OF MIRACLES, NESTED DOLLS, AND THE UNLIMITED: 
THE PHYSICS OF DIMENSIONALITY IN THREE WORKS OF LITERARY 
NONFICTION

I. Introduction

Writers of literary nonfiction splice together fact, observation, speculation, reminiscence, and metaphor to create what Phillip Lopate calls “vertical dimension” (Art of the Personal Essay xxv). The author’s challenge involves making connections among the various layers of this vertical dimension, which, Lopate suggests, s/he does by dropping a thread through a text to stitch together the workings of a meandering mind and fabricate meaning. The analogy, although useful, does not address the other attributes described by the word dimension, which include the depth of space, the scope of time, and the breadth of consciousness. When a complex nonfiction narrative is multidimensional, it not only relies on verticality, it transcends the flat and linear that verticality suggests.

The construction of dimensionality is as particular as—and as linked to—a writer’s style, which E.B. White calls the ability “to break through the barriers that separate [the writer] from other minds, other hearts” (The Elements of Style 70). This reaching out from a page, across space and time to capture the reader’s attention, is, in itself, a movement across dimensions. And movement--how a writer unfolds the characters, times, and spaces of a story--furnishes literary nonfiction with its dimensionality.

Three nonfiction authors--Loren Eiseley, Susan Griffin, and N. Scott Momaday--use language and point of view to propel their narratives through the contraction and expansion of time, space, and consciousness. Eiseley observes the dimension of miracle from the edges, changing points of view as he moves from one liminal zone to another. Within this structure, he compresses geologic history to dilate and constrict time and with it, perspective. Griffin builds three-dimensional spaces from photographs and extended metaphor, structuring them like a series of nested dolls. As she burrows through their concentric walls, she connects private and public histories. Momaday summons us to consider an interconnected, parallel dimension, and to participate with him in an act of oral storytelling that begins on the printed page. When the reader engages in the action of the storytelling process, which relies on the narrator’s use of silence and the listener’s ability to infer, the act of storytelling itself becomes an unlimited part of the exchange.

The work of the American physicist David Bohm offers a paradigm to understand narrative dimensionality. Bohm advanced several theories about quantum physics, the nature of reality, and thought and language that are applicable to the work of Eiseley, Griffin, and Momaday. Bohm’s ideas about the static and dynamic in language and physics, for example, provide insight into Eiseley’s rendering of light and time as visible, moving entities. Bohm’s inquiry into the interconnected flux of all matter supports Griffin’s exploration of the connections between private and public. Finally, what Bohm calls “participatory thought and the unlimited” (On Dialogue 84) lends understanding to the art of Momaday’s storytelling.

II. The Dimension of Miracle
The personal essayist, says Lopate, makes “the small loom large,” and “simultaneously contracts and expands the self” (Art of the Personal Essay xxviii). Loren Eiseley, in “The Judgement of the Birds,” tells a story about beholding the miraculous, that “point in which the mundane world gives way to quite another dimension” (28). As Eiseley relates the marvels he has witnessed—four involving birds, and one, a spider—he contracts and expands not only the human self in relation to the natural world, but the dimension of time and the condition of perspective. Eiseley transforms what appears static in the natural world into a series of dynamic incarnations, from the manifestation of light as matter to the movement of time.

David Bohm believed that “all of reality is a dynamic process” (qtd. in Keepin, “River of Truth” 3). In On Dialogue Bohm identifies “three dimensions of the human being”: the individual, the collective, and the cosmic. Of these, Eiseley’s work is best described by the cosmic, which Bohm defines as “the sphere of man’s immersion in nature, the cosmology of science and religion” where “nature is sensed as something beyond the individual and the society” (90).

The dimension of miracle, Eiseley reveals, is dynamic. To elicit its vibrant nature, he builds and collapses space and time, and generates movement using narrative structure and alternating points of view. “The Judgement of the Birds” comprises five segments that are separate, linked vignettes. As Eiseley places himself on the edges of scenes, considers them from different margins, he establishes a narrative space in which to move ideas and characters. An animated image of an eye might describe this space; as light enters and recedes, the pupil constricts and dilates, a terrain whose borders shift in an environment of light-triggered movement. Eiseley evokes those constantly receding and advancing liminal zones by using a variety of settings, and true to the analogy of the eye, specific lighting.

Two of the vignettes, for example, take place at dawn and dusk respectively, times of day when visual perception is altered. Another episode occurs in morning during a disorienting fog. One happens in the late afternoon, another at night. In each of the vignettes, Eiseley situates his I-narrator at different physical borders. In the first, he leans out of a twentieth-floor window. In the second, he follows “a dimly outlined path” (30) through a field. In the third, he stands on the crest of a hill that is “spined like a dinosaur’s back” (31). In the fourth, Eiseley rests at the edge of a glade, and in the final vignette, he stands at the top of a stepladder.

These liminal zones allow Eiseley to move from the margin of a scene into its center. He begins in the first episode observing the bustle of modern life, brings the reader a little closer to the setting—an unlikely metropolitan wilderness—then zeros in on the more specific, moving inward from a particular city (New York), to a twentieth-floor hotel room. There he awakens one night, grows restless, gets out of bed, and climbs upon the windowsill. From this vantage point Eiseley describes the outward movement of light:

I found I was looking down from that great height into a series of curious cupolas or lofts that I could just barely make out in the darkness. As I looked, the outlines of these lofts became more distinct because the light was being reflected from the wings of pigeons who, in utter silence, were beginning to float outward upon the city […] They were pouring upward in a light that
was not yet perceptible to human eyes, while far down in the black darkness of the alleys it was still midnight (28).

In this passage, the pigeons are both the source of the light and the subjects illuminated by it. Their collective energy constitutes the setting of the miracle and the miracle itself, an idea that Eiseley will reiterate in the third segment of the essay that is set in the badlands. To perceive the light in matter and the matter as light at the same time is an idea that anticipates David Bohm’s concept of holomovement as a way to describe his theory of the implicate order. “Each part of the hologram contains the whole object,” Bohm explains, adding that, “the order is in the movement of the light whose intensity is recorded. What is characteristic of this order is that a whole is enfolded in the movement in each region of space” (“The Implicate or Enfolded Order” 26). Like a fractal, light in the hologram, “is able to carry a whole content in each region or part” (28). By asking the reader to consider source and subject as one, Eiseley invites us not only to further explore the dimension of the miraculous—where light (energy) is manifest as matter—he makes a compelling argument for human perception of its existence.

