vanished sailors expresses outrage at the emptiness of the open caskets: "What bitter blanks in those black bordered marbles which

cover no ashes! . . . What deadly voids and unbidden infidelities in the lines that seem to gnaw upon all faith, and refuse resurrections to the beings who have placelessly perished without a grave" (45). Later, we experience with different force and affect the internal colors of Stubb as he makes a "vast corpse" (233) of the first whale; as well the darker tones in Starbuck as he clutches the "death tube" (388) and considers shooting "crazy Ahab" (156) dead. Granted, such vacillation in and out of the preacher and those two mates' consciousness could be assessed as but an example of free-indirect discourse. But the question of identity initiated at the text's outset suggests that a textual message is being conveyed through the vanishing/emergence of the unstable narrator.

The most striking of all instances of Ishmael's vanishing coincides with the emergence of Ahab. Ahab appears as a physical presence remarkably late in the text, the tension of his absence building throughout each chapter. When he does finally enter, his supersensory powers force the narrator to the edge of sensibility. "Foreboding shivers ran over me," Ishmael relates upon first viewing the Captain: "Reality outran apprehension; Captain Ahab stood upon his quarter-deck" (108). Ahab's near-mythological aura—his previous absence, felt in all regions of the text like an holographic interference pattern—pales now in face of the actual person. Ishmael's narration here becomes purely superconductive,[53] trying to channel the whole horror before him: "[Ahab] looked like a man cut away from the stake," he observes, "when the fire has overrunningly wasted all the limbs without consuming them" (108). Such a perception of Ahab cuts so close to the actual condition of Ahab, unknown at that point to

[53] In the sense of a superconductor, a material which when reduced to near absolute-zero temperatures exhibits no electrical resistance and thereby allows electric current to pass perfectly unimpeded through it.

Ishmael or anyone on the Pequod, that we might consider how the captain has already begun to usurp Ishmael's consciousness and narrative exposition—or has begun to reveal himself as a narratorial voice pre-existing Ishmael, the ur-voice from the implicate which prisms into all other narrators *including* the explicate corporeal Ahab. For as this first observation intuitively hints, Ahab is essentially undead—a creature of such obsession that he has forgotten to die.

This impression of undead-Ahab deepens upon seeing the body-length scar running up his flesh, more so upon seeing the peg-leg jutting off from his amputated stump (109). Although we know from the whispers that a whale severed Ahab's leg, and that he now wears a whale's polished jaw-bone for a prosthetic, the more cogent sense of that peg-leg is that it is Ahab's own skeleton begun to shed its unnecessary flesh. The protruding bone-leg carries the message of the physical violence done unto Ahab by Moby Dick in an event preceding the text.[54] More precisely, the bone-leg evidences the psychical trauma Ahab endured upon catching a full view of the Pascalian abyss in the form of Moby Dick's gullet.[55] That destabilizing event, though, has also enabled Ahab to sieve-through and even usurp any stable narrative that would try to frame or explain him. And so when Ishmael attempts to describe the force of Ahab's gaze, the two characters slide momentarily into symmetry such that we again read through superconducting-

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[54] Although maybe not by Moby Dick. In a text which is altogether about irreducible inscrutability and how different characters react to it, even the identity of the whale who destroyed Ahab prior to the narrative is called into question: Starbuck specifically confronts Ahab during the captain's irrational oath-taking ceremony to hunt the whale—"Captain Ahab, I have heard of Moby Dick—but it was not Moby Dick that took off thy leg?" To which Ahab simply replies: "it was Moby Dick that dismasted me" (139). The question is never resolved; the force of Ahab's will erases further questioning from the text.

[55] "I want to show him a new abyss . . . an infinity of universes . . . in which he will find again the same results as in the first; and finding the same thing yet again in the others without end or respite . . ." (Pascal, 61:199H9).

Ishmael a subtle curve of Ahab's woe, a woe Ishmael could not yet *locally* know: "There was an infinity of firmest fortitude, a determinate, unsurrenderable willfulness, in the fixed and fearless, forward dedication of that glance" (109). Ahab, we now know through a nonlocal effect of narration, saw the whole of infinity within Moby Dick. His mind now dwells toward that infinity "bearing dignity of some mighty woe" (109)—the woe of having been forced to supersense the unknowable whole.

Although the visiting of that mighty woe pre-exists the narration of the story, the event of Ahab's encounter with the whale is iterated within the text when the cabin-boy Pip falls overboard. "In three minutes," we read, "a whole mile of shoreless ocean was between Pip and [the boat]," an interval during which "Pip's ringed horizon began to expand around him miserably" (321). Bobbing alone in the sea, the Pequod disappearing in the distance, Pip experiences that same unfolding abyss which Ahab viewed within Moby Dick's maw—an acute realization of the bottomless fathoms of the oceanic blur. There is no wonder of Whitman's rippling breath here, no journeywork of stars, no loveroot of a unifying whole-pattern. There is only "the eternal silence of these infinite spaces" which Pascal confessed, "fills me with dread" (66:201).

Despite the fact that he is retrieved, the Pip whom we knew, like Ahab through Moby Dick, essentially perishes from this brush with infinity. Pip and Ahab, though, attempt to re-construct a stable inter-relationship amidst the vastness to which they've become attuned, using only each other as a recursive compressive force. Ahab envisions himself the center of this concentrated embrace—"thou touchest my inmost centre, boy"—and affectionately attempts to establish the boy in a stable orbit around his own gravity well: "True thou art lad, as the circumference to the center" (399). Their effort

seems charged with the potential to re-enfold themselves back into some relatively stable form of the "selves" they each once were. Ahab even appears to re-establish a stable semblance of mind, one informed by a more holistic cognizance of his and everyone's implicate entanglement. In a Whitman-esque moment he says to Pip: "thou art tied to me by cords woven of my heart strings" (392). And yet the supersense of such vastness, for both, is irreconcilable. And so when Ahab finally acquiesces, saying to Pip, "Come, let's down" (392), he is tracing the inevitable vector of both their movement beneath the ocean in which they have both already drowned. When our narrator Ishmael finally informs us, then, of how "the sea had jeeringly kept his finite body up, but drowned the infinite of his soul" (321), the pronoun "him" refers as much to Pip as to Ahab—or, for that matter, to Ishmael, who in this passage again seems to superconduct this supersensible view of infinity with an Ahab-like awareness.

Whitman's "buzzing" now resonates in Moby Dick when trying to keep our narrator in focus throughout these passages. This is not simply to question whether our narrator is in fact Ahab asking us to call him Ishmael. Rather, the problem is that our view of both narrators is like that of "oysters observing the sun through the water" (45). Searching for a stable narrator presumes the existence of a stable individuated body; but as was witnessed at the whaleman's funerals, whalemen don't die as much as vanish into the ocean, leaving in the wake of their explicate forms only "deadly voids and unbidden infidelities in the lines that seem to gnaw upon all faith" (45). And as all the many aspects of this narrator's consciousness suspect, his body may be "but the less of better being," and "what they call shadow here on earth is true substance" (45). This textual meta-confession of the indeterminate substance of the narrator and of the undulating

rhythm of his shifting interiorities unexpectedly brings us into alignment with the poetic sublimity we earlier witnessed within Whitman's words—by how both Whitman and Ishmael's identities are multiplicities, are holographic: are never one stable *thing*.

Moby Dick's shadow-narrator explicitly warns us of his undulating identity when he considers the power of the ocean's rolls: "lulled into such an opium-like listlessness of vacant unconscious reverie is this absent minded youth by the blending cadence of waves with thoughts, that at last he loses his identity" (136). And so our narrator is not simply Ishmael encompassing Ahab within his prose, nor vice-versa; neither is he the preacher raging against the vanished bodies, nor Stubbs or Starbuck trying to maintain focus amidst Ahab's tempest. And he is not, entirely, the strange zoologist who soon after Ahab's text-scorching appearance suddenly interrupts the destabilized narration with an opaque, clinical, sleep-inducing chapter on the cetology of whales. "The classification of the constituents of a chaos, nothing less is here essayed," (115) that clinician admits, revealing himself as Pascal, as Snow, as all for whom "the eternal silence of these infinite spaces" invokes terror. For the narrator who in the first three words asked us to call him Ishmael was always asking that we notice the undulation within his identity, the undulation making any attempt to delineate his contours and shapes an infinite, inconclusive effort. His identity is as expansive and turbulent as the ocean upon which the Pequod sails: "There is magic in it," he writes about the ocean, about his identity, " . . . a mystical vibration" (19).

This questioning of identity, now a magic and mystical process, echoes Whitman's effort: for Ishmael is woven of Ahab, Pip, Stubb, and Starbuck by the same "journeywork of stars" that winds Whitman through "loveroot, silkthread, crotch and

vine." Emerson, our lurking moderator, seems to intuit this connection running between the texts when he writes: "Thus to him . . . is suggested, that he and it proceeded from one root; one is the leaf and one is the flower; relation, sympathy, stirring in every vein. And what is that root? Is it not the soul of his soul?" (*AS* 1103). Indeed, amidst the infinite scaling regression, enfolding and unfolding of perspectives, Ahab and Ishmael, as much a journeywork as leaves of grass, are feeding back into the loveroot soul *of* each other—are all of "a one light" which Emerson intuits as radiating throughout the field of empty space. That is, they are all explicate parts of one whole implicate pattern behind the cotton wool.

We can perhaps see, now, how throughout both texts, the narrator of Moby Dick and the narrator of Leaves of Grass demonstrate a keen "supersensible faculty" for intuiting the unstable flux of infinity lurking throughout all semblances of explicate stability. Ahab's intuition of this implicating blur, this infinity lurking beneath "the pasteboard mask" (140), though, is clearly something altogether more chilling than Whitman's vision of the same lurking surreality. Ahab intones the tenor of his angst in a passage of such critical density and brilliant prose that it needs to be quoted here at length. Alone on the Pequod's deck, Ahab addresses the "black and hooded head" of the dead sperm whale:

> Of all divers, thou hast dived deepest. That head . . . has moved through the world's foundations. Where unrecorded names and navies rust, and untold hopes and anchors rot; where in her murderous hold this frigate earth is ballasted by the bones of a million drowned. . . . There . . . thou has been where bell or diver never went; hast slept by many a sailor's side, where sleepless mothers would give their

> lives to lay them down. Thou saw'st the locked lovers when leaping from their flaming ship; heart to heart they sank beneath the exhulting wave. . . . Thou saw'st the murdered mate when tossed by pirates from the midnight deck; for hours he fell into the deeper midnight of the insatiate maw. . . . O Head! Thou hast seen enough to split the planets and make an infidel of Abraham, and not one syllable is thine! (249)

If the head could only speak a word it might explain away the infinite fathoms, might explain what Ahab saw down in Moby Dick's maw. But as Whitman supersensed, such an "endless unfolding word of ages" doesn't exist. For Ahab, the alternative—existing amidst such inexplicable infinity—is unbearable. And at this moment of despair, the text of Moby Dick folds back upon itself, back to the passage in the earliest pages of the text with which the above excerpt is entangled: the passage detailing the incomprehensible oil painting hanging in The Spouter Inn.

The painting is a morass of "unaccountable masses of shades and shadows," of "a black mass of something hovering in the centre of the picture over three blue, dim, perpendicular lines floating in a nameless yeast" (26). Altogether, the canvas is:

> so thoroughly besmoked, and every way defaced, that in the unequal cross-lights by which you viewed it, it was only by diligent study and a series of systematic visits to it, and careful inquiry of neighbors, that you could in any way arrive at an understanding of its purpose. (26)

As much as any explicate rendering can be, the painting *is* an image of the implicate quantum blur. It is also a surrogate representation of the text of Moby Dick itself, folded down into the pages of the text. Any meaning ascribed to the painting is relative to the

angles of light incident upon the canvas, and to the dispositions of those observing it at the time. Its field of potential meaning can collapse into relative stability, but only after group study and consensus. To see the painting for what it *really is* prior to such collapse—as a black mass of something, an unaccountable mass of shades and shadows—is to stare into the whale's maw. Looking at it so, Ishmael sees nothing there besides a meaningless void. And to him, as to Ahab, it is horribly unstable: "It's the black sea in a midnight gale.—It's the unnatural combat of the four primal elements.—It's the blasted heath.—It's the Hyperborean winter scene" (26). Such is Ishmael's description of the painting; and such is also the entangled view of what Ahab fears lies beyond "the wall" of the white whale: "How can the prisoner reach outside except by thrusting through the wall? To me, the white whale is that wall, shoved near to me. Sometimes I think there's naught behind" (140). Ahab, we might now understand, stared down into Moby Dick's gullet and saw the inscrutable whole. And as Ahab confesses: "That inscrutable thing, is chiefly what I hate" (140).[56] Back in the Spouter Inn, Ishmael comes into full alignment with Ahab when upon failing to settle any stable explanation for the inscrutable painting, he reifies that "black mass of something" into an approachable knowable form: "the great leviathan himself" (26).