He also sets the stage for his I-narrator to move from the margin between sleeping and waking and the border between dark and light into the realm of speculation, what Fern Kupfer names “the gift of perhaps” (“Everything But the Truth” 293). Conjecture allows Eiseley to contract and dilate perception. As he enters the place of perhaps, Eiseley changes his perspective from that of the observed to that of the observer to that of a potential other, omniscient observer, to consider the scene from what he calls “an inverted angle” (29):

There were no sounds from any of [the pigeons]. They knew man was asleep and this light for a little while was theirs. Or perhaps I had only dreamed about man in this city of wings—which he could surely never have built. Perhaps I, myself, was one of those birds dreaming unpleasantly a moment of old dangers far below as I teetered on a window ledge (29).

David Bohm says that “the observed is profoundly affected by the observer, and the observer by the observed—they really are one cycle, one process.” At a certain point, he notes, “the observer is the observed” (On Dialogue 69-70). As the observer, Eiseley tells us that he watched the pigeons and the movement of light, and he felt enticed to join the observed, to move from the window ledge and “enter that city of light [...] and go away over the roofs in the first dawn” (29). He stops himself, of course, from jumping out of the window, and reflects:

I think of it sometimes in such a way that the wings, beginning far down in the black depths of the mind, begin to rise and whirl till all the mind is lit by their spinning, and there is a sense of things passing away, but lightly, as a wing might veer over an obstacle (29).

Eiseley collapses the distinctions here between the observer and the observed, making the wings of the pigeons integral to “all the mind” (note that he does not write “my mind”). Using verbs of movement like rise and whirl, and the gerund spinning, he renders observation as a dynamic process. Bohm might have said that Eiseley is describing consciousness itself.

In the passage that follows, Eiseley proposes that perception from an inverted angle is also “sensed by animals,” that it must occur at the right time, when one is “by chance or intention upon the border of two worlds” (29). To illustrate, Eiseley describes an encounter
with a crow, whose “world begins at about the limit of my eyesight” (30). The meeting takes place during a foggy morning, when “the ceiling was absolutely zero” and a “pedestrian could hardly see his outstretched hand” (30). Words like ceiling and pedestrian evoke the spatial and the kinesthetic. Eiseley narrates the next paragraph—from his human observer point of view—entirely with verbs (and several nouns) that describe or refer to motion:

I was groping across a field in the general direction of the railroad station, following a dimly outlined path. Suddenly out of the fog, at about the level of my eyes, and so closely that I flinched, there flashed a pair of immense black wings and a huge beak. The whole bird rushed over my head with a frantic cawing outcry of such hideous terror as I have never heard in a crow’s voice and never expect to hear again (30).

When Eiseley relates the observed bird’s perspective of the episode (a scene that follows the passage above), he laces the paragraph with three passive sentence constructions, and verbs that describe thought and perception. The shift from active to passive verbal constructions contracts the narrative from the physical, where movement is predominant, to the cerebral, where imagination prospers.

In his work *Wholeness and the Implicate Order*, Bohm calls the structure of reality “an undivided flowing movement” (172). In “River of Truth,” the mathematical physicist William Keeling explains the implicate order as:

[...] the fundamental and primary reality, albeit invisible. Meanwhile, the explicate order—the vast physical universe we experience—is but a set of ‘ripples’ on the surface of the implicate order. The manifest objects that we regard as comprising ordinary reality are only the unfolded projections of the much deeper, higher dimensional implicate order [...] The implicate and explicate orders are interpenetrating in all regions of space-time, and each region enfolds all of existence, that is, everything is enfolded into everything (6).

Eiseley’s dimension of miracle is one manifestation of that implicate order, where, as Bohm observes, light is “the fundamental activity in which existence has its ground [and] the potential of everything” (qtd. in Weber, *Dialogues with Scientists and Sages* 155). Indeed, Eiseley maintains that to behold miracles, “the light must be right, and the observer must remain unseen” (33). In each episode, he attends to the light, which enhances the spatial and temporal dimensions of each scene in the essay. The first of these episodes occurs at the hour just before dawn, “when men sigh in their sleep, or, if awake, strive to focus their wavering eyesight upon a world emerging from the shadows” (28). In the third vignette, “blue air was darkening into purple” (31). In the fourth, “the light was slanting down through the pines in such a way that the glade was lit like some vast cathedral” (33). And in the final episode, Eiseley perches on a stepladder “under a suburban streetlight in a spate of leaves and beginning snow” (35).

Against a fading or sharpened light, Eiseley exploits contrast, which adds to the spatial quality in the essay, much like the visual art technique of tenebrism—which situates the darkest area of a painting next to the lightest—suggests motion emanating from a flat surface. In the first episode, for example, Eiseley limns “a city of wings” and “a city of light” (29) that materializes against the dark, fuzzy backdrop of pre-dawn. In the third episode, against the
ethereal shaft of light through the trees, he sets “an enormous raven with a red and squirming
nestling in his beak” (33).

Eiseley not only makes the light manifest as a dynamic entity in his essay, he dilates the
dimension of time by placing contemporaneous events against a backdrop of human and
geologic history. In “The Judgement of the Birds,” he introduces the episode set in the
badlands by moving backward in time as the narrative moves forward, from the American
continent of several centuries ago to the Valley of the Kings in Egypt of millennia past. He
compresses history but enlarges the scope of what it means to stand on particular ground:

On the maps of the old voyageurs it is called Mauvaises Terres, the evil lands, and, slurried a little with the passage through many minds, it has come down
to us anglicized as the badlands. The soft shuffle of moccasins has passed through its canyons on the grim business of war and flight, but the last of
those slight disturbances of immemorial silences died out almost a century ago. The land, if one can call it a land, is a waste as lifeless as that valley in
which lie the kings of Egypt (31).