In contrast to Ishmael and Ahab's confessed hatred of irreducible inscrutability, Whitman revels in his supersense of the infinite blur and in its inconclusive implications, exclaiming—"The whirling and whirling is elemental in me" (*LG* 952). The impetus for

[56] That is, Ahab has awakened to the meta-awareness described earlier in this study as Woolf's fish and as Bohm's water droplet, but suffers it in terms of Pascal's impasse, where "If man studied himself, he would see how incapable he is of going further. How could a part possibly know the whole? But perhaps he will aspire to know at least the parts to which he bears some proportion. But the parts of the world are all so related and linked together that I think it is impossible to know one without the other and without the whole" (Pensées 64:199H5).

this perspective might be his willingness to unlock "at all risks, his human doors, and suffer the ethereal tides to roll and circulate through him," a willingness by which "he is caught up into the life of the Universe, his speech is thunder, his thought is law and his words are universally intelligible as the plants and animals" (Emerson, *TP* 1153). That is, Whitman reads the vastness as suffused with Emerson's "one light" and translates his supersensible intuitions into a form the rest of us might "know"—Poetry. The inexplicable whole is, for Whitman, an opportunity for re-vision of the apparent isolation of bodies and things: and "who need be afraid of the merge?" (*LG* 136). For in that vastness is a holistic pattern: "It is not chaos or death. . . . It is form and union and plan . . ." (*LG* 1306). In facing the same supersensible view of the whole, Ahab defiantly resists the "whirling" and attempts to stabilize it by reifying it into something tangible that he can approach and kill. So he arms himself with a whaler's harpoon, and, disregarding the warning that "the harpoon is not yet forged that will ever [kill the whale]" (403), hurls his harpoon toward the leviathan. Weapons can't affect the blur, though, and so Ahab's "steel and curse" encounter only enigma when launched at the whale's flesh. The harpoon disappears into "the socket" of the whale's flank "as if sucked into a morass" (424). His weapon impotent, his curses meaningless, the whale an un-killable morass, Ahab's quest culminates not with Ahab's death but with his vanishing beneath the ocean's depths, still tethered—always tethered—to the harpoon line running between him and those inscrutable fathoms.

The study of Whitman and Ahab's contrasting reactions to supersensing their immersion in the same oceanic blur has, I hope, demonstrated the effectiveness of

reading certain literary works when informed by resonant notions from the sciences. Through such a reading, we might now state with critical and cross-disciplinary veracity that what appears to be an inscrutable and irreducible interval between explicate forms might, rather, involve an holistic event of between-ness, one occurring through the threshold of the known and unknown. What *that* might mean remains inconclusive. But in light of this reading, it seems that the ancient isolation and loneliness of which Snow despaired is endemic to a local-realist perspective of this vastness. That view, while not being superannuated by the discoveries and intuitions of the new space-time structures described heretofore, is nevertheless revealed as being only one part—a limited, classical, locally effective part—of the greater whole story of *becoming*.

Much that was presumed stable is destabilized in the increasing meta-awareness of this flux and flow of our whole interconnected *becoming*. The new space-time structures themselves effect "boundary breakdowns" and give multi-disciplinary credence to such notions that "the dichotomies between mind and body, animal and human, organism and machine, public and private, nature and culture, men and women, primitive and civilized are all in question ideologically" (Haraway, *Cyborg* 163). Of course none of this is new. Where Emerson preceded Bohm's holography by intuiting a holistic "one light" suffusing the unified field of our existence, Margaret Fuller, Emerson's friend and contemporary, precedes Haraway and the entire latter-20th-century theoretical movement by intuiting implications of this same boundary-breakdown.

Fuller senses that despite the binary view that "male and female represent the two sides of the great radical dualism," it seems rather that these distinctions "are perpetually passing into one another. Fluid hardens to solid, solid rushes to fluid. There is no wholly

masculine man, no purely feminine woman" (*GL* 1623). For Fuller, this event of "perpetual passing" occurring between seemingly divisive gender-borders has implications elsewhere: particularly relevant to the rest of this study, she offers it as a new way to consider the affects of love. What from a local-realist perspective seems border-trouble, from Fuller's perspective is what enables the most acute event of between-ness. She considers how the "nearest group" of people in anyone's life weave implicately together *through* this miscible interval such that they each can no longer be completely described as an isolated, distinct individual. Rather, they are more accurately thereafter envisioned as one whole system. The individuals of this "nearest group" entering into such entangled states, she writes, are "beings born under the same star, and bound to us with a common destiny . . . not mere acquaintances, more friends, but, when we meet, are sharers of our very existence" (*Sketch* 1640). Between such individuals, despite the explicate space-time apparently separating them, "there is no separation; the same thought is given at the same moment to both,—indeed it is born of the meeting, and would not otherwise have been called into existence at all . . ." (*Sketch* 1640). The many, or the two, form a feedback-loop through which previously unrealized "regions of their being, which would have else laid sealed in cold obstruction, burst into leaf and bloom into song" (*Sketch* 1640). Such a singlet state of love enabled *by* the event of between-ness seems an acute actualization of Whitman's journeywork of stars, a motion where-by "at least two heterogeneous parts enter into a differential relation that determines a singularity" (Deleuze 88). This journeywork might never be better expressed than as

> Echoes, ripples, and buzzed whispers . . . . loveroot, silkthread, crotch and vine, (13-15)

In the following chapter, though, we will encounter a concept from Japanese religio-esthetics which offers a new way to read the event of between-ness occurring through and *as* this interval: a way which might fashion something of an answer to the question concerning what it might mean for matter to "know itself," an answer which increasingly has to do with love.

CHAPTER THREE

The (*ma*) of Hemingway: Intervals in Space-Time

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All the new space-time structures considered heretofore locate this event of between-ness as being when/where the most inscrutable and *meaningful* condition of all existence is occurring. None of these paradigms, though, can offer any representation of that event itself: they gesture toward it through literature, photo plates, or phase-space, but provide no method for describing it. It should be clear by now that nothing, no model in any language, *could* provide such a method. And yet by crossing a different cultural border, we can engage a notion from Japanese religio-esthetics which almost expressly signifies this "meaningfully empty space-between" which eludes full representation: *ma*.[58] No less than with our engagement of the sciences, there are risks involved in attempting to read across translations of language and culture. But *ma* provides such a

[57] The kanji for *ma.*

[58] As Arata Isozaki and Richard Pilgrim suggest, the religious aspect of *ma* are inseparable from the esthetics of the concept, but should not be understood as synonymous with those of monotheistic and teleological Western religions. These aspects have nothing to do with a structured belief in, for example, a central transcendent Christian or Islamic God, but are rather related to, amongst other things, a concept of an immanent absolute-emptiness—*sunyata* (see chapter 3 of Keiji Nishitani, Religion and Nothingness)—and to an omnipresent void into which flow *kami*, divinities: "Space, or MA, is the very foundation of Japanese esthetics. Minute particles of KAMI [divinities], as it were, fill that MA" (Isozaki 49, see also 58-59). But mine is not a religious study, and I am not a religious scholar, so I will consign myself (through a demarcation that is admittedly contrary to *ma* itself) solely to the relevant and applicable esthetic elements of the notion. For more on some very basic differences between a general Eastern and Western sense of religion, though, see: Claude Lévi-Strauss, "Discreet Gods," in Isozaki 60-61. See also: Winston King's foreword to Nishitani, Religion and Nothingness vii-xxii.

uniquely appropriate lens through which to view the event of between-ness that the risks are worth taking. In this greater inter-disciplinary study, and in this chapter's more particular focus on Hemingway's In Our Time, *ma* becomes perhaps the most evocative model yet for considering what we *mean* by the event of between-ness; and how it matters to Hemingway's literature.

In contrast to the canonical interpretations of Hemingway's work as evincing "the Thing left out,"[59] I hope to show through a model of *ma* how Hemingway is less a master of elision than an artist of *ma*—less an editor (conscious or otherwise) than an initiator of parallax by which "the unsayable" is never brought into focus in the first place, and yet wholly pervades any encounter with his writing.[60] There is, we will see, a critical difference between "leaving some*thing* out" and gesturing toward the un-fillable absence of any *thing* in the first place. The former is akin to a local-realist perspective; the latter to a nonlocal perspective, the difference of which in regards to Hemingway's writing will here be elucidated through *ma*.

First, though, if we're going to engage an idea from an Eastern culture, we're going to have to talk about Orientalism. Simply expressing an awareness of the term, and

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[59] A now commonplace but nonetheless important notion summarized here by Malcolm Cowley: "[Hemingway and his like] omitted adjectives wherever possible . . . omitted all details that could be taken for granted . . . omitted moral comments on the characters, even when they were wicked, and philosophical comments on the outcome of the story. They omitted ideas in general, as having no place in fiction except implicitly: the reader was expected to draw his own conclusions." See: "The Generation That Wasn't Lost," College English 5.5 (1944): 235. Julian Smith gave "The Thing" capitalization in his article, "Hemingway and The Thing Left Out," Journal of Modern Literature 1.1 (1970): 169-182. See also Susan Beegel, ed., Hemingway's Craft of Omission: Four Manuscript Examples (Ann Arbor, Mich.: UMI Research Press, 1988).

[60] As introduced during the Lévi-Strauss discussion in chapter 1 of this study, parallax here refers to an astronomical method of triangulation by which the distance to a third point or object is determined from its change in position as measured from two known points or objects. In this chapter, I mean to suggest that Hemingway sets himself and his reader up as the two known points in the parallax, with the blur being the *third level* to which he and his reader triangulate through the interval opened by the text, so to speak.

subsequently checking one's own behavior in light of it, obviously isn't enough to eliminate the potential for abusing or misusing a notion or text endemic to a particular foreign culture. The fact that Said's seminal study largely focuses upon European and American encounters with the "Near Orient, or of Islam" (17), to the admitted exclusion of many countries including Japan, does nothing to diminish the dangers of even a latent "colonialist" usurpation of terms or unintentional "Othering" from occurring within my own study. Neither does the fact that my study concentrates on only those esthetic and philosophic connotations of *ma* that resonate with the space-time models studied herein, and does not feign to engage its relevance to fields such as Buddhism and Shintoism.[61] I only present *ma* here in terms no more or less "marvelous"[62] than the philo-scientific models already included, and refer only to *ma* in the terms set by those from the Japanese culture who offer it *with the explicit intention that such understandings should be explored across other cultures*. Of course even this does not alleviate the dangers of diminishing an important cultural term by callous mishandling. It is a start though. And beyond that, as has already been suggested, the call for a cross-cultural communion specifically between Japanese and international scholars can be heard in recent decades emanating from the Japanese "side" of the divide.

The editing committee for the formidable Dictionary of Japanese Art Terms, for example, preface their 1990 volume with the declaration that:

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[61] For a study of some history, dangers, and potential hope of such engagements, though, see: Eve Kosofsky Sedgwick, "Pedagogy of Buddhism," Touching Feeling: Affect, Pedagogy, Performativity, Series Q (Durham: Duke UP, 2003) 153-181. See also: Donald S. Lopez, Jr., ed., Curators of the Buddha: The Study of Buddhism Under Colonialism, (Chicago: U of Chicago, 1995).

[62] "Marvelous" in the sense Stephen Greenblatt employs it to describe the process by which Europeans reconciled the violence and usurpation of the colonial encounter with Native Americans. See Marvelous Possessions: The Wonder of the New World (Chicago: U of Chicago, 1991).

> We are creating, on the foundation of this cultural situation, a new era in which cultural exchange can be expanded over an international scope. . . . True mutual exchange will be possible only after the procedure of translating into another language the ideas of Japanese culture . . . in the hope that what has been inherited within Japanese art will be understood, enjoyed, and succeeded into the future by those who live in international society. (ii)

As well, the efforts of philosopher Keiji Nishitani to bridge Eastern and Western perspectives without marginalizing the complexities of either sets a religio-philosophic precedent for cross-cultural communion.[63] Perhaps the most pertinent call for interface, though, comes from Ōe Kenzaburō, winner of the 1994 Nobel for literature. Kenzaburō uses his Nobel acceptance speech to rail against those from within his own culture who, in his view, intentionally weave a sort of "reverse-Orientalism" as a hex against any communication with the international community. The main foil for his accusation is Yasunari Kawabata, winner of the Nobel for literature in 1968. Kenzaburō identifies Kawabata's Nobel acceptance speech and in particular its title, Japan, The Beautiful, and Myself, as emblematic of everything wrong with remaining within "a closed circuit" (320) between one's country and one's self; within a suffocating "attitude of non-communication" (321) based upon of a conservative notion of an idyllic Japanese past—"a Japan [that] did not exist" (318). Kenzaburō is not entirely demeaning his country's culture or calling its historical past a fabrication: he expresses concern for a traditional "grand panorama of aestheticism" which Kawabata's work epitomizes. The nebulous

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[63] See: Keiji Nishitani, Religion and Nothingness, and also Keiji Nishitani, The Self-Overcoming of Nihilism, trans. Graham Parkes (Albany: SUNY Press, 1990).

culturally-ingrained concept of *aimai-na*[64] is not what Kenzaburō takes to task either; he in fact offers it, its multiple simultaneous meanings, and its ever-presence still today in Japanese culture as a succinct example of how the Japanese language and culture is something which cannot and should not surrender to reduction or homogenization. Rather, what he finds damning is this adherence to pseudo-historical principles of incommensurability, and the subsequent resistance to attempt any communication or translation of complex ideas across cultures, or even within a culture: "I wonder if Kawabata, even before he began [his Nobel speech], hadn't abandoned all desire to communicate this aestheticism to Europeans and Americans. I also seriously doubt if he wanted even Japanese people to understand him" (317).

Wherever we are in the history of cultural exchange, however fair or unfair the balances of exchange have been, Kenzaburō is emphatic that it is time to open this closed circuit, this "dead end" (320), and explore what good or bad can happen through an international exchange and translation of ideas: "Japanese literature must, with firm resolve, determine to communicate . . . to tell the world what Japan is, who we really are" (324).[65] Kenzaburō's rallying cry does not ask for Westerners to come and "discover" Japan; it is for Japanese now to tell the world who they are, on their terms. And, as has been the case with my engagement of scientific notions, it is on these terms which I engage *ma*.