Eiseley conflates this wasteland with the cosmos, condens
es both time and space, in the
following observation: “The ash of volcanic outbursts still sterilizes its soil, and its colors […]
are the colors that flame in the lonely sunsets on dead planets” (31). Against that faraway
planetary fire, Eiseley contrasts the purplish light of day’s end in the badlands. He is looking
at this “flaking, cracking, disintegrating” (31) landscape when he sees on the horizon a flock
of warblers, a “close-knit body of black specks that danced and darted and […] streamed
through the shadows rising out of the monstrous gorges” (32).

Eiseley’s I-narrator steps out to address the reader directly: “It may not strike you as a
crystal. It would not, perhaps, unless you stood in the middle of a dead world at sunset, but
that was where I stood” (32). The shift to second person invites the reader to consider not
only the miraculous nature of what Eiseley witnesses, it readies us for what he accomplishes
in the next three paragraphs, the seemingly impossible task of rendering visible the
movement of time. He begins by situating himself as steeped in another age:

Fifty million years lay under my feet, fifty million years of bellowing
monsters moving in a green world now gone so utterly that its very light was
traveling on the farther edge of space. The chemicals of all that vanished age
lay about me in the ground. Around me still lay the shearing molars of dead
titanothere, the delicate sabers of soft-stepping cats, the hollow sockets that
had held the eyes of many a strange, outmoded beast. Those eyes had looked
out upon a world as real as ours; dark savage brains had roamed and roared
their challenges into the steaming night (32).

The dimensionality in this segment concerns magnitude (fifty million years), and also the
movement of time. Eiseley sustains motion by using verbs that accelerate in movement from
the quietly physical (i.e., lay, hold, look out) to the more aggressive (roam and roar). Of the
fourteen adjectives in this paragraph, eight are participial modifiers. Just four of them—
bellowing, shearing, soft-stepping, and steaming—bring a sense mixed of sound, friction, stealth,
and temperature, which all imply the kinesthetic as expressed, respectively, by the mouth, the
foot, the earth itself. By modifying nouns with participial adjectives, Eiseley illustrates the
principle that what appears static is actually dynamic.
Bohm’s theory about the static and dynamic in thought and language appeared almost a decade after Eiseley died. According to William Keepin, Bohm “emphasized that thought tends to create fixed structures in the mind, which can make dynamic entities seem to be static” (“River of Truth” 3). As Keepin elaborates:

To put it crudely, one could say that nouns do not really exist, only verbs exist. A noun is just a ‘slow’ verb; that is, it refers to a process that is progressing so slowly as to appear static. For example, the paper on which this text is printed appears to have a stable existence, but we know that it is, at all times including this very moment, changing and evolving towards dust. Hence paper would more accurately be called papering--to emphasize that it is always and inevitably a dynamic process undergoing perpetual change (3).

With the scene set in a shifting landscape, Eiseley describes the dynamic aspect of time as a collection of “odd chemicals” (31). In the following paragraph, Eiseley grounds his observations by attaching them to the geology of place. He simultaneously contracts time with adjectives such as eroding, and verbs such as remember, forgotten, and ebb(ed), which punctuate his use of the verb to be:

Now they were still here, or put it as you will, the chemicals that made them were here about me in the ground. The carbon that had driven them ran blackly in the eroding stone. The stain of iron was in the clays. The iron did not remember the blood it had once moved within, the phosphorous had forgotten the savage brain. The little individual moment had ebbed from all those strange combinations of chemicals as it would ebb from our living bodies into the sinks and runnels of oncoming time (32).

Having created a visual dependent on temporal motion, Eiseley accelerates the movement of time as described by the flying birds. In comparison with the above passage, he uses one action verb after another, interspersed with participial adjectives to generate momentum:

I had lifted up a fistful of that ground. I held it while that wild flight of south-bound warblers hurtled over me into the oncoming dark. There went phosphorous, there went iron, there went carbon, there beat the calcium in those hurrying wings. Alone on a dead planet I watched that incredible miracle speeding past. It ran by some true compass over field and waste land. It cried its individual ecstasies into the air until the gullies rang. It swerved like a single body, it knew itself, and lonely, it bunched close in the racing darkness, its individual entities feeling about them the rising night. And so, crying to each other their identity, they passed away out of my view (32-3).

By making the movement of time visible, Eiseley prepares us for the heart of his essay, the fourth segment, in which he describes “a judgment upon life […] that was not passed by men” (33). In this part of the narrative, Eiseley enters into a dimension that concerns the perception of another reality. It is a reality, he observes, that cannot be perceived by “those who stare at birds in cages,” a reality “that one man in a million has ever seen […] because man is an intruder into such silences” (33).

Eiseley makes it clear that to seize upon a miracle--to enter into the dimension he calls “the essence of life in its great dealings with the universe” (36)--one must venture out alone into the wilderness. One must move along the edges of such encounters with the
miraculous, when a particular light alters perspective. To communicate the miracle’s essence— the “undivided flowing movement” of the implicate order—Eiseley considers the multiple, interconnected perspectives of observer and observed. As these perspectives merge in the expanded and contracted dimension of space, light manifests as matter and the dimension of time is perceived as movement. When we take the time to look at the world from an “inverted angle,” Eiseley demonstrates, we see that moments of consciousness belong to birds as well as humans, and that all reality, including thought, is dynamic.

III. Matriochka Maker: The Nested, Interconnected Dimension

In “Denial,” the first chapter of A Chorus of Stones. The Private Life of War, Susan Griffin illustrates what Virginia Woolf observes in Three Guineas, “that the public and the private worlds are inseparably connected; that the tyrannies and servilities of the one are the tyrannies and servilities of the other” (258). Griffin exploits the associations that arise from memories (in the form of family and historical photographs), and connects them to extended metaphors to create a series of spaces, like matriochka nested dolls made to fit one inside the other. She uses repetitive phrasing, shifting pronouns, and parallel syntax to navigate within these concentric spaces, as if through their “walls,” conflating family silences and wartime secrets to examine the multiple facets of denial from private and public perspectives.