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[64] A Japanese cultural ingredient with many meanings, all in play at once: "vague; ambiguous; obscure; equivocal; dubious; doubtful; questionable; shady; noncommittal; indefinite; hazy; double; and two edged . . ." (Kenzaburō 313).

[65] For a study of where we are in this history of cultural exchange, see Masao Miyoshi, Japan In the World (Durham: Duke UP, 1993).

Specifically, I proceed through the avenues of *ma* opened up by Arata Isozaki's stated impetus for his exhibition, "Ma Space-Time in Japan," hosted in 1979 by the Cooper Hewitt Museum in New York City: "Our purpose," he writes, "is to promote a better understanding of Japanese culture, in which the single word *ma* plays such a key role" (Isozaki 19).[66] Toward achieving that better understanding, the exhibition offers *ma* as an impetus and justification for exploration across the international divide: "Now," writes the curator of the exhibit, "we must search for the communality of creation, for channels of communication, for the interval in infinity, the space (MA) that opens to all, everywhere and always" (Takigushi 12). As that imperative begins to explain, *ma* is the interval of space and time *between* what we might throughout this study understand to mean relatively distinct macrocosmic *things*. *Ma* is equally: the liminal division between cultures or disciplines, as much as the space between the walls of a room; the dramatic pause in speech, or amidst the notes of a saxophone solo; the moment between inhalation and exhalation; the interval between subject and object, between "I" and "you." It offers no homogenizing interval through which the local articulations on either "edge" of the *ma* get emulsified, but rather a suggestion of the ways in which they are already subtly *one* woven through the *ma*, and yet are always maintained as the differentiated *many* separated through the *ma*. The very notion of such separate *things* is a sensory consequence of this indeterminate interval: "MA divides the world" (Isozaki 27). And like the threshold that Whitman and Melville trace between what is known and unknown, *ma* is not a static boundary. *Ma* involves the kinesis that enables the differentiated causal

[66] This catalog is the same primary source that Pilgrim, whose essay has greatly influenced this chapter, identifies as being the impetus for his own study.

interactions we perceive: “MA coordinates movement from one place to another” (Isozaki 55).

Through *ma*, as through the creases in the Deleuzian fold, we again paradoxically encounter *not* separation through apparent absence but “a *living* interstices, delivered from any full meaning” (Pilgrim 55), in which we are taken “to a boundary situation at the edge of thinking and the edge of all processes of locating things by naming and distinguishing (Pilgrim 57). Still, the term carries denotations: in addition to some of its core *KUN’yomi* (or Japanese phonetic) meanings such as *interval*, *gap*, *middle*, and *between*, the kanji carries an *ON’yomi* (Or Chinese phonetic) meaning of *opportunity*. Compounds involving the kanji include the meanings *hair’s breadth*, *discord*, *indirectness*, and *human being*; as well, the kanji appears in a verb-form meaning “to make a mistake” (Kodashana 791). These multiple and sometimes contradictory denotations and connotations are themselves enveloped within the living interstices of *ma* (“MA can accept any amount of confusion” [Isozaki 43]). But nevertheless, *ma* exceeds the sum of all these definitions while remaining a singular term. As Kunio Komparu writes, “the word *ma* at first seems vague, but it is the multiplicity of meanings and at the same time the conciseness of the single word that makes *ma* a unique conceptual term, one without parallel in other languages” (70). *Ma*, as all of this should suggest, *is* the event of between-ness. One reason for involving *ma* at this point in the study could be to simply point out yet another model from another culture that echoes the cross-disciplinary models already included. But in this chapter’s particular study of Hemingway’s writing, *ma* becomes, in a word, a new “explanation” for what Hemingway *does* with his reader through his writing. To begin fashioning an explanation of that

statement, I offer, first, that a paradigm of *ma* allows us a way to reconsider the popular and now entrenched critical perception that the most cogent reading of Hemingway's writings involves tracing either purposeful or unconsciously determined elisions.

Hemingway studies have long and for good reason been focused upon explicating all the many unspoken, unnamed *things* which Hemingway willfully and/or unknowingly "omitted" from his writing. Both Debra Moddelmog and Elizabeth Vaughn, for example, use that focus toward evidencing how the *thing* left out of In Our Time is a secret shadow-narrator. They suggest that the text is not a collection of short stories and vignettes being written by Hemingway, but is rather Hemingway writing Nick Adams writing an entire collection of stories and vignettes. To this end Vaughn reads all sub-narrators of each distinct story or vignette, such as Joe in "My Old Man" or Krebs in "Soldiers Home," as instances of Nick toying with voice, tone, and identity. Other examples abound: Carlos Azevedo locates the *thing* left out of "Soldier's Home" as being the story's unspoken location, Oak Park Illinois, therefore extending that *thing* to encompass a biographical relevance to Hemingway. Carlos Baker quotes Hemingway himself as saying that World War I was the thing omitted from "Big Two Hearted River."[67] And J.F Kobler, like Kenneth Lynn, theorizes that the "omitted" impetus behind In Our Time and all of Hemingway's oeuvre was not the wound suffered in World War I, as the old pantheon of Hemingway critics took for granted,[68] but rather guilt over

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[67] See: Carlos Baker, Ernest Hemingway: A Life Story (New York: Scribner, 1969) 125.

[68] Include in this Malcolm Cowley, Philip Young, Carlos Baker—generally those critics writing during the years of Hemingway's life, who interacted with and whose criticism was directly influenced by the writer. Such is the argument put forth in Kenneth Lynn's landmark biography. Malcolm Cowley, in retort, decries Lynn for being one of a "contentious sect of revisionists." See: Malcolm Cowley, "Hemingway's Wound and its consequences for American Literature," Georgia Review 38.2 (1984): 223-239.

having endured a wound under odd circumstances—as an ambulance driver rather than a soldier—and thereafter having lied about the wound's severity. Both critics offer that this guilt compounded when Hemingway's supposed heroics and macho endurance of the physical trauma from the exaggerated wound became the foundation of his emerging celebrity.

Such readings often provide keen and relatively valid insights into Hemingway's style in general, and into what we might consider to be *things* omitted from or shadowing the text of In Our Time in particular. Still, although a shift in Hemingway Studies[69] freed the more recent decades of scholarship from the yoke of Hemingway-worship weighing down earlier scholarship, the imperative for this focus on locating omissions precedes as much from the continuing discovery of new *things* "left out" as from the author's own directives concerning his style. This is based upon those two passages in which Hemingway describes what has since become codified as his theory of omission: "my new theory," he writes in A Moveable Feast, was "that you could omit anything if you knew that you omitted and the omitted part would strengthen the story and make people feel something more than they understood" (75). As has been well documented, this aligns succinctly with his first mention of an iceberg theory: "a writer of prose . . . may omit things that he knows and the reader, if the writer is writing truly enough, will have a feeling of those things as strongly as though the writer had stated them. The dignity of movement of an iceberg is due to only one-eighth of it being above water" (*DIA* 132). The evocative force of these and other statements by the author, paired both with the efficacy of such omission-recovering treatments and evidence of revisions found within

[69] Largely precipitated by the author's death. See note 68 of this study.

manuscripts, has provided a seemingly inexhaustible impetus for subsequent excavations of *things* left out from the texts.[70]

But as one critic finally noticed, this entire effort proceeds from a presumption: "it takes some stretch of the imagination to conceive of those things [left out] as having been 'there' at 'first,' wherever and whenever that was . . ." (P. Smith 271). In other words, the major thrust of Hemingway scholarship attempting to resuscitate the *thing* left out presumes too readily that any*thing* has been omitted in the first place. For Smith, this leads to a reconsideration of what we mean by "omission." I think it additionally prompts a reconsideration of what we mean by *things*. What I mean is, regardless whatever omitting, editing, or revising Hemingway consciously affected or was unconsciously affected by during the writing process, the greater effect of his style isn't that it makes us feel the absence of some*thing* which has been elided; it is that it specifically takes the reader to that liminal "boundary situation [*ma*] at the edge of thinking and the edge of all processes of locating things by naming and distinguishing." It takes us to the edge of no*thing*. To be fair and accurate, not every critic mentioned here would necessarily considered her or himself as being in search of any omitted *thing*. But I am suggesting that any attempt to locate and name a stable "answer" to the question concerning what is missing or omitted from the text is akin to searching for a stable narrator of Moby Dick. All such analysis is impossibly working to fill what from a conservative approach might seem like "deadly voids and unbidden infidelities in the lines that seem to gnaw upon all faith (Melville 45). Let us be clear: such efforts *do* produce relatively stable and academically meaningful effects—manuscripts *do* show that

[70] For a study of the origin and evolution of Hemingway's "theory of omissions" in the author's own words, consult Paul Smith's article.

Hemingway excised the original beginning of "Indian Camp" and turned it into another short story titled "Three Shots"; the title of "In Another Country" *really was* based on a quote excerpted from Marlowe's The Jew of Malta. But all such efforts are still in some sense searching for "the secret center of the story" (J. Smith 171) and thereby miss the more cogent point of Hemingway's effort: that there is no secret, no center. There is no*thing* there to un-puzzle. That no*thing*ness *is* the point.

To explain all that I've said up to this point, and to demonstrate how Hemingway might be better understood as an artist of *ma* than of anything else, I will embark now on an inquiry less into *what* might be "omitted" or missing from the beginning of "Indian Camp," more into *how* we, the reader, are able to detect a gravity within Hemingway's work—a gravity affected only by what has specifically *not* been written.

Is it simply that the reader expects voluminous description, and so readily perceives how Hemingway's syntax lacks not only adjectives and adverbs but any lyrical description of emotion that might harmonize into "curves of emotion" under the pen of more verbose writers such as, for instance, Woolf or Joyce? Certainly when we view the story's opening paragraph comprised entirely of two sentences—"At the lake shore there was another rowboat drawn up. The two Indians stood waiting" (15)—there is an immediate impression of a strategic reticence. Yet conscious recognition of a certain trenchant style seems an inadequate explanation for how the reader can at times *feel* an absence within the best of Hemingway's prose—*feel* in the way Hemingway specifically intended, to "make people feel something more than they understood." Consider, for example, the many strata of significance packed into the following passage in "Indian Camp," an ostensibly prosaic sequence of words wherein Hemingway describes the

opening scene of Nick and the men crossing the water toward the Indian camp:

> The two boats started off in the dark. Nick heard the oarlocks of the other boat quite a way ahead of them in the mist. The Indians rowed with quick choppy strokes. Nick lay back with his father's arm around him. It was cold on the water. The Indian who was rowing them was working very hard, but the other boat moved further ahead in the mist all the time. (15)

The apparent content of the passage appears at first relatively simple to explicate: we're presented with two boats, the first occupied by a boy named Nick along with his father and an Indian, the second boat also occupied by an Indian (since we know there are two Indians, and that each boat is rowed by an Indian "with quick choppy strokes"). We know as well that the two boats are moving amidst darkness and mist through water, with the distance between the boats ever-increasing. These would seem the empirical "facts" evident within this passage. Such a "factual" report of the scenario is quite what Hemingway purposefully worked to achieve. In his biography of Hemingway, Lynn notes that while a reporter for the Kansas City Star, Hemingway was conditioned by editor Pete Wellington "to write in short sentences, to stay away from slang phrases that had lost their freshness, and to cultivate a plainness of expression all but devoid of adjectives" (68). Lynn goes on to quote Hemingway himself stating that: "those were the best rules I ever learned for the business of writing, I've never forgotten them" (68). However, regardless of what Hemingway stated about his method, his text seems to warn against any interpretations that would summarize this or any passage based on any such bio-historic reading. For when later in the story Nick's father informs Nick that "This lady is going to have a baby," and Nick replies "I know," the father rebukes him with

decisive words that seem as well a warning to the reader who believes he or she has decrypted Hemingway's linguistic arcana: "You don't know" (16).

"Not knowing" becomes something of a mantra throughout "Indian Camp," as well as throughout the entirety of In Our Time. We experience a series of unknowns, some of which do, others of which do not, come into the light of the known: the Indian father lying on the upper bunk, who on the second page of the story rolls over to face the wall, and who slits his throat sometime over the course of the birthing occurring in the bunk below him—unbeknownst to us or the people in the room until later. We read the subtle narratorial trick of how when Nick's father unwraps his medical tools and dunks them into the kettle of boiling water, Nick, who does not know what the names of the tools are, sees them only as "several things" (17). After this point, disengaging from any clear narratorial perspective, and overwhelmed by the jack-knife caesarian-section being performed, the text itself stutters to communicate any clear knowledge of events, or rather communicates them in fragments which are sometimes, sometimes not, thereafter clarified. For example, when near the end of the caesarian-section Nick's father puts "something into the basin. Nick didn't look at it" (17); or when Nick's father goes to attend the Indian father in the upper bunk and his hand disturbingly and for reasons unclear "came away wet" (18). Whatever "it" was that Nick's father placed in the basin, we never learn; though it is soon clarified that the wetness on the doctor's hand is blood from the Indian father's neck-wound.