In David Bohm’s schema of human dimensionality, Griffin’s work concerns the individual, whose “body is a sort of ‘focus’ of life at a certain place” (On Dialogue 90). In the implicate order, Bohm says, “mind and matter are not separate substances. Rather they are difference aspects of one whole and unbroken movement” (qtd. in Hayward, Shifting Worlds 25). If the nested ideas in “Denial” represent mind, Griffin’s extended metaphor of stone connotes matter. Consider Bohm’s illustration of the implicate order, in which an ink drop is placed in glycerin:

If the fluid is stirred slowly by a mechanical device (so that there is no diffusion) the droplet is eventually drawn into a fine thread that is distributed throughout the whole system in such a way that it is no longer visible to the eye. If the mechanical device is then reversed, the thread will slowly gather together until it suddenly coalesces once again into the visible droplet. Now, before this coalescence took place, the droplet could be said to be ‘folded into’ the viscous fluid, while afterwards it is unfolded again. So we have an example of a movement in which an explicate order is implicated and then explicited (“The Implicate or Enfolded Order” 27).

Griffin’s stone metaphor behaves very much like Bohm’s ink droplet, disappearing and reappearing--moving through visible and invisible realms--as she rotates the nested dolls. She introduces the metaphor early in the essay, and uses it as a physical location for memory, a cornerstone, literally, for the spatial dimensionality she builds throughout the essay. The heft of stone--and the repeated allusions to it throughout the essay--evoke the physical body and add muscularity to the narrative.

The use of an extended metaphor also establishes boundaries for Griffin’s meandering mind; she repeatedly returns to consider her observations and associations by the weight and
measure of stone, balancing them, as it were, against what the metaphor is and what it is not. She binds this metaphor first to her grandfather:

I might describe him as being like stone except that stones record history. The hard surface of stone is impervious to nothing in the end. The heat of the sun leaves evidence of daylight. Each drop of rain changes the form; even the wind and the air itself, invisible to our eyes, etches its presence. [...] All history is taken in by stones. And perhaps it is this knowledge which made them weep when Orpheus sang. But what my grandfather suffered and witnessed was never to be told. His very manner discouraged questions (6).

In the first sentence of this passage, Griffin traverses the personal (her family) to reach the global (history), associating private and public locations with silence and denial, aspects of being human that both concern what is unspoken. The reader expects (and should expect, from the title of the book) to be figuratively anchored by stone as Griffin weaves in and out of the nested spaces built from complex ideas, reminiscences, and historical events. She uses space as a kind of echo chamber to sustain the stone metaphor. If the idea of stone implies ground, the reference to Orpheus implies what is below ground. Two pages after introducing the stone metaphor, she alludes to the Orpheus myth from the passage above:

I am beginning to believe that we know everything, that all history, including the history of each family, is part of us, such that, when we hear any secret revealed [...] our lives are made suddenly clearer to us, as the unnatural heaviness of unspoken truth is dispersed. For perhaps we are like stones; our own history and the history of the world embedded in us, we hold a sorrow deep within and cannot weep until that history is sung (8).

Griffin connects stone (the concrete) to fire (the elemental): “It is said that the close study of stone will reveal traces from fires suffered thousands of years ago” (9). Here she moves through the space of the global to arrive at that of the individual, linking fire to where she lives, home to “the bishop pine, which requires fire for regeneration.”

Then she moves outward, tunneling through one strata after another, to contemplate the association of fire with “the miracle of transubstantiation which makes evident the heart of existence” (9). The earthbound stone and air-dependent fire in Griffin’s essay provide another sort of dimension, one in which the physical and the cerebral are connected through juxtaposition. When she reaches the end of the segment, fire symbolizes a hideous kind of cleansing:

Yet, by another turn, there is no death that is as devastating as a death by fire. And this twinned identity, as giver and taker of life, lends this element the air of divinity in action, a force that purges gross reality of its impurities and transforms mortals into gods. No wonder that the Third Reich chose the swastika, a symbol for fire, to emblazon its flags (9).

Instead of painting smiling peasant women in bright reds and yellows on the outer surfaces of the matriochka, Griffin decorates her nested dolls with family and historical photographs. She scrutinizes these pictures not only for their content, she uses them to literally frame ideas, alternating close-up with wide-angle perspectives, very much like Eiseley contrasts light with dark. For example, Griffin examines a picture of her father as a child and zooms in on the “silent sorrow mapped on his face” (5). She turns to an image of Dresden
after the fire bombing in 1945, and zooms out to the landscape, where “A few dark figures hunch over a sea of corpses. There are ruined buildings in the background and smoke from a fire” (5). When she describes a third picture, of her grandfather, Griffin blends together the close-up and wide-angle vantages:

It was taken a few years before masses of soldiers died on the battlefields of World War I, and over three decades before the bombing of Dresden, the concentration camps, Hiroshima. And yet, my grandfather’s face bears an expression of grief just as if he were looking over a scene of senseless destruction, a field of bodies (5).

The phrase “expression of grief” echoes that of “silent sorrow” used to describe her father’s countenance in the first picture. Griffin also visually links the “sea of corpses” from the Dresden picture to what she imagines beyond the frame of the photograph of her grandfather, the “senseless destruction” and “field of bodies” of other wars. She impresses these interconnected spaces in the mind’s eye of the reader by mirroring these private and public images with “the histories of families” and “the histories of nations” (11), giving new meaning to the notion of “photographic memory.” Griffin also insinuates that history is like Bohm’s idea of the holomovement, a dimension where “each part of physical reality contains information about the whole” (qtd. in Keepin, “River of Truth” 4).

Later in the essay Griffin looks at photographs in Life magazine of British Air Marshall Arthur Harris, who commanded the Dresden bombing. The cover photo, she finds “flat and arranged” (12), as if Harris had been posed. Griffin describes him:

He is of course very well cast for the role. A broad and manly chest, graying hair and mustache, and a stern fatherly expression. One imagines his voice will be gruff, not corrugated like Bogart’s voice, but somehow eroded, as if exposed to harsh elements over time. If he plays his role well, it is after all one he has prepared for, in one way or another, since the earliest days of his childhood (12).