Other lapses of communication and absences of "knowing" abound—none more cogent than when Nick, desperate now to frame the massively overdetermined situation of the gory operation and suicide, asks his father: "Why did he kill himself, Daddy?" To

which the father can only respond: "I don't know, Nick" (19). The names of medical tools can be learned over the course of experience; what might be placed in a basin following a caesarean birth could eventually come to light; some knowledge comes quick, for instance the answer to why a hand placed near the neck of a man might come back wet. But if we feel the need here to accentuate any unifying theme to "Indian Camp," it is less that we're being tasked to "fill in" certain *things* left out, more that anything passing into the light of "the known" remains contingent to a classical strata—that all the things we "know" provide only relatively stable answers amidst the infinite blur from which they are always abstracted. The gravity of the absence remains undiminished. And the sum of all such contingent knowledge will never equal any ontologically whole answer concerning that greater absent unknown—the answer to why a person might kill himself, for example. If we need to force an answer from the multiplicity—to demarcate some*thing* which might explain the Indian father's suicide—we could, for example, study the event through a biographical lens and thereby determine an "answer" to be a reflection of Hemingway's own horror over his first wife Hadley's unexpected and, for Hemingway, unwanted pregnancy (Lynn does this). Such a reading indeed provides a keen and academically valuable bio-historical insight. But by searching for "it," by inquiring toward "it," by thinking that "it" is anyt*hing* in the first place, we are always like Nick who, disturbed by the irreducible unknowability signified by his father's honest response, attempts to fill that hollow with a flurry of subsequent questions:

> "Do many men kill themselves, Daddy?
>
> "Not very many Nick."

"Do many women?

"Hardly ever."

"Don't they ever?"

"Oh yes. They do sometimes."

"Daddy?"

"Yes."

"Where did Uncle George go?" (19)[71]

And so on until, after having superficially re-invigorated the efficacy of such probing to provoke suitable answers, Nick returns to what's really bothering him, asking: "Is dying hard, Daddy?" Nick's father, perhaps sensing that his previous admission of "not knowing" sent his son spiraling, does not make the same mistake twice, this time replying with absurd assurance: "No, I think it's pretty easy, Nick" (19). Of course Nick's father does not know; no one knows. "Knowing" has no bearing on that question, or any such question attending to what lies across that threshold. We might consequently try and *feel* for an answer instead, and this more than anything is Hemingway's advice. But as we read Nick's thoughts in the final sentence of the story, we learn that *feeling* certainly has it limitations as well: "In the early morning on the lake sitting in the stern of the boat with his father rowing, he felt quite sure that he would never die" (19).

Returning to the opening passage of "Indian Camp," we can see how these limitations on "knowing" and "feeling" are already at full effect in the text: we have no idea what is happening beyond the few facts, and we are given no exposition revealing how anyone amongst these boats being rowed through the dark and mist *feels* about

[71] I present the excerpted text here directly as it appears in the book, to emphasize the desperation communicated through a cascade of staccato question-answer exchange.

whatever is happening here. From where are they coming? To where are they going? The facts don't communicate any*thing*. Consequently, there is no kinesis to the syntax, and so no propulsion toward any positive or negative feelings about the facts being parlayed. The reader is adrift in the space between the few succinct signs, free, if one feels it necessary, to abstract and project and make *sense* of the signs however he or she chooses. One might, like the critic Thomas Strychacz, concentrate on the fact that Indians are rowing white men, hinting perhaps that the passage hides a post-colonialist criticism of a hegemonic white culture (61). We might also notice, though, the association Hemingway makes between himself and the Indian which problematizes Strychacz's reading. For like the Indian, Hemingway is purposefully working in "quick choppy strokes," describing in this unusual burst of adjectives the hard work of rowing his boat's passengers—Nick, and of course the reader as well. Neither insight negates nor invalidates the other: they can coexist in a state of tension, through complementarity, like a wave or particle manifestation of light which allow partial glimpses of a holistic "one light," neither of which is that whole. And from within that field of un-collapsed probability, the field where Hemingway operates, we might begin to sense a principle of complementarity—a parallax—informing the emptiness of Hemingway's style.[72]

Perhaps more than anywhere else in that opening passage, we encounter the full

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[72] This idea, that sustaining such tension is the greater effect of Hemingway's method, is not on its own an altogether new insight: "it was the tension Hemingway valued, not the Thing that caused the tension" (J. Smith 169). And Harold Bloom notes how Hemingway's "parataxis . . . gives the tone of a withdrawal from all affect, while actually investing affect in the consistency of the withdrawal" (573). But although Bloom keeps his brief reading of Hemingway's style from grounding out, concluding only that "Hemingway never yielded to [nostalgic teleological orders]" such that his "genius abides steadily in the short stories [which] . . . seem to touch the limits of the art," most readings of the method-being-tension *do* yield to teleological readings, meaning they still return to the classical realm of locating, naming, explicating omitted or latent *things*, the absence of which supposedly create that tension—". . . so he left the Thing out," concludes Julian Smith (169).

effect of the un-collapsed probability aroused by such tension when we read: "Nick heard the oarlocks of the other boat quite a way ahead of them in the mist." A hollow sounds within this seeming sensory allowance: the un-described sound of those oarlocks in the mist. This is to say, this sentence initially seems to allow us a privileged glimpse of the events unfolding around Nick, *through* Nick. And yet nothing is *really* revealed. We are listening to the oarlocks, but what exactly do those oarlocks in the mist sound like? We're taken to the edge of the sound, but are not allowed to hear its intonations within the text. And so regardless of whatever sound we might imagine those oarlocks making amidst the darkness, the overarching effect of this simultaneous dis/association polarizes the passage with tension. Amidst such tension we perhaps intuit our first trace of the effect of textual absence—not by the superficial elision of descriptive words that in more extensive prose might describe the sound of the oarlocks, but by encountering that Kantian ache of being so near to, yet so far from, an explanation that would bring all which remains unknown in this opening passage into the relatively stable light of the known. Having taken his reader to that edge of intonation, though, Hemingway falls silent.

A reader or critic subsequently attempting to fill in that hollow, to imagine the missing sounds, is no longer reading Hemingway's text. To fill in, here, is to try and solve a riddle of silence, pause, and interval. But the "empty, pure, open spaces [of *ma*] . . . spaces thought (or designed) to be open, cleared out" are not riddles to solve (Pilgrim 62). This might seem to be an argument against analysis itself, and in some ways it is. In the effort to backlight the greater effect of Hemingway's style, though, we need to critically consider the irreducible aspects of silence and emptiness as they pertain

to his texts *by not trying to fill them in*.

A brief but useful analog toward this effort might be found in the field of cognitive science: in studies concerning how the mind handles what, due to the curvature of the eyeball, should be a number of blind spots in our seemingly continuous field of vision. This is precisely what Daniel Dennett is curious about when he asks: "What could it be that is present when one 'hears' sounds filling silent times, or 'sees' colors spanning empty spaces? It does seem something is there in these cases, something the brain has to provide. What should we call this unknown whatever-it-is?" (346). The majority of research into the mystery of how the mind turns the blank-spot-riddled information registered by the retina into one continuous view conjectures that the mind must somehow "fill in" the blank spots with "figments"—with colors or patterns roughly matching those already established around these spots' vicinity. But Dennett's research reveals that "filling in" is an inaccurate description of how such blind spots are processed—the emptiness is in fact *not* processed, *not* filled-in. "The absence of confirming evidence for the blind spot region," he writes, "is no problem for the brain; since the brain has no precedent of getting information from that gap . . . we don't notice these gaps, but they don't have to be filled in because we're designed not to notice them" (355). "Filling-in" an absence of data or a *thing* left out becomes a meaningless conjunction of terms: it supposes that we need to recover lost data or its approximate equivalent and paste that into the field of view for that field to make whole continuous sense. But "the fundamental flaw in the idea of 'filling in' is that it suggests the brain is providing something when in fact the brain is ignoring something" (356). This succinctly describes the aporia encountered when studying Hemingway: that the most cogent

meanings of Hemingway's texts can only be gleaned, paradoxically (or just impossibly), by ignoring our tendency to search for some*thing*. That is, some seventy years before Dennett's research into consciousness and its relation to our sense of vision, Hemingway was figuring out how to write blind-spots into a text in hopes his reader would feel them, not fill them.

This method of gesturing toward an absence is certainly not exclusive to Hemingway: we can say that all authors of any genre, even the more linguistically demonstrative, have always in each act of inscribing even a single sign omitted all the infinite possible signs that might have been inscribed. Hemingway's particular modern achievement is a combination of realizing that the emptiness of the interval is *everywhere* and *is* its own content; then consequently affecting a parallax method that subtly engages his reader, through minimal codification of signs, to supersense those intervals (*ma*) between the signs on the page, which is to say between him and us. We might understand this parallax method in terms of Sartre's idea of literary kinesis. "The literary object is a peculiar top which exists only in movement," he writes: "To make it come into view a concrete act called reading is necessary, and it lasts only as long as this act can last" (40-1).[73] Hemingway most explicitly realizes this dynamism between him and his reader, and makes it his method for engaging us across the *ma.*

To emphasize just how particularly relative this is to Hemingway's style, we can contrast the effect of this parallax-method against Whitman and Melville's method for translating the same inscrutability. As we saw in the previous chapter, those two writers,

[73] We might also understand it in terms of reader-reception theory. See: Hans-Robert Jauss, Toward an Aesthetic of Reception, trans. Timothy Bahti (Brighton: Harvester, 1982). As well, see Jauss, Aesthetic Experience and Literary Hermeneutics, trans. Michael Shaw (Minneapolis: U of Minnesota, 1982).

through poetry and narration, worked to destabilize our sense of cohesive *things* at the level of this macrocosmic reality—vanishing sailors and shifting narrators who are woman, man, slave and bullet, Ahab and Ishmael, all at once. We might say, though, that those two writers employ their powers of poetry and prose within a closed circuit similar to that for which Kenzaburō criticized Kawabata: Whitman's Leaves of Grass is a song of himself, a demonstration of his own poetic agency; Melville's Moby Dick is a voluble text that demonstrates the infinite inscrutability of all things by form, but also by cramming the space of the text with prose that *talks about* the infinite inscrutability of all things. Whitman and Melville's texts roar in the reader's mind; Hemingway's texts, though, open up an interval of silence between him and his reader. In this way, the most notable attribute of Hemingway's method might be how much he *needs* his reader. To read Hemingway's writing is to be feeling out that *third thing* which is the no*thing* between the words constituting his visible text. Still, on the printed page, *something* is being written—and amidst those locally-explicate signs which Hemingway chooses to inscribe, that inscrutable no*thing* emerges throughout In Our Time in a recurring form: the woods.

All throughout the collection, people are vanishing into or emerging from the woods; are passing through the thresholds between the known and the unknown. In "The Doctor and the Doctor's Wife," for example, after Dick Boulton verbally emasculates Nick's father and sends the humiliated man back home where he enjoys yet more verbal emasculation from his wife, we watch as Dick and his partner Eddy turn away, and are "gone through the woods" (25). Later, Nick's father, unable to find solace pumping shotgun shells out his gun all over the bed, leaves the house to walk "in the heat out the

gate and along the path into the hemlock woods" (27). At the end of "The End of Something," after Nick has broken up with Marjorie and is lying face down in the blanket amongst the "old ruin" (32) of their relationship, we hear someone come "into the clearing walking around through the woods" (35). It is Bill, Nick's friend, and through him we quickly learn something we did not know—that Nick and Bill had been secretly planning, outside the text, the very break-up we just witnessed. Later, in "The Battler," after Nick has been booted from the railcar, we follow him as he walks down the rails "on ahead through the swamp," thinking as he goes that "he must get to somewhere." He eventually follows this impulse until it leads him off the tracks and "into the woods. Nick cut carefully down the embankment and cut into the woods" where an inexplicable and unsettling encounter occurs (54). And much later, after all the ebb and flow and seeming non-sequitur of the entire collection, we watch as an experienced Nick—a war-traumatized Nick—still searching for that *somewhere* and perhaps finally finding some sense of it, sits "smoking, drying in the sun, the sun warm on his back, the river shallow ahead entering the woods, curving into the woods . . ." (151). Like the painting in the Spouter Inn and Moby Dick itself, the woods are the closest the text ever comes to coalescing an actual representation of its sublimity. In other words, the woods, like the text, are "MA . . . an empty place where various phenomena appear, pass by, and disappear. It teems with signs that exist in an infinite variety of freely ordered arrangements" (Isozaki 19). And these woods are where we find ourselves come the end of "Big Hearted River: Part II."

Throughout both parts of "Big Two Hearted River," we sense that Nick Adams has evolved a perspective that allows him to exist in a world where the "the live feeling"

(154) of connectivity through the dark spaces-between[74] is enough to quell the desperation of never knowing any true whole answers. Nick can feels this connection through the line of his fishing rod, cast into the waters of the river. Somewhere out of sight, below the surface of the water, something bites the fishing lure; and through "the now living rod across the current" (148) Nick engages in the careful differential exchange between him and the unseen fish: too much force and the line will snap and break; too soft a touch and the connection is more gently lost. After the brief negotiation, Nick collapses the distance between him and the fish and brings it out of the dark and into the light, the fish "flashing in the sun" (149). For reasons never made clear, Nick then unhooks the fish and releases it back into the river where it is "gone in a shadow across the bottom of the stream" (149). We could apply a number of interpretations to this gesture—when the fish first bites, we read that Nick "knew it was a small one" (148), which could suggest that it is too small to serve as a meal; or equally that the catch-and-release is a ritual offering, a pagan gesture toward Nature as a balance against the fish he'll later catch and eat. Or is it a metaphor for an artist trolling his mind for bigger and better stories? We could go on. But it seems, in light of this study, that Nick has learned how the *meaning* of the event *is* the negotiation through the dark.