The photograph of Harris nests within the family and historical pictures described seven pages earlier. By exploring the Dresden firebombing in conjunction with all these images, Griffin moves through public and private psychogeographies to reveal their interconnectedness. Where Eiseley uses contrast in conjunction with light and dark, Griffin uses it to connect points on the continuum of human--and in this case, male--physicality, from pained to virile. In contrast with the linked, sorrowful expressions of the father/grandfather photos, the portrait of Harris is one of manhood, constructed by a magazine for the public during wartime. Griffin begins by presenting a visual description of Harris, and then she shifts to imagining how he would sound. When she describes his voice as “not corrugated like Bogart’s,” she brings in a familiar, tempered image of masculinity. And, when she imagines Harris’s voice sounding “eroded” and “exposed to harsh elements over time,” Griffin’s stone metaphor unfolds again, connected, yet contrasted at the same time, to Orpheus’s voice in song, and to her sorrowful grandfather.

Griffin leads the reader from considering a two-dimensional image (the first photo of Dresden, with figures in the foreground and buildings in the background) to visualizing a three-dimensional image. By distinguishing between depth and flatness, Griffin scaffolds the multidimensional structure of the essay. Through a device called a stereopticon, Harris, she
Griffin explains, is able to see a third dimension to the “two-dimensional, gray landscape” that includes “gaping craters, heaps of rubble, burned out buildings with the walls still standing, acres and acres of roofless buildings” (13). Using a fairly long list and increasing the number of modifiers in this sentence, Griffin imitates the act of acceleration, prompting the reader to visually travel through a skeletal landscape where the real motion of destruction has already occurred. She also creates a visual echo in the very act of looking at a photograph of someone who is looking at a photograph. As she turns the pages of a magazine, the reader turns the pages of her book. This shared movement occurs because, as Bohm posits, in the human dimension of the individual, “there really is no sharp end to the body” (On Dialogue 90).

Examining a final photograph, Griffin moves between two spatial dimensions, one the outer matriochka of the community, and the second, which is nested inside, of the human body. She views a picture of Harris as he looks at “his famous Blue Book, a huge document he has prepared [that] contains maps of several German cities which he has marked, according to Life, for emasculation.” In the passage that follows, Griffin shifts point of view, from first-person singular to third-person singular to first-person plural. The effect is a broad, concentric movement from one verbal subject to another, all nested, or as Bohm would say, enfolded in each other:

I am, of course, stopped by this last word. The author has placed it in quotations, as if it were Harris’s language, or the choice of the RAF. What is meant by this word? Is it the implicit unmanning of the vanquished by conquering armies? Or is it that emasculation which occurs when one man’s women and children are harmed by another man? Or both of these. And of course there is the obvious meaning, the loss of a part of the body, the sexual body by which a man is defined. But even this literal reading moves to a larger implication, the loss of identity itself. That stripping away of every extraneous layer, of every role we play in life, which one suffers when faced with unmitigated terror (13).

Griffin mirrors the action of zooming in and out as she examines photographs with a figurative zooming in and out from private to public. In the following passage, for example, Griffin uses the interrogative and the declarative, shifts pronouns, contrasts static and active verbs in present and past tenses, and uses parallel repetition of a single word:

How old is the habit of denial? We keep secrets from ourselves that all along we know. The public was told that old Dresden was bombed to destroy strategic railway lines. There were no railway lines in that part of the city. But it would be years before that story came to the surface.

I do not see my life as separate from history. In my mind my family secrets mingle with the secrets of statesmen and bombers. Nor is my life divided from the lives of others. I, who am a woman, have my father’s face. And he, I suspect, had his mother’s face (4).

The answer to Griffin’s opening question, she intimates, is as old as we/ourselves, the public, and the third-person omniscient narrator, all of whom appear in the first paragraph. The answer to her question is also as connected to the I-narrator of the essay, statesmen and bombers, and—visually/physically—to the author’s father and grandmother, who enter in the
second paragraph. These three distinct narrative points of view originate in the public and cross into the private. By repeating the verb to be and using constructions such as “the public was told,” “there were no” and “it would be,” in the first paragraph Griffin elicits a static sense of the public. With the verbs mingle, divide, and suspect in the second paragraph, she evokes a more dynamic, yet private space. Griffin links these two psychogeographies by repeating the word secrets in the second sentence of each paragraph.

Nonfiction dimensionality is enhanced when the writer moves into the realm of the imagined. Eiseley uses conjecture to contract and dilate perception; when Griffin enters the environment of perhaps, she evokes movement through space by attending to the magnitude of the small detail, the weight of facts that coincide to make history, the picture of after that complements and sharpens the images of before. Thus she imagines Harris a year after his appearance on the cover of Life, looking at photographs taken after the Dresden bombing:

He is passing them through the instrument by which he can see the true dimensionality of the destruction. But despite this technology, there is a depth in the field of his vision that is missing. There are details too small to be caught in the lens. Stains. Discarded clothing. The smell of fires unseen. And perhaps, if he were there, in the place itself, he might feel something from the fragments of stone which must have absorbed the atmosphere of this event, strangely quiet as they are. Though still, a certain kind of silence is a common effect of the catastrophe (14-15).

In the smallest pieces of this scene—expressed as both the sentence fragments nested in the center of the passage, and the pieces of stone at its end—Griffin captures the whole. Bohm says of holomovement that, along with light, “sound, electron beams, or any other movement” also contain “a whole content in each region or part” (On Dialogue 5). Where Eiseley depicts the interpenetrating nature of light and subject, observer and observed, Griffin shapes interconnected spaces in her narrative, unfolding the largest detail from the smallest.

“Denial” comprises two main sections. In the first, Griffin’s I-narrator describes her family and their secrets. In the second—where she scrutinizes the Dresden firebombing—Griffin’s first-person narrator steps into the text to ask a question or insert a reflection. This sense of entry, of movement into the narrative scene, augments the dimensionality that Griffin creates visually with photographs, aurally with repetition and parallel phrasing, and cognitively with the use of extended and associated metaphor.

She begins this second section by discussing the lack of proper civil defense procedures, which guaranteed that people would perish in the infernos created in Dresden’s bomb shelters. After a short, third-person account of Goebbels, who kept the bombing a secret, Griffin introduces Gurda, a woman who survived the firestorms in Dresden by running out of a bomb shelter. Griffin uses a third-person narrator to relate Gurda’s testimony, and the subsequent paragraphs on the post-bombing effort to dispose of the incinerated bodies.