Having evolved this sensitivity to what meaningful negotiations can be had through the un-illuminated interval of between-ness, Nick naturally finds himself in the story's final few passages at the far side of the river. He approaches the edge of the distant woods, considering whether or not he should pass into them. We might consider him to be standing here alongside Whitman at this threshold of inscrutability. But more

[74] "MA is maintained by absolute darkness" (Isozaki 31).

akin with Ahab's view, Nick sees a darker and more nebulous bog than he was anticipating: "the swamp looked solid with cedar trees, their trunks close together, their branches solid. It would not be possible to walk through a swamp like that" (155). The mist on the lake in the beginning of "Indian Camp," through which Nick heard the oarlocks of the other boat, rises again: "in the swamp, in the almost dark, he saw a mist rising" (140). And young Nick's desperation which in "Indian Camp" took the form of a flurry of questions recurs albeit in a more subtle form: "He wished he had brought something to read. He felt like reading. He did not feel like going into the swamp" (155). There is nothing to read, though, and no father here to sound: no one to provide a narrative frame by which to make sense of the disturbance; only him alone at the edge of the swamp. Punctuating the crisis, the text repeats itself: again we read that "Nick did not want to go in there." Immediately following this iteration, however, Nick—becoming an artist before our eyes—attempts to reconcile his anxiety on his own terms. We read how:

> [Nick] felt a reaction against deep wading with the water up under his armpits, to hook big trouts in places impossible to land them. In the swamp . . . the big cedars came together overhead, the sun did not come through . . . in the fast deep water, in the half-light, the fishing would be tragic. . . . Nick did not want it. (155)

He can exist contentedly, it seems, with sensing extensions through the shadows of the shallow river. But this impossible swampy woodland is deeper and more nebulous than he is willing or able, at this time at least, to negotiate. And so he turns away.

By such turning away, we and he encounter perhaps the most sublime turn of the entire collection of stories and vignettes. For as Nick moves away from the swampy woodland and back toward the relative stability offered by the amenities of his camp—

his fishing tackle, his tent, his cans of apricots—we become unambiguously aware that *all* directions lead into the woods: "Nick climbed the bank and cut up into the woods, toward the high ground. He was going back to camp. He looked back. The river showed through the trees" (156). Here in the final passage, Hemingway fully intones how the inscrutable woods, into and out of which things have been vanishing and emerging throughout all In Our Time, is not *elsewhere* but is *everywhere*. The entire text has taken place in the woods, in the sense that it has been one process of becoming *between* Hemingway and his reader through the intervals of *ma*. Nick is in it, and has always been; we are in it, and have always been. We were told as much in the beginning of "Indian Camp," though at the time its relevance was unknowable. For immediately after Nick and his father disembark from their boat on their way to perform the jack-knife caesarian, we read: "They walked up from the beach through a meadow that was soaking wet with dew, following the young Indian who was carrying a lantern. Then they went into the woods . . ." (15).

The popular reading of Hemingway's style as affecting any "Thing left out," however loosely we define *things*, still assumes at base that his writings are riddles to be solved. If we choose to read in Hemingway's fiction an imperative to hunt for omitted *things*, we can and do fill library shelves with such studies without ever exhausting the well. But as we might now allow, Hemingway is an artist of the living and un-filled interstices: of *ma*. As such, the more subtle imperative when studying Hemingway's work is not to trace secret omissions and then resuscitate the text by filling in the "blank spots" with *things*-recovered. That enterprise, perhaps inescapably, only operates

through a local-realist paradigm of reading and interpreting by locating and naming. In this sense, we could reasonably say that *all* authors are artists of *ma* to one degree or another. And we could similarly say that all literary scholarship—this study included—affects the collapse of any text for which the only meaningful explication would be, like Borges' ancient map, itself.[75] In regards to Hemingway's method, though, this analytical effort seems egregious because it specifically collapses the interval which *is* the meaning of what happens throughout In Our Time. Collapsed through localizing analysis, the text becomes little more than a plot-less character study; or more—as the majority of Hemingway criticism reads it—becomes a bio-historical lens upon the man himself. But the more sublime meaning of Hemingway's work exists only in the unexamined, un-illuminated interval (*ma*) between him and his reader for which, as we read in the first chapter, "only silence is commensurate with its nature" (Weber 22).

[75] ". . . In that Empire, the craft of Cartography attained such Perfection that the Map of a Single province covered the space of an entire City, and the Map of the Empire itself an entire Province. In the course of Time, these Extensive maps were found somehow wanting, and so the College of Cartographers evolved a Map of the Empire that was of the same Scale as the Empire and that coincided with it point for point." See Jorge Luis Borges, "Of Exactitude in Science," A Universal History of Infamy, trans. Norman Thomas di Giovanni (New York: E.P. Dutton, 1972) 141.

CHAPTER FOUR

Vanishing Elephants, Super Frogs:

Hope and Affect through Haruki Murakami's Intervals

Like Hemingway, Haruki Murakami evokes the silent intervals through which the reader and writer might together *feel* the circulation of meaning occurring within that event of between-ness. As in all the literary sources studied in the previous chapters, Murakami's work brings us to the edge of thinking and naming by showing us characters approaching the threshold between the known and unknown. In "The Elephant Vanishes," for example, we witness a never-named narrator who like Ahab experiences a preternatural and painful view of the whole blur. Like Nick Adams, though, our narrator remains just this side of that swamp, living his days haunted by his view of its vastness. An entirely different story, "super-frog saves tokyo,"[76] involves still another character (both a man named Katagiri and Tokyo itself) suffering silently and alone, passively enduring a vacuous existence, while unknowingly on the verge of a crisis. Whereas the previous encounters with the event of between-ness involved characters approaching that inscrutable interval, "super-frog saves tokyo" has the interval itself assume the form of a giant talking frog and approach Katagiri—joining together to save Tokyo, which we come to learn can only be affected by saving Katagiri.

[76] Like Hemingway's 1924 Paris edition of in our time, there are no capitals in the title of "super-frog saves tokyo," neither in the titles of any other story in the collection in which it occurs, nor in the title of that collection itself—after the quake.

"The Elephant Vanishes" begins simply enough—"When the elephant disappeared from our town's elephant house, I read about it in the newspaper" (308). Upon first reading, we can't possibly sense what we later learn is the massive obfuscation taking place here: that the narrator secretly witnessed the vanishing. But we might nevertheless sense something familiar lurking within that juxtaposition of the disappearing elephant and a newspaper. Like the old mill that in "The End of Something" once shaped the woods into useable planks, a newspaper abstracts stories from the massive forest of world events, selects which timber to use, and thereafter shapes them usefully. This is not to say that a newspaper cannot provide a critical and multifaceted presentation of any particular event; but is simply to accentuate how any such medium reduces and shapes—makes *choices* for its reader concerning content, and thereafter choices for how to frame that content through language. Particularly in the case of a newspaper, those choices fall within the domain of an editor. But the prior choice of what actually constitutes news is very often determined by public relations firms representing an array of interests. Here at the outset of the story, the significance of this—that our narrator works as a PR agent, and that he will engage a magazine editor to help him make sense of the vanishing event—remains, like his having witnessed the vanishing, unknown. And so we can't yet fully feel the recursive implications of a PR agent depending on someone else to reduce and frame the world for him. Neither can we know how disturbed our narrator is from witnessing the vanishing event. But even without such knowledge, we might already hear in our narrator's reference to *reading* about the disappearance an echo of Nick wishing he had something to read when disturbed by the impassable woods at the end of "Big Two Hearted River."

Nick didn't have anything to read to help make sense of things, but our narrator here does, and in what we later learn is an ongoing effort to re-assemble pragmatic sense from the indecipherable nonsense now suffusing his life, the newspaper is the crux in a morning ritual. "My alarm woke me that day, as always, at 6:13," our narrator reports the facts of his daily regime: "I went to the kitchen, made coffee and toast, turned on the radio, spread the paper out on the kitchen table . . ." (308), and so forth. After the precision of time imposed by alarm clocks and amidst the din of the world emanating from the radio, he unfolds the newspaper and begins to read every single word of it, as he does every day "from beginning to end, in order" (308). His quotidian ritual is here exemplified in the text itself, which like our narrator takes its time leading its reader through each and every compartmentalized section of the newspaper: "the national news, international politics, economics, letters to the editor, book reviews, real-estate ads, sports reports, and finally the regional news" (308). But within that structure resides an anomalous event that cannot be fully framed by the article representing it: the event of the elephant vanishing.

Like any good critical analysis, the newspaper article attempts to present the facts surrounding the case of the missing elephant. We have a window between the last sighting of the elephant—"sometime after five o'clock the previous day (May 17) by a few pupils from the elementary school"—and when the disappearance of the elephant was first discovered: "two o'clock on the afternoon of May 18 . . . when men from the school-lunch company delivered their usual truckload of food" (309). We have, lying on the floor of the elephant pen, the still-locked ankle shackle—through which it would have been "an absolute impossibility" (315) for the elephant's leg to withdraw. Only two keys

exist, each in the possession of the fire and police departments, both of which can be accounted for during the window in which the disappearance occurred. In any case, no tracks exist in the soft ground around the heavy iron gates that surround the enclosure—gates still locked from the inside. And we have numerous witnesses who can provide "unanimous testimony" verify each other's claim that "there had been nothing unusual about either the elephant or its keeper" (309). But the sum of this assemblage of clues—"the kind that might excite Sherlock Holmes" (314)—doesn't add up to any wholly sensible answer; neither does recursive testimony provide anything intrinsically useful toward solving the mystery. Our narrator seems equally bothered and amused by how "the reporter had struggled to find clever ways around the absurdity in order to write a 'normal' article" (314), one yet "riddled with such perplexities and labored circumlocutions, the newspaper article as a whole left but one possible conclusion: The elephant had not escaped. It had vanished" (315).

The inability to express that probability through a language of classical determinism—that is, through any language—results in all the facts and testimonies only suggesting an inexpressible absence in the center of the story. This absurdity disturbs our narrator, and to stabilize the disturbance he begins recounting the more easily verifiable history of the elephant and its relation to the town. We read about the financial problems which forced the closure of the nearby zoo, after which all the resident animals had been given alternate accommodations except for the seemingly ancient elephant whom no one wanted: "it was such an awfully old elephant that its every move seemed a tremendous effort—so much so that people seeing it for the first time feared it might collapse . . ." (309). Even here, though, simply tracing back through what he assumed would be

unambiguous history catalyzes the yet-unknown disturbance.[77] As a result, our narrator, still continuing with his historical digression, begins forcing the information into a numbered list:

1. The town would take ownership of the elephant at no cost.
2. The developer would, without compensation, provide land for housing the elephant.
3. The zoo's former owners would be responsible for paying the keeper's wages. (310)

But this astringent form, intended to excise and stabilize pertinent historical facts from the whole contextual background, only draws attention to the failure inherent to such reification—and so to the lurking impetus for such purposeful astringency. Consequently, in the very next sentence following this line-item list, the text reveals our first clue concerning a secret connection between our narrator and this vanishing event: "I had my own private interest in the elephant problem from the very outset, and I kept a scrapbook with every clipping I could find on it" (310).

Every subsequent attempt to keep things factually pragmatic and historically clear[78] only seems to agitate the lurking absurdity of the elephant's vanishing and of our narrator's yet-unknown connection with the event to the surface of the text. Despite that the newspaper article which catalyzed this disturbance and subsequent historical digression is itself a testament that the absurd whole of the vanishing elephant cannot be

[77] Albeit premature, we might sense that the disequilibrium is precipitated by imagining the elephant existing "on the verge of collapse" across a quantum/classical threshold—"living in those two worlds, one foot in one or the other" (Murakami WoB). This essentially describes the border-trouble inhabiting all Murakami's stories and characters ("all of us are living on the borderline. That's my definition of human life" [Murakami WoB]).

[78] "If you look at things that way, you avoid all sorts of complications" (320).

parsed into "normal" writing, and so could never be fully revealed in any case, the narrator overreacts now and completely takes over the framing of the text. First, he tries to change the first-person-limited narrative into some sort of legal document: "I have chosen to set [the details] down here in case the handling of the elephant problem should bear directly upon the elephant's disappearance" (310). Then, he attempts to parse the document into even sharper Euclidean lines by recording it on the page with a rigidity well beyond the perimeters of absurdity. We are presented with yet another list of practical complaints raised by the town over the elephant issue—who's going to pay to feed it, to secure it, to move it, and in any case what is the point of having an elephant? "Sorry for all the lists," he writes, aware of how ridiculous this all is, "but I use them to make things easier to understand" (311). Following that list and apology, we are nevertheless shown still another list detailing the responses to the previous list of complaints. Such lists seem to provide our narrator, for the moment at least, a medium through which to make structural sense of a nebula of arguments, influences, and perspectives on the matter of the elephant. But his ever-increasing efforts to reduce the complexities of these arguments, while indeed communicating some practical facts about those arguments, has the greater effect of pulling the text taut with tension.

After this hyper-linear presentation of the many edges of the many arguments, the narrator similarly attempts to recount the specifics surrounding the ceremonial opening of the elephant's new enclosure. Here, though, the previous textual tension eases—partly because our narrator is finally recovering from the shock of being almost-revealed, from the shock of his involvement with the elephant's vanishing being brought too close to the surface of the text. Partly, also, because forcing any complex event through that process

of reductive pragmatism immediately abstracts the event from its contextual background which *is* part of the event. And partly because, amidst his desperation, our narrator *is* trying to communicate the whole of the event that he is all-too aware cannot be expressed through reduction. In any case, beneath the surface of the commonplace ceremony there indeed circulate "clues" our narrator wants us to see. We read, for example, the recursive way in which standard curriculum is sometimes established: "there was a sketch contest—sketching the elephant thereafter became an integral component of the pupil's artistic education." We read as well how the contentious acquisition of the elephant is re-ascribed a firm socio-cultural value: "the mayor delivered a speech—on the town's development and the enrichment of its cultural facilities." And yet we also read how not everything becomes subject to the narrative rite, not even the center around which the narrative is being constructed: "The elephant endured these virtually meaningless—for the elephant, entirely meaningless—formalities with hardly a twitch, and it chomped on the bananas with . . . its blank gaze fixed on some indeterminate point in space." Of course at the end of the ceremony: "When it finished eating the bananas, everyone applauded." An occurrence entirely natural and common from one perspective becomes a source of uncommon meaning and excitement through another perspective (312-313).

Whatever connection the elephant might have to any of these relatively arbitrary proceedings, it remains at best obscure, as does the elephant's keeper. "It was hard to guess his age," we are told of the small, old, bony man: "His face had no distinguishing characteristics. . . . He was not an unfriendly man" (313). The keeper seems to be always in the background, seems average, never fully taking rigid shape or form in the text. And appropriate to the indeterminate, un-collapsed, quantum/classic state in which we might

increasingly sense that the keeper and the elephant are together co-existing, the keeper responds to questioning, but only when specifically tasked to do so: "If someone spoke to him, he would reply, and he expressed himself clearly" (313). Generally though he remains content to be silent and unexamined. And more than anything, he remains content in the close company of the elephant. They live in the same enclosure, the man in a small room attached to the side of the elephant-house. They are together all day, always. "They had been together for more than ten years," we read of these two friends, "and you could sense their closeness in every gesture and look" (313). As much as any of Fuller's "nearest group" can become entangled in a singlet state of love beyond the epistemological frames of language and thinking, these two have. Whereas the elephant ignores everyone else with gentle equanimity, he responds immediately to the prompt from his partner. All the keeper has to do is "tap it on a front leg, and whisper something in its ear," and the elephant changes its state—"the elephant would go exactly to where the keeper has indicated, [and] take up its new position . . ." (313). Even though those observing their interaction can see the effects of their communication, their nonlocal connection remains invisible; that "something" whispered between them remains inaudible.

Still, as anyone might, our narrator tries to analyze the connection logically: "Maybe the elephant understood a few simple words . . . or perhaps it received its information through variations in the taps on its legs" (313). These are reasonable and probable estimations: that we might simply be watching the result of years of training, or some other causal effect based on shared memory. These estimations ring hollow to our narrator, though, and in pursuing the analysis further he quickly slips far afield from any

reasonable explanation: "possibly it had some special power resembling mental telepathy . . ." (313). We might be dealing with something sublime, as he senses, but attempting to frame it in any knowable terms—as resultant from training, memory, or telepathy—all trivialize the wonder-working he observes. He eventually outright asks the old man to explain the connection, "but the old man just smiled and said, 'We've been together a long time'" (314). As a result, the narrator continues to watch, listen, and fathom the keeper-elephant connection, but through his incessant search to understand, he can "never figure out the principle on which the keeper-elephant communication was based" (313).

We might almost have forgotten by this point in Murakami's story that the entirety of this historical digression was a reaction to the disturbing absurdity presented by the newspaper article. Similar to how our narrator, within that historical digression, attempted to strictly structure the facts of the case but eventually relaxed his pressure upon the text, the text here again relaxes upon this concession that our narrator can *never* figure out a bedrock principle to explain the elephant-keeper communication. And at this moment of repose, we encounter something not altogether peculiar but which throughout Murakami's oeuvre occurs at critical moments of impasse, which is to say moments of greatest meaning: a gap appears between one paragraph and the next. An interval (*ma*) opens on the printed page representing the textual threshold behind which those unsayable, unknowable events are occurring. And suddenly, on the other side of this interval, we're back at the breakfast table in the middle of the morning newspaper ritual.

Having skipped over those inexplicable elements of the story, the newspaper article now reports the more expressible elements: that hunting parties are already combing the nearby hills; that groups opposed to the town's adoption of the elephant are

using the event for political leverage; that parents everywhere are worried about the safety of the children (316). But as has just happened to our narrator, the newspaper article becomes agitated from its proximity to such absurdity, and begins to iterate our narrator's textual digression by engaging in its own historical study of the elephant. As was discussed in this study's previous chapter regarding the majority of engagements with Hemingway's writings, this type of bio-history inarguably provides a pragmatic lens through which to focus the more nebulous elements of a text into relatively stable, semi-deterministic explanations. That is, it helps bring the blur into focus. Like the hunting teams and the politicians trying to quell the confusion and uncertainty of the elephant's disappearance, such a lens and subsequent reading perpetuates the community's faith in the hope that: "it is only a matter of time till we solve the case" (315). The community at large might retain some degree of faith in this Laplacian precept, but our narrator has passed through an event which leaves him unable to reconcile that classical faith with his new perspective: "What good would it do to talk to people . . . who would not even consider the possibility that the elephant had simply vanished?" (317).

That whole event—the vanishing and his implications within it—still remains unknown, unsayable, at this point in the text. We know from reading such similar struggles as Ahab's, and to a lesser degree Nick Adams', that this encounter with the whole involves a Kantian suffering. For someone who makes his living as a PR man, this is all particularly disturbing—to be unable to frame the event and ascribe it any particular meaning. And this incommensurable gap between experience and expression—this *ma* opening within the text—is *why* the narrator has been unable to bring the vanishing event

to the surface of thought. "I'm just not sure I can talk about it very well," he explains, "so I'm trying not to say anything at all . . . it's very strange" (322).

In an effort to minister to himself, then, we now learn that in addition to his morning ritual he also ritualistically returns to the elephant enclosure. "Whenever I had a spare moment," he confesses, "I would visit the house where the elephant no longer lived" (318). But he cannot enter, the empty enclosure remains chained—"as if the police were trying to make up for having failed to find the elephant by multiplying the layers of security on the now-empty elephant-house" (318). From the outside looking in, the location is abandoned and lonely. Any associative meanings ascribed to it through the elephant-welcoming ceremony have faded into the background; just as the physical elements of the unkempt enclosure slowly crumble into the surrounding earth. The relatively stable meaning of the place is slowly vanishing back into the oceanic blur from which it emerged—"people seem to have forgotten that their town once owned an elephant" (327). Yet for our narrator, caught within the implications of the vanishing event, the enclosure still retains an almost sacred aura: the mystery enmeshed in the place *is still happening*, and so continues to exhibit a gravity pulling our narrator back to its silent, impassable threshold.

As our narrator approaches the empty enclosure, the text approaches the same edge that Hemingway's work traces—"the edge of all processes of locating things by naming and distinguishing" (Pilgrim 57). As happened when our narrator became aware that he could never know the principle of elephant-keeper communication, an interval (*ma*) opens here between paragraphs on the printed page. But *ma* is as much an opportunity as an impasse. And so when thought and language regain purchase on the

following edge of this particular interval, we find our narrator already in the middle of learning a *different* way to function amidst an apparent impasse: "I met her near the end of September" (318), we read. Whoever she is, whatever her significance to the story, it immediately gets deferred—in the same way the first sentence of the story mentioned, then deferred, the event of the elephant's vanishing. The previous deferral took us through a circuitous trail, one we're still traveling as we wait for some revelation concerning the narrator's still-unknown implication in the event of the elephant's vanishing. The deferral initiated here by the mention of this unknown "her" is more succinct; but it is effective enough to communicate a hope implicit in pursuing different ways of functioning, of *feeling*, through apparent impasse. Specifically, we read how it was raining the day he met her, a constant downpour "washing away bit by bit memories . . . coursing down the gutters, all those memories flowed into the sewers and rivers, to be carried to the deep, dark ocean" (318). This encounter with another person has the power to loosen the rigid framework of thinking and naming, of local-realist causal-memory interaction, that our narrator has relied upon this far to try and explicate the a-causal event of vanishing.

She, we learn, is an editor for a magazine designed "for young housewives" (319); his particular role in the PR firm, we now learn, is framing the company's kitchen products in a way that makes people understand why they might want them. Together, her magazine and his PR department work on an mutual understanding that his company will buy ad space in her magazine, and in turn her magazine will write articles designed to subtly promote his company's products. The recursivity latent within the opening sentence of the story amplifies here, as we read the interaction of two people whose job it

is to frame and make necessary things of questionable necessity. But who frames seemingly nebulous information for people whose job it is to frame seemingly nebulous information? In the ongoing textual amnesia involving the elephant's vanishing, the answer has remained for our narrator a troubling: no one. But here, for the first time, we catch in his and her encounter a slight sense that, even meta-aware of the deep dark ocean into which all memories vanish, it might not matter. In ways less to do with explication than with empathy, contact might enable an entanglement across the interval such that the infinite lack of explication does not necessarily involve a lonely suffering.

As we watch him at work, we see one such way that our narrator has attempted to try and reconcile his pragmatic job with his involvement in the sublime event of vanishing: by trying to put the sublimity to work. "The most important point is unity," he says to the bored editor: "Even the most beautifully designed item dies if it is out of balance with its surroundings" (319). That statement isn't exactly nonsense—in fact it some contexts it makes a lot of sense, perhaps even in the context of kitchen appliances. But its attempt to employ elements of "those other things you can't sell" (320) toward things you can sell produces an absurd conflation, produces not any whole unsayable unity but rather a lot of kitsch for your kitchen.

Fortunately for him, she doesn't buy his pitch. As an editor, she is similarly versed in the ways to frame nebulous data for pragmatic interface, and as such she can immediately hear the absurd intonations to his conflation. And so she pursues the question of whether or not *he* really believes what he is saying, to which he finally responds, in less an echo than an iteration of <u>In Our Time</u>: "I don't know" (320). Defenses lowering, rigorous framing tendencies relaxed for the moment, they begin to

engage each other in different ways; gentle ways; human ways. They talk about other things. They drink. They begin to come together—"in other words, we were beginning to like each other" (320). Meanwhile, all around them "a soundless rain went on falling outside the lounge's panoramic window, the lights of the city sending blurry messages through the mist" (321). For once, no textual or narrative effort is made to re-draw the blurring lines: we experience in this absence of explication a moment not unlike hearing the un-described oarlocks in the mist of "Indian Camp." "Sipping our drinks," we read, "we carried on the kind of conversation that a man and woman have in a bar when they have just met and are beginning to like each other" (321). Whatever they say, exactly, doesn't matter: we don't need to hear it, and we don't need to "fill it in" any more than we needed to "fill in" the sound of Hemingway's oarlocks. If we had a verbatim record of their exchange, it would likely read simple, ordinary. He reveals as much, providing us a categorization of some topics they discussed: "college days, our tastes in music, sports, our daily routines" (321). But just as the sum of every word he reads in the morning paper doesn't explain the whole of the elephant's vanishing, the sum of whatever specific words they exchange here behind the veil of the text would not add up to a whole explanation for the uncommon enfoldment occurring now—could not explain what happens during attraction, or illuminate the implicate interconnections of friendship.

What does matter is that in this passage, he and she become *they*: they flow together, and because such phantom action is unknowable, they consequently vanish behind the surface of the readable text. Not entirely of course—we still see two local, distinct individuals sitting and talking in the lounge; but vaguely now, edges blurring, as if we're watching them through those rain-streaked panoramic windows. Whatever

singlet state they might be entering behind the text, the private feedback it invokes clearly produces an effect upon our narrator. For at this moment, finally *feeling* an affinity with the vanishing event he has been so unable to understand by way of thinking and naming, the story of that event starts to flow, almost beyond his control: "Then I told her about the elephant," he says: "Exactly how this happened, I can't recall" (321).

What we learn is this: on the evening of May 17, after the elephant enclosure had been locked from the inside for the night, our narrator mounted to a secret observation point that he had discovered "purely by chance" sometime in the past—after having lost his way on a solitary hike (321). The mystery spot is on a steep hill behind the elephant house, a unique position providing a view down into the enclosure. And it is from this position that he seems to have observed what even through all our new space-time models remains unobservable—the implicate, nonlocal *oneness* of two classically distinct *things*. Still, as Ahab suffered to know, seeing is not understanding, neither is it communicating. But our narrator can at least express that what he witnessed involved a private look into the journeywork of love, saying: "What struck me immediately when I saw the elephant and keeper alone together was the obvious liking they had for one another—something they never displayed when they were out before the public" (323). As in any close relationship—those constituting Fuller's "nearest circle"—only those involved in the relationship have any whole unrestricted view on what's *really* happening between the two beyond the view of the world. Close couples, friends, partners—all behave differently together when no one is watching: we talk different, move different, think different, touch different. It is not simply that the interaction is private and personal; more, the force of outsider observation affects—to some degree determines,

and alters when in view—those interactions. But when unobserved, behind closed doors, such entangled individuals can evolve and communicate through infinitely varied means of private expression—including but not limited to language, sounds, gestures, sex, silence. Such secret nuances of affect are what our narrator views through the vent in the roof of the elephant house: "Their affection was evident in every gesture. It almost seemed as if they stored away their emotions during the day, taking care not to let anyone notice them, and took them out at night when they could be alone" (323).