The use of third-person singular lends omniscience and authority to the narrative; the intrusion, six paragraphs into the section, of Griffin’s first-person narrator, adds emotional texture:

One group of Romanian prisoners refused to enter a certain cellar [to clear away the bodies], and the director of these operations had to be called. Now writing this, I feel like one of those prisoners, or like the director, who finally
went into the cellar himself, alone, to set an example. I do not want to tell you what he found there, or, in setting down the words, to make it part of my own consciousness (10).

Juxtaposing third-person facts with first-person revelation, Griffin moves between nested and interconnected public and private spaces. Before she reveals the contents of the cellar, Griffin asks, “Does not my own private sorrow contain and mirror, no matter how subtle, small traces of this horror, this violent death?” (10). She answers this question in the following passage by (again) deliberately alternating between first-person singular and first-person plural constructions:

Am I trying to write off the sufferings of my own mind and of my family as historical phenomena? Yes and no. We forget that we are history. We have kept the left hand from knowing the right. I was born and brought up in a nation that participated in the bombing of Dresden, and in the civilization that planned the extermination of a whole people. We are not used to associating our private lives with public events. Yet the histories of families cannot be separated from the histories of nations. To divide them is part of our denial (11).

Griffin adds to the spatial dimension in her essay by using repetitive phrasing and parallel sentence structures to create echoes and reflections. “How many small decisions accumulate to form a habit?” (15), asks Griffin in the first paragraph of the concluding section of her essay. This question recalls the question asked in the above passage, and the one posed at the beginning of the chapter, “How old is the habit of denial?” (4). By using questions Griffin is able to recall the secrets of her family as she simultaneously ponders the “private life of war.”

Griffin ends “Denial” intimating that where there is an echo, there may also be a reflection, as in the image returned by a mirror. “Wherever there is a secret, there is a rumor” (16), she writes. Griffin contemplates why Goebbels released the rumor “which exaggerated the number of the dead” (16), and uses mirroring--achieved through the allusion to details from other sections and paragraphs--to evoke echoes and reflection:

Yet I am certain there was another reason for the creation of this rumor, a reason seated deeper in the mind than ordinary consciousness lets us see. For deep in the mind we know everything. And wish to have everything be told, to have our images and our words reflect the truth. Goebbels must have known that the end was near. And just like polite society which pretends not to know about indiscretion, and yet gossips, Goebbels could see his own divided consciousness reflected in declaration and rumor. He could have the right hand, and the left, and keep them divided (16).

At the end of the essay, Griffin looks at her own face in a mirror, an act that recalls her previous examination of photographs and emphasizes reflection both figuratively and literally. Noticing that her eyes resemble her father’s, Griffin meditates on how he was hit by a car crossing the street and died. She augments the metaphor of stone here and connects it to the body remembering (or without boundary, as Bohm might say), a notion Griffin will return to in subsequent chapters. “Even today,” she writes, “my body tenses with fear every time I cross a street” (16). Following this disclosure, Griffin reminds us of the multidimensional nature of secrets themselves: “What at one time one refuses to see never
vanishes but returns, again and again, in many forms” (17). The use of the third person here, the all-encompassing “one” (which Griffin uses infrequently but pointedly) recalls all the interconnected characters nested into this chapter, from her first-person narrator, to family members to Gurda, Harris, and Goebbels. As she breaks the silences and uncovers the invisible, Griffin reaches clarity by perceiving the movement (through space) of what she could not see before: “What was blurred […] is now clearer, and a sorrow that was in the background has come forward to claim my attention” (17).

“Denial” is a complex essay, nested into an equally complex book. Griffin shapes a spatial dimensionality from pieces that unfold a whole. As she negotiates concentric narrative spaces, Griffin connects them to each other with visual links (family and historical photographs) and/or echoes (repetitive phrasing, shifting pronouns, and parallel syntax). To this she enfolds the extended metaphor of stone that integrates, disintegrates into, and reintegrates with the spaces between the nested-doll ideas of the essay.

IV. The Dimension of the Unlimited

N. Scott Momaday, in a short piece called “The Indian Dog,” creates from a childhood memory a fable about the essence of freedom. He invites us on a journey into an interconnected, parallel dimension similar to the dimension of miracle in Loren Eiseley’s essay, where time (the invisible) unfolds as visible motion. In Momaday’s story, however, silence enfolds sound, and sound unfolds motion. Where Susan Griffin uses repetitive phrasing and deliberate shifts in points of view to connect her ideas, Momaday scaffolds the silence with repetitive paragraph and line structures that conjure rhythm, and patterns of thought and deliberately placed modifiers that in turn introduce another layer of rhythm. The cadences embedded in the narrative suggest movement where few words in the text describe it. That movement occurs in the parallel dimension of the reader’s mind, as the product of inference. Additionally, the oral-tradition structure of “The Indian Dog” allows it to be easily internalized by the reader, who may in turn retell the story to others, removing it from the constraints of the printed page, and pushing it into another dimension entirely.

Bohm calls this cognitive dimension “the unlimited,” attained, he says, through the practice of participatory thought, which occurs in the collective dimension of the human being. In comparison to “literal thought,” which “tends to fragment,” participatory thought “tends to bring things together” (On Dialogue 87). In tribal cultures, Bohm points out, “People […] felt they were participating in some of the things that they saw— that everything in the world was participating, and the spirit of things was all one” (84). Lee Nichol, in his forward to On Dialogue, describes participatory thought as a way of perception “in which discrete boundaries are sensed as permeable, objects have an underlying relationship with one another, and the movement of the perceptible world is sensed as participating in some vital essence” (xvi). Furthermore, participatory thought leads to the unlimited, which, Bohm says, “is not just in the direction of going to greater and greater distances out to the end of the universe; but much more importantly, it is also going into more and more subtlety” (On Dialogue 93).