Still, how to put what he *truly* witnessed into words? The best he can express is that the whole of the elephant-keeper interconnection had something to do with recursivity between the two. "It wasn't what they *did* that was different," he says, "It was the way they looked. Something about the balance between them" (324). He relates how as he watched, the elephant began to shrink; the keeper to enlarge, *becoming-one* through some indescribable non-Euclidean movement which defies his professional or human ability to frame:

> It was a mysterious sight . . . a different, chilling kind of time was flowing through the elephant house—but nowhere else. And it seemed to me, too, that the elephant and the keeper were gladly giving themselves over to this new order that was trying to envelope them—or that had already partially succeeded in enveloping them. (325-6)

Throughout this differential exchange, the tenderness of the elephant-keeper interactions remains unchanged in the eye of the observer—the elephant "would stamp happily on the ground with its right foot while it was being washed, and with its now somewhat narrower trunk it would pat the keeper on the back" (325). The happiness of their private

communication remains unaffected by whatever the narrator is witnessing—because, we might say, the narrator *is* witnessing the visualization of their entanglement by which the elephant and the keeper can now only "be regarded as the elements of a single system" (d'Espagnat 179). Even from such a privileged viewpoint, our narrator concedes his locally-real descriptions of this event cannot get more accurate than probability will allow: "I had the feeling that to some extent, the difference between them had shrunk . . . probably. I can only say probably" (325). After an hour of watching this surreal enfoldment, the lights of the elephant house go out, and neither elephant nor keeper are there when the next day dawns.

Back in the lounge, our narrator has of course failed to communicate any sense of the whole event; and has sundered the first tentative stages of his and her entanglement by his wild tale. He and she come back into focus as two distinct individuals. "I'm finding this a little hard to grasp," she says: "you were carrying on a perfectly normal conversation with me . . . then something funny happened. I can't understand you anymore" (322). An awkward silence falls between him and her: not the meaningful silence into which old friends like the elephant and keeper might find themselves comfortably together, happy in each others' enfolding company, vanishing from the world together. Rather, they fall into an actual silence of impasse. For the *ma* is as much an impasse as an opportunity. "Just as I had feared," our narrator thinks to himself, "the story of the elephant was too particular, too complete in itself . . . what subject could either of us bring up after a story about an elephant that vanished—a story that offered virtually no openings for further discussion?" (326). His attempt to tell the story produced a closed circuit. Ironically, the blurring of boundaries that he had begun to

experience *with* her, without explaining *things*, was the open-circuit which was itself an answer to his question concerning "what happened?" between the elephant and keeper. Essentially our narrator has done what Hemingway purposefully does not do—he has tried to explain no*thing* by turning it into some*thing*. Hemingway knew that you couldn't approach any real *thing* through understanding, that you had to feel it by ignoring it. And even then, what he wanted to feel between his reader was the meaningful no*thing*ness itself. Our narrator almost hears this Hemingway-esque hollow of the event, conceding that what he is saying is not *really* what happened—the elephant didn't *really* shrink before his eyes; the keeper and the elephant didn't *really* enfold within his field of sight: "Nothing happened, really" (324).

Much like Ahab, our narrator has experienced a preternatural view across the event horizon of the unknown. He dwells thereafter trying to explicate that inscrutable event of vanishing: an impossible effort. Even though our narrator unknowingly began to engage in the very event he'd been so desperately attempting to understand—a strange attraction and phantom action of companionship, of friendship, perhaps even of love—he could not overcome his tendency to try and re-inscribe Euclidean order and "decode" the blurry messages coming through the mist. Trying to "fill-in" the event always misses the whole event. Still, an impasse from one perspective is an opportunity for interconnectivity from another, and so the woman tries to re-engage our narrator in a meaningful way, through his story: "When I was a little girl," she begins, "our cat disappeared . . ." (326). But for reasons left unsaid, she pauses, and in such pause makes the choice that his and her momentary blurring will not or should not develop beyond that

initial passage behind the rain streaked windows of the lounge. "But still," she curtails her tale, "those are two different stories" (326).

"The Elephant Vanishes" is, in brief, a story of person encountering an inexplicable event and ever-after being haunted by its implications. As in nearly all of Murakami's works, there is never a sense that our narrator is doing anything other than what any ordinary person could or would do—trying to function normally in the face of absurd and overwhelming events. It isn't the efficacy of various responses to such events that informs Murakami's works so much as the notion that such events are occurring everywhere, all the time. If Murakami's stories are informed by this sense of existing amidst an unknowable blur, though, they are equally infused with a most simple but heartfelt hope emerging from that blur itself: that we are all in this together. More often than not, the realization of that implicit togetherness is the *only* hope Murakami allows his characters: but when realized, it becomes the only hope anyone needs. The narrator of "The Elephant Vanishes" witnessed two characters vanish together through a realization of this hope. He could not know it to see it, but he almost felt its implication by entangling with someone other than himself. In a different Murakami story, "super-frog saves tokyo," Murakami shows us a character—Katagiri, but equally Tokyo itself—in such crisis that the event of between-ness itself assumes corporeal shape, walks into Katagiri's life, and shows by example the hope and love that might connect all *things* through the interval.

Like all the stories in Murakami's collection, after the quake, "super-frog saves tokyo" situates itself during the brief period after the Great Hanshin Earthquake struck

Kobe Japan in January, 1995, and before Aum Shinrikyo's sarin-gas attack on Tokyo's subways during March of the same year. These dual events are omnipresent in the collection, entirely inform the collection, but are rarely articulated. Instead, the collection takes place within the month of February, the interval between those January and March upheavals. What *happens* in the text during this interval, in particular what *happens* within "super-frog saves tokyo," is the concentrated literary equivalent of this entire study's thesis—that the interval separating explicate *things* might be less a demarcating partition than an event of between-ness: whether we mean words coalescing into a story or text; individuals entangling into one singlet-state of love and friendship; or a collection of individuals dissipating through a community, a city or prefecture—through Tokyo.

At the beginning of the story we see Katagiri, a lonely debt-collector assigned to Tokyo's Kabukicho neighborhood: a "labyrinth of violence," dense with crime and amorphous forces "flowing beneath the surface from one murky den to another, people vanishing every now and then like a puff of smoke" (118). Katagiri arrives home from work one night to find a polite, well-spoken, six-foot-tall frog awaiting him. "Call me 'Frog,'" says the frog. But the "overwhelmed" Katagiri cannot call him anything. Instead, in face of Frog, he becomes paralyzed: "Katagiri stood rooted in the doorway, unable to speak . . ." (111). There is no choice to Katagiri's silence: the shock of this situation—giant talking frog in kitchen—has somehow disabled this possibility. Although on the surface this silence seems to represent an impasse, by this point in the study we might have a different understanding of the effects and ways of silence and impasse. This is to consider: what *could* fill the silence that would be appropriate for the situation? No*thing* could—no localizing word or action. As the narrator of "The

Elephant Vanishes" learned, the unsayable is perhaps better left unsaid. And we have already witnessed a number of different ways that one might function amidst this threshold of confusion: by loosening oneself to its flux and flow (Whitman); by living pragmatically, if haunted by it ("The Elephant Vanishes'" narrator); by probing it with questions and later respectfully ignoring it (Nick Adams); less effectively, by stabbing at it (crazy Ahab). Here, we and Katagiri are shown yet another way through seeming impasse: frog.

Frog is a creature unusually sensitive to and interspersed with his surrounding environment: he functions in and *as* a threshold. For like any amphibian, Frog in particular and frogs in general "are intermediates between the fully aquatic fishes and the terrestrial amniotes" (Hutchins 3). All frogs have the essential property that their "*skin* is the interface between the organism and its environment. As a water-permeable covering, the skin functions as an organ of osmoregulation and respiration" (Hutchins 15). The fact that a frog breathes with its skin accentuates the liminal nature of what on an immediate or classical scale of measurement appears to be a distinctive boundary. And the fact that a frog is simultaneously aquatic and terrestrial accentuates how uncertain boundaries can give rise to a multiplicity of simultaneous "ways of *becoming*" through the impasse of the interval. Frog, then, is *ma*, and he is simultaneously a way to function amidst *ma*. The fact that he is here at all could signify a number of things—e.g., that we're reading a fable, that we're reading a story of a person going insane, that we're reading a science fiction tale. But what his presence comes to signify most succinctly is that Katagiri is in desperate need of help, and Frog is an answer.

Like Katagiri, though, we don't yet have any idea what is happening. But as Frog

will do throughout the text, he immediately sets about comforting Katagiri, thereby teaching him how to navigate disequilibrium. As they stand there facing each other in the doorway, Frog kindly works to assuage "the skinny little" man,[79] and to explain away his own troubling presence to the best language allows. "Don't be afraid," Frog tells him: "I'm not here to hurt you. Just come in and close the door, please, Mr. Katagiri . . . and take off your shoes . . . an urgent matter brings me here" (111-112). Inverse to the problem we've seen of people trying to communicate an inexplicable no*thing*ness, here we see Frog, existing as the boundary situation itself, pragmatically employing the localizing power of naming. And its effect is immediate—"The sound of his own name helped Katagiri snap out of it. He closed the door as ordered . . . and unlaced his shoes" (112-113). As Frog thoughtfully prepares tea for two, Katagiri recovers from the shocked silence and does the only thing he can do: he begins to analyze, so to try and stabilize, the situation. "Somebody's playing a joke on me," he thinks, "somebody's rigged himself up this huge frog costume." But, we read, "he knew, as he watched Frog pour boiling water into the teapot, humming all the while, that these had to be the limbs and movements of a real frog" (112). Frog is self-aware of his own weird impact on Katagiri and on the text. Employing the same meta-textual strength that "The Elephant Vanishes'" narrator imposed on that story when he tried to turn it into a Euclidean legal document, here Frog tries to dissuade all analysis that would dissect him. "I am a product neither of metaphor nor allusion nor deconstruction," he croaks, "nor sampling nor any such complex process. I am a genuine frog" (115). To which Katagiri can only utter the now-familiar mantra: "I can't quite understand what is going on here. . . . I don't seem to

[79] Physically, much like the elephant's keeper, thought without, we will see, a elephant of his own—yet.

be able to grasp the situation exactly" (114-115).

Like the narrator who sought to understand the elephant's vanishing, Katagiri simply isn't equipped to proceed amidst this impasse. He naturally, then, presses forward with his critical inquiry—"Do you mind if I ask you a question or two?" (115). Frog welcomes the attempt to reduce his ambiguity, agreeing: "the best thing would be for us to achieve mutual understanding via the shortest route possible" (115). But still, the best elucidation Frog can offer in response to Katagiri's inquiries is the paradoxical: "One might say that I am the sum total of all frogs. Nonetheless, this does nothing to change the fact that I am *a* frog" (115-116). As when our narrator in the previous story tried to employ traces of sublimity toward selling kitchen items, we might attune to the meaningful absurdity within this statement. On the one hand, we might hear that Frog *is* saying something critically important; on the other hand, by saying it, whatever he's trying to communicate loses its living vitality. So this meaningful absurdity provides no resolution to Frog's mystery. Nevertheless, like naming, we read how it produces a real effect: Katagiri "felt that—unreal as it sounded—he could *believe* whatever Frog said to him" (123). Similarly, all throughout these opening passages, Frog paradoxically exerts a similar effect upon Katagiri and the text whenever necessary. At one point he croaks loud and strong to prove his physical presence; at another point he collapses what we might call his own quantum strangeness in order to hammer the point home that whatever is happening here, it is neither metaphoric nor allegoric, but is physical and visceral and *real*: "I am not crazy, and you are not mad. This is absolutely, positively serious" (114).

Tokyo, Frog explains, is three days away from a massive earthquake—"a much bigger earthquake than the one that stroke Kobe last month" (116). The disaster will be

caused by an ancient underground saboteur: Worm. Frog needs Katagiri to descend with him into the earth beneath the bank where Katagiri works and battle against Worm. Even if they are successful, no one will ever know: "Ours will be a lonely battle," Frog tells him. Should they fail, though, the damage to Tokyo will be terrific in the most terrible sense of the word:

> The number of dead would probably exceed 150,000—mostly from accidents involving the commuter system: derailments, falling vehicles, crashes, the collapse of elevated expressways and rail lines, the crushing of subways . . . buildings will be transformed into piles of rubble, their inhabitants crushed to death. Fires everywhere, the road system in a state of collapse, ambulances and fire trucks useless, people just lying there dying.

The totaling effect of this horror will be that "people will be made to realize what a fragile condition the intensive collectivity known as 'city' really is" (116-17).

The impact of the information stuns Katagiri, and again we read perhaps the only possible response to the situation: "A heavy silence followed" (117). Once again, an interval (*ma*) opens on the page between passages. Through it, from it, as happened in "The Elephant Vanishes," the narrative is here enabled to abruptly switch into what at first seems like a non-sequitur—we suddenly start reading about Katagiri's miserable existence as a collection officer for the Trust Bank Lending Division. Shortly, though, what appears to be a fracture of narrative-continuity on one scale resonates on a different scale as a dangerous consonance between Tokyo and Katagiri's systemic-instability. That is, through that *ma* on the page we begin to intuit the precipice at which Katagiri stands, the crisis which has precipitated the appearance of Frog.

For the words "intensive collectivity" could not ring more dissonant against the walls of Katagiri's small, lonely, thin-walled apartment. For one thing, we learn that Katagiri has for sixteen years done—and done extraordinarily well—all the least desirable, most dangerous assignments for his bank: attempting to collect debts from figures and businesses involved in organized crime. We might consider the implications of this fact within a cultural context through Masao Miyoshi's words about the critical significance of one's profession within Japan: "The notion of personality is quite different to a Japanese from what it is to a Westerner," he writes: "people are [often] regarded according to their assigned social slots. One is a noodle-truck driver or a university professor before one is [his or her name], and is, accordingly, comical or dignified, disreputable or respectable, on a subtly shaded scale of social connotation" (79-80). Katagiri's job, he and Frog agree, affords him absolutely no respect. And serving as little more than a superconducting medium through which money flows, he is so dissolved into Tokyo's economic collectivity that we might consider him the sum of all debt-collectors. But unlike Frog, who while existing as the sum total of all frogs nevertheless maintains his uniqueness as *a* frog, *a* Katagiri all but vanishes when not debt-collecting. Compounding this void of any personal worth derived from his job, we learn that in the wake of both his parents' early death he raised and put his two siblings through school, eventually seeing them into marriages. Yet through all these years of work and sacrifice, he has received not a single word of gratitude from employer or family. In the end, he has given his life to his job and his family, but is little more than a tool.

Katagiri feels painfully disconnected from any intensive collectivity. And this

makes him all the more confused as to why Frog has come for *him* of all people. He asks Frog: "I still don't get it . . . why did you choose *me* to go with you?" (121). Frog, kind and generous as no one else is to Katagiri, informs him that he *needs* Katagiri and *only* Katagiri to cheer him on during the battle with Worm, to tell him "Way to go, Frog! You're doing great! I know you can win! You're fighting the good fight!" (123). Katagiri, though, is so devitalized that he is unable to register how Frog is asking, with neither shame nor uncertainty, for precisely what Katagiri lacks in his own life. Even without attuning to that recursive echo from Frog, though, Frog's very presence—a presence by which he and Katagiri become a *they*—opens the closed circuit that Katagiri has become. In the same way this feedback loop enabled the story of the elephant's vanishing to flow in the previous text, here it similarly amplifies Katagiri's silent suffering into an audible torrent of despair:

> I'm an absolutely ordinary guy. Less than ordinary. . . . I'm going bald, I'm getting a potbelly. . . . It's been three months since I last slept with a woman—and I had to pay for it. I [get] . . . no real respect. I don't have a single person who likes me, either at work or in my private life. I don't know how to talk to people, and I'm bad with strangers so I never make friends. . . . I live a horrible life. All I do is eat, sleep, and shit. I don't know why I'm even living. (127-8)

Frog's intonation of Tokyo's impending disaster and Katagiri's intonation of his own dismal existence echo each other dangerously. Frog is accurate: "this is absolutely, positively serious." Involved in no collectivity that provides him a meaningful reciprocity, Katagiri exists on the verge of a vanishing through disaffection: "They could stab him if they wanted to. They could beat him up. He was perfect for the job: no wife,

no kids, both parents dead, brother and sister he had put through college married off. So what if they killed him? It wouldn't change anything for anybody—least of all for Katagiri himself" (118).

And so, unlike in "The Elephant Vanishes," where the critical event remains perpetually unsayable, here we see a rather sharp articulation of the local crisis which has precipitated the nebulous appearance of Frog. Katagiri exists within his own painful interval of uncertainty: the threshold between life and death. We are reading the story of a borderline suicide. Frog tells us and Katagiri this much when in response to Katagiri's question about what Frog will do if Katagiri abandons him and leaves him to fight Worm alone, Frog replies: "My chances of beating him by myself are perhaps just slightly better than Anna Karenina's chance of beating that speeding locomotive" (129). Just as Katagiri earlier failed to hear his own needs as they ushered out Frog's mouth, he here fails to understand the allusion or its dire implications concerning himself.

Approaching the event where the probability of vanishing might decohere into the physical reality of self-annihilation, Frog intercedes. "To be quite honest," says Frog, meeting Katagiri's despair with honesty: "you are nothing much to look at, and you are far from eloquent, so you tend to be looked down upon." But that might not matter now, because with Frog, Katagiri is no longer alone. And just as it *almost* did in "The Elephant Vanishes," recognizing or establishing that feedback loop through another person or persons can change everything. So Frog changes everything by feeding love back into this positive recursive loop developing between him and Katagiri: "In all of Tokyo, with its teeming millions, there is no one else I could trust as much as you to fight by my side. . . . I can't do it alone. I need you to stand behind me . . . to support me with

your whole heart as a true friend" (122-123). Frog is offering Katagiri what the debt-collector so painfully, dangerously lacks: someone with whom to enfold, blur boundaries, talk and drink tea after work: an intensive connectivity of friendship—a Frog with whom to vanish. Frog is here to save Tokyo's intensive collectivity; Frog is here to save Katagiri. The imperative is inseparable. Without ever explicitly collapsing them together, the text implies—through its blurry messages, through its silent intervals, through *a* frog who is *all* frogs—that the fate of an entire systemic collectivity is inexplicably woven with the fate of the smallest part comprising it.

This creative and holistic potential enabled by such silent, uncertain intervals (*ma*), is most strikingly conveyed when approaching the most critical moment of "super-frog's" text—the event when and where the fate of Tokyo, of Katagiri, will be determined. Frog and Katagiri are to fight as one against Worm. Katagiri, though, still doesn't understand what they are to do. He seeks clarification, asking Frog: "What *is* your battle plan?" After "a thoughtful pause" which is its own answer, Frog nevertheless encodes the answer within language, in the form of a question: "Hmm, what is it they say—'Silence is Golden?" Katagiri still doesn't understand: "You mean I shouldn't ask?" To which Frog can only reply: "That's one way of putting it" (129). Frog, even *as* an interval, cannot finitely clarify any single superior method for expressing this battle-plan that might save Tokyo/Katagiri. "Not asking" is one way of putting it—a way that functions as something equivalent to registering an interference pattern of light/silence on a collecting plate. It provides Katagiri a useful and locally-effective understanding of the wave-like nature of light/silence. But that useful way is not the only way, and of course is not *it*—is not the whole *quidditas* of that light/silence.

Katagiri doesn't get it—that there is no*thing* to get—but following their strategy session, he nevertheless makes the choice to join Frog and together try and save Tokyo. "All right then," Katagiri tells Frog, "what do you want me to do?" (128). They agree to meet beneath Tokyo at eight-thirty a.m. on February 18 to face Worm together. But "unexpected things do happen" (129), and on the eve of the battle, Katagiri does and does not get shot while walking his rounds through Kabukicho. "It didn't make sense to him," Katagiri thinks: "the gun was *so* small and *so* black it hardly looked real. . . . But the gun in fact went off" (130). He feels as if a sledgehammer strikes him, his briefcase goes sailing, people are screaming as storefront glass explodes around him. In short, "everything was a blur" (130). The shadowy gunman looms over Katagiri and takes aim. Katagiri, realizing he is about to die, experiences in this acute moment of crisis an event which cannot be represented, neither to him nor through the text: and so "Katagiri cut the switch of his imagination and sank into weightless silence" (130).

An interval (*ma*) now appears between passages on the printed page. When the words finally resume following the interval, Katagiri is lying in a bed in an otherwise empty hospital room. Neither Katagiri nor we have any idea exactly what has just happened. Katagiri, lost, pragmatically attempts to assemble a linear narrative out of the kaleidoscoping bits of all that's occurred—"he would start by putting all the facts in order" (133). This involves familiar tactics: he asks a passing nurse what time it is; he questions her about the date; he asks her for the news regarding Tokyo. The time is nine-fifteen a.m. on February 18, exactly forty-five minutes after Frog said Worm would destroy the city if they should fail. No earthquake has struck Tokyo. Neither, though, has Katagiri suffered any bullet wound. "Then what the hell am I doing in a hospital?"

Katagiri exclaims, to which the nurse can only reply: "Somebody found you lying in the street . . . just out cold. And we still haven't found out why" (133). This informatioon staggers Katagiri's capacity to frame it—"[he] had no idea what was true anymore" (134). So he stops trying to structure the absurd events into some pattern that might make sense and lies back in his hospital bed. Through this moment of acquiescence, he becomes attuned to the sound of his and all our impermanence, to the sound of our motion as but relatively stable ripples atop an infinitely deep and ever-unknowable ocean: "Katagiri closed his eyes and listened to the slow, rhythmic beating of his heart as it ticked off the minutes of his life" (133).

Through this silent attunement to his own impermanence, Frog comes back to Katagiri. Frog is terribly wounded, though, and has been infected by Worm. Katagiri at first fears he has failed Frog by leaving him alone when Frog needed him most. Frog, though, informs him that they in fact stood together against Worm, as planned, "in the area of imagination" (135)—specifically, in the empty interval (*ma*) on the printed page between where Katagiri turned off his imagination and slipped into silence, and when he re-awoke in the hospital. The most critical event around which the entire text spirals—the battle, the *way* Tokyo/Katagiri are saved—vanishes from the text. Whatever happened in that interval, it remains, like the event of the elephant-keeper vanishing, too much of a whole for any representation—whether through the minds of the characters being narrated, or through the text itself. Quite to the point, back now in the sensible world of locating and distinguishing things by naming, Frog tries to recount to Katagiri exactly what took place within that interval. His best description, though, is beyond absurd: "Darkness was our enemy's ally. You brought a foot-powered generator and

used every ounce of your strength to fill the place with light" (135). Katagiri listens to this and to the rest of Frog's explanations, but both he and Frog know that nothing Frog says is making any sense:

> "Mr. Katagiri . . . "
>
> "What is it Frog?"
>
> "I am, indeed, pure Frog, but at the same time I am a thing that stands for a world of un-Frog."
>
> "Hmm, I don't get that at all."
>
> "Neither do I. . . . It's just a feeling I have. . . . Inside me is the un-me. . . . I really want you to understand." (136-7)

Katagiri only understands in the sense that, as Frog falls silent, Katagiri thinks back upon their time together, upon their strange relationship and particularly upon the many literary allusions Frog has called upon to try and explain his own points. "As soon as I get out of this hospital," Katagiri thinks to himself, excited, full of curiosity and hope for tomorrow as we've never seen him before: "I'll buy *Anna Karenina* and 'White Nights' and read them both. Then I'll have a nice long literary discussion about them with Frog" (137). This is to say, Katagiri understands exactly what Frog has been trying to communicate to him.

By creating a positive feedback loop of love with the man, Frog has saved Katagiri's life—"you and I together, Mr. Katagiri, were able to prevent the annihilation . . ." (135). The hope born from their entanglement, though, isn't one that re-inscribes a false sense of permanence to the effects of this life. This prevention of annihilation is only deferred: "each and every one of us is a being of limited duration," Frog tells

Katagiri: "All of us eventually go down to defeat" (135). As unsettling as it reads, Frog's last gesture seems to be a visceral lesson about the suffering that attends such loss; but it is equally about how Worm and the world and the individual human are all interwoven and inseparable[80]—i.e., how Frog is always his individual self and yet is simultaneously all frogs—and what hope, meaning what love, radiates therein. Barely visible in the darkness of the hospital room, the infected wounds on Frog start writhing. Frog wordlessly begins dissolving into a squirming mass of worms, sliding down across scales of collectivities into "an endless stream of things" (138). The stream diffuses throughout the room, merging with and interpenetrating everything, including Katagiri. Suffering this lesson, Katagiri feels but does not understand these many things of Frog and Worm becoming one with him, and him with them. All that is certain is that he is losing his one loving friend, with whom he'll never get the chance to chat about Anna Karenina or "White Nights," and it hits him like a bullet how: "He'll never come here again" (140). The horror of this absence is overwhelming: "Filled with an intense despair, Katagiri screamed." But Frog's intercession enabled, perhaps, a way to read hope amidst this inexplicable interval of life through which we are all passing together: a hope emerging from the feedback-loops of love which circulate through and are only enabled by the impermanence of the blurring interval itself. And so even amidst his darkened room, Katagiri's howl no longer goes unheard: "Someone snapped a switch, and light filled the room" (139).

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[80] Etymology: "Worm" and "world" both seem to derive from the same old Germanic base—*wer*, or "man." Worm and the world and let us say an individual "human" are therefore all interwoven through the word itself, "word" also derivative of the same base: *wer*. Through this we might understand why any battle with Worm must end, as it does in "super-frog saves tokyo," in a draw. Worm, like the world, isn't something you can "defeat" anymore than you can defeat humankind.

"super-frog saves tokyo" is Murakami's message of hope to his Japanese kinsfolk suffering from earthquake and terrorist attack. But the hope implicit in the story, as throughout Murakami's oeuvre, is not limited to culture or geography. Murakami writes on all "our existence here—not in Japan or any special nation but as children of gravity, as earthlings" (Kirn 11). The interval, which seems to represent the division between *things* and the breakdown of connectivity, is for Murakami, as for Fuller and Hemingway, what enables the event of between-ness.[81] The vastness of the background-blur from which, as Bohr and Bohm suggest, all *things* emerge as but relatively stable ripples might inform Snow's view of incommensurability and provoke Ahab's hatred—but only so far as that vastness is viewed from a classical perspective. Other perspectives emergent from the sciences and the humanities provide complementary interpretations of the blur. The notion of phantom action suggests an implicate indivisibility to the matter comprising this explicate classical universe. Strange attractors present visual evidence of the infinite interconnectivity of nature. The space and time that appears to separate *things*, then, is only one part of a greater story of our whole natural existence. And at the threshold between disciplines, informed by ideas from both, we can reach a relatively stable answer to the question concerning how matter might know itself: by love through the event of between-ness. That event is only enabled by the vastness. And

> for small creatures such as we the vastness is bearable only through love.
>
> (Sagan 430)

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[81] "It is the interval," writes Blanchot, "the pure interval that, from me to this other who is a friend, measures all that is between us . . . and that, far from preventing all communication, brings us together in the difference and sometimes the silence of speech" (291).

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