Momaday infuses his written narrative with the subtlety of oral storytelling, where static verbs belie the complexities of dynamic rhythmic patterns. He opens “The Indian Dog” with
facts (the explicit), beginning in the dimension of literal thought, but using the rhythm of an oral-tradition story. He achieves this rhythm with two simple sentences, then a complex sentence, and by repeating the simplepast of the verb “to be,” a repetition that contributes to the story’s easy-to-memorize quality:

When I was growing up I lived in a pueblo in New Mexico. There one day I bought a dog. I was twelve years old, the bright autumn air was cold and delicious, and the dog was an unconscionable bargain at five dollars (172).

Momaday repeats this three-sentence paragraph structure in five of the story’s eight paragraphs. In the second part of the narrative, he embeds two four-sentence paragraphs followed by a one-sentence paragraph. While sentences are distributed differently across these two paragraph clusters, in each the number of sentences is the same, which lends an even rhythm to the story. “The Indian Dog” is written as if Momaday were telling it in a story circle, where the teller’s silences and cadences mimic the drum, the heartbeat of the collective human dimension where participatory thought occurs.

The rhythmic patterns in “The Indian Dog” do not end with parallel paragraph structure; indeed, they constitute the most complex element—the implicate order—of Momaday’s narrative. To begin, the eight paragraphs in the narrative function more like stanzas in a poem (a form of oral storytelling), arranged in three distinct clusters that propel the reader through a familiar sequence of beginning, middle, and end. Throughout, Momaday repeats a pattern of observation-observation-reflection that parallels a pattern of small detail-small detail-larger concern, thus embedding a rhythmic mechanism of thought itself into the structure of a narrative with no dialogue and relatively few action verbs. For example, when Momaday turns his attention to the dog, he provides observable facts (small details) in the first two sentences, and delivering in the third sentence a reflection (larger concern) about Indian dogs:

It was an Indian dog; that is, it belonged to a Navajo man who had come to celebrate the Feast of San Diego. It was one of two or three rangy animals following in the tracks of the man’s covered wagon as he took leave of our village on his way home. Indian dogs are marvelously independent and resourceful, and they have an idea of themselves, I believe, as knights and philosophers (172).

In the third paragraph, Momaday repeats the three-sentence structure, but the sentences are shorter than those in the preceding passage. Each sentence adds another layer of description concerning the dog:

The dog was not large, but neither was it small. It was one of those unremarkable creatures that one sees in every corner of the world, the common denominator of its kind. But on that day—and to me—it was noble and brave and handsome (172).

Momaday begins each of these three paragraphs with the same verb, varying the subject pronoun: “When I was growing up,” “It was an Indian dog,” and “The dog was not large.” The pattern is I-It-It. In the second cluster of paragraphs, the pattern is reversed to It-I-I. And in the final cluster, the sequence is It-I. The use of subject pronoun patterns adds to the story’s easy-to-memorize quality, and also lends a subtle disguise to the principle character.
On the surface this narrative is about the dog. One has to finish the story to discover that the real actor in the story is the Navajo man, and that Momaday’s fable is really a parable about the “unconscionable bargain” represented by learning about freedom, a lesson bestowed by a visitor from another place. By making “Indian dog(s)” and the I-narrator the subject of practically all the sentences, Momaday keeps the man--whose primary actions are arriving to celebrate a feast, and taking leave to return home--in the background. Attention on the dog and its actions (attention to the particular) centers the reader in the same kind of portrait-landscape dimensionality that Griffin establishes in “Denial” as she zooms in and out from close-up to wide angle perspectives.

Instead of juxtaposing the flat with the three-dimensional as Griffin does, however, Momaday elicits a parallel dimension, where actions occur that are not described in the narrative. It is an unlimited dimension because each reader fills in the blanks in a unique way. Momaday as storyteller builds the sense of coming and going on inference, describing small actions or details. The road traveled by man and dog as they enter and leave the village is inferred by “the tracks of the man’s covered wagon.” Momaday never describes his own physical action in this story until the fourth and fifth paragraphs; after purchasing the dog, he drags it away, and once he gets it home, he secures it in a garage. He does not illustrate the departure of the Navajo man. The primary movement that Momaday describes is carried out entirely by the dog: it wags its tail in the fourth paragraph, squeezes through a vent to escape in the fifth, and plods behind the wagon in the seventh. The action that occurs between those paragraphs is inferred--the characters traveling between the road where Momaday encounters the man and the home where he leads the dog, and the running (along inferred paths) the dog does once he is free to catch up with the Navajo man.

Momaday’s narrative silence is not limited to omission of description. Like Eiseley and Griffin, he uses no dialogue in “The Indian Dog,” and so all actions--both described and inferred--occur in silence. However, Momaday uses narrative silence toward a different end than Eiseley and Griffin. The exchange between boy and man when the dog was purchased and the sounds the dog may have made are inferred, like the invisible movement to and from different locations. Momaday’s use of silence in the story also signals a particular relationship--an “implicity”--between a storyteller and a listener, underscoring the importance to Momaday of the Native American oral tradition in written stories. Silence, Bohm proposes in On Dialogue, is critical to participatory thought, and necessary “to reach or contact the unlimited” (94). Momaday describes it this way:

[Silence] is the dimension in which ordinary and extraordinary events take their proper places. In the Indian world, a word is spoken or a song is sung not against, but within the silence. In the telling of a story, there are silences in which words are anticipated or held on to, heard to echo in the still depths of the imagination. In the oral tradition, silence is the sanctuary of sound. Words are wholly alive in the hold of silence, there they are sacred (16).

The Uruguayan writer Eduardo Galeano asks us to “always remember that the sacred is implicit, not explicit. When you explain something it loses power, loses energy, loses mystery” (Fourth Genre 194). He illustrates the power of the implicit with this example: “When a character in Chekhov says ‘the tea is so cold,’ he’s really saying, ‘I am so lonely’” (Fourth Genre 194). And, in Bohm’s theory of the unlimited, “Those implicit, tacit thoughts
that are the foundations of consciousness are shared by all” (*On Dialogue* 93). Momaday invites the reader to participate in a kind of listening exercise that involves explicating the implicate, as Bohm would say. From the small, explicit movements that are described, we induce the larger, implicit physical and perceptual journeys (symbolized by the knights and philosophers, respectively), even though they take place solely in the imagination. Galeano says, “These small things can reveal bigger things. And this allows the author to avoid telling you everything, because if the author tells you, it coagulates, it becomes a stereotype, it changes, it loses life” (*Fourth Genre* 194).

Momaday uses economy and subtlety to lead the reader (who exists in a parallel location to the writer) to make inferences, to mentally connect what is not written with what is. He asks us, in effect, to enter a dimension where, as David Bohm might say, knowledge and reality are not static and fragmented, but dynamic and integral to/inherent in each other. Like Eiseley, Momaday is concerned with the perspective of the observed. The observed in “The Indian Dog,” however, is not the character we suppose. Momaday places the phrases that modify “knights and philosophers” at the end of each paragraph (save two), embedding another pattern in the narrative. But he is really describing the Navajo man, not the Indian dog(s) with these deliberately placed modifying phrases. Thus the Navajo man, a stranger traveling through a pueblo, is (disguised as the Indian dog), in Momaday’s sequence, “independent and resourceful” and “noble and brave and handsome.” Like a knight he resists captivity, but as a philosopher, he pretends to accept captivity happily (i.e., “wagging his bushy tail”) until a more plausible escape becomes available. Like knights and philosophers both, he is on a particular quest, and thus “possessed of one indomitable will.” At the end he is content to travel as a knight, in “the familiar shadows […] after a bad night,” and as a philosopher he is able, as he returns from the journey, to ponder “the wonderful ways of man” (172-73).

In the seventh paragraph, Momaday uses the past perfect to signal the reader that the perspective belongs to Momaday-the-adult reflecting on the event in which he participated as a boy. The shift in both verbal tense and human time enhances the sense of movement from past to present, from small to large, and in turn accentuates the collective human dimension of the narrative. He has built up to this point detail by detail, paragraph by paragraph, layer by layer. After describing the dog’s escape, Momaday tells us the animal “had behaved exactly as it must, had been true to itself and to the sun and moon. It knew its place in the scheme of things, and its place was precisely there, with its right destiny, in the tracks of the wagon” (173).

Momaday juggles several kinds of motion here. The first pertains to the universe, to the sun and the moon. The second, more specific and explicit movement concerns the dog as it journeys to rejoin the Navajo man. The third, implicit, movement involves Momaday the storyteller restoring the dog back to its original state (“its place in the scheme of things”) because the storyteller—who represents the consciousness of the narrative—prefers the order of freedom in his particular yet parallel universe. When Momaday perceives what he calls “some absolute truth beyond all the billboards of illusion” (173), he detects the implicate order (truth) as being visible once the explicate order (illusion) dissolves. After perceiving the implicate order, the unlimited is not far away. “In my mind’s eye,” he writes, “I could see [the dog] at that very moment, miles away” (173). When Momaday makes this shift into the
mind’s eye, he moves inward to enter the dimension of the unlimited. Then he moves outward to the last three short sentences of the story, which begin with a proverb (a device typical of fables): “Caveat emptor. But from that experience I learned something about the heart’s longing. It was a lesson worth many times five dollars” (173). Bohm describes this back-and-forth movement as it relates to participatory thought:

I think one of the fundamental mistakes of the human race has been to say that when you have finished with a thought, it’s gone. But it hasn’t gone—it has ‘folded back’ into the rest of consciousness. You don’t know it’s there any more, but it is still there; it may unfold again, or unfold in another form. So there’s a constant process of unfolding from the background of consciousness into the foreground, and then back again (On Dialogue 90).

Finally, it is critical to consider the context in which “The Indian Dog” appears, as one of nineteen short essays in the third section of The Man Made of Words, “The Storyteller and His Art.” As Momaday himself says in the preface about context:

My aesthetic sensibilities are such that they can accommodate pronounced variation and spontaneity. Besides, I do not think that these works are random at all. Rather I perceive the writings herein as the pieces of a whole, each one the element of an intricate but unified design. They are the facets of a verbal prism, if you will, patterns like the constellations. The design, in this instance, is the very information of language, that miracle of symbols and sounds that enable us to think, and therefore to define ourselves as human beings (1).

All of these stories, Momaday implies, should be read aloud. He points out that the storyteller “creates his listener in the sense that he determines the listener’s existence within, and in relation to, the story, and it is never the same” (3). And when these stories are read aloud, the new storyteller, who started off as a reader, internalizes the telling of the story, which creates an oral/aural/collective dimension. This is a place beyond the page, where communion unfolds.

In “The Indian Dog,” Momaday generates movement from sound, and sound from silence to glimpse the parallel dimension of the unlimited. Using rhythmic patterns that are central to oral-tradition storytelling, he transforms the reader into a listener. Once we enter Momaday’s storytelling circle, we partake of the collective human dimension, where we are able to engage in participatory thought.

V. Conclusion

Loren Eiseley, Susan Griffin, and N. Scott Momaday transcend the flat and linear by constructing temporal, spatial, and perceptual dimensionalities in which to move the reader. Eiseley operates in the cosmic human dimension, where he expands and compresses time to make its movement visible. Griffin works in the individual human dimension, where the body has no distinct boundary. There she builds three-dimensional, nested spaces, connected to one another by extended metaphor and photographs. Momaday relies on the participatory thought inherent in the collective human dimension to tell a story where subtlety and the implicit constitute the basis of consciousness.
All three writers use the two-dimensional page as a springboard into other dimensions. They manipulate narrative elements—point of view, verbal constructions, repetition, etc.—in explicit ways to achieve the movement requisite of dimensionality. Eiseley depicts settings (with specific lighting) that allow him to shift point of view from the observer to the observed. He generates movement with active verbs and participial adjectives. Griffin navigates the interconnected, nested spaces of her essay with repetitive phrasing, shifting pronouns, and parallel syntax. Momaday embeds rhythmic patterns into the narrative to unfold movement from sound, and sound from silence.

There is, of course, no pat formula for dimensionality. It is useful to consider that David Bohm was unable to derive mathematical equations to empirically prove all his theories of the universe’s order. However, what a writer does to achieve movement through the dimensions of time, space, and consciousness transforms nonfiction texts (often at risk of being too dense or static, too cerebral or factual) into narratives that are lucent and vibrant, muscular and magical.

References